

Grammatical Change
and Linguistic Theory
The Rosendal papers

Edited by
Thórhallur Eythórsson

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Grammatical Change and Linguistic Theory

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Thórhallur Eythórsson

University of Iceland

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Introduction

Thórhallur Eythórsson

Background

This book grew out of the symposium *Linguistic Theory and Grammatical Change* held at Rosendal, Norway, May 31–June 4, 2005, and a follow-up symposium at Lysebu, Norway, December 2–5, 2005. Both symposia were organized by Professor Jan Terje Faarlund (University of Oslo), under the aegis of The Centre for Advanced Study (CAS) at the Norwegian Academy of Science and Letters, Oslo. These events were the culmination of the work of the research group led by Professor Faarlund during the academic year 2004–05. The group consisted of Henning Andersen, John Ole Askedal, Thórhallur Eythórsson, Elly van Gelderen, Alice C. Harris, Dag Haug, Kjartan Ottosson, and Lene Schøsler. Furthermore, a number of scholars were invited to participate in the Rosendal symposium. Those who contributed to this volume, in addition to the CAS group, were Theresa Biberauer, Michela Cennamo, Ulrike Demske, Martin Maiden, Ian Roberts, Christer Platzack, and Keren Rice. Speakers at the symposium who were not able to contribute to the volume included Ulrich Detges, Hans-Olav Enger, Ans van Kemenade, Marianne Mithun, Ioanna Sitaridou, and John Whitman.

On behalf of the CAS-group I would like to thank the speakers at the Rosendal workshop, and especially those who contributed to the volume. Furthermore, thanks are due to the people at CAS for their support and assistance: Willy Østreg and his competent and friendly staff. Finally, special thanks go to Jan Terje Faarlund for making it all happen.

The overall theme of this volume is ‘internal factors in grammatical change’, and so it was felt appropriate to reverse the title to *Grammatical Change and Linguistic Theory*. The chapters focus on fundamental questions in theoretically-based historical linguistics from a broad perspective: syntactic and morphosyntactic change, morphological, semantic and pragmatic aspects of grammatical change, as well as the much-debated issue of the nature of grammaticalization.

Theoretical and empirical perspectives on grammaticalization

According to Hopper & Traugott’s (2003: 2) standard definition, grammaticalization from a historical, functionalist perspective can be thought of as ‘that subset of linguistic changes whereby a lexical item or construction in certain uses takes on grammatical

characteristics, or through which a grammatical item becomes more grammatical' (see also Brinton & Traugott 2005). Furthermore, the changes are said (Hopper & Traugott 2003: 7) to constitute a 'grammaticalization cline':

- (1) content item > grammatical word > clitic > inflectional affix.

Decomposing the notion of grammaticalization, Heine (2003: 578–579) proposes that it involves four interrelated mechanisms, all of which involve a 'loss' (including 'extension' which involves loss of conditions on use):

- i. desemanticization ('bleaching', semantic reduction): loss in meaning content
- ii. extension (context generalization): use in new contexts
- iii. decategorialization: loss in morphosyntactic properties characteristic of the source forms, including the loss of independent word status (cliticization, affixation)
- iv. erosion ('phonetic reduction'), i.e., loss in phonetic substance.

These changes can take place in several components of the grammar: semantics, pragmatics, syntax, morphology, and phonology.

As a major proponent of 'grammaticalization theory', Heine (2003: 583) claims that its principal task is 'to provide explanations of why grammatical forms arise and develop' and to make it possible 'within limits' to predict changes that will take place in the future. An important part of 'grammaticalization theory' is the principle of unidirectionality, by which '[t]he path taken by grammaticalization is always from less grammatical to more grammatical' (Bybee et al. 1994). However, critics such as Newmeyer (1998, 2001), Campbell (2001), and Janda (2001) have argued that 'grammaticalization theory' is not a theory in the sense that it has any explanatory value. The claim here is that the changes involved in grammaticalization are causally independent of each other and hence that grammaticalization is an 'epiphenomenon', involving processes which follow from other factors, which may or may not co-occur.

Several of the chapters in the present volume relate to grammaticalization in different ways, but are generally critical of 'grammaticalization theory'. **Henning Andersen** ('Grammaticalization in a speaker-oriented theory of change') offers a model of change in which grammaticalization is neither central nor indeed a primitive process, in the tradition of grammaticalization critics (e.g., Campbell 2001 or Newmeyer 2001). Andersen presents grammaticalization in the context of other types of macro-change and surveys and illustrates types of change in content, content syntax, expression, and morphosyntax, showing how individual changes can be analysed into complexes of a few types of basic innovations. Finally, he emphasizes the special importance in change of innovative reanalysis and the role played in reanalysis and actualization by principles of markedness. Andersen counters the impression given by much recent literature (e.g., Heine 2003) that suggests that grammaticalization more or less exhausts the study of grammatical change. In particular, the 'grammaticalization cline of the 1990s' is criticized

on the grounds that it ‘blithely confuses’ content change and morphosyntactic change. The former involves change from less grammatical to more grammatical, whereas the latter involves morphosyntactic integration or ‘emancipation’, and moreover changes in index relations and in element order. Thus, Andersen’s chapter effectively challenges grammaticalization with a more traditional conceptualization of change.

As indicated above, the way that the notion of ‘grammaticalization theory’ is canonically used by non-generativists involves fundamental theoretical and meta-theoretical issues such as the principle of unidirectionality, claimed by Haspelmath (2004: 21) to be ‘by far the most important constraint on morphosyntactic change.’ Another such issue is the concept of change as a gradual process. **Jan Terje Faarlund** (‘A mentalist interpretation of grammaticalization theory’) is concerned that there is an underlying view of language as an abstract object independent of speakers. Faarlund emphasizes that within a mentalist theory of language this ontology must be rejected. Rather, ‘Grammaticalization is at best a generalization over a set of observations about language change.’ Nevertheless, it is granted that some version of the principle of unidirectionality is in accordance with factual observation, and is thus a challenge to generativists. Faarlund proposes an account of the predominant directionality of change on the basis of the initial premise of Universal Grammar that there are words and that they have meaning attached to them. Accordingly, the child acquiring a given language uses ‘cues’ in the input to assign morpheme boundaries, meaning, and structure to the string. Grammaticalization follows from failure to assign morpheme boundaries during the acquisition process. For Faarlund, then, the apparent unidirectionality follows from the trivial fact that elements (including boundaries) are more likely to be omitted than inserted in acquisition.

It has been claimed that there are changes in the opposite direction to the grammaticalization cline in (1) above. This is ‘degrammaticalization’ (or ‘antigrammaticalization’). There are essentially two approaches to alleged cases of degrammaticalization. The first is to take them seriously and consider degrammaticalization a challenge to grammaticalization theory (Newmeyer 1998; Janda 2001; Campbell 2001; Joseph 2004; Faarlund, this volume). A second kind of reaction is not to consider degrammaticalization counterevidence to unidirectionality, but some other kind of change. According to Haspelmath (2004), unidirectionality is an empirical claim about a very strong tendency. There are true exceptions, but those are rare cases which need not be covered by the theory. In fact, Haspelmath (2004: 29) reports on only eight diachronic developments claimed to be instances of ‘attested antigrammaticalization’ (Haspelmath’s term for degrammaticalization in this context). Confronting the latter view, **John Ole Askedal** (“‘Degrammaticalization’ versus typology: Reflections on a strained relationship’) examines in detail the notion of ‘degrammaticalization’ from a typological and functional point of view, giving a critical assessment of the eight diachronic developments claimed by Haspelmath to be instances of attested ‘antigrammaticalization’, with regard to the empirical justification of that characterization. Askedal concludes that none of Haspelmath’s ‘antigrammaticalization’ examples allow for

a description in these terms, which calls into question the descriptive – empirical and theoretical – validity of the notion of ‘degrammaticalization.’

Despite the general critical tenor, an interest in grammaticalization has emerged from a generativist perspective. Thus, Roberts & Roussou (2003) argue that grammaticalization is a change from a lexical to a functional category and is keyed to positions in the syntactic tree structure (see also Roberts 2007). Building on her earlier work, **Elly van Gelderen** (‘Linguistic cycles and Economy Principles: The role of Universal Grammar in language change’) argues that grammaticalization follows from economy principles of the kind proposed in Chomsky (1995), and that accordingly a change will lead to a simpler and thereby a more economical grammar. More precisely, van Gelderen makes reference to two principles:

- **Head Preference Principle:** ‘Be a head, rather than a phrase’: e.g., demonstratives becoming determiners
- **Late Merge Principle:** ‘Merge as late as possible’: e.g., prepositions becoming complementizers

These Minimalist Economy Principles lead to cycles of change, and van Gelderen proposes several such cycles which exhibit certain differences and similarities with each other. Examples of negative, aspect, and complementizer cycles are drawn from languages such as Norwegian, Finnish, Sami, and English.

The generative approaches by Roberts and Roussou, on the one hand, and van Gelderen, on the other, have many things in common, in particular the fact that grammaticalization is a reflex of structural positioning. However, as pointed out by Faarlund (this volume), there is an important difference between the views of these scholars. For Roberts and Roussou grammaticalization is an explanatory principle in itself, whereas for van Gelderen grammaticalization is based on a general principle, Economy, which is directly related to acquisition and use.

Case studies on grammaticalization: syntax, morphosyntax, semantics, and pragmatics

Following up on van Gelderen’s economy principles, **Christer Platzack** (‘Left Branch Extraction of nominal modifiers in old Scandinavian’) discusses a difference in noun phrase structure between old Scandinavian and modern Scandinavian, arguing that in old Scandinavian modifiers like adjectives, quantifiers and numerals are adjoined to NP, whereas in modern Scandinavian such modifiers are heads that take the noun or its extended projection as its complement. Platzack proposes that the change from old Scandinavian to modern Scandinavian is the result of a grammaticalization of the type identified by van Gelderen in terms of the Head Preference Principle.

Valency patterns are normally considered as part of the lexicon and as such linked to the individual verb. However, **Lene Schøsler** (‘Argument marking from Latin to Modern

Romance languages: An illustration of “combined grammaticalisation processes”) suggests that valency patterns are not just features of individual verbs, but that they can be considered as part of the grammar. This proposal is based on the observation that valency patterns can be very informative of the content of the verbs adopting these patterns. Moreover, as Schøsler argues, speakers’ interpretations of valency patterns of unknown verbs show that speakers assign specific content to certain valency patterns and new verbs introduced into a language assume patterns of related verbs in that language. Finally, changes of valency patterns can lead to groupings of verbs with a similar content. Drawing on evidence from old and modern Romance and Germanic, Schøsler demonstrates that changes may result in a transfer of information, for example on causality from an alternation between individual lexical verbs to alternating patterns.

Two chapters in the volume are concerned with the development of analytic perfect/ anterior in well-studied Indo-European languages. In essence such development is a classic case of grammaticalization, although there is actually a lot more to the story than that. **Michela Cennamo** (‘The rise and development of analytic perfects in Italo-Romance’) engages in the long-standing discussion of the rise of Latin *esse* ‘be’ and *habere* ‘have’ as perfective auxiliaries and the development of their reflexes as markers of split intransitivity in Italo-Romance. The author argues, in agreement with recent proposals in historical and Latin linguistics, that *habere* was an auxiliary in Latin. Its development to the detriment of ‘be’ affects peripheral unaccusatives, according to the semantic hierarchy proposed by Sorace (2000); cf. also Bentley & Eythórsson (2002). Cennamo places special emphasis on the investigation of the spread of the auxiliary ‘have’ at the expense of ‘be’ in old Neapolitan, and the converse in contemporary Campanian varieties – the much more rare penetration of ‘be’ into the domain of ‘have’. Cennamo proposes that the emergence of the perfective auxiliaries is one of the outcomes of changes affecting the encoding of the argument structure of the clause in Late Latin, and that the developments in later Romance varieties are sensitive to a gradient model of split intransitivity.

Dag Haug (‘From resultatives to anteriors in Ancient Greek: On the role of pragmatics in semantic change’) focuses on the semantic and pragmatic aspects of the change from resultative to anterior, on the basis of Ancient Greek. It is argued that this change was different from the similar well-known changes in the ‘have’-perfect of Germanic and Romance, since pragmatic inferencing did not play any role. The Greek resultative, being inherent in the verbal system from the earliest stage onwards, is argued to have been much more influenced by paradigmatic relations than by syntagmatic relations which are active in pragmatic inferencing.

Two further chapters deal with languages that until relatively recently did not figure prominently in historical linguistics: Tsova-Tush (Nakh-Dagestan) and Athapaskan languages. **Alice Harris** (‘Explaining exuberant agreement’) is concerned with multiple (or ‘exuberant’) agreement with a single argument, which is rare cross-linguistically but is found in several languages of the Nakh-Dagestanian family. Investigating the origins of such a system in verbs in one of the languages of the family, Tsova-Tush, Harris proposes an account of both why exuberant agreement is typologically rare,

and why it occurs at all. The typological rarity of this structure is explained by simple probability, ranging not over types but over events and conditions. The rarity of the structure is argued to be the result of the fact that so many events and conditions are required to bring it about.

Keren Rice ('On incorporation in Athapaskan languages: Aspects of language change') addresses a central issue in comparative Athapaskan morphosyntax, tracing the development of incorporability of nouns in Athapaskan languages. The developments addressed are of two types. On the one hand, languages differ in their ability to incorporate agentive subjects. This is related to different constraints on the position of syntactic subjects, which is argued to have historically been discourse based. Synchronically, in some languages only the position of intransitive subjects is based on discourse factors whereas the position of transitive subjects is syntactically determined. This 'syntacticization' of the position of transitive subjects is argued to render all such subjects unincorporable, while subjects are potentially incorporable when their position is discourse determined. On the other hand, incorporation disappears due to a change in triggers for inflectional agreement. Rice argues that with a broadening of agreement triggers, incorporation came to be in competition with agreement, and, in the case of noun incorporation, agreement was retained.

Syntactic change: exogenous, endogenous – and the type that never happened

Thórhallur Eythórsson ('The New Passive in Icelandic really is a passive') discusses a syntactic change currently underway in Icelandic. This change involves the emergence and spread of the so-called New Passive, containing an auxiliary 'be' and a non-agreeing past participle assigning accusative case to a postverbal argument. Contra the standard account by Maling & Sigurjónsdóttir (2002), Eythórsson argues that this construction is a passive without NP-movement but with structural accusative case assignment. The absence of structural accusative case assignment in the canonical passive and its presence in the New Passive is attributed to parametric variation in an abstract case feature in a functional head taking a VP complement. As to the origins of the New Passive, it is argued to have arisen from a reanalysis of the canonical existential passive (*það*-passive) with a postverbal NP. The locus for the reanalysis involves cases where the canonical existential passive without NP-movement and the New Passive cannot be distinguished morphologically. On this analysis, the Icelandic New Passive is comparable to passive-type constructions in languages like Ukrainian that preserve structural accusative case.

The type of syntactic change involved in the New Passive in Icelandic is arguably triggered by structural and formal ambiguity. In fact, according to Keenan (2002: 2), syntax itself cannot change endogenously; in other words, syntactic change is subject to 'Inertia'. As is universally agreed, syntactic change can be caused by changes to Primary Linguistic Data (PLD) arising from phonological, morphological or lexical

change, or extra-linguistic factors like contact. However, **Theresa Biberauer** and **Ian Roberts** ('Cascading parameter changes: Internally-driven change in Middle and Early Modern English') propose that there is additionally a syntax-internal cause for syntactic change, which arises when an initial, extra-syntactically induced parameter change creates a system which has a propensity to further parametric change. This may lead to cascades of parameter changes over several centuries, giving rise to a typological shift. Biberauer and Roberts explore this idea by looking at a series of changes which took place in the history of English between 1100 and 1700. These changes helped transforming English from a West Germanic language into Modern English.

In the history of linguistics there are known to be cases of alleged changes which, when subjected to careful scrutiny, turn out never to have taken place, once it has been discovered that the phenomena in question already existed at an earlier stage. Along these lines, **Ulrike Demske** ('Raising patterns in Old High German') discusses an instance of a change that has been alleged to have happened in the history of German, but – to judge by her examples and analysis – never actually did. It has traditionally been taken for granted that subject raising patterns are not attested with infinitival complements in older stages of German. However, Demske provides compelling evidence that subject raising patterns are in fact well attested with infinitival complements already in Old High German. On the other hand, in contrast to New High German, a classification of infinitival constructions with respect to structural properties is not supported by the historical facts, suggesting that in this domain there has indeed been a change.

Morphological change 'by itself'

Finally, the volume includes two contributions on morphological change. Arguments for separation of morphological structure from semantic content are widely accepted, but they prompt the question about the role played in language change by purely morphological structure, abstracting away from lexical or grammatical meaning. **Martin Maiden** ('Lexical nonsense and morphological sense: On the real importance of 'folk etymology' and related phenomena for historical linguists') examines diachronic evidence for the view that 'lexical formative', independently of lexical content, has a similar status. This is revealed by close analysis of 'folk etymology' and of various other cases apparently involving lexical change. Maiden tentatively suggests that the autonomously morphological status of lexical formatives plays a greater role than previously imagined in lexical change in general, leading to the radical suggestion that the mainstream view that *not* all languages 'have morphology' may be untenable. Maiden's chapter may be regarded as providing further support for the 'morphology-by-itself' approach of Aronoff (1994). In particular, it extends earlier views about the existence of morphological elements without any referential meaning from the domain of inflectional morphology to folk etymology, a surprising argument given the traditionally peripheral status of this phenomenon within morphological theory.

Kjartan Ottosson ('The diffusion of systemic changes through the inflectional system: Evidence from person-number inflection in the Nordic languages and German') focuses on changes in the person-number inflection in Old Norwegian, Icelandic, and High German. Specifically, within the systemic changes of inflectional morphology, Ottosson explores the interplay of primary generalizations, which are the main force in change, and factors influencing the process of change, which may take the form of lexical diffusion. Ottosson shows that the primary generalizations can have different scope even in closely related languages. Changes of the relevant kind may appear first where there are additional favoring factors and reach conclusion first in the productive inflectional class. Conversely, change may happen most reluctantly in the most unmarked subparadigm or even leave it out. The final phase of change is commonly characterised by 'lexical erosion' of exceptions and may be quite long, as shown by the evidence from the languages under investigation.

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CHAPTER 1

Grammaticalization in a speaker-oriented theory of change

Henning Andersen

University of California, Los Angeles

In this chapter I descend the conceptual ladder from Bernd Heine's definition of grammaticalization and the change types of which it is comprised to the innovation types that give rise to such changes and the innate grammatical premisses – the 'laws of language' – that condition speakers to make such innovations. Along the way, (1) I aim to locate grammaticalization in the context of other types of macro-change, (2) to survey and illustrate types of change in content, content syntax, expression, and morphosyntax, (3) to show how individual changes can be analysed into complexes of a few types of basic innovations, and, finally, (4) to suggest the special importance in change of innovative reanalysis and the role played in reanalysis and actualization by principles of markedness.

1. Introduction

Throughout the twentieth century the study of grammaticalization (Gzn) has been divorced from the reality of the transmission of language traditions among speakers. To Meillet (1912), Tauli (1958), and Kuryłowicz (1965) alike, language was a supraindividual, social phenomenon with no clearly defined locus. To most scholars that have been concerned with Gzn in more recent decades, whether functionalists or formalists, the role of speakers in the development of Gzns seems not to have been important or even relevant. The majority view among both categories of scholars, it seems, is that it must be good enough to study diachronic correspondences – stages along the 'Gzn cline' – or grammar fragments. Yet no aspects of language change can be explained unless they are grounded in an explicit understanding of the way language patterns are passed among individuals.¹

1. Besides Gzn (grammaticalization), the following abbreviations are used: ACC (accusative), AOR (aorist), Br. (Belarussian), CS (Common Slavic), Da. (Danish), DAT (dative), dial. (dialect(al)), dist (distant), DU (dual), E (Early), EModE (Early Modern English), Eng. (English),

In this chapter I will descend the conceptual ladder from the Gzn Schema most recently described by Heine (2003) (chapter 1) and the change types it includes and some it does not (chapter 2) to the innovation types that initiate all such changes (chapter 3) and, finally, to the innate premisses (the ‘laws of language’) that condition speakers to make such innovations (chapter 4).

My aim is to make clear the distinct levels of observation represented by (i) change schemas (sec. 1), (ii) historical changes (sec. 2), (iii) innovations and change scenarios (sec. 3), and (iv) – as examples of the bases of grammar formation – the role played by iconicity and markedness in the origin and transmission of language variation, and hence, indirectly, in change (sec. 4).

Along the way, particularly in section 2, it will become clear, I hope, that if we examine the changes that actually occur in language histories, we will find that there is a great deal more that demands our attention than Gzn and Gzn chains alone would suggest.

2. Grammaticalization and other macro-changes

Since the 1800s, historical linguists have observed, described, and endeavored to explain grammatical changes on two levels of observation – as individual changes and as long-term developments. These two levels have not always been distinguished, but in a general discussion of Gzn it is important to recognize (i) that Gzn is one of a number of types of long-term development (macro-changes) and (ii) that the individual changes that together form a Gzn chain represent a small, though important, subset of actually occurring types of grammatical change.

There is no tradition for defining different types of long-term development, but it may be useful to distinguish types on the basis of the observer’s wider or narrower focus. Here I will define three kinds of such ‘macro-types’ in these terms.

2.1 The whole-language view

The whole-language view focuses on major typological properties of language structure. The earliest attempt to view language developments in this perspective

Est. (Estonian), ex. (example), F (feminine), Fr. (French), FUT (future), GEN (genitive), Gk. (Greek), Gm. (German), IMPF (imperfect), IMPV (imperative), INST (instrumental), It. (Italian), L (Late), La. (Latvian), Lat. (Latin), Li. (Lithuanian), LOC (locative), M (masculine), M (modern), ME (Middle English), m-ness (markedness), Mid (Middle), Mod (Modern), NOM (nominative), NT (neuter), NW (northwest), O (Old), OE (Old English), ON (Old Norse), PERF, PF (perfect), PL (plural), PLUP (pluperfect), Pol. (Polish), PRES (present), Pre-S (Pre-Slavic), R, Russ. (Russian), sec. (section), SG (singular), SW (southwest), Ukr. (Ukrainian).

is perhaps the application of August W. Schlegel's (1818) three language types by Humboldt (1822), who sketched a development from isolating through agglutinating to inflectional morphology and assumed that this reflected the cultural progress of the Indo-European peoples. This simple idea was left in the dust by Whitney (1870), who understood the role of linguistic creativity and the constant interaction of decay and growth and introduced the notion of *renewal*, the pivotal element in any understanding of long-term developments. In the whole-language view, this made it possible to form the more plausible theory of the *Morphological Cycle*, described by Hodge (1970). This cycle is thought to be universal. It is almost fully attested in the development of Chinese and can be posited for Egyptian by extrapolating from the morphology of the verbal categories. In table 1, s = syntactic expression, m = morphological expression, and capitals represent the predominant technique, syntactic (analytic) or morphological (synthetic), in the expression of verbal categories.

Table 1. The morphological cycle

proto-Afroasiatic	Old Egyptian	Late Egyptian	Coptic
*Sm	sM	Sm	sM

2.2 The subsystem view

A focus on subsystems serves to capture alternating periods of elaboration and simplification of individual systems such as categories as cases or tenses, aspects, and moods.

The Indo-European system of morphological cases, for instance, appears to have gone through a development of elaboration through four (Hittite, Greek, Germanic) to the classic six (Sanskrit, Slavic) to nine (East Baltic) and subsequent simplifications in Greek, some of Slavic, much of Romance and Germanic, Latvian, and Lithuanian.

The Russian system of tenses and aspects, as it appears through internal reconstruction and the textual record, was elaborated through the development of new aspect distinctions from maybe two tense paradigms some time in prehistory through three (new Imperfect) to eight (periphrastic retrospective tenses and Future) in Old Russian through five in Middle Russian to three (present, past, periphrastic future) in the modern standard language; it has more recently been elaborated to five in some northwest Russian dialects; Andersen 2006b. In table 2, periphrastic tense-aspect paradigms are separated from inflectional paradigms by a blank line. Morphologizations can be observed between CS-2 and CS-3 (IMPF) and between OR-2 and MidR-1 (PAST). The table ignores two aspect distinctions which are derivational, the all-pervasive perfective vs. imperfective and the minor determinative vs. indeterminative aspect, which is relevant only to verbs of locomotion.

Table 2. Slavic tense–aspect systems. Elaboration and simplification

	Pre-S	CS-1	CS-2	CS-3	OR-1	OR-2	MidR-1	MidR-2	St. R	NW-R
Simple tenses	PRES	PRES	PRES	PRES	PRES	PRES	PRES	PRES	PRES	PRES
	IMPF	IMPF	AOR	AOR	AOR		PAST	PAST	PAST	PAST
	AOR	AOR		IMPF	IMPF					
	PERF									
Com- pound tenses			IMPF		FUT	FUT	FUT	FUT	FUT	FUT
					PERF	PAST	PLUP	PLUP		DIST. PAST
					PLUP 1	PLUP	FUT PF			PLUP
					PLUP 2	FUT PF				
					FUT PF					

2.3 The single element view

The single-element view allows for two possibilities, a focus on content or on expressions.

2.3.1 The focus on changing expressions for individual content categories can be called onomasiological. Consider the content ‘animal’ in OE *deor* > ME *beast* > EModE *animal*. Change in the words for one content naturally raises questions about other contents, e.g., ‘deer’ in OE *heorot* > ME, ModE *deer*.

In grammatical change, there are cases like 2.3.1.1 and 2.3.1.2, where a given content category alternates (toggles) between having separate morphological expression and having none. And there are cases where one can trace changing expressions for a seemingly stable category that is repeatedly renewed through time (2.3.1.3).

2.3.1.1 *The vocative in Russian.* In Old Russian, vocative and nominative are distinct. In Middle Russian, vocative merges with nominative. In the 1900s a new, distinct vocative form develops for some given names in one declension.

2.3.1.2 *Definiteness in East Slavic.* In Pre-Slavic there is no definiteness category. In Common Slavic, definiteness is expressed by attributive adjectives only. In Middle Russian, definiteness is lost through reanalysis. In North Russian dialects, an enclitic demonstrative is reanalysed as definiteness marker. In some North Russian dialects, definiteness is lost as this enclitic is reanalysed as a focus particle.

2.3.1.3 In Romance, the Future tense is renewed, changes from analytic to synthetic, and is renewed again, e.g., Lat. *dicam* > LLat. *dicere habeo* > Fr. *je dir-ai* > *je vais dire*.

2.3.2 The alternative focus in the single element view is on changing content combined with a continuity of expression; this can be called semasiological. Consider ME *bede* ‘prayer’ > ModE *bead* ‘globule, bead’. The continuity of expression does not preclude expression changes. Hodge (1970) dubs such continuous, changing expressions ‘chronomorphs’.

In grammatical change, the most obvious examples of semasiological etymology are Gzn chains, developments in which the content of an expression changes from lexical to grammatical or from grammatical to more grammatical (Kuryłowicz 1965) with attendant change in content syntax and typically (but not necessarily) entailed changes in expression and morphosyntax.

2.3.3 Grammaticalization

A great deal of progress has been achieved in Gzn studies during the last quarter of a century, not least in quantitative terms, as great numbers of examples has been amassed from languages around the world (Heine & Kuteva 2002). They document both that our predecessors – from Humboldt to Meillet and Kuryłowicz – understood Gzn correctly and, on the other hand, that there is more to it than they suspected. At the same time, the simple-minded ‘Gzn cline’ of the 1990s (2.3.2.1), which blithely confuses content change and morphosyntactic change, has been superseded by advances by both functionalists and formalists. Among the former there are statements such as Heine’s (2003: 578–579) in 2.3.3.2, which by its form acknowledges that Gzn concerns linguistic signs with content, content syntax, expression, and expression syntax (morphosyntax). Formal syntactic analyses of Gzns such as those by Roberts and Roussou (2003) and van Gelderen (2004) focus on changes in syntactic function, but reveal the distant relation between such macro-changes and strategies of grammar formation. Van Gelderen (this volume) takes up the development of single category cycles and describes a number of these, formulating largely homological schemas for the Negation Cycle, the Aspect Cycle, and the CP Cycle and motivating these cycles by reference to three principles of universal grammar that are manifested as learners’ strategies.

2.3.3.1 Lexical word > grammatical item > clitic > affix > \emptyset ²

2.3.3.2 ‘[T]he grammaticalization of linguistic expressions involves four interrelated mechanisms:

- | | | | | | |
|---|--|--------------|----------------|--------------|-------------|
| <ul style="list-style-type: none"> i. desemantization (or ‘bleaching,’ semantic reduction): loss in meaning content; ii. extension (or content generalization): use in new contexts; iii. decategorialization: loss in morphosyntactic properties characteristic of the source forms, including the loss of independent word status (cliticization, affixation); iv. erosion (or ‘phonetic reduction’), that is, loss in phonetic substance.’ | <table border="0"> <tr> <td style="border-left: 1px solid black; padding-left: 5px;">[HA: content</td> </tr> <tr> <td style="border-left: 1px solid black; padding-left: 5px;">content syntax</td> </tr> <tr> <td style="border-left: 1px solid black; padding-left: 5px;">morphosyntax</td> </tr> <tr> <td style="border-left: 1px solid black; padding-left: 5px;">expression]</td> </tr> </table> | [HA: content | content syntax | morphosyntax | expression] |
| [HA: content | | | | | |
| content syntax | | | | | |
| morphosyntax | | | | | |
| expression] | | | | | |

2. Somehow many historical linguists who accepted this ‘cline’ did not notice that it confuses content, morphosyntax, and expression: lexical > grammatical is a change in content, word > clitic > affix is a development in morphosyntax, and item > \emptyset refers to phonological attrition (unless zero content is held to be more grammatical than grammatical content).

The role of strategies of grammar formation in linguistic change is so obviously important that it is worth taking a minute to reflect on the different approaches in van Gelderen (2004, this volume) and Roberts & Roussou (2003).

Van Gelderen subscribes to the idea, otherwise particularly widespread among functionalists, that speakers prefer their languages economical. This perennially attractive idea is incompatible with the actual synchronic complexity, not least in fine-grained detail, of every language that has so far been investigated. And although it appears many historical changes illustrate this idea, it appears to be contradicted by the rest.

Roberts and Roussou infer from their examples of Gzn and other changes that language acquirers are cautious ('conservative') of nature and preferentially avoid complexity in favor of defaults. Their account imagines that acquirers produce abrupt changes, and it completely ignores the observable fact that in every language the new coexists with the old in the form of synchronic variation. It is based on the mistaken identification of diachronic correspondences and the changes that give rise to them – of 'before and after' relations with the actual historical developments that connect them.

If the macro-types were all there is to grammatical change, our work would soon be done. Alternatively we could change our focus from schematic representations to actual historical changes, which present a somewhat more complicated picture, but may be a better source for an understanding of grammatical change. Chances are that we might gain greater insight not only into the multitude of factors that condition historical change, but especially into the nature of the acquirers – the analytic procedures, expectations, and preferences they bring with them, and which mature in their minds, during the process of language acquisition.

3. Types of grammatical change

3.1 Type and token

I will begin by urging the importance of the traditional distinction of type and token. Let us accept, at least for the moment, Heine's characterization of Gzn in 2.3.3.2 as a description of a type of change or rather, since it comprises a chain of changes, a macro-type. I will refer to this as the Gzn Schema. Now, if the quote in 2.3.3.2 characterizes a macro-type, actual historically attested or reconstructed Gzn chains are tokens or instantiations of this type.

Making the type – token distinction gives us several advantages.

First of all, it enables us to compare the Gzn Schema with other change schemas that are similarly instantiated in historical developments. This may not seem very exciting, but comparing such macro-types of change is useful if we want to understand what kinds of change are possible in linguistic systems, how they arise, and what drives them. In phonology, for instance, there is an established dichotomy between change types in which (phonetic) information is, over time, reduced and other types in which

information is, over time, increased. Lenition and Monophthongization fall in the former category, Fortition and Diphthongization in the latter. It is then interesting to note that the Gzn Schema as a whole, as well as its constituent parts, as described in 2.3.3.2, falls into the reductive category of change types, and one can wonder if there are grammatical changes that fall into the opposite category.

There is a second advantage to making explicit the type vs. token distinction: it allows us to recognize both full and partial instantiations of the Gzn Schema, that is, to recognize as Gzns some changes that do not fully correspond to the ideal type the Gzn Schema represents. This is already being done in current literature and is, in fact, explicit in Kuryłowicz's (1965) definition of Gzn, which covers both changes from lexical to grammatical content and changes from a grammatical to a more grammatical element. There are several varieties of 'incomplete' Gzn chains. There are (i) potential chains of which only fragments are attested (3.1.1), (ii) developments that are in progress but have not run their course yet (3.1.2), and possibly (iii) tokens of arrested development, a phenomenon well known from historical dialectology. In addition to partial instantiations that call for a historical explanation, such as these, there are instantiations that may be partial for typological reasons. For instance, in a language that does not have inflectional morphology, we can expect Gzns to yield full words or clitics, but perhaps not inflectional affixes. Or, again, in a language where a certain grammatical category is consistently expressed by full words, new members of that category that arise through Gzn may remain full words and not develop into clitics or affixes (3.1.3). In short, the type-token distinction enables us to form a flexible and realistic, but still principled understanding of Gzn.

An additional advantage the type vs. token distinction gives us in a sense derives from the second. The recognition that there are tokens of Gzn that are not full Gzn chains encourages us to look more closely at the individual kinds of change comprised by the macro-type the Gzn Schema defines. If we do this, we discover, first, that they can occur relatively independently of one another, and, secondly, that there are other kinds of grammatical change in the histories of languages that apparently have nothing to do with Gzn, but obviously cannot be ignored.

To put it differently, there is a whole world of grammatical change beyond the confines recognized in the Gzn Schema. This will be explored in chapter 2.

3.1.1 *Partial Gzn chains*

The notion 'partial Gzn chain' may be difficult to accept for some. It may be useful to compare it with the phonological macro-type Lenition. Complete lenition chains are easy enough to document, e.g., ON *-k* > MidDa. *-g* > ModDa. *-γ* > *-j* > *-∅* > (ON *ek* 'T' > ModDa. *jeg* [jaɛ] ~ [ja]). But while the Lenition Schema describes a sonority scale extending from voiceless tense plosive to voiced vocoid to zero, a token of lenition is defined as any change by which a segment on this scale changes into a segment to its right. Hence historical phonologists readily recognize any partial chain such as *k* > *g* or *g* > *j* as an instantiation of lenition. A parallel approach in the study of Gzn speaks of such chain fragments as demonstrative > determinative or

auxiliary > particle simply as Gzns; see, for instance, Roberts & Roussou (2003), van Gelderen (2004).

3.1.2 *Incomplete Gzn chains*

Consider the contrast between Polish and Serbian–Croatian. In Polish, the auxiliary ‘be’ of the compound past tenses became an enclitic, assigned to Wackernagel’s position, in the Middle Ages; but then its forms were reanalysed as mere person and number markers, and over the last six hundred years these have gradually shifted to the position after the erstwhile main-verb participles, which have long since been reanalysed as finite forms (3.2.3.2; 3.5.1). In Serbian–Croatian, by contrast, the auxiliary ‘be’ of the compound past tenses became an enclitic and was assigned to Wackernagel’s position in the Middle Ages, where it continues to be placed to this day (Browne 1993: 345).

3.1.3 *Partial Gzn chains*

Consider the Gzn of OE *in deed* to ModEng. *indeed* (Traugott 2003). Through this change *indeed* becomes a member of the paradigm of sentence adverbs. These all typically occur contiguous to major sentence constituents, are full words, and carry main stress. *Indeed* shares these characteristics. Although it has been grammaticalized, there is no reason to expect it will undergo the morphosyntactic and expression changes described in the Gzn Schema.

3.1.4 *Content, expression and syntax*

In the traditional approach to Gzn, there is a consensus that the central part of a Gzn, its crux, is the change in content, from lexical to grammatical, or from grammatical to more grammatical content, as Kuryłowicz (1965) put it.

Kuryłowicz’s definition implies a simple dichotomy of categories of content, lexical and grammatical. Both lexical and grammatical categories form paradigms (3.2.1), and content changes can easily be divided into (i) changes into, (ii) changes within or among, and (iii) changes out of lexical or grammatical paradigms.

The crux in a Gzn is a change by which an element enters a grammatical paradigm or a change within or among grammatical paradigms. In order to be able to discuss such changes independently of the other kinds of change involved in the Gzn Schema, I propose to call these content-change types *grammations* and *regrammations*. Changes by which an element shifts out of a grammatical paradigm, that is, changes in which grammatical content is lost, I will call *degrammations* (3.2.3). We will see several subtypes of each of these major types of grammatical content change below (3.2.1–3.2.3).

In Gzn, the content syntax of the grammatized or regrammatized constituent typically changes: its scope increases, it is *upgraded*. *Downgrading* occurs as well in grammatical change, in connection with both regrammation and degrammation. In some instances, the upgrading of one constituent is accompanied by the downgrading of another, what you might call a *content-syntactic permutation* (3.3.1–3.3.3).

What is often call ‘phonetic erosion’ is better understood more generally as *expression reduction*, for in actual fact, there are several ways in which expressions are commonly

reduced in grammatical change. On the other hand, cases of expression *elaboration* are not uncommon. Other notable expression changes are expression *substitution* and *doubling* (3.4.1–3.4.4).

Morphosyntactic changes by which free forms change in the direction of affixes, *bond strengthening* changes, typically occur subsequent to grammation and regrammation. Changes in the opposite direction, *bond weakening* (*emancipation*) may reflect other conditions (3.5.1–3.5.2). Besides these, there are changes of grammatical indexes (3.5.3) and of element order (3.5.4).

3.1.5 *Paradigm*

The term *paradigm* is used here and elsewhere not in the narrow sense of ‘inflectional paradigm’, but in the general sense of ‘selectional set’, a usage that has been traditional since Saussure.

3.1.6 The triple *grammation*, *regrammation*, *degrammation*, which will be defined and exemplified below, is broadly analogous to the terms *phonologization*, *rephonologization*, *dephonologization*, introduced by Jakobson (1931 [1971]). In phonologization, a sound type becomes phonemic, that is, part of a phonological paradigm; in rephonologization, a sound type changes its relation to other phonemes, that is, changes from one phonological paradigm to another; in a dephonologization, a sound type loses its distinctive status and becomes a variant (positional or stylistic) of another phoneme. For lexical change, the term *lexicalization* is standard; what could be called *relexicalization* (changes within or among lexical paradigms) is simply called *semantic change* (the hypernym for ‘meaning change’); so, too, is *delexicalization* (loss of lexical content), which includes ‘bleaching’ as a special case.

3.2 Content changes

3.2.1 *Grammation*

I define grammation as a change by which an expression, through reanalysis, comes to carry grammatical content. (Change from any other, including zero, content to grammatical content.) This definition covers both changes that are naturally associated with the Gzn Schema and changes that are not.

A change such as the one in 3.2.1.1 is indistinguishable from the initial change in many Gzn chains. In Danish, modal verbs undergo little or no phonological reduction other than the loss of stress that is characteristic of auxiliaries and of lexical verbs that incorporate a subject, a direct object, or an adverb. But by its loss of stress, the modal does become a clitic. In due course it may become subject to contraction with a following constituent (in effect, stem shortening), that is, expression reduction, as some modals are.

Grammations such as this are reversible (3.2.3.1). It is important to understand that the reversibility of such changes logically has no bearing on the unidirectionality of Gzn. A degrammation, such as the change in 3.2.3.1 is not a Gzn. Hence it is neither an example of, nor a counter-example to, the unidirectionality of Gzn.

Greenberg (1991) has suggested the distinction between grammations from above, such as the one in 3.2.1.1 and from below, as in 3.2.1.2 (Greenberg uses the term *grammaticalization*.)

3.2.1.1 Grammatication. Lexical > modal verb. Danish. In the 1700s, the lexical verb Da. *burde* ‘ought’ is apparently reanalysed as a modal verb. In this grammation its content changes little, but the verb ceases to combine with direct-object clauses and instead – like other modal verbs – combines with entailed clauses. As a consequence, it becomes able to incorporate infinitive clauses without the infinitive-marker *at*; the incorporation is expressed by its losing its lexical stress.

E.g., *Hvis I ikke er Hanreeder, saa burde I at være det* ‘If you are not a cuckold, you ought to be one’ vs. *I burde [Ø] være noget andet [end kandestøber]* ‘You ought to be something different [from tinker]’; examples from plays by Ludvig Holberg (1684–1754), written ca. 1722. By the mid-1800s, the use of infinitive-*at* with *burde-bør* ‘ought’ is archaic–poetic: *Hvor ingen Plov kan gaa/ og ingen Le kan slaa/ der bør et Træ at staa* (ascribed to Enrico M. Dalgas, 1828–1894) ‘Where no plow can go,/ and no scythe can mow,/ there ought a tree to grow (lit.: stand)’. Examples from *Ordbog over det danske Sprog*, s.v. *burde*.

Content: lexical > modal verb. Content syntax: object infinitive clause > entailed infinitive clause. Expression: full stress > weak stress. Morphosyntax: *at*-infinitive > bare infinitive and incorporation. Note the reverse change in 3.2.3.1.

3.2.1.2 Grammatication from below. Morphophonemic alternant > grammatical morpheme. Russian. Middle Russian consonants are consistently palatalized before the tense mid front vowel /ê/ (a result of historical change which is irrelevant here). In the paradigm of *dv-a* ‘two; M-NT’, *dv’-ê* ‘two; F’ this ‘automatic alternation’ creates an ambiguity. The desinence *-ê* can be taken as the primary expression for NOM-ACC.F, and the palatalization of the preceding stem-final consonant is then a phonologically conditioned alternant; this seems to have been the persistent reanalysis in the majority of Russian dialects, including the standard; table 3. Alternatively the palatalization can be taken as the primary expression for the feminine and the *-ê* as a conditioned alternant; this seems to have been the reanalysis in southwest Russian dialects and in dialects of Belarus. This alternative reanalysis is tantamount to a grammation of stem-final palatalization in NOM-ACC.F; subsequently, palatalization is extended to all case forms of ‘two’, which thereby come to show gender concord in these dialects; Avanesov and Orlova (1965); Karskij (1956: 242).

Table 3. Morphophonemic alternant > grammatical expression in Russian dialects

	MidRuss.		ModRuss.		SW Russ. dial., Belarus	
NOM-ACC	<i>dv-a</i> M-NT	<i>dv’-ê</i> F	<i>dv-a</i> M-NT	<i>dv’-ê</i> F	<i>dv-á</i> M-NT	<i>dv-’-é</i> F
GEN-LOC	<i>dv-ux</i>		<i>dv-úx</i>		<i>dv-úx</i> M-N	<i>dv-’-úx</i> F
DAT	<i>dv’-êma</i>		<i>dv-úm</i>		<i>dv-úm</i> M-NT	<i>dv-’-úm</i> F
INST	<i>dv’-êma</i>		<i>dv-umà</i>		<i>dv-umá</i> M-NT	<i>dv-’-umá</i> F

The resulting paradigm is unique in these dialects in two regards: it is the only one in which gender concord is expressed in plural forms, and it is the only one in which a nominal gender is expressed by the single distinctive feature of palatalization; the feature can be regarded as a stem suffix as shown in the table.

Content: unchanged (F gender). Content syntax: unchanged (concord marker). Expression: $-\acute{e}$ 'F' > $-'$ (palatalization feature) 'F'. Morphosyntax: (i) permutation: desinence > allomorph; automatic alternant feature > stem suffix; (ii) stem suffix extended to oblique forms.

3.2.2 *Regrammation*

A change by which a grammatical expression, through reanalysis, is ascribed different grammatical content. (Change within or among grammatical paradigms.) There are many kinds of regrammation. The examples below show a split (3.2.2.1), whole recategorizations, nominal (3.2.2.2) and verbal (3.2.2.3), and a 'double' regrammation (3.2.2.4). Several other examples are discussed in Askedal (This volume), Haug (This volume).

3.2.2.1 *Regrammation.* Collective > plural (derivation > inflection). Russian. Some Old Russian collective nouns with the suffix $-j-$ > ModR plurals. E.g., *brat'-j-a* COLL.F.SG 'brothers; brethren' > *brát'-j-a* M.PL, *zub'-j-e* COLL.NT.SG 'teeth, cogs' > *zúb'-j-a* M.PL 'cogs' vs. M.PL *zúb-y* 'teeth'. Other collectives with the $-j-$ suffix remain (e.g., *bab-j-ó* 'womenfolk'); this is technically a lexically conditioned split.

Content: 'collection of X' > 'X-PL'. Content syntax: upgrading, lexical > grammatical pluralization (both with PL agreement). Expression: unchanged $-j-$. Morphosyntax: productive derivational $-j-$ 'collective' + SG desinences > lexically constrained stem suffix, $-j-$ 'plural' + PL desinences.

3.2.2.2 *Regrammation.* Genitive case > determiner-phrase marker (inflection > derivation). English. The so-called 's-genitive'. E.g., OE *dæs cyninges sweoster Ecgfrídes* 'king E.'s sister' > ModE *the king of Spain's daughter, someone else's cat*.

Similar change in Scandinavian languages, e.g., Danish: *et af Degnens Ordsprog i Ulstrup* (S.S. Blicher) 'one of the church warden's sayings in Ulstrup' vs. *for Gud i Himlens Skyld* (S. Kierkegaard) 'for God in Heaven's sake'; examples from Skautrup (1953).

Content: genitive case > DP marker. Content syntax: downgrading, case inflection > DP derivation; Heltoft (2001, 2005). Expression: OE $-(e)s$ and other allomorphs > ModE $/=z/$, etc. Morphosyntax: emancipation (3.5.2.5), word affix > phrase clitic (3.5.4).

3.2.2.3 *Regrammation.* Present perfect (retrospective present) > past. Russian. OR *ja.NOM.SG jes-m'.PRES.1SG da-l-ü.SG.M* 'I have given' > *ja.NOM.SG jes-m'.PRES.1SG da-l-Ø.SG.M* 'I gave'; at the same time, simple preterites are lost; Andersen (2006b). Similar changes in other North Slavic languages and in German, French, etc.

Content: marked aspect (retrospective) > marked tense (past). Content syntax: no change. Expression: no change; later auxiliary > pronoun allomorph > Ø. Morphosyntax: no change; later participle > finite form, auxiliary > subject pronoun (3.2.3.3).

3.2.2.4 *Regrammation, double. Russian.* MidR pluperfect participle > finite past. Auxiliary > ‘nonresultative’ procedural marker; e.g., *oná ujéxala bylá* ‘she had left’ > *oná ujéxala=bylo* ‘lit.: she went away, but didn’t’ (i.e., she was about to leave, but didn’t; or she set out, but came right back and didn’t go); the finite verb is perfective and asserts a completed event; the procedural marker asserts the absence of a resultant state; Andersen (2006bd).

Content: retrospective past > ‘nonresultative’ past. Content syntax: upgrading (participle > finite past), downgrading (auxiliary > procedural adverb) (permutation). Expression: morphological and prosodic reduction (‘nonresultative’ loses agreement inflection and stress). Morphosyntax: bond strengthening (word > clitic).

3.2.3 *Degrammation*

A change by which an expression, through reanalysis, loses grammatical content. (Change from grammatical content to other, including zero, content.) Degrammation may be lexicalization (3.2.3.1), or it may be a change by which a grammatical element loses part of its grammatical content (3.2.3.2, 3.2.3.3) or all its content (3.2.3.4).

3.2.3.1 *Degrammation.* Modal verb > lexical verb. Danish. In the 1900s, Da. *turde* ‘dare’ is reanalysed as a lexical verb. It comes to compete with the lexical *vove* ‘dare’, which it tends to replace. As a lexical verb, it comes to combine with *at*-infinitives and to receive full stress. Example from a current style manual: ‘*Vi tør ikke helt at udelukke muligheden.* Bedre: *Vi tør ikke helt [Ø] udelukke muligheden*’ (Jakobsen and Jørgensen 1999) ‘We dare not entirely exclude this possibility. Better without *at*’.

Content: ‘dare’ changes from modal to lexical paradigm. Content syntax: entailed infinitive clause > object infinitive clause. Expression: weak stress > full stress. Morphosyntax: bare infinitive > *at*-infinitive

Note the opposite change in 3.2.1.1. On Eng. *dare*, Beths (1999). Similar changes due to ellipsis (i) Penn.Gm. *wotte* ‘would’ (past of modal *wellen*) > ‘wish, desire’ (lexical) (Burrige 1998). (ii) Gm. *müssen* ‘must’ > *müssen*₁ ‘must’, *müssen*₂ ‘have to go to the toilet’.

3.2.3.2 *Degrammation.* Auxiliary > participant marker. Polish regrammatizes present perfect as general past tense and loses imperfect and aorist. With the past tenses gone, the present-tense auxiliary is degrammatized for tense. Its forms retain their content as person and number markers and drift from second position to become past-tense person and number endings. Contrast 3.2.3.3.

E.g., OPol. *kiedy* = *m.1SG niosł-a.sg.f*, *kiedy* = *m.1SG niósł.sg.m* > ModPol. *kiedy nios-ł-a-m.sg.f-1sg*, *kiedy nios-ł-em.1sg.m* ‘when I carried; F, M’ (Andersen 1987).

Content: (auxiliary’s) tense, person, number > person, number (e.g., PRES.1SG > 1SG). Content syntax: unchanged. Expression: insignificant. Morphosyntax: enclitic > desinence; terminal verb forms are replaced by bound verb stems, here *niósł* by *niosł-*; (partial) prosodic univerbation with verb stems (not shown), unchanged word-boundary sandhi is now word-internal (not shown).

3.2.3.3 Degrammation. Auxiliary > personal pronoun. Russian, like Polish, regrammatizes present perfect as general past and loses imperfect and aorist. With these past tenses gone, the present-tense auxiliary is degrammatized for tense. Its forms retain their content as person and number markers and become allomorphs of personal pronouns. As such they are used as nominatives with present as well as past-tense verbs. They are later lost (3.4.3).

E.g., MidR ¹*kupilū* ²*esmi na torgu, a togo ži* ²*esmi* ³*ne znaju, u kogo* ¹*kupilū* ²I ¹bought [it] at the market, but ²I ³not know the one, from whom [I] ¹bought [it]' (²*esmi* is the former AUX.PRES.1SG); *a ženy ne* ¹*vidělū* ²*jesi* ³*budešī vū sně* 'and ²you ³have (FUT.) not ¹dreamt of [your] wife (²*esi* is the former AUX.PRES.2SG)' (Zaliznjak 2004: 179).

Content: tense, person, number > person, number. Content syntax: downgrading from VP to subject NP. Expression: unchanged. Morphosyntax: unchanged free forms.

3.2.3.4 Degrammation. Case form > stem allomorph. Danish. Here, before the loss of case inflection, several dozen fixed prepositional phrases were lexicalized with a case form (DAT., GEN.) governed by the preposition. The noun forms are no longer segmentable since no content can be ascribed the erstwhile desinences; the forms are (stem) allomorphs. (In the examples, | marks the former desinence boundary.)

E.g., Da. *ad år|e* 'in the future, lit.: in a year', *af gård|e* 'off the farm', *fra bord|e* 'off ship-board', *i sind|e* 'in mind', *på fod|e* 'onto (POSS.) feet', *til lands* 'on land', *til bord|s* 'to the table'; Skautrup (1944: 267).

Content: case meaning > 'Ø'. Content syntax: case assignment > fixed form in lexicalized phrases. Expression: unchanged. Morphosyntax: boundary loss.

3.3 Content-syntactic changes

3.3.1 Content-syntactic upgrading

Content-syntactic upgrading, change from dependent to head or enlargement of scope, is typically entailed by grammation and regrammation. The Gzn literature is full of examples. Some examples in the preceding sections: 3.2.1.1 (lexical verb > modal), 3.2.2.1 (derivation > inflection), 3.2.2.3 (aspect > tense), 3.2.2.4 (participle > finite verb).

3.3.2 Content-syntactic downgrading

Content-syntactic downgrading typically accompanies regrammation or degrammation. Some examples in the preceding text: 3.2.2.2 (case inflection > DP derivation), 3.2.3.1 (modal > lexical verb), 3.2.3.3, 3.2.3.4 (auxiliary > participant marker).

3.3.3 Content-syntactic permutation

Several examples were seen above. In the double regrammation in 3.2.2.4, as the retrospective past is regrammatized as a non-resultative past, the pluperfect participle is upgraded to finite verb, and its auxiliary is downgraded to procedural marker. Other examples: 3.2.3.2 (auxiliary > verbal person-and-number marker), 3.2.3.3 (auxiliary > subject pronoun allomorph).

3.4 Expression changes

3.4.1 *Expression reduction*

What the textbooks call phonetic erosion is the creation and subsequent generalization of variants in which phonological features or segments are omitted (ellipsis; 4.2.1). The most frequent type, syntagmatic reduction (here, stem reduction) involves grammatical elements; note that there is no Gzn in 3.4.1.1, 3.4.1.2, where all the elements are grammatical to begin with. In 3.4.1.3, a vocative is grammatized as politeness marker with subsequent pragmatically conditioned reduction in specific environments; outside these the expression may remain unreduced (layering; Hopper 1991). In paradigmatic reduction (here desinence reduction), distinctions in a paradigm are reduced to a functional minimum (syncretism), typically more in marked categories than in corresponding unmarked categories; contrast F and M in 3.4.1.4.

3.4.1.1 *Syntagmatic reduction*. English. What the tradition insists on calling ‘contractions’ are examples of clitic shortening. E.g., /aɪ=m/ ‘I am’, /ʃi=z/ ‘she is; she has’, /wi=r/ ‘we are’, /wi=v/ ‘we have’, /wi=d/ ‘we had; we would’, /wi=l/ ‘we will’, /ar=nt/ ‘are not’, /kæn=t/ ‘cannot’.

Content: unchanged. Content syntax: unchanged. Morphosyntax: word > clitic. Expression: Reduction from syllable to rhyme.

3.4.1.2 *Syntagmatic reduction*. Polish. OPol auxiliary ‘be’, present. (i) {*jeśm*.1SG, *jeś*.2SG, *jest*.3SG, *jesmy*.1PL, *jeście*.2PL, *sq*.3PL} > (ii) {=*śm*.1SG, =*ś*.2SG, =Ø.3SG, =*śmy*.1PL, =*ście*.2PL, =*sq*.3PL} > (iii) {-*m*.1SG, -*ś*.2SG, -Ø.3SG, -*śmy*.1PL, -*ście*.2PL, -Ø.3PL}. Copula and existential ‘be’ in (i) has been renewed as (iv) {*jest=em*, *jest=eś*, *jest*, *jest=eśmy*, *jest=eście*, *sq*} > (v) {*jest-e-m*, *jest-e-ś*, *jest*, *jest-e-śmy*, *jest-e-ście*, *sq*} (layering); Andersen (1987).

Content: present tense, person, number > person, number (degrammation; 3.2.3.2). Morphosyntax: word > clitic > affix. Expression: reduction by one syllable, leveling.

3.4.1.3 *Pragmatically conditioned reduction*. Russian. OR *gospodar’* ‘master’ > *gosudar’* ‘sovereign; sire’, MidR *sudar’* > Pre-1917 =s ‘Sir’, e.g., *Gotóvy-s* ‘Yes, they are ready, Sir’; *Ták-s* ‘Right, Sir’.

Content: lexical > grammatical (politeness). Content syntax: lexeme > discourse marker. Morphosyntax: word > enclitic. Expression: reduction, tetrasyllabic > single onset.

3.4.1.4 *Paradigmatic reduction*. Russian. Adjective endings, M.SG and F.SG of *takoj* ‘that kind of, such a’. Loss of phonological features and segments in the bolded forms: loss of palatalization in desinence-final labials and three non-phonetic vowel changes in the feminine paradigm resulting in increasing syncretism – 5 > 4 > 3 distinct endings.

Table 4. Paradigmatic reduction in Russian

	MidR		MASC	FEM	1700s		1900	
	MASC	FEM			MASC	FEM	MASC	FEM
NOM	<i>tak-ój</i>	<i>tak-ája</i>	<i>tak-ój</i>	<i>tak-ája</i>	<i>tak-ój</i>	<i>tak-ája</i>	<i>tak-ój</i>	<i>tak-ája</i>
ACC	=N/G	<i>tak-úju</i>	=N/G	<i>tak-úju</i>	=N/G	<i>tak-úju</i>	=N/G	<i>tak-úju</i>
GEN	<i>tak-óvo</i>	<i>tak-ójě</i>	<i>tak-óvo</i>	<i>tak-óji</i>	<i>tak-óvo</i>	<i>tak-ój</i>	<i>tak-óvo</i>	<i>tak-ój</i>
LOC	<i>tak-óm'</i>	<i>tak-óji</i>	<i>tak-óm</i>	<i>tak-óji</i>	<i>tak-óm</i>	<i>tak-ój</i>	<i>tak-óm</i>	<i>tak-ój</i>
DAT	<i>tak-ómu</i>	<i>tak-óji</i>	<i>tak-ómu</i>	<i>tak-óji</i>	<i>tak-ómu</i>	<i>tak-ój</i>	<i>tak-ómu</i>	<i>tak-ój</i>
INST	<i>tak-ím'</i>	<i>tak-óju</i>	<i>tak-ím</i>	<i>tak-óju</i>	<i>tak-ím</i>	<i>tak-óju</i>	<i>tak-ím</i>	<i>tak-ój</i>

3.4.2 Expression elaboration

This is a common type of expression change in languages with productive morphology. It is traditionally labeled analogical change. It is more interesting to note that elaboration changes may be system motivated, type motivated, or motivated by universal preferences.

3.4.2.1 Expression elaboration. Shorter > longer allomorphs. Russian. MidR *-i ~ -m'i ~ -am'i* > *-am'i* INST.PL. Shorter desinences are more often replaced by longer desinences than vice versa (Mańczak 1963); but both the narrow and the wider context here call for a different interpretation (5.4.1, 5.4.2): individual segments in this and other desinences are ascribed content in a development towards agglutination; in *-a-m'-i*, *-a-* marks nouns, *-m'-* marks marginal case (here, DAT or INST), terminal *-i ~ -a* marks INST; contrast pronominal *-e-m'-i*, adjectival *-i-m'-i*, numeral 'two' *-u-m'-a* (Jakobson 1958).

Content: distributed among submorphemes. Content syntax: unchanged. Expression: allomorphy sharply reduced. Morphosyntax: unchanged.

3.4.2.2 Expression elaboration. Zero > overt allomorphs. Russian. Through sound change, Russian develops a \emptyset allomorph for the GEN.PL in several noun declensions. Over time the relationships among the GEN.PL allomorphs change, as the overt allomorphs are extended and become phonologically conditioned, whereas the \emptyset allomorph is curtailed. OR *-ŭ ~ -ovŭ ~ -ijŭ* > MidR $\emptyset ~ -ov ~ -ej$ > ModR *-ov/-ej ~ \emptyset*. The system context here is a preference for overt endings to zero endings for marked categories (5.3.4).

Content: unchanged. Content syntax: unchanged. Expressions: unchanged. Morphosyntax: allomorphs redistributed in favor of overt variants, especially in paradigms with \emptyset allomorph in NOM.SG.

3.4.3 Expression substitution

All expression changes involve the replacement of one variant by another in some or in all environments; expression reduction (3.4.1) and elaboration (3.4.2) are special cases in which a shorter, respectively, a longer allomorph is generalized. On the word level, the variants are allomorphs, as in the examples above. On the phrase level, the expression

substitution may involve clitics or words. The partial displacement of auxiliary ‘have’ by ‘be’ in Italian dialects (Cennamo, this volume) is an example; the fact that some verbs in one sense take ‘have’, in another, ‘be’ creates the impression that ‘have’ and ‘be’ differ in meaning; in fact they are indexes of the lexical–semantic categories across which they are distributed (3.5.3). In language-internal change, the generalized variant has arisen through neologism (ellipsis) or (analogical) extension; see the examples under 3.4.1, 3.4.2; also the redistribution of Perfect desinences in Haug (This volume). But new variants may be introduced as well through dialect or language contact (4.2).

3.4.4 *Expression doubling*

Expression doubling is presumably the typical source of concord and agreement. The following examples may be idiosyncratic and may not shed much light on how regular concord and agreement arise. Both 3.4.4.1 and 3.4.4.2 may have their origins in intrusions (4.2.2). See also Harris, this volume.

3.4.4.1 *Expression doubling*. Prepositional concord. Russian. Some Old and Middle Russian dialects regularly iterate prepositions in prepositional phrases with (i) conjoined head nouns, (ii) conjoined modifiers, or (iii) appositive nouns.

E.g., (i) *OR ot Jakimŭ i ot Šimijuna* ‘from J. and (from) S.’; (ii) *po starym po knjažim gramotam* ‘in accordance with old, (with) official documents’; (iii) *k Juriju k Oničiforovu* ‘to Jurij (to) Ončiforov [family name]’; *k bratu k Ygnatu* ‘to [my] brother (to) Ignatius’; *k sinu k svojemu k Isaku* ‘to his (to) son (to) Isaac’ (Zaliznjak 2004: 164).

Content: unchanged. Content syntax: unchanged. Expression: prepositions iterated. Morphosyntax: doubling accompanies ‘expanded’ NP heads or modifiers.

3.4.4.2 *Expression doubling*. Auxiliary. Gallipoli Serbian. In this dialect, the future auxiliary, which is a Wackernagel clitic, becomes affixed to the infinitive of its complement when the infinitive is in first position, but continues to occur sentence-second when the infinitive occurs further to the right.

E.g. (with standard forms in parenthesis), *ja=ćem ti kupi-ć-em* (st. *kupi-ti*.INF) ‘I will buy [it] for you’, *ti=ć-eš se zadiša-ć-eš* (st. *zadixa-ti*.INF) ‘you will get out of breath’, *On=će na-će* (st. *na-ći*.INF) ‘he will find [it]’, *mi=ć-emo ga savrva-ć-emo* (st. *savlada-ti*.INF) ‘we will fix it/him’ (Ivić 1994: 253).

Content: unchanged. Content syntax: unchanged. Expression: auxiliary doubled. Morphosyntax: auxiliary both sentence clitic and verb affix.

3.4.4.3 *Expression doubling*. Inflected complementizers. German. In North Bavarian dialects, participant markers have come to be affixed both to verb and complementizer. The development is thought to presuppose (i) morphosyntactic emancipation – a stage with participant markers movable from verb to complementizer, (ii) Wackernagel placement, and (iii) a subsequent generalization in both positions, as in Serbian (3.4.4.2).

E.g., (North Bavaria) *węn=ts ēęts bauęn wā-dz* ‘if you (2PL) were farmers’, *wal=ts ēęts bauęn ha-ts* ‘because you (2PL) are farmers’, (Egerland) *wen=s dā wil-st* ‘if you

(2SG) will', *wail=n sə wol-n* 'because they want to', *das=n sə mis-n* 'that they have to' (Žirmunskij 1956: 484).

Content: unchanged. Content syntax: unchanged. Expression: doubled. Morphosyntax: participant markers both complementizer enclitic and verb affix.

3.5 Morphosyntactic change

The Gzn Schema focuses attention on changes in bonding, which can be described as changes in boundary strength or freedom of placement (3.5.1–3.5.2). But besides these, morphosyntactic changes include changes in index relations, similarly relevant to all levels of structure (3.5.3) and changes in element order, relevant to affixes within the morphological word, and to clitics and words within the phrase and the clause (3.5.4).

3.5.1 *Bond strengthening (integration)*

In the usual course of events, as far as it can be determined, affixes develop from clitics, clitics from full words, and some full words go back to phrases. These facts are traditionally (over)stated as phrase > word > clitic > affix.

Several examples have been cited in the preceding sections. But two things are worth emphasizing. First, each of the stages in the phrase > affix 'cline' may be quite complex. The change from clitic to affix, for instance, may require an extension of bound stems to host the new affix (3.2.3.2) and univerbation along several parameters, morphophonemic, prosodic, segmental (Andersen 1987). Secondly, a single step on the 'cline' may take a long time. In the Polish clitic > affix change in 3.2.3.2, for instance, bound stems became affix hosts by the 1500s, but prosodic univerbation, which began in the 1500s has only recently come to completion – five hundred years later. The development has consisted of numerous morphosyntactic innovations, spreading the affixes from environment to environment, myriad little modifications of traditional usage. The changes in 3.5.1.1, 3.5.1.2 have been no less complex.

3.5.1.1 *Integration*. Word > proclitic. Greek. MGk. *thélo (i)na yráfo* 'I.want that I.write' > *tha.FUT yráfo* 'I'll write' (Joseph 2003, Heine 2003).

Content: volition > future. Content syntax: modal verb > tense marker. Morphosyntax: auxiliary + complementizer > proclitic. Expression: four syllables > one.

3.5.1.2 *Integration*. Word > inflected enclitic > suffix. Serbian. Old *hoć-u pisa-ti* 'I.want to.write' > *pisati=hć-u.FUT.1SG* > *písa=ć-u.FUT.1SG* (Andersen 2006c).

Content: volition > future. Content syntax: modal verb > tense marker. Morphosyntax: auxiliary > inflected Wackernagel enclitic. Expression: infinitive host truncated, auxiliary stem reduced, one syllable > single consonant.

3.5.2 *Bond weakening (emancipation)*

Although the development of greater morphosyntactic cohesion is more frequent, morphosyntactic emancipation occurs both as an internally motivated change and as a result of contact.

3.5.2.1 *Emancipation*. Affix > clitic. Russian. When in EMidR the IMPV.2SG was apocopated, the 2PL imperative desinence *-t'è* became enclitic; see table 5. Its new morphosyntactic status is shown by the imperative's word-final, not word-internal sequential constraints, e.g., *postáv'=t'è* with [f't'] – devoicing, but palatalization retained before consonant; word-internal constraints would call for [ft']. The enclitic is subsequently extended to the 1PL hortative to specify plural addressee or politeness, e.g., *id'-ó-m* 'let's (both) go', *id'-ó-m=t'è* 'let's (all) go'; as well as to other directives, e.g., *ná.SG, ná=t'è.PL* 'here you are', *nú.SG, nú=t'è.PL* 'well then', *pólno.SG, pólno=t'è.PL* 'enough!', *bonžúr=t'è.PL* (jocular greeting, Chekhov). The larger context for this change is a typological trend towards agglutination (3.4.2.1; 5.3.2).

Content: unchanged. Content syntax: extended from imperative to other directives (mands). Expression: unchanged. Morphosyntax: verb desinence > enclitic.

Table 5. Affix > clitic in Russian

	ORuss.		MidRuss.		ModRuss.	
2-3SG	<i>dar'-í</i>	<i>stáv'-i</i>	<i>podar'-í</i>	<i>postáv'-Ø</i>	<i>podar'-í</i>	<i>postáv'-Ø</i>
2PL	<i>dar'-í-t'è</i>	<i>stáv'-i-t'è</i>	<i>podar'-í-t'è</i>	<i>postáv'-i-t'è</i>	<i>podar'-í=t'è</i>	<i>postáv'=t'è</i>
1PL	<i>dar'-í-m</i>	<i>stáv'-i-m</i>	<i>podar'-í-m</i>	<i>postáv'-i-m</i>	<i>podar'-í-m</i>	<i>postáv'-i-m</i>
1PL+2PL					<i>podar'-í-m=t'è</i>	<i>postáv'-i-m=t'è</i>

3.5.2.2 *Emancipation*. Affix > word. American English. *-ade* 'product made from or with X' (e.g., *lemonade, orangeade, gingerade, limeade*) > *ade* 'refreshing beverage'; cf. *Kool-Ade* (renamed *Kool-Aid* 1929), *Gatorade* (developed for the *University of Florida Gators* football team, 1965). Note that the content change in *-ade* implies a prior content reanalysis of the first constituent from 'ingredient' to 'characteristic'. This indicates that the content of *ade* is a result of reanalysis (4.1.4), and the noun is not a conversion, such as *ism*; conversion is a type of neologism (4.1.1).

Content: derivational > lexical; and see preceding paragraph. Content syntax: now combinable with constituents that do not denote ingredient. Expression: unchanged. Morphosyntax: suffix > head of compound > free word.

3.5.2.3 *Emancipation*. Word > compound. English. Based on contact with the orthography, old unverbated compounds are resolved. E.g., *forehead* [f'ɒrɪd] > [f'ɒr,hɛd], *coxswain* [k'ɒksɪn] > [k'ɒk,swɛɪn].

Content: unchanged. Content syntax: synthetic to (semi)analytic. Expression: spelling pronunciation (contact adoption; 4.1.3). Morphosyntax: word > compound.

3.5.2.4 *Emancipation*. Compound > phrase. English. Based on contact with prescriptive grammar, the adverb suffix *-ly* is extended to what appear to be unsuffixed adverbs. E.g., *full-fledged, full-grown* > *fully-fledged, fully-grown*.

Content: unchanged. Content syntax: unchanged. Expression: overt adverb marking (intrusion due to transference; 4.1.2). Morphosyntax: compound > phrase.

3.5.2.5 *Emancipation*. In addition to the examples in this section, consider the emancipation (desinence > phrase enclitic) entailed by the regrammation of the English *-s* (3.2.2.2, 3.5.3; Askedal, this volume), and several other examples discussed by Askedal (This volume): Japanese *-ga* (enclitic > word) entailed by its regrammation and upgrading to complementizer; Northern Irish *-mid* > *muid* ‘we’ (desinence > word), subsequently the basis for a new emphatic *muid-í*; Northern Saame *taga* ‘without’ (enclitic > word); Gk. *ksana* ‘again’ (prefix > adverb).

3.5.3 *Grammatical indexes*

An important kind of grammatical change is the development of grammatical indexes. At the word level, these are cases of allomorphy, viz. grammatically conditioned alternants. At other structural levels, there is phrase-internal (concord), clause-internal (agreement), cross-clausal (switch reference), text-grammatical (endophoric elements), and speech-act indexing (exophoric elements, discourse markers). On each level, indexing serves to signal coherence and create textuality.

Languages with rich morphology can have correspondingly rich systems of grammatical indexing. Several examples are analysed and further categorized in Andersen (1980). Gaeta (2004) analyses a number of examples of grammatical indexing, on the word, the phrase, and the clause level; they are all results of phonological change that have become grammatically conditioned, that is, grammatical indexes developed from below.

In this volume, Ottosson (This volume) refers to word-level indexes as ‘quasi-exponence’ and ‘morphosyntactic sensitivity’. Maiden (This volume) discusses systems of word-level indexes, but does not recognize them as having any sign value. Schøsler (This Volume) describes the major typological shift in case-role indexing from the Latin system of morphological cases to the ‘variety of organisational devices lexical, morphological, analytical, and topological’ in modern French.

Since grammatical indexes have content, it seems reasonable to speak of their development as *index grammar*. The examples that follow are intended to be suggestive and therefore limited to simple word-internal indexes. To conserve space, I omit examples of index regrammation and degrammation.

3.5.3.1 *Index grammar from above*. In Old Ukrainian, nouns, adjectives, and pronouns had a DAT-INST.DU ending *-V-m-a* (where *-V-* stands for a variety of desinence-initial vowels) and INST.PL desinences of the general form *-(V)-(m)-y* (e.g., *-amy*, *-my*, *-y*). When the dual number was lost, the DAT-INST.DU, now a DAT-INST-PL allomorph, survived as *-oma* in the numeral ‘two’. Subsequently, *-(o)ma* replaced the inherited INST.PL endings of the numerals ‘three’ (*tr-ymy* > *tr’-omá*) and ‘four’ (*čotyry-my* > *čotyry-má*), and later it was extended to all cardinal numerals (*pjat’-omá* ‘five’, *st-omá* ‘hundred’) and quantifiers (*bahat’-má* ‘many’, *kil’k-omá* ‘some’); Shevelov 1993, Andersen (To appear).

Content: (DAT-INST.DU allomorph > INST.PL allomorph.) Content syntax: unchanged, concord marker. Expression: no change. Morphosyntax: idiosyncratic lexical > lexical-grammatical category index.

3.5.3.2 *Index grammation from below.* German. In early Germanic, front vowels develop from fronted allophones of back vowels in syllables at one time preceding /i/ or /j/ (Janda 2003; Gaeta 2004). The resulting alternations of certain back vowels with corresponding front vowels, called Umlaut, are subsequently grammatized with a diversity of indexical functions. Umlaut indexes derived causatives, certain person forms in conjugation, comparatives, diminutives, and, most famously, it is an index of 'plural' number of nouns. Thus in Modern German, in some nouns the replacement of a back vowel by a corresponding front vowel accompanies an overt plural ending: *Mann-Männ-er* (M) 'man', *Gast-Gäst-e* (M) 'guest', *Land-Länd-er* (NT) 'country', *Frucht-Frücht-e* (F) 'fruit'; in others, a zero ending: *Vogel-Vögel* (M) 'bird', *Vater-Väter* (M) 'father', *Mutter-Mütter* (F) 'mother'. Umlauting has historically been extended to many nouns, but continues to be lexically limited. Nouns with stem vowels that are not umlautable lack this grammatical index.

Morphosyntax: Phonological conditioning > grammatical indexes.

In English, umlaut indexing of 'plural', once comparable to that described for German, has been curtailed, and it no longer exists as a regular segmental alternation. In the handful of Modern English nouns that show reflexes of umlaut – *mouse-mice*, *goose-geese*, etc. – the best analysis, it seems, is to recognize that the plural allomorph as a whole (e.g., *geese*) symbolically represents the same lexical content as the 'singular allomorph' (*goose*) and additionally serves as an index of the zero allomorph of the plural. The 'singular' allomorph is an unmarked, general-purpose form, now being extended to the plural of neologisms (*mouses*, *gooses*). Nouns such as *sheep*, *craft* differ from these by having no singular-plural allomorphy and thus no grammatical index for the zero plural allomorph.

3.5.4 *Changes in element order*

Element order is a simple means of indexing meaningful elements. It is grammatized on the clause level in topological schemas, e.g., S-IO-DO in Gm. *Hat Braun Roth Weiss empfohlen?* 'Has Braun recommended Weiss to Roth?'; on the grammation of SVO in French, see Schøsler (This Volume). Clitics commonly index the margins of phrases or clauses. Thus the regrammation of the English 'genitive' -s (3.2.2.2) was followed by two morphosyntactic changes: it was emancipated to clitic status (3.5.2.5) and came to be enclitic to the determiner phrase it marks.

3.5.4.1 *Split infinitives.* English. Attested since the 1300s, they have been problematized from a number of points of view (van Gelderen 2004, Askedal, this volume). It appears that from being proclitic to the infinitive form, the infinitive marker *to* has become proclitic to the infinitive clause, including any pre-verbal adverb(ial), in most environments; the change may still be in progress. There is no apparent change in its proclitic status (*pace* Askedal, this volume), and no apparent change in its scope (i.e., content syntax; Fischer 1999). Since the change from preposition-like to complementizer-like placement does not reflect any upgrading, it calls for a different explanation. The similarity between the movement of *to=* to the left margin of the infinitive clause

and that of the DP marker =s to the right margin of the determiner phrase leaps to the eye. Both changes seem motivated by the universal preference for placing clitics at the margins of the relevant constituents.

3.5.4.2 Proclitic ‘climbing’. French. In some periods and varieties of French, the (prefix >) proclitic *re* = ‘again’ is preposed larger constituents than the verb whose signified activity is repeated: Older Fr. *Tu=me=devrois re=dire* > *Tu=me=re=devrois dire* ‘You should tell me again’; ModFr. *Revoilà le chien qui hurle* ‘There is that dog howling again’ (Maupassant). Similar changes in other Romance languages, e.g. It. dial. *Chi ar c’erà* ‘Who was that again?’ (i.e., *chi ar=c=era*; st. *Chi c’era di nuovo?*); Askedal (This volume).

No change in Content, Expression, or Content syntax (specifically, no scope increase). Morphosyntax: emancipation (prefix > proclitic); preverbal > prephrasal placement.

3.5.4.3 Enclitic > proclitic. Estonian. According to one interpretation, after its regrammation as interrogative enclitic, OEst. *es.Q* was (i) decliticized and placed in Wackernagel’s position, and subsequently (ii) became a ‘free particle’ in ‘first position’ (Askedal, this volume). It appears, however, there was no ‘decliticization’. First, =*es* was a sentence-initial Wackernagel enclitic, i.e., it was placed in relation to the first orthotonic word (or phrase) of the sentence and, since it was an enclitic, followed it. Later, it became a sentence-initial proclitic. To understand the change enclitic > proclitic, it may be useful to view *es* in its areal context. Formerly, =*es.Q* conformed to the northern area in Eastern Europe with Wackernagel enclisis (Fi. =*ko.Q*, Russ. =*li.Q*). Now, both Est. dial. *es=* and st. *kas=* conform to the southern area with sentence-initial proclisis (La. *vai=.Q*, Li. *ar=.Q*, Pol. *czy=.Q*, Br. *c’i=.Q*, Ukr. *čy=.Q*).

No change in Content, Content syntax, or Expression. Morphosyntax: sentence enclitic > sentence proclitic. Possibly a contact change (4.3–4.4).

3.6 Conclusion

The preceding survey has exemplified categories of change defined by the constituent elements of linguistic signs, which are subject to change – content, expression, content syntax, and morphosyntax – and some subcategories that are logically possible or happen to be well attested. If we look carefully at actual chronological developments in language histories we are likely to discover other types of change which – like those reviewed above – will raise questions about their origins; see, for instance, Andersen (2006bc).

4. Types of innovation

Each of the types of change that have been exemplified in the preceding pages is, technically speaking, a diachronic correspondence, that is, a correspondence between two states separated in time, a ‘before’ and an ‘after’ which have been interpreted as

a change event. This interpretation may be an oversimplification in the sense that a correspondence may be the result of a sequence of changes. But even when it is reasonable to consider a correspondence the reflection of a single, temporally well-defined event in a tradition of speaking, we have to recognize that a change is a complex event that progresses over time only thanks to myriad minor adjustments in the competences and usage of the speakers. These innovations, as the adjustments are traditionally called, are the ‘atoms’ of which a change is composed.

The historical linguist’s task, accordingly, is to resolve every observed diachronic correspondence into the change or changes that brought it about, and each change, again, into the innovations from which it resulted.

The normal course of events through which a new expression originates, gains currency, and becomes established as part of a tradition of speaking is the following: one or more speakers (i) make a (primary) innovation and (ii) actualize it in usage; other speakers (iii) adopt the new expression and (iv) actualize it in their usage; if the new expression is used widely and long enough, new cohorts of speakers (v) will acquire it as an integral part of their competence, and (vi) actualize it in their usage; the new expression becomes generalized in the community through repeated cycles of (iii)–(vi). One can speak of such a series of overlapping kinds of innovation as a ‘change scenario’ and of the constituent innovation types (i)–(vi) as ‘subchanges’.

4.1 The four basic types

There are four basic types of innovation. Each of these should be understood as a (covert) modification of competence that is (overtly) actualized in speech (Andersen 2001c; 2006bc).

4.1.1 *Neologism*

The creation of new signs. (i) New combinations of content and expression (coinage); e.g., *grammation*. (ii) New expressions for extant content (remedial innovations, jocular deformations, new collocations, etc.); e.g., *nuked* ‘nude, naked’; “have” + NP_{DO} + past participle, eventual source of retrospective tenses (Detges & Waltereit 2002). (iii) New, derived realizations of extant expressions (clippings; ellipsis); e.g., the omission of a lexical verb in 3.2.3.1 or phonological material in 3.4.1.

A neologism is always an alternative to an existing expression (or to an *ad hoc* circumlocution) and hence implies the creation of a set (paradigm) of alternative expressions, variants. The paradigm may subsequently be reduced as the variants are ascribed markedness values in reanalysis and the unmarked variant is extended, the marked variant curtailed (expression reduction, 3.4.1).

4.1.2 *Extension*

The application of extant linguistic means in new usage. E.g., the use of a retrospective present (present perfect) to refer to past situations without necessary relevance to the

present, eventually replacing simple past tense(s) in 3.2.2.3; the use of the subjectless passive for definite objects (Eythórsson, this volume). The extended expression typically has less semantic depth or intension than its source (bleaching); the two contents, full and bleached, coexist in the case of layering; but there is no diminution of intension when an unmarked term is extended. Extension may imply a curtailment in the use of other linguistic means; e.g., the extension of the present perfect entailed a curtailment in the use of the Old Russian imperfect and aorist (3.2.2.3); French documents a similar relation between its *passé composé* and *passé simple*.

4.1.3 Adoption

The acceptance of newly encountered usage for passive or active use.

4.1.4 Reanalysis

The fresh analysis of received usage in the course of new speakers' grammar formation. From the linguist's point of view, there are several kinds of reanalysis, which reflect that the learner decides issues of analysis of two kinds, substantive (which concern the content, expression, content syntax, or morphosyntax of elements of grammar), and valuative (the ascription of markedness values). More in 5.2.

4.2 The four contact types

In contact situations, including bilingual and multilingual situations, the four types of innovation may give rise to specific kinds of change. The results of these are traditionally called 'borrowings', with little or no attention paid to their different origins in innovations.

4.2.1 Borrowings

Borrowings (in the narrow sense) are kinds of bilingual neologism, in which the content and expression of a sign, or just an expression is introduced from another language. The term *calque* refers to borrowed composite signs whose expressions have been translated element by element.

4.2.2 Intrusions

Intrusions are new elements that enter the usage of a matrix language L_1 due to transference from a contact language L_2 , or which enter the usage of a matrix language L_2 due to interference from a contact language L_1 ; transference and interference are kinds of extension from one language to another.

What is recognized as substratum influence is the result of interference intrusions; superstratum influence results from transference intrusions. Both kinds of intrusion play an essential role in the formation of *koinés* and language alliances. Where a written standard serves as a superstratum, typical transference intrusions are spelling pronunciations and the elements of prescriptive grammar (3.5.2.3, 3.5.2.4).

4.2.3 *Contact adoption*

This is the acceptance of alternative linguistic means from a contact dialect; it plays an essential role in areal diffusion and in the development of transitional dialects.

4.2.4 *Bilingual reanalysis*

This is the acquisition of composite competence in conditions of social bilingualism or bidialectism; an important aspect of this is the ascription of values to functionally equivalent L_1 and L_2 elements, which then determine speakers' preference in usage. It plays an essential role both in areal diffusion and in the formation of language alliances.

4.3 Conclusion

Among the different kinds of innovation, it is surely most difficult to understand what enables speakers to make up new expressions (neologism) or apply their repertory of expressions in new ways (extension), or what decides them to adopt and use expressions they encounter in the usage of others. These kinds of innovation presuppose a creativity that has a grammatical competence as its point of departure. Innovations that arise in reanalysis are simpler and therefore more likely to afford us direct insight into the premisses that guide learners in the formation of a grammar. They will be the topic of section 5.

5. Reanalysis as a source of innovation

One of the most remarkable facts about linguistic change is its determinate direction. Changes that we can observe in real time – for instance, as they are attested in the textual record – typically progress consistently in a single direction, sometimes over long periods of time. Recently some newcomers to the field have speculated that the progress of linguistic change is analogous to the statistical drift in evolution (Croft 2000, Roberts & Roussou 2003). But linguistic drift is different (Andersen 1990, 2005). Not only does linguistic drift have direction, as Sapir observed (1921: 155). It has structure: innovations are typically actualized across the social, stylistic, and grammatical categories of a language in an orderly fashion that reflects the hierarchical organization of those categories (see below).

Sapir realized that the sustained, determinate direction of drift can be understood only by supposing that 'the drift of a language is constituted by the unconscious selection on the part of the speakers of those individual variations that are cumulative in a special direction.' To account for the directedness of drift, he called for an investigation of 'the intuitive bases of speech' and, specifically, a study of linguistic patterning 'and the "weights" and psychic [i.e., cognitive] relations of the single elements in linguistic patterns' (p. 183) – a project entirely germane to the topic of this volume.

Sapir's great insight was, first, that it is the 'weights' of synchronic variants that determine the direction of change, and secondly, that these weights must be intuitively assigned by speakers and, in turn, consistently guide the speakers' selections of certain variants over others in speech.

Most modern readers have no difficulty agreeing with Sapir that linguistic elements are weighted or, as we say now, participate in markedness (m-ness) relations. But to bring his insight to fruition we need to answer two questions: How do those m-ness values translate into change? And, What are the criteria by which m-ness values are assigned.

5.1 M-ness in actualization

In earlier work I have put forward a theory of m-ness that makes it possible to clarify how synchronic m-ness values translate into change. Here I will mention very briefly just two elements of this theory, the nature of m-ness and m-ness agreement.

5.1.1 *The nature of m-ness*

M-ness is in essence an inclusive relation. Inclusion is the most primitive cognitive relation (e.g., y^M is a kind of x^U), and it seems that this relation is assigned to related elements prior to any analysis of their logical relation (inclusive or exclusive, contrary or contradictory, etc.). Hence even relations that are logically exclusive have m-ness values; e.g., $long^U : short^M$ (contraries), $man^U : woman^M$ (contradictories), $east^U : west^M$ (converses) (Lyons 1977; Andersen 2001b).

All the syntactic and paradigmatic (taxonomic) relations in language are inclusive. Hence they are ideally represented by tree diagrams, in which any lower node is included under a higher node, and in any pair of branches, one will be marked, the other unmarked, reflecting their different usage potential (see below).

To understand the process of change, it is particularly important to appreciate the dynamic character m-ness imparts to variation. In a paradigm of covariants, one will be unmarked, the other(s), marked; if there are several marked covariants, they may form a hierarchy if the variation is subject to hierarchical constraints (Wolfram and Fasold 1974). Since the m-ness relation is inclusive, the usage potential of any marked term is included in that of the unmarked counterpart even though in normal usage they may be in complementary distribution. This difference in potential can be exploited in usage: the unmarked term may be used as proxy for a marked term, just as a hypernym can stand in for its hyponym(s). If such a 'skewed' usage arises and is acquired by a new cohort of learners, it may become the baseline for additional skewing in those speakers' usage, and so on through successive cohorts of speakers: as the variation is acquired by successive cohorts, an age gradient develops in which the unmarked term becomes extended more and more and the marked term(s) become more and more curtailed (4.2.2) until the unmarked term is eventually generalized. This is how change results from 'the unconscious selection on the part of the speakers of those individual variations that are cumulative in a special direction' (Sapir 1921: 155).

5.1.2 *M-ness agreement*

The principle of m-ness agreement is manifested in change in a number of ways. Typically in internally motivated change, an innovation is extended to unmarked contexts earlier than to corresponding marked contexts, and to some categories earlier than others in conformity with a hierarchy of grammatical categories (Timberlake 1977; Andersen 1990; Andersen 2001abc and the other contributions in Andersen 2001d; Cennamo, this volume; Ottosson, this volume). M-ness agreement will not be discussed in the following exposition, but it is worth mentioning because it is strong evidence that m-ness is intrinsic to all (underlying) linguistic relations and is not to be identified with such superficial observables as relative frequency or complexity.

5.2 M-ness in reanalysis

We assume that in the process of grammar formation, learners decide analytic issues of two kinds, substantive (which concern the content, expression, content syntax, and morphosyntax of elements of grammar), and valuative (the ascription of m-ness value to every individual element of grammar in relation to other elements).

Innovations in reanalysis show that the first kinds of issues are decided on the basis of such elementary procedures as segmentation of expressions, analysis of contents, and assignment of content elements to elements of expression; the formation of sentence, phrase, and morphosyntactic patterns for the expression of content-syntactic relations; the organization of expressions into hierarchical paradigms on the basis of their content; et cetera. It is possible to formulate more or less extensive sets of learners' 'operating procedures' (Slobin 1985, Faarlund, this volume).

The learner's analysis moves forward on two levels simultaneously resulting in the formation of a base grammar (a system of productive grammatical rules) and a system of usage rules that capture current appropriateness norms (Andersen 2001c). The usage rules are based on (couched in terms of) the base grammar and enable the learner to produce, first of all, established usage where this cannot be derived by the productive rules (e.g., irregularities, idioms, archaisms) and, secondly, variable usage appropriate to the learner's changing age-group, gender, social-class membership, and ethnicity as well as relevant register and stylistic demands.

Since m-ness values are implicit in all syntactic and paradigmatic relations, they are found throughout the base grammar and usage rules, including the complex of variable rules.

5.3 Iconicity in reanalysis

Here I will return to a few examples presented in sec. 2 that illustrate some of the possible grounds for m-ness ascription. Specifically, the examples show the role of iconicity in the creation and selection of variants.

5.3.1 System-specific iconicity: segment count as a diagram of grammatical number

In Old Russian, several Common Slavic declensions merge in one, the masculine First declension (e.g., ModR *stól* ‘table’, *m’ód* ‘honey’, *góst* ‘guest’). In Middle Russian, several case endings in this declension have two or three allomorphs differing in number of segments; see table 6. In modern Russian, this allomorphy has been sharply reduced. The outcome is an orderly distribution of desinences and allomorphs such that for each pair of singular and plural case endings, the opposition singular^U vs. plural^M (‘unspecified number’ vs. ‘more than one’) is diagrammed by a difference between n segments^U and $n + 1$ segments^M. (A few details that are not shown in table 6 will be taken up in 4.3.4.)

Table 6. Segment count as a diagram of grammatical number. First-declension *m* nouns

	Middle Russian		Modern Russian	
	SG	PL	SG	PL
NOM	∅	1 ~ 2 ~ 3	∅	1
ACC	∅	1	∅	1
GEN	1	∅ ~ 2 ~ 2	1	2
LOC	1	2	1	2
DAT	1 ~ 3	2	1	2
INST	2	1 ~ 2 ~ 3	2	3

In interpreting this development it is not enough to know that there is a tendency in languages for a diagrammatic relation between grammatical number and desinence length (Jakobson 1965). The actual outcome here is a much tighter relationship between content and expression and calls for a more specific explanation. It is not enough either to know that across language histories, shorter allomorphs are more often replaced by longer allomorphs than vice versa (Mańczak 1963). This generalization fits the facts: here shorter allomorphs were generalized in three cases (DAT.SG, NOM-ACC.PL), but longer, only in two (GEN.PL, INST.PL); but Mańczak’s ‘more often’ is no better than Jakobson’s tendency.

On the assumption that in each instance, the allomorph that is generalized is the one that is evaluated as unmarked, one might simply suppose that shorter allomorphs were unmarked in the singular, but in the plural, allomorphs were evaluated as unmarked not according to their own length, but in relation to singular desinences: those plural allomorphs were unmarked that were just one segment longer than the corresponding (unmarked) singular allomorph. This is what is suggested in the first paragraph of this section.

One cannot exclude this possibility a priori. But it is just possible that the neat correspondences between grammatical number and segment count seen in table 6 are the result of several, more general iconicity principles acting, or applied, independently.

One of these could be a universal principle reflected in Mańczak's statistical generalization: other things equal, of several allomorphs the one with the fewest segments is unmarked. This is in fact precisely the principle that is behind Zipf's Law. This famous 'law', which links frequency with word shortening, conflates three innovations: (i) the innovation of phonetically shortened variants (ellipsis; 4.2.1), (ii) the ascription of *m*-ness values to longer^M and shorter^U variants (valuative reanalysis) and (iii) the subsequent curtailment of the longer^M and extension of the shorter^U variants (actualization) (Andersen 2001c).

Let us provisionally adopt the *m*-ness principle in (ii) (the 'Zipf principle'), which will account for three of the simplifications in table 6, and turn to the cases in which longer allomorphs were generalized.

5.3.2 *Type-motivated iconicity: the preference for agglutination, 1*

Ex. 3.4.2.1 exemplified expression elaboration (from shorter to longer allomorphs) with the Russian INST.PL of nouns, in which the lexically conditioned allomorphy MidR *-i ~ -m'i ~ -am'i* yielded to *-am'i*.

The background for this change was an overabundant allomorphy in Middle Russian plural paradigms, especially in the LOC-DAT-INST.PL. The LOC.PL and DAT.PL endings (*-V-x* and *-V-m*) had a variety of initial vowels – *i*, *ê*, *o*, *ô*, *a*, with complex, cross-cutting lexical and phonological conditioning – followed by invariant *-x*, respectively *-m*. In the INST.PL the regular endings were First decl. *-i* (written *-y* and *-i*) (lexical exceptions with *-m'i*), Second decl. *-am'i*, Third decl. *-m'i*, that is, *-(a)-(m')-i*; but adjectives, pronouns, and some numerals had other desinence-initial vowels, so the general shape was *-(V)-(m')-i*.

The complex allomorphy in these endings formed the basis for reanalyses. First of all, *-x* was posited as LOC.PL marker, *-m-* as peripheral-case (DAT-INST) marker, and *-i* as INST.PL marker. It should be mentioned that the consonant *-m-* ($\sim -m'$) also occurred, and occurs, in LOC-DAT-INST.SG and DAT-INST.PL endings of pronouns and adjectives. Secondly, desinence initial vowels were generalized according to nominal part of speech: *-a-* for nouns, *-ê-* for pronominal adjectives, *-i-* (written *-y* and *-i*) for adjectives, *-u-* for 'two', *-o-* for 'three, four'.

We can now see why the longest of the three INST.PL allomorphs would be unmarked and hence came to be generalized. Recall from above that the shortest, and highly frequent, INST.PL allomorph *-i* was actually included in the longer allomorphs *-m'i* and *-am'i*; but it alone among all the plural peripheral-case allomorphs lacked a case-specific consonant; by comparison with the others, it was opaque. The allomorph *-m'i* began with a consonant, or, by comparison with the others, it lacked a desinence-initial vowel. The *-am'i* ending included *-i* as its final segment, had the case-specific consonant *-m'*, and had an initial vowel. It was the only one of the INST.PL allomorphs with a shape (*-V-m'-i*) that paralleled LOC.PL (*-V-x*) and DAT.PL (*-V-m*).

The initial vowel of *-a-m'-i* occurred in the Second declension LOC.PL and DAT.PL endings (*-a-x*, *-a-m*); of all the relevant desinence-initial vowels, *-a-* alone did not alternate with another vowel. Furthermore, *-a-* was the inherited desinence-initial

vowel in the personal pronouns (viz. *n-a-s*, *n-a-m*, *n-a-m'-i* 'us', *v-a-s*, *v-a-m*, *v-a-m'-i* 'you', LOC-DAT-INST.PL). Although formerly meaningless, the *-a-* became meaningful by the contrast of these substantival case desinences with those of other nominal parts of speech.

In terms of its internal structure, its paradigm-internal relations, and its relation to other paradigms, then, *-a-m'i* was unmarked.

The actualization of these m-ness valuations, in which marked allomorphs and sub-morphemic elements were gradually curtailed and eliminated, stretched over more than four hundred years. Through innumerable innovations in usage rules, usage gradually came to generalize a base system of unmarked allomorphs with (i) desinence consonants and non-initial vowels representing case features or cases, (ii) desinence-initial vowels indexing (3.5.3) part of speech, and, as seen in table 6, (iii) segment count as a (diagrammatic) representation of grammatical number in the INST.PL as in the LOC-DAT.PL.

In the process, an inflective or fusional system of nominal morphology was transformed into an (incipiently) agglutinative one (Jakobson 1958). There is an old belief that agglutinative systems develop into fusional ones, and not vice versa; but see Igartua (MS). In the history of Russian (and the other modern Slavic languages), however, not only is the opposite development widely attested, but it originated through a well-motivated resolution of the rather complex allomorphy that had accumulated in the medieval systems. Of the two types of morphosyntactic mapping, agglutination is evidently unmarked in relation to fusion. This would make every transparent concatenation of submorphemic elements in the reanalysed base grammar unmarked in relation to the corresponding received, fused allomorph captured in the usage rules, $-a-x^U$: $-\acute{e}x^M$, $-ix^M$, $-ox^M$ LOC.PL; $-a-m^U$: $-\acute{o}m^M$, $-om^M$ DAT.PL; $-a-m'-i^U$: $-m'i^M$, $-i^M$ INST.PL. This transparency must have played a role in the adoption, transmission, and gradual diffusion of the innovated desinences; further details in Andersen (1969)

5.3.3 Type-motivated iconicity: the preference for agglutination, 2

Ex. 3.5.2.1 described the morphosyntactic emancipation of the Middle Russian imperative desinence $=t\acute{e}.2PL$, which becomes an enclitic some time before the 1700s. Its extension to the 1PL hortative and some other directive forms leaves no doubt that it has become emancipated from the imperative. The phonological constraints that apply to the stem-stressed IMPV.2PL (3.5.2.1) show that $=t\acute{e}.2PL$ follows a word boundary: it is attached to IMPV.2SG as an enclitic. It is interesting that the same phonological constraints apply before the reflexive morpheme. This was earlier a second-position enclitic, but has become fixed to verbal forms, phonologically not as a suffix, but an enclitic.

Since clitics develop into affixes more often than vice versa, the emancipation of the Russian IMPV.2PL morpheme is interesting. It is certainly relevant to its interpretation that the inflectional systems of both verbs and nouns in this language have become agglutinative in character (Jakobson 1957). The transformation of nominal and verbal inflection occurred from the late 1200s on. Against this background, the emancipation

of the IMPV.2PL morpheme can be seen as part of the emergence of this new, clearly concatenative morphosyntactic type.

5.3.4 *Universals of iconicity*

Since the 1100s–1200s, Russian has gradually replaced its $-\emptyset$ GEN.PL allomorph with overt allomorphs, $-ov/-ej$, the latter having become phonologically conditioned allomorphs (3.4.2.2).

It is a fact that across language histories, zero endings are more often replaced by overt endings than vice versa (Mańczak 1963). From this one can infer that language learners consider zero allomorphs marked more often than not. Now, Russian (and other Slavic languages) have zero allomorphs also in the NOM.SG (First-declension masculines, Third declension), yet here there has been no tendency to replace zero with overt allomorphs. This suggests a possible correlation between unmarked and marked categories on one hand and zero and overt marking on the other, which is well attested across languages and may represent a universal (Greenberg 1969). In the NOM.SG forms then, the zero allomorph would be unmarked, part of the base system, and stable, whereas in the GEN.PL the zero allomorph would be marked, assigned by usage rules, and liable to curtailment and eventual replacement by unmarked overt allomorphs.

There is an additional detail regarding this replacement by overt GEN.PL allomorphs: it has progressed further in masculine First declension nouns than in neuters and Second-declension nouns. Since masculine First-declension nouns have a zero ending in NOM.SG one might wonder whether the ‘Greenberg correlation’ is sensitive to the presence of other zero endings in the paradigm. This may be so. But in Russian, the fact that the introduction of overt allomorphs has progressed further in the First declension (non-feminine nouns) than in the Second declension (mostly feminine nouns), and within the First declension, further in masculines than in neuters may simply manifest the principle of m-ness agreement (5.1.2).

5.3.5 *Summary*

The last few examples have illustrated how the language-specific diagram of grammatical number by desinences of contrasting length in table 6 may have arisen thanks to several markedness-principles. The ‘Zipf principle’ accounts for three of the cases in which the shortest allomorph was generalized (DAT.SG, NOM-ACC.PL; 5.3.2). The ‘Greenberg correlation’ of m-ness in content categories with zero vs. overt expressions accounts for one (GEN.PL; 5.3.4). The interpretation of the remaining, fifth allomorph generalization (INST. PL, 5.3.3) brings several principles into play in the resolution of the relevant allomorphs into submorphemic units ($-m^2$, $-i$) and the grammation of part-of-speech indexes ($-a-$): transparency vs. opacity, unity vs. diversity of expression.

In all instances it appears coincidental that the application of the m-ness principles gave rise to a diagram in which n vs. $n + 1$ segments represented the relation ‘unspecified number’ vs. ‘more than one’.

6. Conclusion

In the last few pages I have tried to illustrate in some detail how the values that are ascribed in the process of grammar formation may be reflected in innovations that in the long run lead to change.

Traditionally many linguists have been satisfied with easier explanations. Some discover analogical relations in grammatical changes and come to believe that all change is analogical. Others observe how new forms may be more economical than the forms they replace and become convinced that all change leads to simplification. Recent investigations of Gzn have not changed these traditional attitudes much.

The larger aim of this chapter has been to advocate that we change our focus from Gzn to grammatical change in general and shift our attention from diachronic correspondences to the types of innovation in which changes originate, especially to innovative reanalysis. It is at this level of detail, where new variants are created, that the most productive questions can be asked about any given innovation: whether it conformed to existing rules of the language, whether it was motivated by surface ambiguities in received usage, whether it conformed to typological properties of the language, or whether it embodied some general principle of language manifested as a learner's strategy.

One strong argument in favor of asking such questions is that each of these questions and others like them opens a door to further investigation.

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‘Degrammaticalization’ versus typology

Reflections on a strained relationship

John Ole Askedal
University of Oslo

The purpose of the present chapter is to discuss the notion of ‘degrammaticalization’ in a typological and functional perspective. I give a critical assessment of the eight diachronic developments claimed by Haspelmath (2004: 29) to be instances of ‘attested antigrammaticalization’ (Haspelmath’s term for degrammaticalization in this context), with regard to the empirical justification of that characterization. My main conclusion is that, when typological aspects of the formations and constructions themselves, or the overall-typological make-up of the languages in question, are given due recognition, none of Haspelmath’s ‘antigrammaticalization’ examples allow for a description in these terms. This casts further doubt on the descriptive – empirical and theoretical – meaningfulness of the notion of ‘degrammaticalization.’

1. Introduction

‘Grammaticalization’ is an apt term for the formation of grammatical elements; cf., e.g., Heine & Kuteva’s (2002: 2) definition of the subject matter of ‘grammaticalization theory’¹ as ‘the genesis and development of grammatical forms’ and of ‘grammaticalization’ as ‘the development from lexical to grammatical forms and from grammatical to even more grammatical forms.’² Thus understood, the concept of ‘grammaticalization’

1. In the grammaticalizationist literature, the term ‘grammaticalization theory’ (e.g., Heine & Kuteva 2002: 2) is most often used without much grammaticalization-independent theorizing. Generative linguists tend to dispute the validity of the grammaticalizationists’ use of the term ‘theory’ (cf. Newmeyer 1998: 234–235, 240). To my mind, the main interest of grammaticalization studies lies in their potential to provide analyses of grammar formation that may shed light on claims made by proponents of different linguistic theories.

2. Cf. also, e.g., Heine, Claudi & Hünnemeyer (1991: 2) and Hopper & Traugott (2003: 1–2).

presupposes the possibility of formal and/or semantic identification of specific ‘grammatical elements’ as opposed to ‘non-grammatical’ lexical elements within the overall language system. The expression ‘from grammatical to even more grammatical forms’ introduces the notion that ‘grammatical’ status or function may in some sense be a matter of degree.

The well-known evolutionary ‘cline’ in (1) (from Hopper & Traugott 2003: 7; with numbering of the stages added) presupposes certain general morphosyntactic variables and is based on assumptions of evolutionary sequentiality that play a prominent part in other definitions and discussions of grammaticalization, and of degrammaticalization as the putative reversal of grammaticalization:

- (1) [1] content item > [2] grammatical word > [3] clitic > [4] inflectional affix

It should be noted that the terminology used in (1) is too general to capture the more specific categorial aspects of grammaticalization processes (cf., in particular, Hopper & Traugott 2003: 110–114 for examples of categorially specified clines). For instance, since only inflectional affixes are mentioned, this cline cannot serve as a basis for describing ‘downgrading’ or ‘upgrading’ of derivational affixes, to the extent that such changes occur.³ It should also be kept in mind that languages may vary with regard to the extent to which they allow for a clear-cut distinction between inflectional affixes on the one hand and clitics on the other.⁴

Although written as a continuous sequence of positions, the cline in (1) can be subdivided into two main parts, first, a lexical part comprising stage [1], and, second, a ‘grammatical’ part, comprising the three stages [2]–[4]. The transition [1] > [2] constitutes grammaticalization on the word level, whereas the transitions [2] > [3] and [3] > [4] represent (phonological) developments ‘from grammatical to even more grammatical forms’ (cf. Heine & Kuteva 2002: 2). In a synchronic perspective, this cannot be taken to mean that a ‘grammatical word’ has at all times a lower grammatical status than any clitic (when a clear-cut distinction is possible). One cannot, for

3. Harris & Campbell (1995: 337) present another version of the cline where derivational affixes constitute the end-point. Cf. (i):

- i. UNBOUND WORD > ENCLITIC > INFLECTIONAL AFFIX > DERIVATIONAL AFFIX

This assumption runs counter to the *communis opinio* concerning the relationship between stem formation (cf., e.g., Newmeyer 1998: 321, n. 11) and grammatical inflection and need not concern us further here. In Harris and Campbell’s cline, no distinction is made between lexical and grammatical words; hence, the first, analytic type of grammaticalization receives no explicit recognition. Werner (1987) provides another kind of cline, serving a non-grammaticalizationist purpose, which also takes into account the typological distinction between agglutination and fusion.

4. Cf. in this connection the general identification issue raised by Newmeyer (1998: 327, 337–343).

instance, reasonably maintain that the English progressive auxiliary *was* in (2a), which is not cliticized, is less 'grammatical' than the present tense copula *'s* (= *is*) in (2b), which is cliticized (cf. also Newmeyer 1988: 256):

- (2) a. *She was dancing.*
 b. *She's beautiful.*

Furthermore, the cline does not *per se* take into consideration general typological differences between languages or, for that matter, constructions within one language. For instance, one would not wish to maintain that the Latin personal ending *-i* in *vidi* 'I have seen' is 'more grammatical' than the combination of the auxiliary *have* and the perfect participle affix in the corresponding English expression *have seen*, considering that English is on the whole a more analytic language, with a wider array of analytic constructions with 'grammatical' words, in contrast to the plethora of grammatical affixes found in highly synthetic Latin. Another example is provided by 'genitive' marking in modern German. In view of the fact that (3b) without any linking element is impossible (cf. Zifonun et al. 1997, Vol. 3: 1974–1975) and that only a slight stylistic difference obtains between (3a) with a morphological genitive and (3d) with a functionally equivalent PP, a claim to the effect that the German genitive affix *-r* in the adjectival form *guter* in (3a) is a more highly grammatical element than the preposition *von* in (3d) is not, in a functional perspective, self-evidently true, nor is it in any way systematically illuminating:

- (3) a. *die Lektüre guter Bücher*
 b. **die Lektüre Bücher*
 c. *die Lektüre von Büchern*
 d. *die Lektüre von guten Büchern*
 'the reading of (good) books'

In keeping with such considerations, Joseph (2004: 28) has recently questioned the most often implicit 'assumption that affixes are always more grammatical in a sense than free words.' To my mind, this assumption flies in the face of typological coding differences between languages and may therefore convey an empirically misleading picture of grammaticalization phenomena in different languages. In a typological perspective, the cline, or rather schema (cf. Andersen 2001: 241–243), as stated in (1), allows for grammaticalization processes of a typologically diverse nature or yielding typologically different results. The '[1] content item > [2] grammatical word' part of the cline is a natural formula for the formation of grammatical means of expression of an 'analytic' nature, whereas the part '[2] grammatical word > [3] clitic > [4] inflectional affix' part concerns the development of morphology in the shape of bound morphemes and therefore pertains to the evolution of typological 'syntheticity' (in the shape of agglutination or fusion).

However, Heine & Kuteva (2002: 4–5) also express a view that, although primarily based on the common assumptions concerning the cline that are questioned by Joseph, is

related to the traditional grammaticalizationist notion of ‘renouvellement’ (Meillet 1958) or ‘renewal’ (Hopper & Traugott 2003: 21, 122–124) and allows for a ‘cyclic’ view of grammaticalization that is not straightforwardly derivable from the cline in (1):⁵

Grammaticalization begins with concrete, lexical forms and constructions and ideally ends in zero – that is, grammatical forms increasingly lose in semantic and phonetic content and, in the end, they may be replaced by new forms; grammaticalization has therefore been described as a cyclical process . . .

Disregarding for the present purpose the possibility that ‘zero’ can also mean loss of the functional category in question, ‘replacement by new forms’ presumably also means the addition of new categorial coding material in the shape of ‘independent words’, i.e., typological restructuring. However, it is by no means necessary to assume that such restructuring, or ‘renewal’, can only occur as the result of (phonologically conditioned?⁶) arrival at the end of the cline. Nor does it seem natural to assume that the new coding material ranks lower on a grammaticalization scale than ‘zero’ or the affix it replaces (the stage prior to ‘zero’). Difference, or equivalence, of grammaticalization level cannot in general be a matter of coding as defined by stages of, or positions on, a panchronic morphosyntactic cline but should rather be conceived of in more abstract functional terms (which may or may not be associated with specific points on a cline), in accordance with the pertinent typological properties of the language in question.

The concept of ‘degrammaticalization’ is quite generally considered problematic because it contradicts the common ‘unidirectionality’ claim;⁷ cf., e.g., Heine & Kuteva (2002: 4): ‘Grammaticalization is a unidirectional process; that is, it leads from less grammatical to more grammatical forms and constructions.’⁸

5. Some authors also posit a final stage where grammatical content or both grammatical content and grammatical form are lost; cf. Heine (2003: 165), who calls this ‘a predictable outcome of grammaticalization, provided that the development is carried to its completion.’ Thereby Heine goes beyond the categorial bounds of the cline in (1), and by calling the loss in question ‘degrammaticalization’, he also introduces a ‘rightward’ notion of degrammaticalization in contrast to, e.g., Haspelmath’s understanding of degrammaticalization/‘antigrammaticalization’ as a ‘leftward’ movement along the cline.

6. On the role of phonological erosion in grammaticalization processes, see the discussion in Newmeyer (2001: 195, 197–201). On the dubious nature of the ‘panchronic’ speculations associated with grammaticalization processes and the cline, cf., e.g., Joseph & Janda (1988: 194–195) and Newmeyer (1998: 284–288).

7. Cf. for instance Haspelmath (1998: 322): ‘. . . change can only be in one direction’; and, in particular, Haspelmath (1999). Janda (2001: 298) presents a list of ca. 30 authors and ca. 40 works to illustrate that the ‘claim that virtually all grammaticization is continuous and unidirectional/irreversible/non-counterable has been made – or at least strongly implied – in works by linguists almost (but not quite) too numerous to list.’

8. Presumably, this should rather read: ‘. . . from lexical or less grammatical to . . .’. On ‘unidirectionality’ cf. also Joseph (2001: 166, 184; 2004: 58) and the discussion in Newmeyer (1998: 260–278).

'Unidirectionality', 'irreversibility' and 'grammaticalization' are in the recent literature often defined in terms of the cline in (1) (cf. Joseph 2001: 166), and so are 'reversibility' and 'degrammaticalization'. Transition from one position on the cline to another position to the right is taken to define universally possible, but, in principle or in the normal state of affairs, irreversible 'pathways' of grammaticalization. However, some authors prefer to keep '(de)grammaticalization' and '(ir)reversibility' conceptually apart, thereby recognizing the possibility of a certain amount of 'reversibility', while remaining non-committal about this also being 'degrammaticalization' (cf., e.g., Campbell 1991: 295; Heine 2003).

When no unidirectionality is assumed, there are no logical problems with considering degrammaticalization as the possible counterpart of grammaticalization. When, however, unidirectionality is considered a basic principle, degrammaticalization is evidently a contradiction in terms (cf. Haspelmath 2004: 25–26, with references). If there is unidirectionality, there is no degrammaticalization (reversibility of grammaticalization), and if there is degrammaticalization, there can be no unidirectionality; but there may still be a strong preference for directionality in accordance with the cline. Stated in such terms, the (non-)existence of degrammaticalization is an entirely empirical issue.

When exceptions to unidirectionality are allowed for, one is faced with two logical possibilities that are not always kept apart in the literature. One is 'strict' or 'substantial degrammaticalization' in the form of 'etymological category reversal' (for short: 'etymological reversal'), in which case the source of some grammaticalized element at some point on the cline is restored (cf. Heine's 'mirror image reversal'; Heine 2003: 165–166). The other possibility is 'non-etymological category reversal' (for short: 'category reversal'), i.e., a backwards development that does not result in etymological restoration of the source of a grammaticalized element but is a purely categorial move, e.g., from affix or clitic to 'independent word'.⁹ In their criticism of current thinking on degrammaticalization, both Janda (2001) and Newmeyer (2001) seem to have in mind complete etymological reversals, but, like the grammaticalizationists, they fail to make fully explicit the distinction between etymological and mere category reversals. Janda (2001: 294) blames the 'grammaticalizationists [for having] tended to limit the usefulness of irreversibility . . . by defining the relevant concept in a very narrow way' through their 'tendency to recognize as true reversals only processes involving exact

9. Cf. Newmeyer (2001: 195), and in particular Joseph (2004: 58) who, in a somewhat different vein, notes a certain ambiguity inherent in the 'unidirectionality principle' insofar as it can either be taken to mean that 'there exists *only* movement towards *greater* grammatical status' or, the weaker version, allowing for 'lateral' moves, 'there exists *no* movement towards *less* grammatical status' (author's italics). This distinction is theoretically important but may be less empirically interesting when the possibility of typological restructuring and category reversals effected by word-formation are taken into account.

mirror-image undoings of grammaticalization ‘pathways’, i.e., presumably, ‘etymological reversals’ in the terminology proposed here. Newmeyer (2001: 205) notes that ‘complete reversal’ is, empirically, a most unlikely scenario: ‘... it is certainly the case that *complete reversals* of grammaticalization are extremely rare, perhaps nonexistent’ (author’s italics). Norde (2001: 236) considers them to be ‘logically impossible’ and concludes that ‘degrammaticalization is not the mirror image of grammaticalization in the sense that it cannot be the complete reverse of a grammaticalization cline.’

In connection with both ‘etymological’ and ‘non-etymological category reversal’, degrammaticalizations covering different stretches on the cline and involving a different number of transitions between positions, including a complete reversal all the way from [4] to [1], are further logical possibilities whose occurrence or non-occurrence is in principle open to empirical investigation.¹⁰

An impressively large number of authors have embarked on a quest for instances of degrammaticalization. It appears, however, to be a thought-provoking fact that the alleged counterinstances to the ‘unidirectionality principle’ often do not bear closer scrutiny, as noted by Haspelmath (2000: 249) in his review of Newmeyer (1998). On the whole, unidirectionality does in fact appear to be a characteristic empirical feature of grammaticalization developments (cf. also Heine 2003: 174).¹¹ On the other hand, Haspelmath (2004: 29) cites altogether eight, to his mind convincing (‘attested’) examples of degrammaticalization or, in his parlance, ‘antigrammaticalization’. Although he does not expressly say that these are the only ones that exist or that further examples are unlikely to be identified, it is clear that he expects the number of convincing cases of degrammaticalization (‘antigrammaticalization’) to remain very small.

Haspelmath’s redefinition of degrammaticalization as ‘antigrammaticalization’ is to be understood as ‘a change that leads from the endpoint to the starting point of a potential grammaticalization and also shows the same intermediate changes’ (Haspelmath 2004: 27–28), corresponding to a ‘[4] > [3] > [2] > [1]’ scenario in terms of (1),¹² as a case of ‘etymological category reversal’.

10. Cf. the corresponding suggestions in Fischer (2000: 149, 153) concerning ‘grammaticalization paths’.

11. A proviso has to be made in connection with the phenomenon called ‘retraction’ by Haspelmath (2004: 33–34), i.e., cases where an incipient grammaticalization process is aborted or not brought to its natural categorial conclusion. Such cases should rather be called ‘arrested’ or ‘halted grammaticalization’.

12. However, Haspelmath does not envisage a distinction of the kind we have made between two logically possible types ‘etymological’ and ‘non-etymological category reversal’.

In what follows, I aim to subject Haspelmath's (2004: 29) eight alleged instances of attested degrammaticalization, in his parlance 'antigrammaticalization', to closer examination.¹³ In particular, I shall try to assess their validity by viewing them in the light of the traditional typological 'synthetic-analytic' distinction harking back to Schlegel (1971 [1818]: 14).¹⁴ According to Schlegel, the following three main language types exist: 1. 'Les langues sans aucune structure grammaticale', i.e., isolating languages; 2. 'les langues qui emploient des affixes', to be identified with agglutinating languages; 3. 'les langues à inflexions', i.e., inflecting languages allowing for fusional morphology. Within the last group, Schlegel makes a diachronic distinction between (a) synthetic and (b) analytic languages, the latter being a more recent, historical development of the former (Schlegel 1971 [1818]: 14). Schlegel takes the following grammatical items to be distinctive of analytic languages as opposed to synthetic languages: (i) articles, (ii) personal [subject] pronouns, (iii) auxiliaries, (iv) prepositions in lieu of inflection, (v) adverbs to express comparison. In analytic languages and constructions, syntagmatically independent words are used to express grammatical relations expressed by inflection in synthetic languages.

In general, my aim is not to provide new, theoretically or empirically refined analyses of Haspelmath's alleged instances of 'antigrammaticalization'; it is rather the more modest one of investigating whether the work referred to by Haspelmath can in fact be taken to support the characterization as 'antigrammaticalization' (degrammaticalization) in each individual case. In this connection it is interesting to note whether the authors themselves make use of the term 'degrammaticalization' (or the like) to describe the developments in question.

13. More alleged examples are discussed in Ramat (1992: 551–553), Harris & Campbell (1995: 337–338), Dosuna (1997: 579, 600–601), Newmeyer (1998: 263–275; 2001: 205–206, 209–212), Beths (1999), and Janda (2001: 270–271, 287–288, 301, 303). Janda (2001: 291–292) gives a list of 'at least 29 works mostly before 1990' allegedly detailing 84 'counterexamples to unidirectionality/irreversibility [of grammaticalization]'. (On p. 299, Janda speaks of 'myriad counterexamples'.) Such lists cannot be taken at face value in the absence of any attempt at a grammatical analysis of the cases in question.

14. Haspelmath (1999: 1065, note 4) speaks of a 'movement from synthetic to analytic' as a 'renewal phase of grammaticalization', but he refrains from pursuing this line of thought. One may find it somewhat astonishing that the cline and the notions deriving from it are not more often discussed with a view to typological structures and restructuring, given the fact that a large number of grammaticalizationists are linguists with an expressed interest in typological research. Generative critics of the 'cline' do not as a rule pay attention to typological aspects of the grammaticalizationist analyses and practices they criticize (cf., e.g., Newmeyer 2001: 202–216). On the history of the typological analyticity–syntheticity distinction and its applicability in diachronic studies cf. in particular Schwegler (1990: 3–28, 47–74).

2. Eight alleged cases of ‘attested antigrammaticalization [degrammaticalization]’ (according to Haspelmath 2004)

2.1 English and Mainland Scandinavian genitive suffix *-s* > clitic =s

In Mainland Scandinavian and in English, the distribution of the former genitive affix has changed.¹⁵ First, *-s* is no longer restricted to singular masculine and neuter nouns belonging to certain specific declension types¹⁶ but may combine with singular nouns of all genders and with plural nouns. In English, phonotactic conflation with the plural ending *-(e)s* takes place. Cf., e.g., (4)–(5):

- (4) a. *his wife’s property*
 b. *the children’s property*
 c. *the wives’ property*
 (5) a. *hans kones eiendom* [Norwegian]
 b. *barnas eiendom* [Norwegian]
 c. *kones eiendom* [Norwegian]

Second, the genitive *-s* morpheme is in principle no longer restricted to marking the head noun an NP, but is more generally appended to the last word of a complex NP,¹⁷ even when the last word is not the head of the NP (cf. Teleman et al. 1999, Vol. 3: 130–132). Cf. (6):

- (6) a. *the Queen of England’s numerous castles*
 b. *dronningen av Englands tallrike slott* [Norwegian]

Compared with the use of the genitive in Old English, Old Norse, Old Swedish etc., the modern morphologically unified *s*-genitive has undergone functional, semantic specialization. It is no longer subject to lexical verb and adjective valency requirements, but is now uniquely a marker of subordination in NPs (cf. Norde 1997: 170–178; Askedal 2003).¹⁸ It is in fact the only remnant of case morphology that is left in non-nominal modern English and Mainland Scandinavian NPs. Synchronically, it cannot be

15. Cf. in particular Norde (1997), Börjars (2003), Janda (1980, with references; 2001: 301–303), Newmeyer (1998: 266–267), Haspelmath (1999: 1046).

16. On the morphological origin and development of the *-s* morpheme, cf. Norde (1997: 91–116, 233–241), Herslund (2001: 7–8, 13).

17. Most often, but not necessarily a noun; cf. Börjars (2003: 147) on Swedish and Herslund (2001: 10–11, 13) on Danish. For an overview of the pertinent subtypes, see Norde (1997: 82–89).

18. The only exception to this generalization is the occurrence of the *s*-genitive after the preposition *til* ‘to’ in certain fixed locutions in modern Mainland Scandinavian (cf. for instance Askedal 2003: 26–27).

considered case inflexion in the traditional sense (Fiva 1984: 40, 42; Janda 1980); it is rather a syntactically generalized possessor marker on the NP level (but cf. Börjars 2003 for a somewhat more differentiated view of the state of affairs in Swedish).¹⁹

The distribution of the *s*-genitive in (6), being appended to the left-most noun of a complex NP that is not the head of the NP, is obviously at variance with the basic head-marking requirement of NPs in Germanic languages.²⁰ Besides, constructions of this kind are not all that common in actual usage. This may be due to their displaying a certain tension between the semantic NP-scope requirement of the possessor relation, which they fulfil, and the basic head-marking requirement pertaining to NPs, which they do not fulfil.²¹ Cf., e.g., (7):

- (7) *[[naboen[Ø] på den andre siden av gaten]s] hus* [Norwegian]
 [[neighbour-the[Ø] on the other side-the of street-the]s] house
 'the house of the neighbour on the other side of the street'

In Swedish, but not in Danish and Norwegian (cf., e.g., Herslund 2001: 8–11 on Danish), there also exist corresponding head-marking constructions. Cf. stylistically neutral (8a) and more formal (8b) (from Teleman et al. 1999, Vol. 3: 131, with brackets added: cf. also Börjars 2003: 148–150):

- (8) a. *Den där cykeln er [[flickan[s] från Motala]Ø].* [Swedish]
 that bicycle is [girl-the[s] from Motala]Ø
 'That bicycle belongs to the girl from Motala.'
 b. *[[Institutionen[s] för slaviska språk]Ø] prefekt* [Swedish]
 [[institution-the[s] for Slavic languages]Ø] director
 'the director of the Department of Slavic Languages'

Obviously, the *-s* genitive ending of the modern Mainland Scandinavian languages is the result of reanalysis of the case ending that was found, *inter alia*, also in constructions like (8) in all the languages.²² Thus, a syntagmatic reinterpretation from affix to

19. For arguments in favour of analyzing modern English *-s* as a clitic not a case ending, cf. for instance Janda (1980: 243–245). On Danish, cf. Herslund (2001: 16), and on Swedish and Norwegian, Norde (1997: 9, 63–71). Concerning modern Swedish, Börjars (2003: 144–156) contends that the categorization of *-s* as a clitic pure and simple does not do full justice to the empirical complexity of the behaviour of *-s* in modern Swedish. Instead, she advocates a 'phrasal affix analysis' (p. 157).

20. This also applies even, and more generally, under an analysis where the determiner is considered the head of the NP (cf. Herslund 2001: 11–13).

21. Similarly, Börjars (2003: 157 et passim) speaks of a 'conflict between head marking and right edge marking'.

22. This may also have been the case in English, despite the claim made by Janda (1980: 245) (but contested by Allen 1997) that the genitive pronoun *his* is the source of modern English 's.

clitic or clitic-like status (or, according to Dosuna 1997: 579, agglutinative morpheme) has arguably taken place but the degree to which this development is carried through is still debatable. First, the ‘group genitive’ constructions which serve as the main basis for the analysis as a clitic are no doubt best, or least marked, with NPs showing phrasal usualization or lexicalization (cf., e.g., (6)). Second, the case for wholesale reanalysis as a clitic is on the whole stronger in Danish and Norwegian, which no longer have constructions like (8). In Swedish, where head-marking still exists, assuming some sort of structural ambiguity or a ‘local’ cline between affix and clitic might seem an empirically more adequate option.²³

It is, however, subject to considerable doubt whether this change of distribution is sufficient justification for assuming degrammaticalization when the typological and functional aspects are also taken into account. If anything, the *-s* genitive ending appears to have become more rather than less highly grammatical within the overall grammatical system: In contrast to its Old English or Old Nordic ancestor, the occurrence of the modern *s*-genitive is exempt from any lexical conditioning (cf. Askedal 2003); it is morphologically uniform,²⁴ and it is also functionally uniform as a syntagmatically generalized indicator of a possessor or subordination relation within NPs (cf. also Heine 2003: 171, with reference to Traugott 2001: 6), where it also normally occupies the ‘grammatical’ determiner position. Labelling this functional renewal of the *s*-genitive, which has taken place in the wake of a general morphosyntactic restructuring from well-developed syntheticity to predominant analyticity, as an instance of degrammaticalization appears to be wide off the mark from a typological and functional point of view.²⁵

2.2 Irish 1st person plural subject suffix *-mid/-muid* > independent pronoun *muid*

The Irish 1 p PL pronoun *muid* derives from the 1 PL verb ending in the present and the future (Roma 1999: 33–34). Its development into an independent word was probably facilitated phonotactically by its consonantal onset and, syntactically, by the basic VSO structure of Irish (cf. Roma 1999: 34). Bybee et al. (1994: 12–13) adduce the development of *muid* as a ‘very rare’ example of the development of an affix into a free form and as an

23. Cf. Norde (1997: 81) on the issue of acceptability differences between Danish and Norwegian on the one hand, and Swedish on the other.

24. Apart from the phonologically conditioned allomorphy of [-s], [-ez] and [-Ø] in English; but this is a far cry from the declensional variation of the genitive in Old and Middle English.

25. Cf also Börjars (2003: 151, with references) on the relationship between (de)grammaticalization and ‘syntactic scope’. Herslund (2001: 149) is well aware of the significance of the overall typological changes but still seems to accept Norde’s (1997) degrammaticalization analysis.

exception to unidirectionality.²⁶ They explain the development of *muid* with reference to the 'paradigmatic pressure' exerted upon the synthetic verb ending by the other, analytic, verb forms within the present tense paradigm, cf. (9), without, however, making use of the term 'degrammaticalization' or referring explicitly to the cline in (1):

(9)	1 SG	<i>molann</i>	<i>mé</i>	1 PL	<i>molaimid</i>	
	2 SG	<i>molann</i>	<i>tú</i>	2 PL	<i>molann</i>	<i>sibh</i>
	3 SG	<i>molann</i>	<i>sé</i>	3 PL	<i>molann</i>	<i>siad</i>

This is the only paradigm referred to by Bybee et al. (1994). In particular, the synthetic 1 p sg form given as the only form by Mac Eoin (1993: 127, cf. below) is not listed by Bybee et al., who have the 1 p pl as the only synthetic form in the paradigm. According to the description given by Bybee et al. (1994), we are here, in terms of the cline in (1), dealing with a '[4] affix > [2] grammatical word' development with no change of grammatical content.

'Paradigmatic pressure' may, however, not be the whole story in this case. The development of *muid* can also be seen in the larger context of a more general trend towards analyticity in Irish verb paradigms; cf. Mac Congáil (2004: 117): 'Generally speaking, the analytic forms of the verb are more widely used than the synthetic forms in Irish and progressively more so as one proceeds northwards in Ireland.'²⁷ The availability of synthetic and analytic forms is different in the various tenses and moods (cf. Mac Eoin 1993: 127–128; and n. 28). The following paradigms (10)–(11) quoted from Mac Eoin (1993: 127–128, with minor expository modifications) for the verb meaning 'praise' of the first conjugation may serve to illustrate the relationship, and differences of formation, between older 'synthetic' and newer so-called 'analytic' forms:²⁸

26. Cf. also Newmeyer (1998: 268–269; 2001: 208) and Heine (2003: 170), who considers it a case of 'adaptation'.

27. In a similar vein Mac Eoin (1993: 126) speaks of 'some historic synthetic forms which have not been included in the standard paradigm', but which he still chooses to include in his overview of Irish verb forms (Mac Eoin 1993: 127–128). For details on the distribution of synthetic and analytic forms in the dialects cf. the summary in Roma (1999: 13–15).

28. To indicate the distribution of synthetic forms (S), analytic forms (A) and the availability of both analytic and synthetic forms (A/S) in Modern Irish, Roma (1999: 13) provides a chart comprising the same tense and mood forms as Mac Eoin (present indicative, imperfect indicative, imperative, future, conditional, preterite, present subjunctive, and past subjunctive), but excluding autonomous and relative forms and the 1 sg, the 1 pl and the 3 pl of the imperative. The two overviews differ in detail, but the overall picture is roughly comparable in both accounts. Cf. (in the case of Mac Eoin, the number of forms not in parentheses corresponds to the formal categories exemplified by Roma, and the number in parentheses gives the total number of forms according to Mac Eoin):

(10)	<i>Present indicative:</i>	‘synthetic’	‘analytic’	
	1 SG	<i>molaim</i>	–	
	2 SG	<i>molair</i>	<i>molann</i>	<i>tú</i> ‘you’
	3 SG	–	<i>molann</i>	<i>sé</i> ‘he’ / <i>sí</i> ‘she’
	1 PL	<i>molaimid</i>	<i>molann</i>	<i>muid</i> ‘we’
	2 PL	–	<i>molann</i>	<i>sibh</i> ‘you’
	3 PL	<i>molaid</i>	<i>molann</i>	<i>siad</i> ‘they’
	Relative	<i>mholas</i>	–	
	Autonomous	<i>moltar</i>	–	
(11)	<i>Imperfect indicative:</i>	‘synthetic’	‘analytic’	
	1 SG	<i>mholaimn</i>	–	
	2 SG	<i>mholtá</i>	–	
	3 SG	–	<i>mholadh</i>	<i>sé</i> ‘he’ / <i>sí</i> ‘she’
	1 PL	<i>mholaimis</i>	<i>mholadh</i>	<i>muid</i> ‘we’
	2 PL	–	<i>mholadh</i>	<i>sibh</i> ‘you’
	3 PL	<i>mholaidís</i>	<i>mholaidh</i>	<i>siad</i> ‘they’
	Autonomous	<i>mholtar</i>	–	

The so-called ‘analytic forms’ consist of a verb form distinguishing tense and mood, and a subject pronoun distinguishing person and number (cf. Mac Congáil 2004: 109), whereas the synthetic forms have distinct person and number endings and are not followed by a subject pronoun.²⁹ In this sense, there is a structural complementarity (Roma 1999: 6, 9; cf. also pp. 38–39), which is the basis for the term ‘analytic verb form’ with respect to sequences with ‘subject pronouns’. This is naturally seen in connection with a historical trend ‘towards the separation out of the pronouns from these positions [(including in particular:) as subjects of verbs, when the pronominal element was contained in the verbal ending . . .]’ (Mac Eoin 1993: 120).³⁰

i.	S	A/S	A
Mac Eoin (1993)	10 (22)	20 (21)	15
Roma (1999)	13	7	25

The picture one gets from Mac Eoin (1993) and Roma (1999), both of whom give the whole total of eight different tense and mood paradigms, is far more diversified than the single simplified paradigm given by Bybee et al. (1994) and supports the position that the development of *muid* is not entirely paradigm-internal but has more general, typological causes.

29. The subject pronouns in question belong to the group of so-called ‘unemphatic’ subject pronouns, which also have ‘emphatic’ counterparts. Variants exist of the ‘unemphatic’ pronouns in the 1 PL, 3 SG MASC, 3 SG FEM, and 3 PL; cf. Mac Eoin (1993: 121) for details. It is thus a specific set of pronouns that are selected as person and number markers in the historically secondary so-called ‘analytic verb forms’.

30. Cf., e.g., Roma (1999: 7–12, 15–26) for a description of and an attempt at an explanation of the historical development from syntheticity to analyticity in Irish verb paradigms.

In a universal perspective, the relationship between noun and verb morphology is known to vary considerably among different languages. There are (i) languages in which both are richly developed (Latin, Russian, Icelandic), (ii) languages with rich verb morphology but little noun morphology (Spanish, Bulgarian), (iii) languages with rich noun morphology but relatively little verb morphology (certain Caucasian languages), and (iv) languages in which neither noun nor verb morphology is richly developed (English, modern Mainland Scandinavian). As stated by Mac Eoin (1993) and shown in the preceding discussion, modern Irish has progressed far towards introducing analyticity in its verbal paradigm. Of equal importance is the fact that Irish has, like the other attested Celtic languages, in the course of its recorded history gone far, perhaps even further, in simplifying its noun morphology (cf. Mac Eoin 1993: 113–122). Thereby, Irish has moved from type (i) through type (ii) to a close approximation to type (iv) above. In this perspective, the change of the original verb ending *-mid* into an independent subject pronoun *muid* is, first, one step in the direction of analytic verb morphology with agglutinating traits (cf. Roma 1999: 39) and, second, one aspect of a more general typological restructuring of the grammar of the language as an overall analytic morphosyntactic system.³¹ In view of these general typological developments, calling the change of status suffered by Irish *-mid/muid* a case of 'degrammaticalization' appears structurally misleading.³²

2.3 Japanese adverbial subordinator *-ga* 'although' > free linker *ga* 'but'

According to Matsumoto (1988: 341), Japanese possesses two kinds of sentence-connecting elements, the first of which is called 'connective particles' and the second simply 'connectives'.³³ The connective particles are phrase-final bound morphemes – often referred to as 'enclitics' – that 'are attached directly to a tensed form of a verb, an adjective or an auxiliary', and they form one accentual unit together with their host. The connectives, on the other hand, are sentence-initial free morphemes. They are accentual units in their own right, being 'separated from the preceding word (in the preceding sentence) by a long pause' (Matsumoto 1988: 341). Connective particles and connectives occur in pairs (cf. Matsumoto 1988: 342). The connective particles and connectives are subdivided into somewhat different formation types, including in

31. Apparently, the creation of analytic verb morphology cannot be ascribed to phonological erosion (Roma 1999: 39).

32. Similarly, Heine (2003: 170–171) challenges the characterization of the alleged reanalysis of the verb suffix *-mos* in regional Spanish as a clitic *-nos* as an instance of degrammaticalization and prefers to call it 'replacement' instead.

33. On the usual types of postpositional particles as coordinating and subordinating, sentence-connecting particles cf. Kuno (1973: 112–123, 153–209). On *(-)ga*, cf. also Newmeyer (1998: 274; 2001: 212–213).

particular certain special copular and gerundial formations (Matsumoto 1988: 342). The connective particles are older than the connectives deriving from them and some of them date back to Old Japanese. The connectives began to appear as late as in the 17th century.

Matsumoto pays special attention to the particle *-ga* ‘but’, whose attested origins are described thus: ‘[(-)ga] started as a genitive marker and a subject (nominative) marker in Old Japanese. *-Ga* developed into a connective particle from its use as a subject marker around the late 11th century . . . *Ga* as a connective, on the other hand, appeared in the 17th century . . .’ (Matsumoto 1988: 343).³⁴ The examples in (12) ((1-a), (1-b) in Matsumoto 1988: 341) are adduced to illustrate the connective particle use and the connective use of modern (-)ga, respectively:

- (12) a. *Taro-wa wakai(*-yo)-ga, yoku yar-u(-yo).*
 Taro-TOP young(-PART)-but well do-PRES(-PART)
 ‘Taro is young, but he works well.’
- b. *Taro-wa wakai(-yo). Ga, yoku yar-u(-yo).*
 Taro-TOP young(-PART). But well do-PRES(-PART)
 ‘Taro is young. But he works well.’

-yo is a particle that can only occur sentence-finally and therefore serves as an unequivocal demarcation sign between sentences. Its presence in (12b) testifies to the new word status of *ga* in (12b).

The purpose of Matsumoto’s paper is to highlight the possibility of detaching a clitic and turning it into an independent word as a counterexample to the morphosyntactic unidirectionality assumptions of certain grammaticalizationists (Matsumoto 1988: 341, 344). He does not, however, include the term or concept of degrammaticalization in his analysis of the developments at hand. In a historical perspective, the particle class in question is not in a strict sense ‘closed’ as it has proved to be productive and the productivity of the class of connectives is directly dependent on the productivity of the class of connective particles. The connective particles are naturally considered as some sort of ‘grammatical elements’ on positional grounds. The transition from particle to independent word is facilitated by the ‘agglutinating nature of Japanese’ (Matsumoto 1988: 344), which allows for ease of segmentability.

Concerning the semantics, Matsumoto (1988: 345) notes that the new connectives have ‘not acquired the rich lexical semantic content typical of free morphemes.’ Presumably, this means that the semantic link between the source and the derived connective is in

34. As John Whitman (personal communication) has pointed out to me, the Old Japanese subject (nominative) use is secondary and has its origin in the genitive marking of ‘subjects’ of nominalized clauses which are later on reanalyzed as matrix clauses. – Concerning, in particular, the functional split and reanalysis of *-ga* as a connective particle (‘clause particle’), cf. Takeuchi (1999: 207–209).

general at least inferable.³⁵ In certain instances, Matsumoto glosses the particle and the connective somewhat differently, cf. e.g., (13) (Matsumoto 1988: 341):³⁶

(13)	<i>Connective particle</i>	<i>Connective</i>
	- <i>tokoroga</i> 'even though'	<i>tokoroga</i> 'but'
	- <i>tokorode</i> 'when, since'	<i>tokorode</i> 'by the way'
	- <i>keredomo</i> 'even though'	<i>ke(re)do(mo)</i> 'but'
	- <i>da</i> COP + <i>-kara</i> 'because'	<i>dakara</i> 'therefore'
	- <i>de</i> COP + <i>-mo</i> (gerund) 'even'	<i>demo</i> 'but'

It appears that in some instances there has been a semantic change towards a more general adversative meaning 'but', whereas in others a change towards more specialized pragmatic content can be observed, as in, e.g., *tokorode* 'by the way'. There is thus a tendency to lexicalization of pragmatic value of a kind that is typical of sentence adverbials. Matsumoto (1988: 346) assumes that the connectives are prone to develop discourse marker function, thereby changing their functional scope 'from the domain of syntax to discourse' in such a way that 'the constituents connected after the change are larger units' (p. 345). These observations may well account for the semantic differentiation and specialization assumed by Matsumoto in some of the cases in question. They may also be taken in support of a degrammaticalization analysis. However, insofar as the connective particle option is most often (but not always) still available, we are here dealing with a functional 'split', not with complete degrammaticalization of the element that lies at the basis of more recent connective use or sentence adverbial. The modern connectives can by no means be taken to represent 'etymological category reversals'.

2.4 Saame abessive suffix **-ptaken* > clitic *taga* > free postposition *taga* in the Enontekiö dialect of Northern Saame

The development of the free postposition *taga* has been analyzed by Nevis (1986b). His analysis is cited with approval by Joseph and Janda (1988: 200) as an exception to the 'virtual[...] unidirectional[ity]' of 'morphologization' and as an instance of 'diachronic demorphologization' (Joseph & Janda 1988: 196).³⁷ Neither Nevis nor Joseph and Janda make any reference to the concept of 'degrammaticalization'. Nevis

35. It has to be noted that the connective particles/connectives in (13) do not in general originate in (simple) particles but in (complex) phrases, *-ga* being the only true etymological particle among the 'connecting' expressions adduced here (John Whitman, personal communication).

36. According to John Whitman (personal communication), the particles in (13) are at different stages of a development towards sentential adverbs. *Ga*, as in (12b), must be sentence-initial in present-day Japanese, and the connective use of *ke(re)do(mo)* is obsolete; *V-kedo* is restricted to Classical Japanese.

37. Cf. also Newmeyer (1998: 265), Janda (2001: 301).

(1986b: 1) refers to the sequential ordering ‘word > clitic > affix’ as the ‘agglutination hypothesis’ ‘of the genesis of affixes’ but finds no evidence that any of the etymological elements making up (-)taga was ever a full word (Nevis 1986b: 5). Joseph and Janda make no explicit mention of the ‘cline’ conception and focus entirely on a discussion of ‘demorphologization’.

On the basis of comparative evidence the Northern Saame abessive morpheme *taga/haga*³⁸ can be reconstructed as a Finno-Permic bipartite morphemic sequence ‘Caritive **pta* + Lative *-*k*’, to which in Northern Saame ‘a pleonastic lative *-*k/-n*’ suffix is added (Nevis 1986b: 5; cf. also Joseph & Janda 1988: 200). **pta-* can be reconstructed as an originally derivational suffix found with noun, verb and adjective stems (Nevis 1986b: 6).

In most varieties of Northern and Kildin Saame, the affixal morpheme *-taga/haga* that is the phonologically reduced historical outcome of the proto-form is assumed to have turned into a (semi-)clitic postposition (according to Nevis 1986b: 1, 7). The predominantly postpositional status of *taga/haga* in these dialects appears to be well motivated by a number of syntactic and morphological properties such as genitive government, availability of conjunction reduction, position to the right of possessive enclitics, and lack of adjective concord (Nevis 1986b: 1–4). The one property that distinguishes *taga/haga* from the other postpositions in these dialects is ‘its attachment to the preceding noun’ (Nevis 1986c: 4), warranting in his opinion the characterization as a ‘semi-clitic stressless postposition’. In the Enontekiö dialect area, a further development has occurred insofar as *taga/haga* moved on from this advanced clitic stage to the status of a free postposition that may be used adverbially, not requiring any host; cf. (14), where *taga/haga* is used as kind of adverb (from Nevis 1986b: 4; his example (12)):

- (14) *Mun báhcen taga/haga.*
 I go without
 ‘I remain without.’

In terms of the cline in (1), the historical development of *taga/haga* in this dialect, as described by Nevis, encompasses the stages ‘[4] > [3] > [2]’ (or even [1], depending on how the ‘adverbial’ use of *taga/haga* in (14) is categorized).

Concerning the degrammaticalization issue, *taga/haga*, whether affix, clitic or free postposition, has retained its abessive meaning and has suffered no functional, semantic

38. Based on information provided by Ante Aikio, Muriel Norde has pointed out to me that the *taga* pronunciation and spelling is restricted to the Eastern Finnmark dialect group. In Western Finnmark dialects and in the Saame literary language based on these dialects, the corresponding form is *haga* due to regular sound change. According to Aikio and Norde, Nevis’s exposition suffers from a number of further inadequacies and errors which do not, however, seem to detract from the overall correctness of his account of the historical developments in question. I thank Muriel Norde for sharing this information with me.

loss in the course of its morphosyntactic history. Saame has both postpositions and prepositions, but postpositions are more numerous (cf., e.g., Nickel 1994: 164–191).³⁹ The development from affix to semi-clitic or independent postposition is thus an instance of transfer of a grammatical element from one more or less 'closed' class to another. Perhaps more importantly, in Northern Saame 'there is another abessive allomorph, namely *-t'ta* . . ., which does not have the word-like characteristics of *-taga*', and with which *taga* stands in a relationship of 'complementary distribution' (Nevis 1986b: 6). From a functional point of view it would seem rather awkward to postulate that of two elements standing in a relationship of complementary distribution, the one is less 'grammatical' or 'grammaticalized' than the other.⁴⁰ Besides, the shifting of *taga/haga* from an affix to a semi-clitic or clitic has as its prerequisite a segmentability that is typologically natural in view of the general fact that 'most Finno-Ugric languages are agglutinative by nature' (Nevis 1986b: 4). One may well agree that the special use of *taga/haga* as a 'free postposition' with some sort of adverbial function, as in (14), is lexical rather than grammatical. But this does not, of course, mean that *taga/haga* has ceased to function as an abessive marker; it simply means that another functional option has been added to the grammatical repertoire of this linguistic element. Evidently, *taga/haga* has suffered no wholesale degrammaticalization; in the Enontekiö dialect, a functional 'split' has occurred to the effect that an additional adverbial, lexical use has split off from the grammatical use of the 'semi-clitic' *taga/haga*.

2.5 Estonian question marker *-s* > clitic =*es* > free particle *es*

In the history of Estonian, there occurs an interrogative particle *es*, now archaic and dialectal and replaced by sentence-initial *kas* in the standard language (Nevis 1986c: 23; Campbell 1991: 292). According to Nevis (1986c: 13), the ultimate source of the particle *es* are the two Balto-Finnic enclitic particles **-ko* and **-s*, having interrogative and 'informal' meaning respectively.⁴¹ The latter was optionally appended to the former, yielding the potentially composite clitic **(-ko)-s* (cf. Nevis 1986c: 19, 21). In this connection, some sort of transfer of interrogative meaning from the **-ko*-element to the originally 'informal' or phatic **-s* element in the composite **-ko-s* clitic presumably has to be assumed. During the Estonian apocope period 1250–1500 AD,

39. Most Saame post- and prepositions are case forms of lexically extinct nouns and a few are case forms of existing nouns (cf. Nickel 1994: 164).

40. Cf. the above discussion of the German example in (3).

41. On the corresponding *-s* particle of modern Finnish cf. Nevis (1986a: 14–16) and on the parallel development of *-es* and the Estonian emphatic particle *-ep*, cf. e.g., Campbell (1991: 291–292). Cf. also Newmeyer (1998: 271).

enclitic *(-ko)-s prevented the loss of final *e* < *ä*, giving rise to a new possibility of segmentation through which the new clitic form *-es* could then arise. Cf., e.g., (15):

(15) *keltä-s* > *kelte-s* > *kelt-es*

In the aftermath, *-es* was decliticized and ended up in Old Estonian in the usual second or ‘Wackernagel’ position in the sentence. Cf., e.g., (16) (Nevis 1986c: 15, example (13); this example and the other examples cited by Nevis in this context are due to Ojansuu 1922):⁴²

(16) *Nüüd es tee uSSute* (Joh. 16: 31)
 now Q you believe
 ‘Now do you believe?’

If this is a correct description of the developments resulting in Old Estonian *es*, decliticization has at some stage taken place. Nevis (1986c: 10–11) clearly sees this as a counterexample to far more common cliticization, i.e., counterdirectionality in terms of the cline in (1), but does not use the term ‘degrammaticalization.’ Neither does there appear to be any good reasons for doing so, when considering this question particle in relation to other means of interrogative marking in various languages.

In addition to the very common rising intonation, the following characteristics are, according to Sadock & Zwicky (1985: 181), universally common indicators of yes–no questions: (i) sentence-initial particle (Irish, French *est-ce que*); (ii) sentence-final particle (Japanese *ka*); (iii) special verb morphology (Greenlandic); (iv) word order (Germanic languages); in Sadock and Zwicky’s sample of languages the order (i)–(iv) corresponds to the order of frequency. To this list one can add clitic particles in the so-called ‘Wackernagel’ position, appearing after or being appended to the first word or constituent of a clause (Russian *li*; interrogative Latin *-ne*; cf. Sadock & Zwicky 1985: 181; Sjöstrand 1960: 344). In the Estonian case at hand, a yes–no question marker in the shape of an affix – stage [4] in (1) – has moved to a higher ‘cline’ position, to be identified with stage [2] in (1), without in this case losing its interrogative-marking function. Thus a morphosyntactic category reversal but no change of grammatical function has taken place, i.e., there is no degrammaticalization in a functional sense. Through this change, Estonian *es* has moved from one universally possible marking strategy for interrogatives to another. From a functional and typological point of

42. Modern Estonian has no second or ‘Wackernagel’ position clitics (Nevis 1986c: 12). In negated questions, modern Estonian dialects have an *es* in first position (called ‘negative *es*’ by Nevis). Cf. the dialect example in (i) (Nevis 1986c: 18, example (31), from Alvre 1976: 346):

i. *es ta aivem ole* (Põltsamaa dialect, SW Estonian)
 not-Q it cheaper be
 ‘Isn’t it cheaper?’

The relationship between such cases and the Old Estonian second position *es* in (28) does not appear to be quite clear.

view, the term 'degrammaticalization' provides no adequate characterization of the development in question.

2.6 English infinitive prefix *to* > proclitic *to=*

The English so-called 'infinitive marker' (or 'infinitive prefix', 'infinitive particle') *to* derives from the dative-governing preposition used with an inflected infinitive to express purpose. In this sense, it can be considered to represent the universally well-known grammaticalization path 'purpose > infinitive' (Haspelmath 1989; Heine & Kuteva 2002: 247–248), whereby the preposition is desemanticized and acquires distributional properties not found with, or not typical of, noun-governing prepositions.

However, in the course of a comparison of Dutch *te* and English *to*, Fischer (2000: 154) contends that these two cognate prepositions 'have not grammaticalised in the same way', meaning that English *to* 'has been stopped early in its development or has even regressed in some way' (cf. also Fischer 1999: 357–366). Fischer points to the circumstance that, in Dutch, a functional split between the preposition *toe* and the phonologically weakened infinitival particle *te* has taken place. In English the original full form *to* has, on the other hand, been retained and the Middle English *te* spellings indicating incipient weakening have disappeared from the language. Furthermore, she contends that a number of other phenomena – the appearance of split infinitives, attestable from the 14th century on; the omissibility of non-first occurrences of the infinitive particle in coordination, for the occasion dubbed 'absence of the "reduction of scope"' (p. 159); and what she calls 'no loss of semantic integrity', i.e., alleged future-indicating force of *to* – point in the same direction (Fischer 2000: 158–162).

Fischer's (2000: 155) argument concerning the different phonological history of English *to* and Dutch *te* is not very convincing. The Middle English variation of *to* and *te* and the corresponding variation in Dutch have an exact parallel in the Old and Middle High German variation of *zuo* and *zi*, *ze*, yet the syntactic behaviour of German *zu*, which goes back to *zuo* and is the equivalent of the Dutch fuller form *toe*, is not systematically different from that of Dutch *te* (cf. below). Neither is the syntactic behaviour of the descendants of Old and Middle High German *zi*, *ze* occurring in German dialects and paralleling Dutch *te* in general systematically different from that of standard High German *zu*. Different languages have simply chosen different variants of the, comparatively speaking, same word.

In connection with a somewhat unfocused discussion of 'future infinitives' (a term that is neither explained nor illustrated), Fischer maintains that, at some earlier stage, English *to* 'itself', in contrast to Dutch *te*, 'expressed future' (Fischer 2000: 159). It rather appears that the basic directional meaning of the preposition 'to' allows for a purposive and then future-oriented tense meaning in both languages. Fischer also points to certain alleged acceptability and interpretation differences between evidential use of Dutch *dreigen* and English *threaten* in sentences like (17a) and (17c) (Fischer 2000: 160) – to

which German *drohen* in (17b) may be added –, which she also attributes to the semantic content of English *to* versus the desemanticization of Dutch *te*:⁴³

- (17) a. *Het dreigde te gaan regenen, toen ik het huis verliet.*
 b. *Es drohte zu regnen, als ich das Haus verließ.*
 c. *?It threatened to rain when I left the house.*

However, such differences can also be seen in connection with the different level of grammaticalization pertaining to the verbs in question in the two languages.⁴⁴ It is hard to grasp the explanatory import of the further assumption that the contraction of *going to* to *gonna*, *want to* to *wanna*, and *got to* to *gotta*, is due to the circumstance ‘that both *to* and the matrix verb express future modality [sic]’ (Fischer 2000: 161). As noted above, directionality is probably the more basic semantic trait.

There might be something to Fischer’s claims concerning English *to* vs. Dutch *te* if it can be shown that *to*-infinitives only, or preferably, occur in prospective environments and that they contrast with Dutch *te*-infinitives in this regard. While prospective meaning no doubt obtains in a considerable number of cases (cf. *advise to*, *ask to*, *demand to*, *expect to*, *require to*, *want to*, *warn not to*, *be anxious to*, *be eager to*, etc.), it is by no means a general requirement. Cf. for instance (18) ((18a–d) are taken from Quirk et al. 1992: 994–996):

- (18) a. *Joe supposed the stranger to be friendly.*
 b. *To be an administrator is to have the worst job in the world.*
 c. *It’s great for everybody to be here.*
 d. *Too nervous to reply, he stared at the floor.*
 e. *She is easy to please.*

There seems to be no good empirical basis for assuming that *to* in (18) is different from *to* in prospective environments with regard to content. One could rather argue that a prospective or ‘future’ *to* would be semantically redundant in prospective environments so that the occurrence in such environments may have contributed to its desemanticization.

Fischer consistently refrains from using the term ‘degrammaticalization’ in her discussion of English *to* and Dutch *te* and she does not explicitly refer to the cline in (1). Her concern is the alleged ‘reversal in the grammaticalisation of [English] *to*’ (Fischer 2000: 163). To explain this, she postulates, in addition to the claims cited already, that

43. (17c) is adduced by Fischer as the English paraphrase of the Dutch example (17a). The question mark in front of (17c), may, as Henning Andersen has pointed out to me, be due to the circumstance that, at least for some speakers of English, this sentence may be better in the past progressive (*was threatening*) than in the simple past.

44. Cf. for instance Askedal (1997) and Gunkel (2000) for discussion of German *drohen* and *versprechen* in this regard.

'[i]n early Middle English the infinitive became much more strongly verbal than in Dutch. . . the fact that *to*-infinitives started to replace *that*-clauses on a grand scale in the Middle English period . . . caused the element *to* . . . to function as a kind of shift-of-tense element . . . *to* came to express a 'break' in time . . . i.e., it again expressed 'direction' . . . the *to*-infinitive refers to something happening in the future' (Fischer 2000: 162).

Whatever the merit of these claims, they simply seem to miss the category issue that arises in connection with the different syntactic properties of the infinitive marker in different Germanic languages (cf. Askedal 1995: 106–107). Cf. the differences between German and English with regard to insertability or non-insertability of an element between the infinitive marker and the verb stem (19) and the deletability or non-deletability of non-first occurrences of the infinitive marker in coordination (20):

- (19) a. *Wir sind bestrebt, die Qualität unserer Produkte kontinuierlich zu verbessern. / *die Qualität unserer Produkte zu kontinuierlich verbessern.* [German]
 b. *We are eager continuously to improve / to continuously improve the quality of our products.*
- (20) a. *Er wünscht möglichst viele Bücher zu kaufen und *(zu) lesen.* [German]
 b. *He wants to buy and (to) read as many books as possible.*

Arguably, the English infinitive marker is more complementizer-like, whereas the German one is more clearly like a verb morpheme (prefix).

Concerning Haspelmath's (2004) claim that Fischer's analysis is an example of 'attested antigrammaticalization', it has to be pointed out that Fischer sidesteps the '[2] grammatical word – [3] clitic – [4] affix' issue that is basic to Haspelmath's way of thinking. Even if a historical development of Middle English *to*, *te* from '[4] affix [prefix]' to '[3] clitic' or from '[3] clitic' to '[2] grammatical word' is granted, it does not by necessity follow that a transition of this kind would constitute an instance of 'anti-' or degrammaticalization. Given the fact that English *to* has to a certain extent complementizer properties (cf. (19)–(20)), one would then have to raise the, to my mind spurious, question whether complementizers, or complementizer-like elements, are in some sense 'less grammatical' than affixes; a typological common-sense stance would rather be that affixes and complementizers simply cover different functional category domains in the overall grammar. In case a degrammaticalization analysis is maintained, the development assumed by Fischer would be another instance of simple 'category' not 'etymological reversal'.

Fitzmaurice (2000) deals with two different issues. Her first concern is the alleged 'coalescence of the infinitive [marker] *to* into the quasi-auxiliaries [*be*] *going to* and *have to*'; to these two verbs or locutions are later on added *want to*, *be supposed to*, *be to*, *got to*, *be used to*, *ought to* (pp. 173, 175, 182, 183). The structural result of this 'coalescence' is the reanalysis pattern in (21):

- (21) [X have [to VP]_{COMP}]_S > [X have to V]_S

However, Fitzmaurice fails to make a clear-cut distinction between the structural reanalysis in (21) and the phonological coalescence that may but need not ensue from it.

Fitzmaurice picks up the thread from Fischer (2000) concerning ‘split infinitives’. In contrast to Fischer (2000), she states without further ado that ‘infinitival *to* is in the process of degrammaticalizing’ (Fitzmaurice 2000: 171) but she does not refer to any sort of cline. Her main emphasis is on examples where the negation *not* is inserted between *to* and the infinitive; cf., e.g., (22)–(23) (corresponding to examples (2), (20a) and (13a–b) in Fitzmaurice 2000: 171, 183 and 178, respectively):

- (22) a. *You have to learn to not let it start.*
 b. *This was my nervous breakdown last year, but you’ve got to not talk about it.*
- (23) a. *She was careful not to identify the culprit.*
 b. *She was careful to not identify the culprit.*

In cases like (22b), *not* is, rather inappropriately, said to be ‘isolated’ due to the coalescence of ‘the elements of the periphrastic semi-auxiliaries’ (Fitzmaurice 2000: 183); furthermore, she argues that ‘the development of the quasi-auxiliaries with *to* such as *want to*, *be going to*, *be supposed to*, and *have to* is licensed by the progressive de-grammaticalisation of the infinitive marker *to*’ (Fitzmaurice 2000: 173). Here, several things have to be noted.

In the majority of the examples of *to not* sequences adduced by Fitzmaurice from different sources, *to not* is in fact not preceded by a ‘semi-auxiliary’ in any precise sense of this term. It is also of a certain interest that none of her examples show any kind of orthographic coalescence of *to* and the preceding word that might indicate clitic or fusional status.

Fitzmaurice (2000: 180) assumes that the ‘increasing use of the *to not* construction seems pragmatically motivated’. She argues that ‘the greater proximity of the negator to the subordinate VP by virtue of its placement after the infinitive marker *to* gives an impression of greater negative force’ (p. 177) or alters the scope of the negation (p. 178) (cf. (23)). It has to be stressed that these pragmatic circumstances need not have anything at all to do with the morphosyntactic behaviour of semi-auxiliaries in American English. If semi-auxiliary development is involved, the cause of the *to not* sequences in (American) English would have to be different from topologically and functionally corresponding Mainland Scandinavian sequences like those in (25a) (cf. Hulthén 1948: 169–171; Teleman et al. 1999, Vol. 4: 13f.), whereas a pragmatic scope-clarification analysis would apply equally well to English and to Swedish (and to Norwegian):

- (24) a. *Dom hade inte [negation ‘not’] beslutat att [infinitive marker] utlämna honom. [Swedish]*
 b. *They had not decided to extradite him.*
- (25) a. *Dom hade beslutat att [infinitive marker] inte [negation ‘not’] utlämna honom. [Swedish]*
 b. *They had decided to not extradite him.*

As far as the degrammaticalization issue is concerned, if what is at stake here is really some sort of ‘coalescence’, this would, on the one hand, contradict and, on the other, be in conformity with cline-based expectations. When *not* or another adverbial element is inserted between the infinitive marker *to* and the verb form, the infinitive marker can no longer be considered a proclitic prefix and therefore presumably moves leftwards on the cline, thus being degrammaticalized in terms of the ‘cline’. If, however, *to* is coalesced with the governing verb, as in *wanna* from *want to* etc., this is certainly a development of the ‘[2] grammatical word > [3] clitic > [4] affix’ type, i.e., a case of increasing grammaticalization in terms of the cline (cf. Plank 1984: 338–339, as in fact referred to by Fitzmaurice 2000: 173). However, the question remains whether a phono-morphological analysis of this kind is really a sufficient reason for assuming degrammaticalization, in view of the fact that *to* in instances like (22), (23b), (25b) remains a grammatical element with complementizer-like properties.

In conclusion, Fitzmaurice’s degrammaticalization analysis of the modern American English infinitive marker *to* is quite different from Fischer’s analysis of Middle English and Early Modern English. It sidesteps some of the same issues as Fischer’s analysis, but it does not corroborate it.

2.7 Modern Greek prefix *ksana-* ‘again’ > free adverb *ksana* ‘again’

According to Dosuna (1997: 577, 580–585), the Early Greek independent adverbs *aná* and *ek(s)* went through a development comprising several stages. First, they first became prepositions and then preverbs modifying the meaning of the verbal stem. From that point on, they did not, however, follow the common univerbation pattern of non-dissoluble coalescence (‘fusion’) with the verb stem: ‘The preverb *eks-* assumed a new shape *kse-* which preserved morphological transparency, and the conglomerate *ksana-* (< *eks-* + *ana-*) regained independence (*fission*) as a free adverb. . .’, going through the stages in (26) (from Dosuna 1997: 597):⁴⁵

(26)	i	(e) <i>ksanavlépo</i>	bound prefix	>
	ii	<i>ksaná vlépo</i>	prepositive adverb	>
	iii	<i>vlépo ksaná</i>	free adverb	

45. Cf. Dosuna (1997: 580–600) for an extended discussion of the development. Ioanna Sitaridou (personal communication) has pointed out to me that stage (ii) in (26) does not seem to be operative synchronically in present-day Greek; cf. **Ksana diavazo to vivlio* vs. *Ksanadiavazo to vivlio* ‘I am reading/read the book again’, i.e., ‘I am rereading the book’. In present-day Greek, one is thus left with either preverb *ksana-* or postverbal adverb V – *ksana*; cf. *Diavazo ksana to vivlio* and *Diavazo to vivlio ksana*. (Cf. also Ralli 2003: 104–105; Smirniotopoulos and Joseph 1997: in particular 120–121, 125.) – For discussion of the status of *ksana-V* formations as compounding or prefixation cf. Ralli (2003: 98–99, cf. also p. 102; and, in particular, Ralli 2002).

Dosuna takes this ‘promotion’ of ‘the preverb *ksana-* . . . into a full-fledged adverb’ to be governed by semantics and to ‘confirm conceptual distance as a major factor in language change’, stressing the dependence of ‘morphotactic transparency (segmentability)’ on ‘morphosemantic transparency (compositionality)’ (Dosuna 1997: 580, cf. also p. 603).

The development of the free lexical adverb *ksaná* appears to be a prototypical example of ‘non-etymological category reversal’ (cf. Dosuna 1997: 599). As the use of *ksaná* as a preverb was not discarded (Dosuna 1997: 600), it is also a category split. Dosuna makes the rather trivial, but important observation that ‘[n]ot all instances of univertation involve grammaticalization’ (Dosuna 1997: 578). He is well aware of the differences between inflection and derivation with regard to the systematic consequences of coalescence of units, the former being interrelated with syntax, in contrast to the latter, and notes that lexical de-univertation phenomena ‘have little to do with degrammaticalization.’ He therefore nowhere makes any claim to the effect that the de-univertation process he describes constitutes an example of degrammaticalization. In view of the lexical character of all the elements involved in the developments at hand, it is hard to see how such a claim could be reasonably made.

2.8 Latin rigid prefix *re-* ‘again’ > Italian flexible prefix *ri-* (e.g., *ridevo fare* ‘I must do again’ [sic])

In Latin, *re-* is only used as a verb prefix, whereas in a number of Romance languages certain uses of descendants of *re-* presuppose a reanalysis of *re-* as a ‘moveable’ element. However, Haspelmath gives no further examples of the, in his view, ‘attested antigrammaticalization’ of *re-*, nor does he provide any references to substantiate his ‘antigrammaticalization’ assumptions concerning *re-*. Relevant references and a certain amount of discussion of the reanalysis of Latin *re-* are, however, found in Dosuna’s (1997) article on Greek (*e*)*ksana-/ksaná* but the examples given by Dosuna (1997: 602–603) are not from Italian but from medieval French texts. Cf. first (27) (from Dosuna):⁴⁶

- (27) a. *et tu me redevrois dire ques hom tu iés* (Chrétien de Troyes,
Le Chevalier de Lion, 356)
‘And you should tell me again what kind of man you are.’
b. *et des borjois se rest chacuns armez* (Jourdain de Blaye, 3926)
‘And of the citizens everyone has got armed again.’

46. Cf. in particular also Nyrop (1936: 235–236), who gives as typical examples *ils resont venu* and *repuet le faire*. Nyrop provides numerous examples of the prefixation of *re-* to the ‘auxiliaires’ *avoir*, *ester*, *aller*, *cuidier*, *deveir*, *faire*, *poeir*, *voleir*, to which *lessier*, *estoveir*, *parler* and *venir* may be added (cf. McMillan 1970: 3). There are also on record instances of ‘doubling’, e.g., *ra renouvelé* (McMillan 1970: 15).

One possible analysis of such cases, given the meaning assumed in (27), and the one presupposed as correct by Dosuna, is to assume that the prefix of a composite lexical verb has been shifted (dislocated) to the superordinate modal auxiliary (27a) or the perfect auxiliary (27b), while remaining a preverb. Cf. (28) as an illustration of the reanalysis to be assumed in the case of (27a):

(28) *tu me [devois [redire]] > tu me [redevois [dire]]*

The structural development assumed in (28) presupposes, first, the existence of composite lexical verbs like *redire* etc., and, as Lene Schøsler has reminded me, second, that lexicalized formations like 're-devoir' and 're-êtré', underlying *redevois* and *rest*, respectively, did not exist at the time.

Alternatively, one might perhaps also consider *re(-)* in (27) to be some sort of 'free' element or clitic whose occurrence is independent of the existence of lexical verbs like, for instance, *redire*, and which may attach to the first constituent of the VP. This analysis would allow for the structural interpretation in (29):

(29) *tu me re'[devois [dire]]*

A possible argument in favour of the latter interpretation is perhaps the existence of coordinate chains where more than one verb appear in the semantic scope of *re-* (or *re'*, cf. (29)). Cf. (30) (from Dosuna 1997: 603):⁴⁷

(30) *de son seignor replaindre et doloser (La Mort Aymeri, 169)*
'... due to his lamenting and grieving over his master again and again.'

With regard to medieval French, the separable prefix *re-* is, according to McMillan (1970: 3; but cf. pp. 6–7) in general only found with verbs to which corresponding verbs without *re-* exist, i.e., where there is the possibility of an aspectual opposition between semelfactive and repeated action.

Nyrop (1936: 236) even adduces medieval French examples where *re-* is totally isolated from the verb and precedes the pronouns *le*, *la*, *lor*, cf., e.g., (31a); and the adverbial pronouns *y*, *en*, cf. (31b–c):

- (31) a. *Et sainz Martins relor ajue. (Vie de Saint Martin)*
'And Saint Martin helps them again.'
b. *Et fondé r'i a mainte eglise. (Vie de Saint Martin)*
'And he has established many a church there.'
c. *R'en vint uns autres ensement. (Vie de Saint Martin)*
'Another person also went there in the same way.'

Presumably, one is in such cases dealing with clitic groups.

47. The example is adduced here with the proviso, due to Lene Schøsler, that the infinitival forms in question are verbs not nominalized infinitives. This does not, however, affect the scope relations in question.

Similarly, Dosuna (1977: 601, 603) also points to the occurrence of particles of the form *er, ar, ru, r* in Medieval Galician-Portuguese and in modern French and Italian (cf. Rohlfs 1954: 248) vernaculars that are the descendants of the Latin preverb *re-*. Cf., e.g., (32):

- (32) a. *chi ar c'èra* [Italian dialect of Arcevia, Marche]; cf. modern standard Italian:
Chi c'era di nuovo?
 'Who was there again?'
 b. *E se m'ar preguntaren outra vez* (Cancioneiro da Ajuda, 3, 21)
 [Galician-Portuguese]
 'And if they again asked me once more, ...'

Tekavčić (1972: 138) mentions the extension of the prefix *ri-* from verbs to other word classes, in particular adverbial particles in Italian; cf. *riecco = ecco di nuovo* [standard Italian], *ribonǵiorno* [Tuscan] (cf. also Rohlfs 1954: 248). This kind of category extension is hardly describable or explicable in terms of the cline in (1).⁴⁸

One possible supposition, but by no means a proven fact, is that the development of these Romance cases is similar to that of Greek *ksanà* as sketched by Dosuna (cf. (26)), i.e., something like (34); but there is to my knowledge no single Romance language where all four theoretically possible stages are attested as a regular development with a non-negligible distribution:

- (33) *re-* [+ verb stem + verb ending] [4] >
 [configurations like (27a–b), (30)] [4]/[3] >
 [configurations like (31)] [3] >
 [configurations like (32a)] [1]

To this one may add the possibility of further cliticization, i.e., a transition [1] > [3], like e.g., in (32b).

As in the case of Greek *ksanà*, Dosuna (1997) refrains from characterizing the Romance developments in question as cases of degrammaticalization, and with good reason. Although an affix, Latin *re-* is clearly a derivational element belonging in the domain of word-formation and, in a functional perspective, therefore not a grammatical element in the strict sense. That of course also applies to its clitic or non-clitic particle or adverb descendants. As all the languages and dialects in question also retain

48. With regard to modern French, Nyrop (1936: 235) notes that *re-* may be prefixed to certain particles, in particular *voilà* (33):

- i. *Revoilà le chien qui hurle.* (G. de Maupassant)
 'There is that howling dog again.'

This is in fact consonant with an analysis of *voilà* as a – morphologically defective – verb, cf. the capacity of *voilà* to govern a (pronominal) object: *Le voilà!* 'There he is!'

the corresponding preverb, we are again dealing with functional splits, resulting in instances of non-etymological category reversal.

3. Summary

Evidently, the developments discussed in section 2 are of diverse kinds. Their similarities and the differences between them may be summarized thus (34):⁴⁹

(34)	1.	<i>-s</i>	infl af	[4]	>	cl	[3]	f ch	aggl	S > A
	2.	<i>muid</i>	infl af	[4]	>	gr w	[2]	f ch	aggl	S > A
	3.	<i>-ga</i>	con pt	[4/3]	>	gr w	[2]	f sp	aggl	
	4.	<i>-taga</i>	case cl	[3]	>	gr w	[2]	f ch	aggl	
	5.	<i>es</i>	gr af	[4]	>	gr w	[2]	f ch	aggl	
	6.	<i>to</i>	cl, gr w	[3/2]	>	gr w	[2]	f sp		
	7.	<i>ksana</i>	der af	[4]	>	lex w	[1]	f sp		
	8.	<i>ri-</i>	der af	[4]	>	lex w	[1]	f sp		

In half of these cases, there is clear evidence that we are dealing with a functional split in the sense that a more highly grammatical element develops a less grammatical variant. This is the inverse of the common state of affairs, 'well-known from grammaticalization studies[,] that an element that becomes grammaticalized can also continue in ungrammaticalized form' (Greenberg 1991: 309).

On the basis of the discussion in Section 2, I contend that it is structurally inappropriate or at the very least dubious to assume some sort of 'degrammaticalization' in any of the cases in (34). In (34, 7–8), we are dealing with a change in the morphosyntactic status of lexical elements, viz. from bound to free lexical element. It appears equally inappropriate to refer to 'degrammaticalization' when a grammatical element in the shape of a bound morpheme attains syntagmatic independence as a result of typological and/or syntactic restructuring, while retaining its grammatical function in the sense of membership in a 'closed' class or a class of elements of an 'abstract' functional or semantic nature, as seems to be the case in the other examples of, according to Haspelmath (2004), 'attested antigrammaticalization' in (34, 1–6). In (34, 1–2), the change of syntagmatic status is clearly a corollary of a typological change from synthetic to analytic structure of an individual construction or of the overall language system. It is interesting to note that several authors apply the term

49. infl af = inflectional affix; der af = derivational affix; cl = clitic; gr af = grammatical affix; gr w = grammatical word; lex w = lexical word; con pt = connective particle; f ch = functional change; f sp = functional split; S > A = change from synthetic to analytic construction or language structure; aggl = agglutinative, agglutinating (as noted by researchers dealing with the phenomenon in question).

‘agglutinative’ to the syntagmatically reanalyzed grammatical element or to the language type in question, thus indicating typological conditions of a specific kind that are favourable for segmentation.

I propose that changes of the kind summarized in (34) are natural enough. But it also seems evident to me that they cannot be expected to occur too often for reasons pertaining to the way grammatical categories are entrenched in the overall linguistic system.

Recognition of the fact that grammaticalization processes occur within typologically diverse grammatical systems and yield typologically different results implies placing grammaticalization (and de- and regrammaticalization) on a functional footing that is in principle independent of morphosyntactic coding as grammatical function word or as agglutinative or fusional morpheme. When comparing the level of grammaticalization of two elements, the one being a morpheme and the other a clitic or a function word, the position of the elements compared on a cline like (1) does not *per se* suffice to characterize the one as being more grammatical or grammaticalized than the other (contrary to the implicit assumption noted and contested by Joseph 2004: 58); a more pertinent question would presumably be which of the two elements possesses the more general grammatical function (insofar as this can be meaningfully calculated). This of course also goes for the concept of ‘degrammaticalization’. If a linguistic element changes its syntagmatic status from bound morpheme to clitic, or from clitic to function word, as the result of typological restructuring of a construction or of the overall make-up of the language, this does not by itself entail a change from higher to lesser grammatical status, i.e., constitute a case of degrammaticalization. Haspelmath’s (2004: 29) eight alleged cases of ‘attested antigrammaticalization’ only make sense when regarded mechanistically from the viewpoint of the cline in (1), with no consideration of grammatical function within a specific language structure.⁵⁰ In general, a grammatical formative that is part of an analytic construction or language system cannot not be regarded as *per se* less grammatical or grammaticalized than a bound – agglutinative or fusional – morpheme as part of a word in a synthetic expression or language system, nor are fusional morphemes *per se* ‘more grammatical’ than agglutinative morphemes.⁵¹

The general and most important question is, of course, whether one should or should not expect degrammaticalization to occur at all. If degrammaticalization is empirically unattestable, the reasons for its non-occurrence will have to be given, and if degrammaticalization does occur, there will have to be conditions on and reasons for its occurrence.

Although a considerable amount of intellectual energy has been spent on attempts to discover examples of degrammaticalization, partly by grammaticalizationists, partly by

50. Cf. Fischer’s (2000: 151) justified complaint, in criticism of Bybee et al. (1994: 298), that ‘the mechanistic side of [grammaticalization] has been overemphasised.’

51. Often, fusional and agglutinative morphological structures coexist within the same language or are hard to keep apart in a systematic fashion.

opponents of 'grammaticalization theory,' there is evidently not much to be found apart from the largely irrelevant instances belonging in the domain of word-formation (cf., e.g., Ramat 1992; and the critical appraisal in Heine 2003: 165–167); instances where typological restructuring or functional split are involved are at best only superficially possible examples. Undue importance is often attached to the morphosyntactic (but categorially un- or underspecified) 'cline' at the expense of other typological and functional considerations.

To all appearances, the 'unidirectionality principle,' or rather 'irreversibility hypothesis,' has a strong empirical basis when typological considerations are brought to bear on the issue.⁵² One should not in general expect a truly grammatical element to cede its grammatical status. On the whole, grammatical categories are systematically pervasive in the overall language system in a way in which lexical items are not (cf. Dosuna 1977: 579–580). Individual exponents of grammatical categories may be neutralized or lost, and grammatical categories may disappear.⁵³ Both these scenarios on the whole seem more likely than 'degrammaticalization.' By and large, 'backwards' developments would seem to lack functional motivation as long as there is no lexical or other kind of categorial gain to them (and they are evidently few and far between). This pertains both to the 'analytic' '[1] – [2]' and the 'synthetic' '[2] – [3] – [4]' part of the cline. In the synthetic part, the integrity of words, of which agglutinative and fusional desinences form a part, might be threatened. 'Etymological reversal' would here face the added difficulty, or rather extreme improbability (Norde 2001: 236), of undoing the effect of any sound changes or phonological processes accompanying or causing the transition from stage [2] to [3], or from stage [3] to [4].⁵⁴ We may safely conclude that 'degrammaticalization,' in particular as 'etymological' but also as 'non-etymological category reversal,' is in the normal course of events unlikely to occur,⁵⁵ for reasons that are largely independent of the celebrated and disputed cline in (1).⁵⁶ Considering the question of 'unidirectionality' to be simply a 'definitional matter' (Joseph 2004: 62)

52. Apart from the methodological proviso that any claim to non-falsifiability is problematic for a number of philosophical reasons.

53. Calling loss of a grammatical category 'degrammaticalization' appears to be mere wordplay. Besides, the replacement issue would have to be taken into consideration.

54. Cf., e.g., Dosuna (1997: 579): 'Bound morphemes seldom detach themselves and reassume free form.' At least for this reason, the 'irreversibility' of grammaticalization is hardly as astonishing as Haspelmath (1999: 1043–1044; and pp. 1049–1054 on previous attempts at an explanation) makes it out to be (but cf. also Haspelmath's own account on pp. 1054–1062).

55. On the extreme improbability of etymological reversals cf. Bybee et al. (1994: 13). Cf. also the general assessment by Newmeyer (2001: 213–216).

56. Cf. also Newmeyer (1998: 275–278). A different matter is the phenomenon called 'retraction' by Haspelmath (2004), which might rather be called 'arrested' Janda (2001: 311) or 'halted grammaticalization.' Cf. also Fischer (2000: 153).

would seem to miss some basically empirical issues. So does Newmeyer's (2001: 205) statement that 'any upgrading [is] sufficient to refute unidirectionality', when 'unidirectionality' is understood with no consideration of typological developments and the special status of word-formation.

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CHAPTER 3

Cascading parameter changes

Internally-driven change in Middle and Early Modern English

Theresa Biberauer & Ian Roberts
University of Cambridge

Keenan (2002: 2) proposes that syntactic change is subject to Inertia: syntax itself cannot change endogenously. Syntactic change can, however, be caused by changes to PLD arising from phonological, morphological or lexical change or extra-linguistic factors like contact. We explore the idea that there is additionally a syntax-internal cause for syntactic change, which arises when an initial, extra-syntactically induced parameter change creates a system which has a propensity to further parametric change. This may lead to cascades of parameter changes over several centuries, giving rise to a typological shift. We explore this idea by looking at a series of changes which took place in the history of English between 1100 and 1700, which had the net effect of transforming English from a typologically standard West Germanic language into Modern English.

1. Introduction

Keenan (2002: 2) puts forward an important principle of syntactic change: the Inertia Principle. He formulates this as follows:

- (1) Things stay as they are unless acted on by an outside force or decay.

We assume that syntactic change is a consequence of abductive reanalysis leading to parameter-resetting in first-language acquisition (see Lightfoot 1979, 1991, 1999). In that case, we can take (1) to mean that, all other things being equal, the target system in first-language acquisition will be converged on successfully. This is no doubt due to the highly restricted range of analyses of the Primary Linguistic Data (PLD) that Universal Grammar (UG) allows and the limited exposure to PLD needed for parameter fixation, i.e., standard poverty-of-stimulus considerations.

Longobardi (2001: 278) adopts Keenan's principle, and puts forward the following very interesting version of it:

- (2) Syntactic change should not arise, unless it can be shown to be **caused**
(emphasis his)

In other words, as Longobardi says, ‘*syntax*, by itself, is diachronically completely inert’ (277–8). In minimalist terms, this means that the computational system of human language (C_{HL} in Chomsky’s (2001, 2004, 2005, 2006) terminology) is not itself capable of endogenous change.

The question that then arises is under what circumstances syntactic change can in fact happen. This is the central question that we wish to address in this chapter. According to Longobardi’s version of Inertia in (2), syntactic change must be ‘a well-motivated consequence of other types of change (phonological changes and semantic changes, including the appearance/disappearance of whole lexical items) **or, recursively, of other syntactic changes**’ (2001: 278, emphasis ours – MTB/IGR). Following and elaborating slightly on Longobardi’s point as just quoted, we take it that syntactic change can be caused by changes to PLD arising from independent phonological, morphological or lexical change, or from extra-grammatical factors such as contact. In this chapter we intend to develop the idea of recursive syntactic change, that which arises when an initial, extra-syntactically induced parameter change creates a system which has a propensity to further parametric change. As we show, using data from the history of English, this may lead to cascades of parameter changes over several centuries, giving rise ultimately to a major typological shift and the illusion of ‘typological drift’, in the sense of Sapir (1921) (cf. Sapir’s 1921: 165 definition of drift as ‘the vast accumulation of minute modifications which in time results in the complete remodeling of the language’). We explore this idea by looking at a series of changes which took place in the history of English between 1100 and 1700, which had the net effect of transforming English from what one might think of as a ‘typologically standard’ West Germanic language into the highly unusual system of Modern English, which has many features unattested in the neighbouring Germanic, Romance and Celtic languages.

The changes we look at are the following: the shift from OV to VO (12th and early 13th century), the loss of ‘residual’ OV orders (ca. 1400), the development of clause-internal expletives and of systematic raising of subjects (15th century); the loss of V2 (ca. 1450), the development of the auxiliary system (modals and *do*) (ca. 1525), the loss of ‘short’ verb-movement (ca. 1575), the contraction of negation (ca. 1600), the development of negative auxiliaries (1630s), and the development of *do*-support (later 17th century).

The chapter is organized as follows: in Section 2, we give the general theoretical background to the analyses we will propose, based on Biberauer & Roberts (2005a); in Section 3, we summarise Biberauer & Roberts’ (2005a, 2006a) analysis of word-order change in Middle English (this covers the first three changes listed above); Section 4 deals with the loss of V2, the development of the auxiliary system and the loss of short V-movement, following the proposals in Biberauer & Roberts (2005b, 2006a); here we also present our analysis of the development of *do*-support. Section 5 concludes the chapter.

2. Theoretical background: Agree, EPP-features and pied-piping

Chomsky (2001, 2004, 2005) proposes a system of feature-valuing and movement which relies on two main notions: Agree and movement-inducing (EPP) features. Here we will briefly describe this system and how it is applied in the analysis of word-order change in ME put forward by Biberauer & Roberts (2005a).

Agree is a relation between two heads α and β , where the following conditions hold:

- (3) a. α asymmetrically *c*-commands β ;
- b. α and β are non-distinct in formal features;
- c. there is no third head γ which intervenes between α and β which would be able to Agree with α (i.e., there is no head γ bearing features of the relevant type which asymmetrically *c*-commands β but not α).

Where Agree holds, α is known as the Probe and β as the Goal. A precondition for Agree is that both the Probe and the Goal must be active, meaning that they must bear unvalued formal features.¹

A typical example of the Agree relation is that which holds between T(ense), the head which bears φ -features relating to the subject, and the φ -features of the subject itself, merged in SpecvP. As shown in (4):

1. Formal features are those which are directly relevant to the functioning of the operations of syntax, such as φ -features (e.g., person and number features), Case features and categorial features. These features may or may not play a role at the phonological and semantic interfaces. Other features, such as [sonorant] or [monotone increasing] may play a role only at one or other interface. It is useful to think of formal features as attribute-value pairs, e.g., [Person: 3]. In this way, unvalued features can be seen as those simply lacking a value, and the Agree operation can be seen as copying values between the Probe and the Goal. A condition on the semantic interface is that all formal features must be valued (cf. the Principle of Full Interpretation).

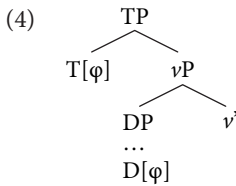
Christer Platzack (p.c.) points out that it may not be necessary to assume that both Probes and Goals be active as a precondition for Agree. In particular, it might be possible to drop the requirement that the Goal be active. In order to avoid Agree taking place with a closer Goal with valued features and failing to value a more distant Goal with unvalued features, Platzack suggests adopting a version of Starke's (2001: 8) Anti-Identity Principle, which allows Agree between the two occurrences of $\alpha\beta$ in the configuration in (i):

- i. .. $\alpha\beta$.. α .. $\alpha\beta$

The difficulty we see with this is that it is not clear how it copes with cases of multiple Agree of the following abstract kind:

- ii. ... $\alpha\beta$.. α ... β ...

Here $\alpha\beta$ is able to Agree for α with α and for β with β . Starke's principle cannot account for this. See Bejar & Rezac (2003) for cases of this type. For this reason, we retain the approach proposed by Chomsky.



Here the structural conditions for Agree, given in (3), are satisfied: T asymmetrically c-commands D, they are non-distinct in formal features since both bear ϕ -features and there is no head bearing ϕ -features intervening between them. Thus, if both T and D bear unvalued features, they are able to Agree. T is taken to have unvalued ϕ -features, while D, being a nominal element, is inherently specified for these features. D, on the other hand, has an unvalued Case feature. T and D in (4) can therefore Agree, with T's ϕ -features being valued by D and D's Case feature in turn being valued as Nominative by (finite) T in virtue of this Agree relation. This account therefore captures the inherent relation between Nominative Case and agreement with the subject.

Note, however, that the account of feature-valuing outlined above makes no reference to movement. In many languages, of course, the DP in (4) raises to the specifier of the head with which it Agrees, i.e., to SpecTP, the 'canonical subject position' since Chomsky (1982). In terms of the theory we adopt here, this operation is in principle independent of Agree, although related to it. More specifically, movement in the Probe-Goal system under discussion here only takes place where the target of movement (i.e., the Probe) bears an EPP-feature.² Thus if the Probe involved in an Agree relation between two heads bears an EPP-feature, the Goal will raise to the Probe, either to a head-adjoined position or to a specifier, depending on the structural status (head vs XP) of the category moved. In (4), this means that if T bears an EPP-feature, either a D-head will adjoin to T or a DP will raise to create a TP-specifier. This latter operation is what happens in Modern English (NE) and in many other languages. We construe the EPP-feature as a feature of a feature, i.e., as being specifically associated with (a) particular feature(s) of the Probe (cf. Pesetsky & Torrego 2001: 359). Thus where the EPP-feature is associated with, for example, D-features on T, rather than with T's Tense features, we represent this as EPP_D , etc.

A question that now remains is what determines whether a head or an XP undergoes movement? We propose that this depends on pied-piping. The dissociation of feature-valuing from movement makes it clear that a category larger than the Goal, but containing the Goal, may be moved. As we saw above, feature-valuing under Agree is a relation between heads, while the EPP-feature simply requires that the Goal must be moved, but does not in fact necessarily require that *only* the Goal be moved; it may

2. This use of the term 'EPP' bears only a rather indirect relation to the Extended Projection Principle as originally proposed in Chomsky (1982: 10). For our purposes here, it suffices to think of the EPP-feature as a movement-triggering diacritic.

therefore allow or require, as a matter of parametric variation, that a category larger than the Goal, but containing the Goal, be moved. This is the dimension of parametric variation that is explored in detail in Richards & Biberauer (2005), Biberauer & Richards (2006), Biberauer & Roberts (2005a, 2006a) and in Section 3 below.

More generally, the pied-piping option is relevant in a configuration of the type in (5):

$$(5) \quad \dots X_{\text{PROBE}} \dots [Y_{\text{P}} \dots Z_{\text{GOAL}} \dots] \dots$$

Here X Agrees with Z, and, where X has an EPP-feature, UG allows cross-linguistic variation as to whether Z_{GOAL} moves to X or the larger category Y_{P} containing Z_{GOAL} moves to X. Movement of the larger category is pied-piping. A well-known example of a cross-linguistic difference of the type in question is the option of pied-piping as opposed to preposition-stranding in the case of *wh*-movement of the object of a preposition. Consider the contrast between English and French illustrated in (6):

- (6) a. **Qui as-tu parlé à?*
 [*A qui*] *as-tu parlé?*
 to whom have-you spoken
- b. *Who did you speak to?*
 [*To whom*] *did you speak?*

As shown above, French requires pied-piping of the PP, while English allows preposition-stranding as well as pied-piping. These are parametric options instantiating the schema in (5) since the *wh*-expression is the Goal of Agree (i.e., Z; the Probe (X) in this case is a [+wh] C), and PP is Y_{P} .

With these technical preliminaries behind us, we can now move on to the syntactic changes in the history of English that we are interested in.

3. Word-order changes in Middle English

Biberauer & Roberts (2005a) (BandR) propose an analysis of Old English (OE) and Middle English (ME) word-order patterns in terms of which the patterns attested at the various stages of OE and ME are analysed as the output of a single grammar which permits restricted types of variation. As we shall see, the variation in question is exactly like that in (5) and (6) above. Their analysis is ‘Kaynian’, in that, following Roberts (1997), van der Wurff (1997, 1999) and Fischer *et al* (2000), they assume that the underlying word order throughout the history of English is head-initial (this follows from the Linear Correspondence Axiom of Kayne 1994; see Roberts 1997:397–399 and 405–419 for discussion of this in relation to OE).³

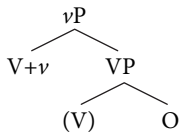
3. BandR’s approach diverges, however, from some of the aspects of the theory of phrase structure in Kayne (1994), notably in that they assume that a single head may have more than one specifier.

BandR propose that West Germanic-like OE word orders, such as SOVAux in subordinate clauses (main-clause order is consistently complicated by the effects of Verb Second, which we extrapolate away from throughout this section), were derived by the application of two types of 'large XP' movement: VP-raising to Spec ν P and ν P raising to SpecTP. To see how this works, consider an SOVAux example like (7):

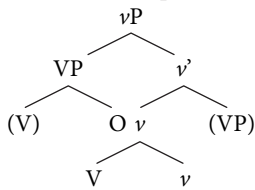
- (7) *Ða se Wisdom þa þis fitte asungen hæfde . . .*
 when the Wisdom then this poem sung had
 'When Wisdom had sung this poem . . .'
 (*Boethius* 30.68.6; Fischer et al. 2000: 143, 25)

The order observed in (7) is obtained by means of the operations given in (8) in the order shown:⁴

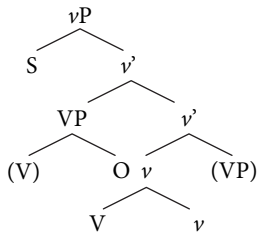
- (8) i. V-to- ν raising:



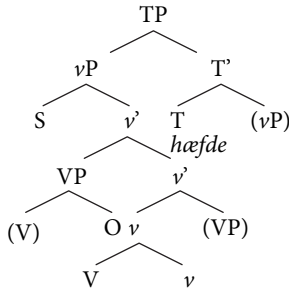
- ii. VP-to-(inner)Spec ν P movement:



- iii. merger of the subject in the topmost Spec ν P:



4. For ease of exposition, we represent the auxiliary *hæfde* as being merged in T. It is likely that the structure of clauses containing auxiliaries was more complex than this in OE: 'restructuring' verbs, which took infinitival complements, almost certainly had a TP complement and, as such, introduced biclausal structures (see below); *habban*, *beon* and *weorþan*, which typically had participial complements, may also have introduced a biclausal structure. This matter is addressed in more detail in Biberauer & Roberts' (2005b) discussion of the development of the NE auxiliary system.

iv. ν P-movement to SpecTP:

In (8i) we illustrate V-movement to the ‘light verb’ position, ν . Following Marantz (1997) and Chomsky (2004: 112, 122), we assume that this operation is universal and is required in order to ‘verbalise’ the acategorial root (which we continue to write as V for convenience).⁵ The movement of VP to Spec ν P shown in (8ii) is a case of pied-piping of the type discussed in the previous section. Here ν Probes the D-features of the object, and has an EPP_D feature. The object is the Goal of Agree with ν , but where we have the V-final order in (7) as opposed to a ‘leaking’ order (see below), the larger category containing the object DP, namely VP, moves. This is a parametric option in OE. The effect of moving the remnant, verbless VP, i.e., [$_{\text{VP}}$ (V) DP] (we indicate ‘traces’ of moved categories in parentheses), is therefore to create the surface order OV. (8iii) demonstrates merger of the subject DP in Spec ν P.⁶ (8iv) shows a second instance of pied-piping, exactly analogous to the one in (8ii) but at a higher structural level. Following merger of *hæfde* (see

5. This entails that all VPs are associated with a ν P, including unaccusatives and passives. Evidence in favour of this comes from past-participle agreement in French and Italian, which is obligatory in these contexts, cf. the following unaccusative example:

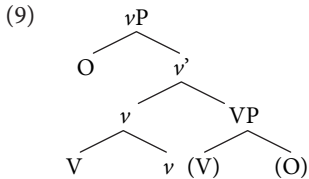
- (i) *Maria è arrivata*
 Mary is arrived-f.sg.
 ‘Mary has arrived’

The gender and number agreement on the participle here is arguably a reflection of the defective ϕ -features associated with ν .

6. In assuming that the object’s D-feature is valued by ν before the subject is merged, we are departing from Chomsky (1995: 355f.). Instead, we follow the account of the distinction between nominative-accusative and ergative-absolutive case-agreement marking put forward by Müller (2004). Müller argues that the contrast between the two types of pattern derives from a choice in the order of operations in a transitive clause when the derivation reaches ν . At this point, ν may either Agree with the direct object, or the subject may be merged. If Agree precedes Merge, ν ’s features Agree with the D-features of the object, and the subject, once merged, must Agree with T. This gives rise to a nominative-accusative system. An ergative-absolutive system derives from the opposite order of operations. Since OE was clearly nominative-accusative, the order of operations indicated in (8) is as predicted by Müller’s analysis.

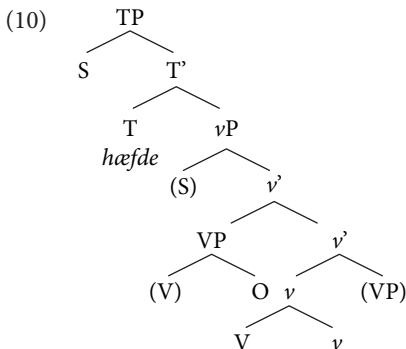
note 4 on the position of auxiliaries), T probes the D-features of the subject, and looks to satisfy its EPP_D feature. The subject is the Goal of Agree with T, but where we have the VAux order shown in (7), the larger category containing the subject DP, namely νP , moves. This is a further parametric option in OE. The effect of moving the νP , along with the other operations seen in (8), is therefore to create the surface order SOVAux.

It is, of course, well known that the subordinate clause word orders exhibited by OE are not restricted to the SOVAux order considered above. BandR show how all of the other available orders, except those where the object is final (on which see below) can be derived by assuming that the EPP_D features of ν and T may, in fact, both be satisfied either by means of pied-piping (i.e., moving VP and νP as discussed above) or by moving just the Goal DP, and thus ‘stranding’ VP/ νP -internal material. Thus OE EPP_D -satisfaction is directly analogous to EPP_{wh} -satisfaction in the case of extraction of the complement of a preposition in NE, in that both the stranding and the pied-piping options are available. The stranding option in the νP -domain gives rise to the derived structure (9), as opposed to (8ii):

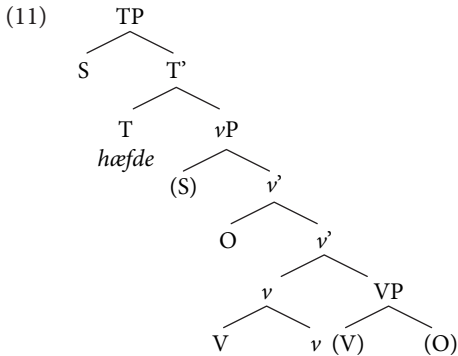


The principal consequence of the object-raising derivation illustrated in (9) is that any VP-internal material additional to the verb itself and the direct object, e.g., indirect objects, PPs, adverbial material, particles, etc., will appear in a postverbal position. So this option explains the attestation of ‘leaking’ structures in OE. We can further explain the fact that languages such as German disallow ‘leaking’ by saying that German does not allow the ‘stranding’ option in this case (in other words, German EPP_D satisfaction is parallel to French *wh*-movement from PPs). BandR are thus able to account for both the V-final and the ‘leaking’ orders in OE in terms of a single grammar with an option for pied-piping vs stranding as regards EPP_D satisfaction in the νP domain.

BandR further argue that the same options were found in the TP-domain. (10) gives the structure that results if the ‘stranding’ option is taken in place of νP -fronting at the stage of the derivation illustrated in (iv) above:



The surface order that results here is SAuxOV, i.e., an order that is often referred to as ‘Verb-projection raising’ (see van Kemenade 1987 on these orders in OE and Haegeman & van Riemsdijk 1986 on this order in Swiss German and West Flemish; we consider structures of this kind in more detail below where we will suggest that the derivation of VPR involving modals involves a more complex biclausal structure and cyclic ν P-movement – see (15) et seq.).⁷ In (10), we have ‘stranding’ in the TP-domain, but pied-piping in the ν P-domain. Stranding in both domains gives (11):



Again we have SAuxOV, the ‘verb-projection raising’ order, but this time with leaking of VP-internal material. This order, too, is attested in OE. Examples of the orders in (9–11) are given in (12):⁸

- (12) a. *þa geat mon þæt attor ut on þære sæ*
 then poured man that poison out on the sea
 ‘Then someone poured the poison out on the sea’
 (*Orosius* 258.16; Lightfoot 1991: 61, 18b)
- b. *... þæt hi mihton swa bealdlice Godes geleafan bodian*
 that they could so boldly God’s faith preach
 ‘... that they could preach God’s faith so boldly’
 (*ÆCHom.* I, 16.232.23; Fischer et al. 2000: 156, 48)

7. We follow the literature on West Germanic, starting with Evers (1975), in using this terminology and the related term ‘verb raising’ for OAuxV orders, although our analysis is very different to those relying on rightward-movement of verbs or verb-projections.

8. Christer Platzack (p.c.) has pointed out to us that the order in (12a) is grammatical in Modern Swedish (*Då hällde man gifvet ut på havet*, the Swedish translation of (12a)). However, we do not assume that the Modern Swedish example has the structure we assign to (12a). Since Modern Swedish is consistently VO, we assume that ν has no EPP feature in this language. In fact, as far as the structure of ν P is concerned, Modern Swedish is probably the same Modern English. (Of course, the Swedish example is V2; in this respect Modern Swedish differs from Modern English). The fact that (12a) has a surface order which is compatible with a ν lacking an EPP feature shows that identical surface orders can be generated by grammars with quite different parametric properties; this observation underlies the general possibility of diachronic reanalysis leading to parametric change.

- c. ... *þæt mon hæfde anfiteatrum geworht æt Hierusalem*
 that man had amphitheatre made at Jerusalem
 '... that one had made an amphitheatre at Jerusalem'
 (Orosius, Or_6:31.150.22.3120; Trips 2002: 81, 23)

(12a) illustrates the 'stranding' mode of EPP_D satisfaction in the *v*P domain: only the object DP, *þæt attor*, raises, stranding the particle *ut* and the PP *on þære sæ*. (12b) illustrates 'stranding' in the TP domain, with *hi* raising independently of the rest of the *v*P, *swa bealdlice Godes geleafan bodian*, to satisfy T's EPP_D feature. Finally, (12c) shows that it was also possible for just the subject (*mon*) and just the object (*anfiteatrum*) to raise to satisfy T and *v*'s EPP-features. BandR show how postulating a grammar which permits the option of moving just the Goal DP alongside the possibility of pied-piping a larger constituent containing that DP enables one to account for the attested, stable synchronic variation in OE.⁹

They furthermore argue that the approach described above also affords a principled account of the word-order changes that took place in ME. The basic idea is that the grammar changed from one which allowed **both** the VP/*v*P-pied-piping option and the 'stranding' (i.e., DP-movement) option for satisfaction of *v* and T's EPP_D features to one which allowed **only** the latter mode of satisfaction. BandR propose that this change first occurred at the *v*-level, in the 12th or early 13th century (see Canale 1978, van Kemenade 1987 and Lightfoot 1991 in this connection). The loss of VP-pied-piping involved a reanalysis of simple OV orders whereby remnant-VP fronting was reanalysed as object-movement. This can be illustrated with the following example (parentheses indicate lower copies which are ultimately not overtly realised):

9. Christer Platzack (p.c.) raises the question of pied-piping options at the C-level. In particular, he asks why it is not possible to pied-pipe *v*P containing a *wh*-DP. This would give rise to strings of the following type:

- i. *_{[*v*P} who [_{[*v*P} see]] did John (*v*P) ?

We have no general way of ruling out this option. We therefore do not exclude that it is made available by UG, and is simply not a parametric option taken Germanic. Derivations of this kind might be found in VOS or OVS languages (see Massam & Smallwood 1997 on VOS languages). Strings like (i) are marginally possible in German under highly restricted discourse conditions involving strong emphasis, e.g.,

- ii. [WEN gesehen] hat er ? (= (i))
 who seen has he
 'WHO did he see?'

A further condition on this construction is that the fronted constituent must contain the lexical verb:

- ii. *_{[WEM das Buch] gab er ?}
 who-Dat the book gave he?

We will not speculate further regarding this construction.

- (13) *The man* *the apple* *ate*
 a. [_{VP} S [_{VP}(V) Obj] [_v V v] (VP)]
 b. [_{VP} S Obj [_v V v] [_{VP}(V) (O)]

BandR suggest that the cause of this reanalysis was a decrease in unambiguous evidence for pied-piping. A grammar allowing both pied-piping and stranding generates a larger language than one which only allows one of the two options, and is therefore less highly-valued if one assumes the Subset Principle. In terms of this principle, originally put forward in Berwick (1985), ‘the learner selects the grammar that generates the smallest possible language that is compatible with the data’ (Manzini & Wexler 1987: 425).¹⁰ In the OE context, the Subset Principle required the OE system, with its optionality of pied-piping vs. stranding, to be robustly triggered by examples of the sort illustrated in (12) above. Arguably, in Early ME, the pied-piping option was, however, less robustly triggered than before. To see this, it is important to realise that the basic difference between the conservative ((a)) and the innovative ((b)) structures in (13) is that the innovative structure allows only the object to feature in preverbal position, with any remaining VP-internal material following the verb, whereas the conservative grammar allows all VP-internal material to surface preverbally (although it need not do so). Given that finite clausal complements always appeared postverbally,¹¹ the principal constructions where one can distinguish the two systems are verb-particle constructions and double-object constructions (we will discuss non-finite complements in Section 4 below).

Verb-particle constructions with the order *object – particle – V* must be analysed as involving a pied-piping grammar, as the particle is fronted along with the object in the remnant VP (since Koster 1975 it has been assumed that the particle is merged in a VP-internal position in West Germanic). So this order would have triggered the pied-piping grammar, and is clearly found in OE (cf. Pintzuk 1991: 76f., Fischer et al. 2000: 185f.). However, it has often been remarked that verb-particle constructions become

10. The Subset Principle arguably follows from the fact that language acquirers do not have access to negative evidence and therefore cannot retreat from a ‘superset trap’ if they postulate a grammar which generates a language larger than that determined by the data.

11. This is, of course, also the pattern exhibited by Modern Dutch and German and West Germanic generally. Assuming *v*’s EPP-feature in these languages to specifically require movement of a D-bearing Goal, we can account for the consistently postverbal position of non-restructuring clausal complements by appealing to the fact that any D-features contained in complements of this type would no longer be accessible to *v*’s D-Probe at the point at which this head is merged (cf. the workings of the Phase Impenetrability Condition/PIC discussed below). Clearly, the same can not be true for rigidly head-final languages like Japanese and Malayalam in which *all* complements precede the verb. Interestingly, clausal complements in these languages are frequently associated with overtly realised nominal markers. We leave the details of this matter for future research.

vanishingly rare in the 12th and 13th centuries (Spasov, 1966, cited in Kroch & Taylor, 2000: 146); it is possible that this was due to the influx of French borrowings at this period, replacing earlier verb-particle constructions with simple verbs. Thus this important trigger for the pied-piping grammar may have been removed, or at least rendered less robust than formerly, owing to an entirely extraneous lexical factor.

A second extraneous factor may have been at work in the case of ditransitive constructions. In these constructions, the order *indirect object – direct object – V* would have triggered the pied-piping grammar. Again, this order is attested in OE (cf. van Kemenade 1987, Koopman 1990, 1994, Allen 1995, Koopman & van der Wurff 2000). However, during early ME, the distinction between accusative and dative case was lost; Allen (1995: 158f.) shows in detail that the system had broken down in all the ME dialects except Kentish by the end of the 13th century at the latest (see her Table 10.1, p. 441). One consequence of this was a rise in prepositional datives. The use of a PP to express indirect objects gives rise to greater positional freedom for these arguments, and consequently a greater instance of ‘leaking’, and a correspondingly less frequent instantiation of the order triggering the conservative, pied-piping grammar.

We propose, then, that the two factors just described would have undermined the trigger experience for the grammar with the pied-piping option. As a result, the word order changed in the way we observe. The word-order changes are thus the consequence of a reanalysis of the ever more liberal ‘stranding’-permitting pied-piping grammar as one which specifically targets DPs.

It is important to note that the reanalysis in (13) did not eliminate OV order, but that it simply changed the structure of OV sentences. Subsequently, starting from around 1400, object-movement of the type shown in (13b) became restricted to negative and quantified objects (cf. van der Wurff 1997, 1999). This restriction of *v*'s D-attracting property (arguably to [+Op] DPs) led to an overall increase in the number of VO orders in the PLD. As a result, many instances of *v*P-movement of the type shown in (8iv) above were in fact indistinguishable from simple DP-movement of the subject of the type seen in (10). This led to the reanalysis in (14). We again illustrate the reanalysis with a simple example:

- | | | | | |
|------|---|--|-----------------|----------------------------------|
| (14) | <i>The man</i> | <i>ate</i> | <i>an apple</i> | |
| a. | [_{TP} [_{VP} Subj | [_v V <i>v</i>] [_{VP} (V | Obj]] | T (<i>v</i> P)] (conservative) |
| b. | [_{TP} Subj T [_{VP} (Subj) | [_v V <i>v</i>] [_{VP} (V | Obj]]] | (innovative) |

Whilst (14) illustrates the basic point that the reanalysis does not affect the surface word order in a simple SVO example of this type, it is, as given, not quite correct. Assuming that auxiliaries surface in T (see note 4), then (14a) predicts that the conservative grammar allowed the unattested SVOAux order (cf. Pintzuk 1991 for discussion). To solve this problem, BandR appeal to the fact that VP and everything it contains is inaccessible to syntactic operations once the derivation has proceeded past *v*P (this follows from the version of the Phase Impenetrability Condition (PIC) in Chomsky (2000)). As a consequence of this, the VP-internal object cannot surface in the position in the

linear order indicated in (14a), but instead appears in its original VP-internal position following the surface position of the auxiliary in T. Thus, thanks to the PIC, the unattested SVOAux order cannot arise. The correct representation for (14a) is therefore (14a'), where the constituents indicated in *outline* have already been transferred to the interfaces and are therefore unavailable for syntactic operations:

$$(14a') \quad [_{TP} [_{\nu P} \text{Subj} [_{\nu} V \nu]] T ([_{\nu P} [_{VP} (\mathbb{V}) \text{Obj}]])]$$

(14) illustrates a simplification parallel to that in (13). In (14a'), νP is pied-piped to SpecTP in order to satisfy T's EPP_D feature. In (14b), the subject alone raises to satisfy the same feature. We are thus once again dealing with pied-piping as opposed to 'stranding'. The important point here is that, in the absence of clause-internal adverbial modification and auxiliaries (on which, see below), both structures give rise to the same linear order (SVO). The consequence of this is that there is, in cases of this kind, no unambiguous trigger for the more complex pied-piping operation. Moreover, as in the case of (13), the Subset Principle disfavors the grammar with the pied-piping option, since this generates a bigger language than one without it. Pied-piping must therefore be robustly triggered, and BandR suggest that by the 15th century, it was not.

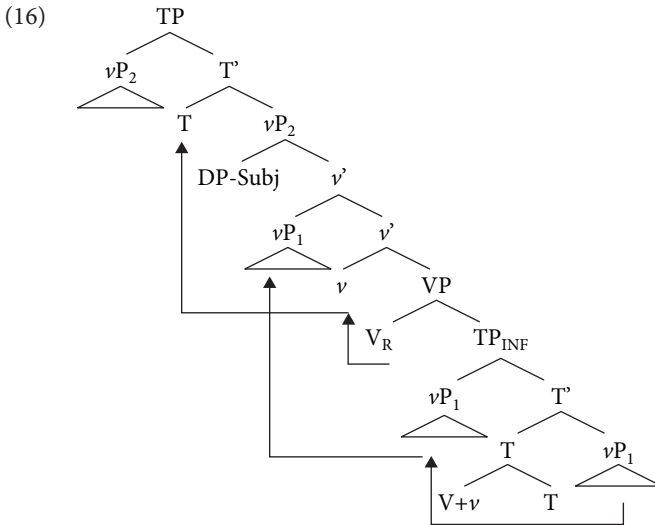
Biclausal structures initially provided an environment in which the conservative structure in (14a') and the innovative structure in (14b) gave rise to different orders. These were thus important triggers for the conservative grammar. (14a') gives rise to surface SVAuxO and (14b) gives rise to SAuxVO (recall that we are using the cover 'Aux' for restructuring verbs; see note 4). Let us look at how the conservative grammar operated in biclausal cases as this will also help us to see how the restriction on object-movement described above created the circumstances for the loss of the pied-piping option in such biclausal environments, a development which also had important consequences for monoclausal structures.

As first pointed out in van Kemenade (1987: 55f.), modal, causative and perception verbs were V(P)R (i.e., restructuring) triggers in OE, a state of affairs that entailed that the infinitival V_s selected by these verbs followed their selectors, as illustrated in (15):

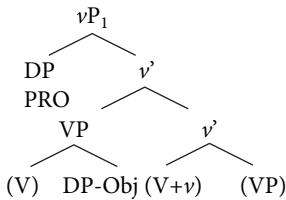
- (15) a. ... *þe æfre on gefeohte his handa wolde afylan*
 who ever in battle his hands would defile
 '... whoever would defile his hands in battle'
 (*Ælfric's Lives of Saints* 25.858; Pintzuk 1991: 102, 62)
- b. ... *þæt hi mihton swa bealdlice Godes geleafan bodian*
 that they could so boldly God's faith preach
 'that they could preach God's faith so boldly'
 (*ÆCHom* I, 16.232.23; Fischer *et al* 2000: 156)

(15a), with the order OAuxV, is known as the 'verb raising' (VR) order; (15b), with AuxOV, is one case of 'verb-projection raising' (we saw the case with an aspectual auxiliary like *habban* above – see (11) and (12b,c). Following BandR, we assume the

structure in (16) for the complements of restructuring verbs (V_R) in OE and Early ME; we consider a VR structure of the kind illustrated in (15a) by way of illustration:¹²



where the vP labelled vP_1 for expository convenience has the following internal structure (as before, bracketed elements are those which have undergone movement out of vP_1):



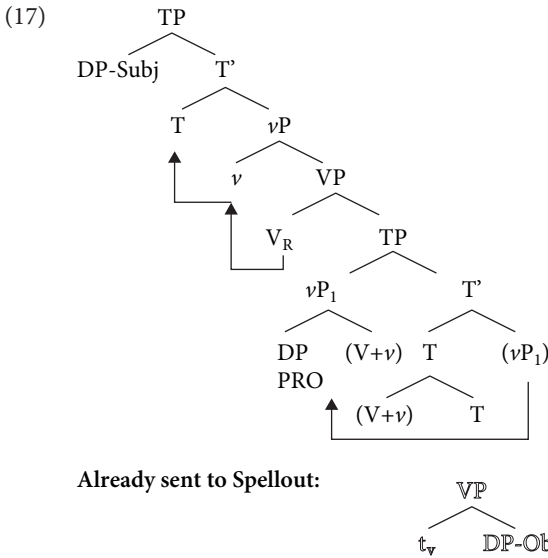
We are assuming that the complement of a restructuring verb is a TP (cf. i.a., Wurmbrand 2001 & Lee-Schoenfeld 2007 for arguments in favour of the idea that restructuring complements are ‘smaller’ than other clausal complements, and Roberts (1997: 412) for arguments that such complements are larger than VP in OE). In the context of the theoretical framework we are assuming here, the specific assumption is that restructuring complements are TPs headed by a ‘defective’ T, i.e., one that is not selected by C (cf. BandR 14f.). For our present purposes, this idea has the important consequence that the material in the restructuring complement is not sent to Spellout prior to merger of V_R , the way material in the clausal complements of non-restructur-

12. Here we indicate the subject of the infinitive as PRO. We do this largely for convenience, remaining on the one hand agnostic regarding the correct analysis of control (see Hornstein 1999, Manzini & Roussou 2000, Landau 2003, 2004, 2006), and on other hand not wishing to imply that restructuring predicates are never raising predicates.

ing verbs is (owing to the PIC; cf. the discussion of the object in (14a') above). This accounts for the 'clause union' effects commonly associated with restructuring structures. Let us see how our analysis of V(P)R works in more detail.

The derivation of the VR order in (15a) proceeds by the following steps. First, as we saw in (8i), V moves to v inside the vP of the embedded clause. Second, as in (8ii), the remnant VP moves to Spec vP . Third, $V+v$ moves to T in the infinitival clause. This operation is the key to deriving the *Aux-V* order here; Biberauer and Roberts (2006a) take this infinitive-movement to be triggered by a selectional property of the main-clause verb V_R . They assume the selectional property to be the nature of the (defective) TP that V_R selects, i.e., a defective one. The next step in the derivation of a VR structure is remnant vP movement to the specifier of the selected T (this is another instance of 'pied-piping' satisfying an EPP-feature). Finally, the remnant vP is raised to the specifier of the matrix vP . This gives the surface order *SOAuxV* (where 'Aux' means a restructuring verb, V_R in (16)).

The loss of generalised object movement described above had the effect in the V(P)R context that vP -movement to the lower SpecTP would not be distinguishable in terms of the surface string from just subject movement. To see how this works, consider the structure in (17), which illustrates vP -movement to SpecTP in a structure where the object has not undergone raising:



As in the case of the direct object in (14a'), the VP indicated in outline here is merged as the complement of the lower v , and thanks to the operation of the PIC, this material is sent to Spellout and therefore becomes inaccessible for further operations as soon as the lower vP is completed. Hence, movement of this vP to SpecTP has no effect on the surface position of the object, which remains final. We thus straightforwardly derive

optional VO orders in the complements of V_R in both OE and ME.¹³ Moreover, in (17) the choice between pied-piping vP into the matrix $\text{Spec}vP$ and exclusively raising the subject to that position, which was operative throughout ME, has absolutely no effect on the surface order of elements, since the only overt material in vP which the PIC would allow to be spelled out in its moved position is the subject – in this case, an element which cannot be assigned phonological form which we have indicated as PRO (see note 12).¹⁴ As in the case of (14) above, we therefore once again see the relationship between the two changes: when the object is spelled out in postverbal position, crucial evidence in favour of the pied-piping option at the T-level is obscured. Thus the loss of generalised object movement had the consequence that the trigger experience began to feature many more structures for which it was impossible to distinguish subject-raising from vP -raising on the basis of the surface string.

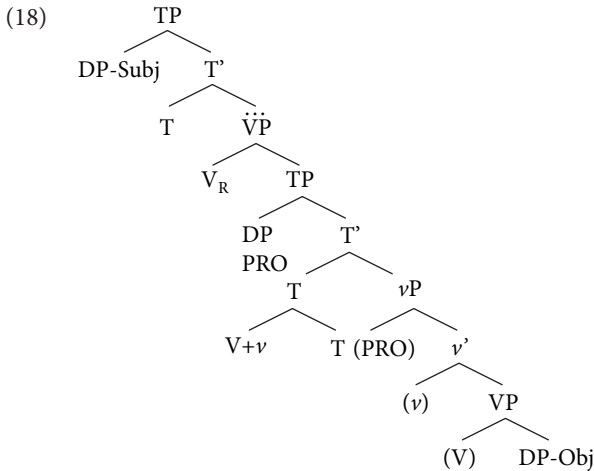
13. In addition to the VO orders which result from the effects of the PIC as described above, VAuxO was also available in OE in structures such as that illustrated in (i):

- (i) ... þæt ænig mon atellan mæge ealne þone demm
 that any man relate can all the misery
 ‘... that any man can relate all the misery’
 (Orosius 52.6–7; Pintzuk 2002: 283, 16b)

This order does not involve V(P)R, despite the fact that the matrix verb is one of the ‘restructuring’ triggers discussed above: the non-finite verb *atellan* precedes the modal that it would follow in restructuring contexts. In order to allow for the possibility of VO orders in subordinate clauses in OE, BandR propose that v in OE was, with the exception of one class of object DPs (see below), only optionally associated with an EPP-feature, but that the presence of this optional EPP-feature systematically guaranteed an interpretive effect that was absent in structures where v lacked it (see Chomsky (2001: 34, 2004: 112)). Assuming leftward movement in Germanic to be a ‘defocusing’ operation (cf. Pintzuk & Kroch 1989 on the obligatorily focus-bearing nature of the postverbal material in *Beowulf*), BandR propose that OE v ’s optional EPP-feature triggered defocusing movement wherever it was present; wherever it was absent, unmoved material could therefore remain in focus. This implies that negative and quantified/indefinite objects, which appear to have rather consistently surfaced preverbally during OE (and also in ME), were leftward-moved for different reasons (see also Kroch & Taylor 2000, Pintzuk 2002: 294ff). BandR propose that the negative/quantified object movement was triggered by an **obligatory** EPP-feature specifically associated with a [+Op] D-seeking Probe. OE object movement thus results from two different types of EPP-feature-driven movement, one involving an obligatory EPP-feature, and the other involving an optional EPP-feature which triggers defocusing. See Reinhart (1995) for an account of object-scrambling and defocusing in Dutch.

14. Note that the raising of the lower copy of v in the vP -fronting (pied-piping) case vs the non-raising of this copy wherever the DP-fronting (‘stranding’) option is employed does not have any effect on surface order either. See Biberauer & Roberts (2006b) for discussion of a PIC-based spellout mechanism that ‘distinguishes’ higher vs lower copies, privileging only the former with full spellout (i.e., phonological realisation). Regardless of the correctness of this proposal,

Because of the PIC then, acquirers had no evidence to distinguish a derivation involving pied-piping of νP to satisfy T 's EPP_D feature from one in which only the subject moves to satisfy that feature. It is of course possible that the presence of νP -adverbials or other embedded-clause modifiers might disambiguate the two derivations, but in the vast majority of cases, the ambiguity would have been present. We take it that this situation led to the reanalysis of (17) as (18):



As the structure in (18) shows, the fronted νP in infinitival contexts may have contained no overt material at all: an empty subject (here indicated as PRO) and the trace/copy of ν (see note 14). Recall that VP has already been sent to Spell Out, and hence is not realised in the moved position. Given the lack of evidence for νP -movement, the simpler option of DP-movement was preferred (assuming that language acquirers always take the simplest option consistent with the trigger experience, where simplicity is taken to mean the smallest structure consistent with the input – see Clark & Roberts 1993); νP -movement was therefore lost as a means of satisfying T 's EPP_D feature. This concludes our account of the loss of νP -pied-piping.

We now consider the empirical consequences of this loss. The reanalysis of νP -movement as subject-movement had two major consequences, both deriving from the fact that T 's EPP_D feature, in the innovative grammar, could only be satisfied

it is clear that any account employing remnant movement where the remnant is ultimately only partially spelled out (e.g., den Besten & Webelhuth's 1987 analysis of German VP-fronting) must offer some explanation as to how copies contained in a remnant that eventually surfaces above 'higher' copies are disqualified from phonological realisation. We leave this matter for further research, the crucial point here being that the copy of the infinitival verb adjoined to ν is not available for spellout, with the consequence that it cannot signal the difference between νP - and DP-raising to SpecTP.

by a DP in SpecTP. The two consequences were that (i) expletive insertion became obligatory where no appropriate, raisable subject was available, and (ii) that movement of DP into SpecTP became obligatory in passives and unaccusatives. BandR illustrate both of these consequences in detail. They further show that both expletives and subject-raising were options prior to the 15th century, owing to the fact that DP-raising to SpecTP was, in the conservative grammar, an available means of satisfying T's EPP_D feature. After the change in (14), however, this was the **only** way of satisfying T's feature, and so expletive insertion and DP-raising became obligatory. BandR therefore provide a natural account for both the extended period of variation during which expletives and subject-raising were simply optional **and** for the fact that the change that ultimately took place went in the direction that it did: optionality is to be expected while the grammar has at its disposal two modes of EPP-satisfaction, but once the trigger experience for one of these modes has become insufficiently robust, language acquirers will opt for a simpler grammar which retains only the robustly attested mode. As we have shown above, the changes that occurred in early ME conspired to create a scenario in which νP -raising became indistinguishable from DP-raising in a majority of contexts, with the consequence that the former mode of EPP-satisfaction was lost.

A further consequence of the loss of νP -raising was the loss of the orders usually referred to as *Stylistic Fronting* (*Styl-F*; see Biberauer & Roberts 2006a). Kroch & Taylor (2000) argue that ME had this operation, which functioned along lines similar to those typically claimed for Modern Icelandic (see Maling 1990, Holmberg 2000). The two principal properties of Styl-F are that there must be a subject-gap and that it is subject to an Accessibility Hierarchy which states that negation takes precedence over adverbs which in turn take precedence over participles and other verbal elements. (19) is an example of putative Styl-F in ME:

- (19) ... *wiþþ all þatt lac þatt offredd wass biforenn Cristess come*
 with all that sacrifice that offered was before Christ's coming
 '... with all the sacrifice that was made before Christ's coming'
 (*Ormulum* I.55.525; Trips 2002: 306, 123)

(19) contains a passivised relative, with the passive participle *offredd* ('offered') representing the fronted element. Biberauer & Roberts (2006a) propose that cases of Styl-F observed in ME, and *V-Aux* ordering more generally, involve νP -movement to SpecTP. In their terms, the TP inside the relative clause in an example like (19) has the structure given in (20):

- (20) [_{TP} [_{νP} (Op) **offredd**] [_{T'} [_T wass] ([_{νP} (Op *offredd*)) Op *biforenn*
Cristess come])]]

The most important aspect of this structure for the purposes of this chapter is that νP , containing the string [Op *offredd*], has raised from its first-merged position following [_T wass] to SpecTP. This operation takes place in order to satisfy T's EPP_D -feature. In the case under consideration, the D-feature is borne by the passive participle *of-*

fredd, which BandR, following Baker, Johnson & Roberts (1989), assume to contain the ‘absorbed’ logical subject (cf. also Richards & Biberauer 2005).^{15,16}

Biberauer & Roberts’ (2006a) analysis also affords a simple explanation of the loss of ‘Styl-F’. For them, it is simply a case of the loss of ν P-fronting, i.e., the loss of the pied-piping option for satisfaction of T’s EPP_D feature.

In this section, we have summarised BandR’s account of the word-order changes in ME. We have left out a number of details, but the essential points are as given here: the idea that OE had the option of ‘stranding’ or pied-piping VP- and ν P-internal material at both the ν and T level for EPP_D satisfaction, and the idea that the pied-piping option was lost in two stages in ME: first in the 12th or early 13th century at the ν level, and then in the 15th century at the T level. (There was additionally also a further change around 1400 restricting object-movement to negative and quantified objects, which is not our concern here; cf. note 13 for discussion). The OE grammar had two options at both levels; independent morphological and lexical factors undermined the evidence for one of these options, in such a way that, thanks to the Subset Principle, one of the options was lost. As we have seen, this in fact took place initially at the ν -level, and the change at this level, combined with the restriction on object-movement, led to the change at the T-level. The first change was in accordance with the Inertia Principle, since it was caused by independent lexical and morphological factors. The change at the T-level was an example of a syntactic change caused by the net effects of two earlier syntactic changes. This thus provides an initial example of the ‘cascade’ effect which we discussed in the Introduction.

15. In (20), the object is extracted under relativisation, which we have indicated by (Op); the leftmost occurrence of this symbol marks its successive-cyclic movement through Spec ν P (note, however, that nothing here hinges on the assumption of a null-operator rather than a raising analysis of relatives).

The PP *biforenn Cristess come* was also a constituent of VP (and therefore of ν P). However, it does not appear before the auxiliary in the surface string because at this stage, the pied-piping option was no longer available for ν . The PP therefore remains within the VP throughout the ν P phase of the derivation, and it surfaces in final position owing to the effects of the PIC as described above.

16. BandR’s analysis also facilitates a very simple analysis of *V-Aux* structures that are very evidently not amenable to a Styl-F analysis, but which are nevertheless attested in ME. Consider (i) in this connection:

- i. *er þanne þe heuene oðer eorðe shapen were*
 before that heaven or earth created were
 ‘before heaven or earth were created’
 (*Trinity Homilies*, 133.1776; Kroch & Taylor 2000: 137)

For BandR, (i) involves pied-piping of a ν P containing *heuene oðer eorðe shapen*, and as such is quite straightforward, whereas in terms of a Styl-F analysis the VAux order is problematic since there is no subject gap.

4. The loss of V2 and the rise of the auxiliary system

Let us turn now to the loss of V2 in the 15th century. We can date this change to approximately 1450 (cf. van Kemenade 1987: 219f., Fischer *et al* 2000: 133f.). Starting with van Kemenade (*ibid.*), it has often been suggested that V2 was lost through ‘decliticisation’. This idea is related to a well-known OE phenomenon: the existence of a systematic class of apparent exceptions to V2 where a pronominal clitic was able to intervene between the initial constituent and the verb:

- (21) a. *hiora untrymnesse he sceal rowian on his heortan.*
 their weakness he shall atone in his heart
 (CP 60.17; Pintzuk 1999:136)
- b. *Bin agen geleafa þe hæfþ gehæledne*
 thy own faith thee has healed
 (BlHom 15.24–25)

Although there are many different analyses of this phenomenon (cf. i.a., van Kemenade 1987; Platzack 1995; Roberts 1996; Kroch & Taylor 1997; Fuss 1998; Fuss & Trips 2002; Haerberli 1999/2002a, there is general agreement that the clitics do not ‘count’ for the computation of V2. In terms of Chomsky’s (2005) idea that only phase heads can trigger movement, we could postulate that C is the host of the clitic in these cases (and cliticisation is to the left of the host, see Kayne 1994).¹⁷ The core of the decliticisation idea is that, given the string $XP - SCL - V$, where ‘SCL’ stands for ‘subject clitic’, if the SCL ceases to be a clitic, then this string is incompatible with V2. Van Kemenade (1987: 204f.) proposes that precisely this decliticisation caused the loss of V2 in English.

A consequence of the change in T’s mode of satisfying its EPP_D feature discussed in the previous section is that a DP must appear in SpecTP from 1450 onwards, exactly the time of the loss of V2 (cf. van Kemenade’s 1997: 350 observation that ‘[t]he loss of V2 and the loss of expletive *pro*-drop [i.e., the development of a requirement for SpecTP always to be filled with a DP – MTB/IGR] .. coincide historically’). We propose the following reanalysis of sequences like those in (21) at this time (see below on the status of the SCL in (22b)):

- (22) a. $[_{CP} XP [_C SCL - [_C [_T V \nu T] C]] [_{TP} [_{\nu P} (SCL) ([_{\nu} V \nu]) (V \nu T)]]] (\nu P)$
 ▶
- b. $[_{CP} XP C [_{TP} SCL [_T [_{\nu} V \nu T]]]] (\nu P)$

In (22a), T takes the pied-piping option for satisfaction of its EPP_D feature, so νP moves to SpecTP. SCL cliticises to C, an operation which for present purposes we take to involve

17. This idea might form the basis of a general account of second-position clitics, a point that we will not develop further here

head-adjunction to the left of C. In (22b), SCL moves to SpecTP to satisfy this feature, as required in the innovative system. The reanalysis is forced by the loss of the pied-piping option. Furthermore, assuming that true clitics can only move to phase heads as we just mentioned, ‘SCL’ in (22b) cannot be a true subject clitic, but must instead be a full subject pronoun. Hence decliticisation follows from the reanalysis in (22) (cf. Roberts 2007 for an analysis of cliticisation which crucially relies on the idea that cliticisation only takes place in the absence of an EPP-feature).

This analysis also accounts for the observed gradualness of the loss of V2 (cf. ‘the loss of V2 is not an abrupt change, but a rather gradual one’ (Haerberli 1999: 406). Since the conservative grammar allowed the option of DP-movement to SpecTP before the reanalysis took place, the structure in (22b) was already an option before the reanalysis took place, and so a gradual decline in V2, starting before 1450, is expected. In fact, V2 would have been strictly speaking optional throughout OE and ME (see Haerberli 2002b for discussion of this, and some evidence that this was indeed the case).

The reanalysis in (22) was presumably also favoured by the fact that many V2 orders were in any case subject initial, and such orders were prone to be reanalysed as TPs with V-to-T movement (see Kroch & Taylor 1997, Fischer *et al* 2000; see also Adams 1987 and Roberts 1993 on Old French, and Willis 1998 on Middle Welsh).

An important consequence of the loss of V2 due to the reanalysis in (22) was that V-to-T movement became a general feature of finite clauses.¹⁸ The same is true in the history of both French and Welsh (cf. the references given in the previous paragraph). Biberauer and Roberts (2005b) propose that, in the case of English, this led to a

18. We are assuming that prior to this period English did not have general V-to-T movement independently of V2. In the context of a general ‘Kaynian’ approach to phrase structure, which requires that heads precede their complements, the option of assuming string-vacuous V-to-T movement in a head-final system is not available. At most, in OE and Early ME (and Dutch and German; see Zwart 1997), V moves to a rather low functional position, if it moves at all (see also Roberts 1997: 415). Examples of the order *Subject – Verb – Adverb – Object* in contexts unfavourable to V2 are found in ME at least, e.g., (i) from Kroch & Taylor (1997:218):

- i. *þe barnis þat ere yunge þat vnderstandis noht what paine*
 the children that are young that understand not what punishment
fallis til cursing
 falls to cursing
 ‘the children who are young who do not understand what punishment
 cursing brings’
 (Benet 23.101)

Here we see the order *vnderstandis noht* which, according to standard diagnostics (see Pollock 1989), indicates V-movement out of VP. Since the context is a relative clause, we adopt the standard assumption that V-to-C movement is not available; so this example cannot be V2. Kroch & Taylor conclude on this basis that this is evidence of V-to-T in ME. In our terms,

marked option. The reason for this has to do with tense-marking in English. Briefly, Biberauer & Roberts (2005c) propose that the trigger for V-to-T movement is not rich **agreement** morphology (as was proposed by Roberts (1985, 1993), Rohrbacher (1994, 1999), Vikner (1997) and others), but rather rich **tense** morphology.

More concretely, they propose that T has an unvalued V-feature, while V has an unvalued T-feature. T and V thus enter an Agree relation in terms of which T's V-feature probes its interpretable counterpart on V, with the latter's T-feature being valued in the process (cf. the discussion of Probe-Goal relations in Section 2 above). In English, the reflex of this Agree relation is V's tense morphology, i.e., 'Affix Hopping' in the sense of Chomsky (1957) and much subsequent work is simply valuation of V's T-features via Agree. The same is true in non-V2 environments in the other Germanic languages (except Icelandic). In Romance, the Agree relation is associated with an EPP-feature on T which triggers V-movement. Most importantly in the present context, Biberauer & Roberts (2005b) suggest that the difference between Germanic and Romance is correlated with the richer system of tense marking in Romance: French and Italian have 5–7 synthetic tenses (depending on register), while Spanish and Portuguese have more. Germanic on the other hand, has at most 4 such tenses, with English and MSc effectively restricted to 2.

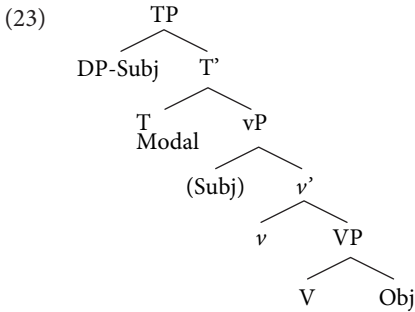
Biberauer & Roberts (2005b) propose that a Romance-style V/T-Agree system cannot be supported in a feebly tense-inflected language like Late ME (unlike Middle French or Middle Welsh, see above). The argument is therefore that the V-to-T movement grammar which resulted from the loss of V2 around 1450 was inherently unstable since a crucial morphological trigger for it – 'rich' tense morphology of the Romance kind – was missing. This, it is argued, contributed to the reanalysis of modals and *do* as auxiliaries in the early 16th century and the subsequent loss of V-to-T movement later in the 16th century. Let us consider in a little more detail how this reanalysis happened.

Recall that the modals were a subclass of the members of V_R . Consider again the structure of a sequence containing a modal with an infinitival complement after the reanalysis of (17) as (18). Following Roberts (1993: 262) and Roberts & Roussou (2003: 41–42), we take it that the loss of infinitival inflection, which had taken place by 1500, removed the trigger for V-to-T movement in the complement to V_R (the assumption is therefore that the infinitival inflection specifically instantiated features on V that

however, we can treat *vnderstandis* as instantiating the remnant *v*P fronted to SpecTP in the lower clause (note that there is an apparent 'subject gap' here; see the analysis of Stylistic Fronting in Biberauer & Roberts 2006a, also discussed above). The object DP (*what paine* ..) is transferred to Spell Out on the lower phase, as described in the previous section. Given the possibility of this kind of analysis of cases like (i), we are able to maintain that there was no V-to-T movement in English, independent of V2, prior to the 15th century.

Note further that orders of this kind, in a system which lacks V-to-T movement, constitute a further kind of evidence for *v*P-movement (cf. the discussion in the previous section).

not only entered in an Agree relationship with T, but also had to undergo movement under the influence of an associated EPP-feature). In this way, the evidence for the lower functional T-*v* system was removed from the trigger experience of acquirers. Hence (18) was reanalysed in the early 16th century as monoclausal, with modals being merged in *v* or T and the lexical verb remaining in V – cf. (23):



This change, again, was rather clearly a simplification, a significant one in the context of the system at the time: as pointed out by Roberts (1985, 1993) and Warner (1997), the reanalysis which resulted in (23) in turn contributed to the conditions for the loss of (finite) V-to-T movement later in ENE by creating a system in which, firstly the modals, and, thereafter, increasingly other auxiliaries were always available to lexicalise T.

Very importantly, *do* underwent the same reanalysis as the modals at about the same time (see Denison 1985, Roberts 1993: 292f.). But the system that resulted was not the NE one of obligatory *do*-support in certain environments, with *do* ungrammatical everywhere else. Instead, *do* was always optional, including in positive declaratives. The 16th century was thus the period of what Jespersen (1909–49) called ‘exuberant’ *do*, exemplified in (24) where *do*’s non-emphatic nature is evident from the fact that it surfaces in an unstressed metrical slot:

- (24) *Thus cónscience does make cówards of us áll*
 (Shakespeare: *Hamlet*, I, i. 83; Roberts 1993: 293)

The option of ‘exuberant’ *do* in all contexts meant that any verb and any tense could be associated with an auxiliary. In other words, the trigger for V-to-T raising was obscured by the development of the auxiliaries, particularly *do* (Roberts 1993).

Kroch (1989) shows that, although there was variation throughout the ENE period, as Warner (1997: 382–383) observes, the period 1575–1600 seems to be the crucial one as far as the loss of V-to-T movement is concerned. The reanalysis that took place at this time was of the following kind:

- (25) a. [_{TP} John [_T walk-eth] ... [_{VP} .. t_V ...]]
 b. [_{TP} John T .. [_{VP} ... [_V walks]]]

By now, the verb-auxiliary system is rather similar to that of Modern English, with the exception of the absence of *do*-support. *Do* could still be freely inserted in positive

declarative clauses, as just noted; conversely, clausal negation could appear without *do*, giving rise to auxiliary-less examples with the order *not* – V (since V-to-T has been lost):

- (26) a. *Or if there were, it not belongs to you*
 (1600: Shakespeare 2 *Henry IV*, IV, i, 98; Battistella & Lobeck 1988: 33)
 b. *Safe on this ground we not fear today to tempt your laughter by*
our rustic play
 (1637: Jonson *Sad Shepherd*, Prologue 37; Kroch 1989)

The development of *do*-support was preceded by the development of forms featuring contracted negation, which took place around 1600, as the following remark by Jespersen (1909–49, V: 429), cited in Roberts (1993: 305), suggests:

The contracted forms seem to have come into use in speech, though not yet in writing, about the year 1600. In a few instances (extremely few) they may be inferred from the metre in Sh[akespeare], though the full form is written.

Around 1600, then, negation contracted onto T, but since V-to-T movement of main verbs had been lost, only auxiliaries were able to be negative. This gave rise to a new system of clausal negation in which negative auxiliaries were used as the basic marker of clausal negation (it is clear from a range of languages, including those belonging to the Uralic family, Korean, Latin, and others, that negative auxiliaries are a lexical option elected by a wide range of languages).¹⁹ The new class of auxiliaries included negative modals like *won't*, *can't*, *shan't*, etc., but also the non-modal negator *don't/doesn't/didn't*. Zwicky and Pullum (1983) argue convincingly that the negative auxiliaries must in fact be distinct items in the lexicon: negative *n't* must be treated as an inflectional suffix, rather than a clitic, because inflections, but not clitics, trigger stem allomorphy,

19. Biberauer & Roberts (2005c) take it that the negative auxiliaries with *n't* represent the unmarked post-17th-century form. They note that many instances of non-contracted *not* involve constituent, not clausal, negation. This is clearly true whenever *not* is non-adjacent to the auxiliary, as in (i):

- i. a. *John has always not smoked*
 b. *The kids have all not done their homework*

It should, however, be noted that clausal scope is possible if *not* (i.e., the full form) is adjacent to the auxiliary; thus:

- ii. *John must/does not smoke*

In this connection, Biberauer & Roberts suggest that there is a 'negative-concord'-style Agree relation between [+neg] T and *not* (cf. the fact that the presence of the [+neg] feature on T triggers *do*-support in NE – see below).

and *n't* clearly triggers such allomorphy (see also Spencer 1991: 381f; Williams 1994: 168). Biberauer and Roberts (2005b) follow this analysis and therefore conclude that negative auxiliaries became part of the English lexicon during the early part of the 17th century. In other words, they propose that the available stock of 'T-elements' (i.e., elements lexicalising specifically T-related features) was further increased during the early 17th century by the establishment of negative auxiliaries, and that this lexical factor compounded the morphologically determined system-internal pressure against maintaining a grammar in which lexical content-bearing 'main' verbs could undergo raising to T, leading to its rapid demise.

Once the negative auxiliaries, including *doesn't*, *don't*, *didn't*, are established as the unmarked expression of clausal negation (probably by the middle of the 17th century; cf. Roberts 1993: 308), the modern system of *do*-support comes into being. We assume that *do*-support became obligatory in questions where no other auxiliary is present as a consequence of the loss of V-to-T movement, making V-movement to C impossible, the existence of a dummy auxiliary and the continued lexicalisation requirement associated with a [+Q] C.²⁰ In this system, merger of *do* in T depends either on the presence of an 'extra' feature on T, in addition to Tense-, V- and D-features (i.e., the interrogative feature Q or the negation feature Neg) or on the presence of a discourse effect, in contexts of emphasis and VP-fronting, as in:

- (27) a. *John DOES (so/too) smoke*
 b. *He said he would smoke Gauloises and [smoke Gauloises]
 he WOULD/DID/*he'd -*

The discourse effect is once again required by Chomsky's (2001: 34) proposal that 'optional operations [here: spellout of the features located in T – MTB/IGR] can apply only if they have an effect on outcome'. We could unite the two cases (Neg/Q-related *do*-support and discourse effect-related *do*-support) if we say that the auxiliaries are lexically associated with Neg- and Q-features (the former case giving rise to forms inflected with *n't*; the latter not having any overt morphological reflex in English; but cf. Hunzib, Tunica, Gimira and other languages featuring interrogative verbal morphology discussed by Dryer 2005), and that their merger into the structure will thereby guarantee a discourse effect.

If we slightly modify the reanalysis which gave rise to auxiliaries shown in (23) so that the modals and *do* were merged in *v* and raised to T in the new structure (which was nevertheless monoclausal, in that the complement to matrix T had lost its

20. Christer Platzack (p.c.) points out that the impossibility of *do*-support in subject *wh*-questions (*Who left?* vs. **Who did leave?*) is not explained by this account. This is true; we believe that the impossibility of *do*-support in this context is a variety of complementiser-trace effect, as suggested by Koopman (1984). We have no account to offer of this phenomenon here, but see Biberauer (2005).

T-layer),²¹ then we could maintain that, although V(-to-*v*)-to-T was lost by the end of the 16th century, *v*-to-T remained. In that case, we could think of the development of *do*-support in the 17th-century as a shift from the earlier obligatory *v*-to-T movement (first fed by V-to-*v* movement, and, as such, moving a main verb to T, but later only moving an auxiliary merged in *v*) to optional *v*-to-T movement creating a discourse effect. The difference between the two systems concerns the status of phonologically empty *v*, which in the earlier grammar, until the 17th century, moved to T (i.e., in examples like (26)). In the later grammar, only *v* containing an auxiliary moved to T. Again, this is a natural simplification of the grammar, given that movement of empty *v* to T could never be directly observed in the PLD (cf. a parallel case in the nominal domain discussed in Section 4 above: following the loss of generalised object movement, both *v*P- and DP-raising in the infinitival TP-domain associated with V(P)R structures during the OE and ME periods resulted in the movement exclusively of empty categories (PRO and a lower copy of *v* in the former case; see note 14, and PRO alone in the latter). As indicated in this section, this also led to structural simplification in that the original biclausal structure (18) became monoclausal (23)). This simplification was the final development in the establishment of the present-day English verbal system.

To summarise, then: what we have seen in this section is how a series of natural changes affecting verb-movement and the auxiliary system in a language that initially resembled its Germanic relatives rather closely ultimately led to the creation of a verbal system that is unique in the Germanic context. We saw that these changes were initially triggered by the loss of *v*P-pied-piping, which had specific consequences in the V2 domain, resulting in the reanalysis of V2 structures as TPs (cf. (22) above). Various factors, including the reanalysis of modal-containing structures (cf. (23)), the rise of a class of negative auxiliaries and of *do* as a non-modal auxiliary then ‘remedied’ the in (tense-) inflectional terms unsupportable V-to-T raising system that briefly existed at the end of the 16th century. The ever-increasing availability of auxiliaries and their establishment as a syntactically distinct class of ‘T-elements’ undermined the trigger for V-to-T raising to a significant extent and ultimately led to a situation in which V-to-*v*-to-T raising could be reanalysed as *v*-to-T raising, with only verbs merged in the relevant kind of *v* (see note 21), i.e., the

21. This might necessitate postulating an ‘extra’ *v*-layer to host V-to-*v* movement. However, *pace* the proposals in Marantz (1997) and Chomsky (2001, 2004) mentioned in Section 3 in this connection, we might think that NE verbs are in fact category-neutral roots; note that, unlike in all the other (continental) Germanic languages, NE verbs are able to appear in an uninflected form in a very wide range of environments: all persons of the present tense except 3sg, the ‘subjunctive’, the infinitive and the imperative. On the other hand, the evidence adduced in Johnson (1991) does suggest that NE has at least ‘short’ V-movement, and this may then imply the presence of a further *v*-layer if the proposal in the text is to be maintained.

auxiliaries, consequently being able to undergo this raising. The final change was the loss of ‘empty’ *v*-to-T raising in positive declarative contexts, which resulted in the modern-day system of *do*-support, *do* being restricted to contexts in which it has an ‘interpretive effect’.

Of course, we do not mean to imply that there is anything inevitable about the sequence of changes we have described. These changes were a consequence of certain aspects of the initial conditions and the intermediate stages. A minor difference at any stage could have prevented further changes from taking place, or led to different changes. This can be clearly seen if we compare the changes described for English with the development of the Scandinavian languages, a point which was drawn to our attention by Christer Platzack. Essentially, it is clear that all the Scandinavian languages have undergone change from OV to VO and lost general object shift (see Hróarsdóttir 2000 and Rögnvaldsson 1996 on Icelandic, Delsing 2000: 271 on Old Swedish, and Faarlund 1994: 64–7, 2004 on Old Norse). Although these languages vary as regards the precise extent of object shift and V-to-T movement (see Vikner 1995, 2001 for details), they are all V2, and have been so throughout their recorded history, and they lack anything resembling the NE auxiliary system, contracted negation or *do*-support. Briefly, we suggest that the reason these languages did not undergo the full set of developments that English did has to do with the nature of the initial conditions. The Scandinavian languages appear to have lacked subject-clitic pronouns throughout their history; subject clitics are absent everywhere in Modern North Germanic, including Icelandic (Thorbjörg Hróarsdóttir (p.c.)). Faarlund (2004:35) shows that in Old Norse 1sg *ek* and 2sg *þú* cliticise to a preceding verb, producing forms such as *hafðak* from *hafða ek* ‘had I. It seems clear, though, that these pronouns always occupied postverbal position in non-subject-initial V2 clauses. Faarlund (2004:191) gives the following example:

- (28) *í bók þessi lét ek rita fornar frásagnir*
 in book this let.1s I write ancient stories.A
 ‘In this book I have had ancient stories written down.’ (Hkr I.3.1)

It seems, then, that the Old Norse situation regarding the distribution of subject clitics is quite distinct from that of OE and ME, as described above and illustrated in (21). Hence there was no possibility of the kind of reanalysis of subject clitics shown in (22) in Old Norse. Since this reanalysis was responsible for destabilising V2 in English, we see why V2 was retained in Scandinavian (given the Inertia Principle). A further relevant point, also made by Roberts (1993: 309), is that the Scandinavian languages appear to lack the lexical item *do*, or any other kind of potential dummy auxiliary; this may explain, in part, why *do*-support has not developed in these languages. The important point, though, is that, owing to the different initial conditions in Scandinavian in that subject (pro)clitics were missing, the cascade of changes that we observe in English did not happen. It is interesting to note in this connection the extent to which parametric systems and parametric changes are sensitive to initial conditions.

5. Conclusion

The result of the changes described in the foregoing sections is that the OE system with OV, V2, no syntactically distinct auxiliaries and no V-movement in non-V2 clauses developed into the NE system, which is VO, non-V2, and has a class of syntactically distinct positive and negative auxiliaries and *do*-support, via intermediate steps featuring processes found in neither OE nor NE, such as fully productive V-to-T and object-movement restricted to negative and quantified objects. This remarkable series of changes can be seen as a cascade of parametric changes. We can summarise them as follows:

- (29) a. Loss of VP-to-SpecvP movement (late 12th/early 13th century)
- b. Restriction of object shift to negative and quantified objects (1400)
- c. Loss of vP-movement to SpecTP (early 15th century)
- d. Loss of V2 (1450)
- e. Development of lexical T (modals and *do*) (1525)
- f. Loss of V-to-T (1575)
- g. Contraction of negation (1600)
- h. Development of negative auxiliaries (1630s)
- i. Development of *do*-support (later 17th century)

It has often been pointed out that English seems to diverge quite radically from the other West Germanic languages. It used to be thought that this had to do with the influence of Norman French, although more recently the effects of Old Norse have sometimes been regarded as responsible for this divergence (see for example Kroch & Taylor 1997, Trips 2002). We, however, argue that the series of changes in (29) had the net effect of transforming English from a typologically ‘standard’ West Germanic language into the unusual system of Modern English. In this chapter, we have tried to show how each change led to the next and how each change, after the initial one, can be ascribed to the interaction of specific system-internal factors. There therefore appears to be no need to invoke contact as a direct cause of the changes as each syntactic change seems to be sufficient to cause the next. The initial change, as we suggested in Section 3, may have been due to extraneous lexical and morphophonological changes, the first perhaps connected to contact with French.

We could think of this as ‘parametric drift’: a cascade of parametric changes diffused through parts of the functional-category system over a fairly long period of time. This point emerges more clearly if we restate the parameters in more technical terms (with the exception of (29g), which was initially a purely phonological change):

- (30) a. Loss of pied-piping to satisfy *v*’s EPP_D feature, which may have been optional throughout the attested OE period (thus guaranteeing the ‘interpretive effect’ of defocalisation of material to the left of V; see note 13)
- b. Loss of *v*’s optional EPP -feature, but retention of specialised EPP_D on *v* (see (a))

- c. Loss of pied-piping to satisfy T's EPP_D feature
- d. (Matrix) C loses EPP-feature triggering T-movement
- e. Modal features of T realised by Merge
- f. v loses EPP-feature triggering V-movement (but see note 18)
- g. possibly not a syntactic change
- h. Negative features of clause realised by Merge in T
- i. T loses obligatory feature triggering v -movement

So we observe a series of small, incremental changes to the formal feature make-up of the core functional categories C, T and v . Taken together, they give rise to a major reorganisation of the English verb-placement and auxiliary system, and have created a system which is quite unlike anything found elsewhere in Germanic (or Romance).

What causes the cascade effect? To answer this we need to understand exactly what is meant by the 'propensity to change' alluded to above. The key idea, due to Lightfoot (1979: 123), is that 'grammars practice therapy, not prophylaxis'. Essentially, each parameter change skews the PLD in such a way that the next is favoured, perhaps in concert with other pre-existing factors (such as the existence of subject- and object-clitics with their particular behaviour in V2 contexts, as discussed in Section 4. We have seen in the description above how each successive change was favoured. Let us now look at this in a little more detail.

The crucial trigger for VP-pied-piping to Spec v P was the occurrence of VP-internal material other than the direct object in a preverbal position in subordinate clauses. OE, as is well-known, showed a good deal of 'leaking' of such material, and we account for this with the idea that VP-pied-piping was optional. We suggested in Section 3 that the two most important cases of VP-internal material were particles and indirect objects. Independent factors – the influx of French lexical items replacing verb-particle combinations, and the loss of dative case leading to a rise in the expression of indirect objects as PPs – may have undermined this trigger experience. The OE system, with the pied-piping/stranding option for EPP_D satisfaction, was inherently marked in terms of the Subset Principle, since this grammar generated a larger language than one without the optionality, and hence robust trigger experience was crucial.

How did (30a) lead to (30b)? The loss of v 's optional EPP-feature, resulting in the unavailability of a general object-raising trigger, could plausibly have been the consequence of contradictory input from V(P)R contexts. Recall that these structures involving modals were biclausal in OE and ME and that the EPP-feature associated with the lower (infinitival) T-head could be satisfied either via pied-piping (i.e., v P-movement, where v P would have contained a raised object wherever the optional or specialised EPP_D on v was present) or by 'stranding' (i.e., subject-raising). Note that the 'stranding' option of raising just the subject-DP would have been just as available in cases where v was associated with an optional EPP_D feature as in those where it was not. Consequently, V(P)R structures would have represented a context where objects that had undergone 'defocusing' movement under the influence of v 's EPP_D feature might nevertheless surface in postverbal position (V in V(P)R structures necessarily

undergoing movement to T, as outlined in Section 3). Thus VO order, in V(P)R contexts at least would not have been consistently interpretable as a ‘focusing’ structure and it is conceivable that this input may have compromised the trigger experience to the point where the ‘defocusing’ EPP-feature was lost. This would, of course, have led to the situation that we see in late ME, namely that the only objects that still surface preverbally are those attracted by the remaining object-attracting feature, namely the specialised EPP_D feature discussed in note 13. Precisely when and how this feature arose and why it was retained for as long as it was are questions that we must leave to future research at this point.

What is clear is that the restrictions on object-movement, combined with the loss of VP-pied-piping, led to the change in (30c): the loss of *v*P-pied-piping. We described in Section 3 how, both in monoclausal and biclausal contexts, the trigger experience could not distinguish the pied-piping from the stranding case, and so, once again, the Subset Principle led to the loss of the older and ‘larger’ pied-piping grammar. The loss of *v*P-pied-piping led to the general requirement that a DP had to appear in subject position. This led to the reanalysis of subject clitics as occupying this position in the exceptional V3 orders, and hence to ‘decliticisation’ and the reanalysis of the *XP* – *SCL* – *V* as well as *Subject* – *V* orders as non-V2 structures with *V* moving to T.

V-to-T movement was not, however, robustly triggered by the morphological system of Late ME, given the ‘rich tense’ requirement for this operation identified in Biberauer & Roberts (2005b). Hence the loss of V2 favoured the development of the auxiliary system (30e) and the loss of V-to-T (30f). The reanalysis of the modal auxiliaries, at least, was also favoured by the changes in restructuring complements caused by the loss of *v*P-pied-piping (as well as the loss of infinitival morphology, an independent morphophonological change).

The development of contracted negation was initially simply a phonological reduction of *not* to *n't*. However, in combination with the loss of V-to-T movement, it led to the development of a separate class of negative auxiliaries. This is a case of the development of an inflectional affix. In general, following the proposals in Fuss (2005), we can take this to involve the removal of a given feature from the syntactic system as an autonomous element, in favour of systematically associating it with a lexical item or class of lexical items. As a further case of restriction on the distribution of a lexical item, this might be thought of as driven by the Subset Principle.

The development of negative auxiliaries may have led to the development of general *do*-support if the conjecture at the end of the previous section regarding the status of obligatory *v*-movement is correct. Since this couldn't be seen in many cases, once V-to-T had been lost, and since negative auxiliaries had developed (along with auxiliaries bearing a Q-feature, by analogy, we must suppose), *v*-movement became optional, and always had a discourse effect. Again, this is an example of a restriction being imposed on a movement operation.

One factor which is very clearly at work in many of these changes is what we might call ‘restriction of function’: the narrowing down of an operation to a subset of the

contexts in which it formerly applied. To the extent that this kind of change imposes new restrictions on the distributional freedom of a (class of) lexical items, it may derive from the Subset Principle (see Biberauer & Roberts 2006b for further discussion). A further factor may be a general preference for relative simplicity of derivations, which frequently disfavours movement, or movement of relatively complex categories.

In general, then, we see that it is possible to maintain a strong version of the Inertia Principle (which, as Longobardi 2001 points out, is desirable in the context of the Minimalist Programme) and yet at the same time account for an intricate series of related syntactic changes, not all of which have a purely syntax-external cause. At the same time, we see what Sapiro's (1921:165) intuition regarding 'the vast accumulation of minute modifications which in time results in the complete remodelling of the language' might mean in principles-and-parameter terms.

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CHAPTER 4

The rise and development of analytic perfects in Italo-Romance

Michela Cennamo
University of Naples Federico II

This chapter discusses the rise of Latin *esse* 'be' and *habere* 'have' as active auxiliaries and the development of their reflexes as markers of split intransitivity in Italo-Romance, with reference to the spread of the auxiliary HAVE at the expense of BE in old Neapolitan, and the penetration of BE into the HAVE domains in some contemporary Campanian varieties. It is claimed that the emergence of Latin *esse* and *habere* as perfective auxiliaries is one of the outcomes of changes affecting the encoding of the argument structure of the clause in late Latin, and that the replacement of BE with HAVE in old Neapolitan, as well as the modern reintroduction of BE within the HAVE domains, are both sensitive to a gradient model of split intransitivity, though in a reverse way. It is also shown that the three changes under investigation appear to reflect language internal principles and follow an orderly progression as regards the cancellation and (re)introduction of an active coding system (through auxiliary choice).

1. Introduction

In this chapter we discuss the rise of Latin *esse* 'be' and *habere* 'have' as analytic active perfects and the development of their reflexes as markers of split intransitivity in Italo-Romance. We argue (§ 2) that the emergence of *esse* and *habere* as perfective auxiliaries is one of the outcomes of changes involving the loss of the voice dimension and the initially active and subsequently neutral realignment of grammatical relations in the transition from Latin to Romance (Cennamo 1998, 2001c, 2005).

After considering the late Latin origin of these patterns (§ 2), we discuss the evolution of these verbs as perfective markers with one-argument verbs in one early Italian vernacular, old Neapolitan (§ 3), which testifies to the gradual process of the widening of the functional domains of *habere* as a perfective auxiliary (Cennamo 2002). We also discuss the opposite phenomenon, the gradual spread of the auxiliary BE into the functional domains of HAVE in contemporary Campanian varieties (where HAVE is the prevalent perfective auxiliary, except in copular and passive patterns) (Cennamo

2001b) (§ 4), which appear to show a change in progress, the re-establishing of an active-coding system through auxiliary selection, with BE gaining ground over HAVE, probably owing to the influence of Italian.

We demonstrate (§ 5) that both changes follow an orderly progression and are sensitive to the Auxiliary Selection Hierarchy (ASH) put forward by Sorace (2000), though in a reverse way. In particular, they show that grammatical categories with a radial structure are eliminated starting from their periphery (i.e., their marked environments) and are introduced starting from their core (i.e., the unmarked environments), as recently pointed out by Lazzeroni (2005), partially following Andersen (2001a, 2001b).

2. Late Latin origin of BE and HAVE as perfective auxiliaries

2.1 *Habere* + pp as a periphrastic active perfect

The rise of periphrastic active perfects (realized by means of a form of the verbs *esse* and *habere* in (fully) auxiliary function + the past participle of the lexical verb) is a well-known change taking place in the transition from Latin to Romance. The *habere* + past participle (pp) periphrasis, attested initially only with transitive verbs, is usually regarded as resulting from the gradual emptying of the lexical content of the divalent verb of possession *habere*, which, already in archaic Latin, occurred in predicative constructions, in patterns where *habere* was followed by an object + a (passive) past participle expressing a property of the object (i.e., a result state) due to a ‘former action, process or state in which it was involved’ (Pinkster 1987: 197):

- (1) a. qui eum vinctum habebit (*Lex XII Tab* 3,4)
 who.NOM he.ACC hold-in-bonds.PP.M.S.ACC have.FUT.3S
 ‘Who shall hold him in bonds (lit. who him in-bonds will-hold)’
 b. ubi milites congregatos habebat
 where soldier.PL gather.PP.M.PL.ACC have.IMP.F.3S
 ‘Where he had the soldiers gathered (lit. where the soldiers gathered he- had/held)’

Initially the verbs occurring in this construction are, most typically, resultatives, i.e., accomplishments (e.g., *coquere* ‘to cook’, *collocare* ‘to gather’, *claudere* ‘close’, *scribere* ‘to write’) and the pattern is biclausal: it consists of two predicates, *habere* and the passive past participle of the verb of the subordinate clause (*vinctum*, *congregatos* in (1a–b)) – which is predicated of the object of *habere* – whose DO is coreferential with the object of the matrix verb *habere*, as schematized in (2):

- (2) [Subject_i *habere* Object_j] [Verb Subject_k Object_j]
 have passive pp

The biclausal nature of the construction is clearly reflected in the interpretation of the pattern, with the lack of identity between the subject of *habere* and the implied agent

of the (passive) past participle, as in (1a–b), where the actions of holding in bonds and gathering have been carried out by a participant which is not identical to the subject of *habere*.

Also activity (e.g., *dicere* ‘to say’, *exquisire* ‘to ask/examine’) and stative (e.g., *perspicere* ‘to perceive, examine’) verbs are attested in this pattern. The former are rare in early and classical Latin, whereas the latter, though rare in early Latin, are common from the classical age onwards (see Thielmann 1885; Pinkster 1987; Nuti 2005, int. al.). In fact, during the classical age and at a later stage the construction frequently occurs also with non-resultative verbs, e.g., verbs of communication (3) (with early examples from Plautus)ⁱ and perception/cognition (4). With the former the pattern is clearly monoclausal: the subject of *habere* is identical with the subject of the participial subordinate clause and the verb therefore appears to be a temporal auxiliary denoting anteriority. With the latter, depending on the aspectual nature of the verb/predicate, there may be identity between the agent of the past participle and the subject of *habere*, as in (4b), with the stative verb *perspicere* ‘to perceive’, although this need not be the case, as in (4a), where *cognita*, the past participle of the accomplishment verb *cognoscere* ‘to get to know’, is predicated of the object of the verb *habere*, *consilia*, and there is no identity between the agent of *habere* and the agent of the past participle, which surfaces as a prepositional phrase, *a Furnio*. The ambiguity of interpretation may indeed arise also at a late stage, when *habere* is clearly established as a temporal auxiliary (see (4c), from the 6th century A.D., where the past participle *invisum* (from the stative verb *invidere*) has an adjectival function) (Bonnet 1890:689–690, see also Cennamo, in prep.):

- (3) De Caesare satis hoc tempore *dictum habeo*¹ (Cic. Phil. 5, 52)
 about Caesar-ABL enough this.ABL time.ABL say.PP.N.SG have.1S.PRES.IND
 ‘I shall regard what I have said of Gaius Caesar as sufficient at present’
- (4) a. *haberem a Furnio . . . tua . . . consilia cognita* (Cic. Fam. 10, 12, 1)
 have.SUBJ.IMPF from Furnius.ABL your intention.PL.known.PP.PL
 ‘I had been made thoroughly acquainted with your purposes by our friend Furnius’
- b. *perfidiam Haeduorum perspectam habebat* (Caes. Gall. 7.54)
 wickedness.ACC Haedui.GEN..PL perceive.PP.F.S.ACC have.IMPF.3S
 ‘He had realized/recognized/perceived the Haeduis’ wickedness’

1. It is worth comparing (3) with an analogous example from Plautus (i), reported by Pinkster (1987: 220, note 14), where *habere* seems to be a temporal auxiliary:

- i. *satis iam dictum habeo* (Pl. *Persa*, 214)
 enough already say.PP.N.SG have.PRES.IND.1SG
 ‘I have said enough’

According to some commentators, e.g., Woytek (1970), in (i) the past participle *dictum* is in predicative function, in that the Agent of *dictum* is not identical with the subject of *habeo*. However, as pointed out by Pinkster (1987: 220, note 14) ‘there is no proof for either opinion.’

- c. quem regina invisum habet
 who.ACC queen.NOM hate.PP.M.SG.ACC have.PRES.IND.3SG
 (Greg. Tur. *h.F.* 6.35; Bonnet 1890: 690)
 ‘Who the queen dislikes (lit. regards as despicable)’

In many cases, however, the past participle of cognition and perception verbs has a truly adjectival (i.e., predicative) function, in patterns such as *cognitum*, *compertum*, *exploratum*, *perspectum habeo* ‘I have it (as) known, certain etc . . .’ (Thielmann 1885: 508ff., Ernout & Thomas 1964: 223).

In classical authors there also occur examples with omission of the object and the past participle in the non-agreeing neuter form (5) as well as with a sentential object (*quod sit . . . numen*) (6) which is not governed by the object of *habere* alone but by the whole sequence *habere* + pp (Pinkster 1987: 204):

- (5) de ea re supra scriptum habemus (Vitr. 91,14)
 about this.ABL thing.ABL above write.PP.N.S have.PRES.IND. 1PL
 ‘(As) we have written above on the matter’
- (6) cum cognitum habeas quod sit summi
 when know.PP.N.S have.2s.PRES.IND what be.3s.PRES.SUBJ supreme.GEN
 rectoris. . .numen (Cic. *Fin.* 4,11)
 lord.GEN will
 ‘When you realize the will of the supreme lord’

According to several scholars (Thielmann 1885; Pinkster 1987: 205; Ramat 1983) the first step towards the use of *habere* as a perfective auxiliary indeed lies in expressions such as (5)–(6) above, where there is clear identity between the subject of *habere* and the agent of the verb in the participial form and where therefore the construction is monoclausal, with *habere* + the past participle forming one constituent.

During the imperial age the auxiliary function of *habere* is only rarely attested and is apparently confined to some registers (e.g., the chancery language (7a) and to fixed formulae/phrases (Thielmann 1885: 538–540; Pinkster 1987: 200, int. al.). On the contrary from the 6th century A.D. onward *habere* is well-attested as a perfective auxiliary, most typically with the past participle agreeing with the object (7a–b), although some rare examples with lack of agreement also occur (7c) (Thielmann (1885: 547; Th.LL; VI 2454):

- (7) a. si miles, qui habebat iam factum testamentum,
 if soldier.NOM who.NOM have.MPF.3S already make.PP.N.S will
 aliud fecisset (Ulp. *Org.* 29,1,19)
 another make.PLSP.3S
 ‘If a soldier who had already made a testament were to make another one’
- b. episcopum . . . invitatum habes (Greg. Tur. *Vit. patr.* 3,1)
 bishop.ACC invite.PP.M.ACC have.PRES. IND2S
 ‘You have invited the bishop’

- c. *haec omnia probatum habemus* (Orib. *Syn.* 7,48)
 this.PL all.PL experience.PP.N.S have.PRES.IND.1PL
 ‘We have experienced all these things’

The pattern with lack of agreement between the past participle and the object is usually regarded in the literature as the last stage in the auxiliarization process of *habere* and a clear sign of its true auxiliary status: the past participle cannot have a predicative interpretation and *habere* + pp can only form one unit (Ramat 1983: 1458–1459, int. al.).

Pinkster (1987), developing some remarks made in the literature (Happ 1967, Thielmann 1885), which suggest that already in early Latin there are instances of *habere* + pp with ‘the force of a present perfect’ (Bennett 1910: 439), notes that already in early authors (e.g., Cato) as well as in the classical age, there occur examples where there is identity between the subject of *habere* and the agent of the past participle, and which can be interpreted as instances of the use of *habere* as a temporal auxiliary denoting anteriority (8) (see also 4b) (Bennett 1910: 439; Thielmann 1885; Pinkster 1987):

- (8) *quid Athenis exquisitum habeam*
 what Athens.ABL find-out.PP.N.SG have.PRES.SUBJ.1S (Cato, ad fil. *Frg.* 1)
 ‘(I will say about those Greeks, my son Marcus, in due place) what I have found out in Athens’ (exquirere = to investigate, to look for, to try to find out’)

Interestingly, the verbs occurring in (8) and (3) above are activity verbs, so the data point to the use of *habere* + pp in a predicative construction with all verb classes already at an early stage, though undoubtedly resultatives, i.e., accomplishments, are more frequently attested than other verb classes in early Latin (Nuti 2005) and with statives the past participle generally has an adjectival (i.e., predicative) function (Thielmann 1885).

Pinkster (1987: 212–213) points out that with resultatives in present contexts, that is in one of the two contexts in which the synthetic perfect would be normally used, both the synthetic perfect and *habere* + pp may occur (e.g., respectively *absolvi* and *habeo absolutum* in (9)), with identical interpretation, the difference being one of style:

- (9) *quod me hortaris ut absolvam, habeo*
 what I.ACC urge.PRES.IND.2S for finish.PRES.SUBJ.1S have.PRES.IND.1S
absolutum (= *absolvi*) . . . *epos ad Caesarem* (Cic. *Q. fr.* 3,9,6)
 finish.PP.N epic to Caesar.ACC
 ‘As to you urging me to finish my job, I have now finished my epic to Caesar,
 and a charming one it is in my opinion’

Taking up Pinkster’s remarks and the examples already occurring in archaic Latin in which *habere* + pp can be interpreted as a periphrastic perfect, we may therefore argue that *habere* already occurred as a perfective auxiliary in archaic Latin, with ambiguity between a biclausal and a monoclausal interpretation of the construction, i.e., between the adjectival (= predicative) and verbal function of the past participle with accomplishments (e.g., *vincere* ‘to tie’, *congregare* ‘to gather’, *absolvere* ‘to finish’, *scribere* ‘to write’) (cf. (1a) vs (9)) as well as with statives (e.g., *concipere* ‘to understand’, *invidere*

‘to disregard’, *deliberare* ‘to examine’) (though especially at a late stage with the latter class (cf. (4a) vs (4b). With activity verbs, however (e.g., *dicere* ‘to say’, *exquisire* ‘to investigate’) the pattern could only be monoclausal, i.e., it could only instantiate an analytic perfect. One might therefore argue that already in early Latin the auxiliary function of *habere* co-existed with its other functions, among which its use in possessive predicative constructions (see Cennamo, in prep., and La Fauci 2005 for an interesting recent proposal on *habere* as an auxiliary verb in Latin, in all its uses).

As for word order, most typically *habere* follows the past participle (cf. ex. (1)–(5)). In late texts, e.g., the *Lex Curiensis*, from the 8th century A.D., *habere* may also precede the past participle (10a), alternating with the pattern in which *habere* follows the pp (10b) (Thielmann 1885: 547):

- (10) a. causam bene habet exquisita (Lex Cur. 57, 8)
 issue.ACC well have.PRES.IND.3S investigate.PP.F.S.ACC
 ‘He has investigated the issue well’
- b. (post) quam ipsos bene exquisitos habuerit (id. 131, 25)
 after that they.ACC well interrogate.PP.M.PL.ACC have.PERF.SUBJ.3S
 ‘Once he had interrogated them thoroughly’

Word order, however, does not seem to affect the interpretation of the construction, which, instead, appears to depend on the aspectual nature of the verb/predicate. One could therefore argue that the biclausal (i.e., predicative function of the pp) vs the monoclausal (i.e., verbal function of the pp) interpretation of the construction depended on the aspectual nature of the predicate, all other things being equal in the clause (Cennamo, in prep.).

In late Latin, with frequent attestations by the 6th century A.D. (Thielmann 1885: 541–549, int.al.), *habere* + pp, that in archaic and classical Latin in present contexts with some verbs/predicates (e.g., accomplishments) was already interchangeable with the synthetic perfect, to denote the current relevance of a past event (present perfect function) as opposed to its aoristic function (aoristic interpretation = denotation of a past event), also occurs in narrative contexts of the *perfectum*, gradually ousting the synthetic perfect in the former (i.e., present perfect) function. One may claim that this is the case once verb morphology becomes arbitrary and opaque, owing to the loss of grammatical voice, and once case-marking no longer always identifies and differentiates verbal arguments (in particular A and O), with early examples of both phenomena by the end of the 4th century A.D. (see discussion in §§ 2.2–2.4).

The real change in late Latin, therefore, is not the auxiliarization of *habere*, but its use as a marker of A status (as opposed to *esse*, which consolidated its use as an O marker – a function that it already had in the *perfectum* of the passive – and came to mark the S_O function as well).²

2. In fact, *esse* was a copula in Latin, which also occurred in the *perfectum* of the passive as well as in the perfect of deponents, verbs which were ‘passive’ in form but ‘active’ in function/meaning.

The alleged grammaticalization/reanalysis of *habere* + pp as a tense-aspect marker in late Latin was therefore nothing more than the shift of a 'marginal' construction probably characteristic of particular registers (Thielmann 1885: 535; Ramat 1983: 1457) from the periphery of the category to its core, once the morphology and syntax of voice no longer matched their original functions and new tools were needed to convey tense-aspectual distinctions (for a full discussion of this point see Cennamo, in prep.). This is in line with many other changes taking place in late Latin in the transitivity domain (see Cennamo 1998, 2001a, 2005a and § 2.2).

2.2 Voice distinctions and grammatical relations in late Latin

A major change taking place in the transition from Latin to Romance in the encoding of transitivity is the disruption of grammatical voice and the concomitant loss of a firm notion of grammatical relation. In fact, owing to equivalences and interchangeability among voice forms, the active may be used in passive function (11) and the passive may occur in active function (so-called Deponentization (Flobert 1975) (both in the tenses of the *infectum* (marked by the (medio)passive *-R* suffix) and of the *perfectum* (expressed by a form of *esse* + pp) (12a–b) (see Cennamo 1998, 2001a, forthc.a for a full discussion and attestations from earlier centuries):

- (11) *item si a rota vexaverit* (sc. equus) (Pelag. 233; Feltenius 1977: 137)
then if by wheel-ABL trouble.PERF.FUT.3SG (horse)
'Then if it (= the horse) will be troubled by the wheel'
- (12) a. *si quislibet . . . eam coercebatur* (*Chron. Salern.* 65; Norberg 1943: 155)
if somebody.NOM she.ACC force.IMPF.IND.PASS.3SG
'If somebody punished her (lit. is-punished her)'
- b. *Provinciam lues debellata est* (Greg. Tur. H.F. 8,39; Bonnet 1890: 411)
province.ACC plague win.PP.F.SG.NOM be.PRES.IND.3SG
'The plague conquered the province (lit. is conquered the province)'

Therefore a perfect passive form such as *amatus sum* (13) out of context could be ambiguous among a passive (13a), an active (13b) (see also Bonnet 1890: 400) and a present predicative construction (13c), according to the verb, and it was also developing into a present passive (13d), whereby *amatus sum* could also equal the synthetic passive form *amor* (Winters 1984, Cennamo 2005 and references therein):

- (13) *amatus sum*
- a. 'I was loved/I have been loved' (passive)
- b. 'I loved/have loved' (active) (= *amavi*, active perfect)
- c. 'I am beloved' (*amatus* = adjective; predicative construction)
- d. 'I am (being) loved' (= *amor*)

As long as case-marking operated on a nominative-accusative basis, verbal arguments could still be identified and differentiated. Therefore communication was not impaired, despite the fact that voice forms had become opaque (with the passive no longer

consistently signaling an O/S_O argument in subject function, and the active no longer unequivocally indicating an A argument in subject function) (see Cennamo 2001a).

At some point in time, however, case-marking started to operate on an active-inactive basis (as testified by the use of the accusative in 'subject' function, to mark Os as well as the 'inactive' S arguments of equative clauses (14), anticausatives (15), passives (16), impersonals (17) and intransitive verbs denoting change of state (18a-b), location (18c), non-agentive activity (18d), alternating with the nominative form, which continued to be the canonical case for subjects), with early attestations by the 2nd–3rd century A.D. in some areas of the empire (northern Africa) for [+An] second and third declension nouns, with intransitive verbs denoting change of state/location (*cadere* 'to fall') and agentive anticausatives (*vertere* 'to turn' (Herman 1987: 103–105, 1997: 25; Cennamo 2001c, forthc.a)). Subsequently (with examples from the end of the 4th century) case-marking came to operate on a 'neutral' basis as well, once the accusative occurred to mark the A argument of transitive clauses (19), so that case-marking no longer always identified the role of verbal arguments (A and O) (Plank 1985; Herman 1995, 1997; Cennamo 2001c, forthc.a, forthc.b, int. al.):³

- (14) ut *crudastros* *sint* (Anthim. 3)
in-order-to underdone.PL.ACC be.PRES.SUBJ.3PL
'So that they are underdone'
- (15) *ficum contundito usque dum minutum fiat* (id. 890)
fig.ACC cut.2PL.IMP until small.ACC become.PRES.IND.3S
'Cut the fig until it is reduced to small pieces'
- (16) ut *sardam* *exossatur* (Apic. 9, 10)
so-that pilchard.ACC fillet.PASS.PRES.IND.3S
'So that the pilchard is filleted'
- (17) *cutem . . . non manducetur* (Anthim. 41)
skin.ACC not eat.PASS.PRES.SUBJ.3S
'One should not eat the skin/the skin should not be eaten'
- (18) a. *nascitur . . . contractionem aut claudicationem* (Chiron 516)
be-born.PRES.IND..3S spasm.ACC or lameness.ACC
'There arises a spasm or lameness'
- b. *si inter eos . . . causam advenirit* (Lex Cur. 2,2)
if between they.ACC quarrel.ACC happen.IMP.F.SUBJ.3S
'If there arose a quarrel between them'

3. The chronology, distribution and incidence of the phenomenon, which is part and parcel of the more general issue of the breaking down of the case-system between late Latin and early Romance, varies according to the areas and the types of texts. It spans from the 3rd to the 9th century A.D and occurs mainly in the southern provinces of the empire (Africa, Italy, Spain), with late (8th century) attestations from Gaul as well (see recent discussion in Cennamo 2001, forthc.a, and references therein, as well as Rovai 2005 for a quantitative analysis).

- c. *si ipsum currit* (Lex Alama. XCIV codd. A)
if he.ACC run.PRES.IND.3S
'If he runs'
- d. *crepitavit panem in furno* (Agnell. 391, 26)
crackle.PERF bread.ACC in oven.ABL
'Bread crackled in oven'
- (19) *si quod iumentum morbum renalem temptavit* (Chiron 55)
if some beast-of-burden.NEUT illness.ACC renal.ACC affect.PERF.IND.3SG
'If a beast of burden suffers from kidney trouble'

Therefore a construction in the passive voice such as *puellam amata(m) est* (20) out of context could be ambiguous between an active interpretation, with *puellam* marking the A (20a) or O argument (20b), as well as a passive interpretation, with *puellam* as the O argument (20c–d):

- (20) *puellam amata(m) est*
a. 'The girl has loved' (*puellam* = A)
b. 'She has loved the girl' (*puellam* = O)
c. 'The girl was/has been loved' (*puellam* = O)
d. 'The girl is (being) loved' (*puellam* = O)

The interaction of the two phenomena (i.e., a verb that no longer has voice and an argument whose syntactic and semantic status is unclear, like *puellam* in (20) above) are at the nub of a number of changes taking place in the encoding of the argument structure of the clause in the transition to Romance, one of which involves the rise of *esse* and *habere* as markers of O/S_O and A/S_A status respectively, so-called perfective auxiliaries.

At some point, in fact, in the *perfectum esse* + pp occurred both in active and passive function, with both transitive and intransitive verbs. With intransitives the opacity of voice morphology and case-marking did not affect the interpretation of the construction. With transitive verbs instead in some cases it was impossible/very difficult to identify the A/O status of verbal arguments. New tools were pressed into service therefore in order to mark A/O status, which end up being signaled, respectively, by *habere* (usually/most typically with agreement of the past participle with O (21a), the object, though also past participle agreement with the A argument is attested (21b–d)), and *esse*, which therefore restricted the range of arguments with which it could occur, marking only O (13a) and S_O arguments (cf. (24a) *deventi essent*):

- (21) a. *et da ipsi filii mei ipsam terram cum*
and from same.NOM sons.NOM mine.NOM that.ACC land.ACC with
casa comparatam habui (Cod. Cav. VIII, 292, 11) (9th cent. A.D.)
house.ABL buy.PP.F.S.ACC
'And I had bought this land from my own children'
- b. *unde aliqua femena (O) . . . abuit interpellatus (A)* (Form. Andec. Nr. 16,
p. 10, 11) (id: 542)
whereby some.NOM woman.NOM have.PERF.3S ask.PP.M.S.NOM
'Whereby somebody had asked a woman. . .'

- c. *datus habuisset* . . . (Formul. Marculf., p. 67, 5) (Thielmann 1885: 545)
 give.PP.M.S.NOM have.PULP.SUBJ.3S
 ‘He had given’
- d. *admiratus habeo* (TLL s.v. 247: 36f; Pinkster 1987: 199)
 admire.PP.M.S.NOM have.PRES.IND.1S
 ‘I have admired’

Initially, however, *habere* only marks A status. Its use to signal S_A arguments, as in the Romance languages, is very late. Apparently only one isolated example from a 7th century text is attested (22a) alongside the absolute intransitive use of transitive verbs, sometimes with alternation between the ‘new’ analytic and the old synthetic forms, as in (22b–c) from the 8th century A.D. (Thielmann 1885: 545–546):

- (22) a. *sicut parabolatum habuistis* (Form. Merkel.260, 7) (Thielmann 1885: 545)
 as speak.PP.N.S have.PERF.2PL
 ‘As you had said (lit. spoken)’
- b. *sicut iuratum habuit* (Ann. Lauriss. 788) (Thielmann 1885: 546)
 as SWER.PP.MNSG have.PERF.3SG
 ‘As he had sworn’
- c. *iuravit* (id. 7) (ibid.)
 ‘He swore/has sworn’

2.3 The rise of *esse* + past participle as a periphrastic active perfect

The patterns with agreement of the past participle with the subject, as in (21b–d), indeed do point to an earlier deponent form (*interpellatus sum*, *datus sum*, *admiratus sum*).

The received opinion on the rise of the Romance periphrastic perfect with *esse* is that it stems from the perfect of deponents (Vincent 1982; 1988, int. al.), consisting of the past participle of the lexical verb + a form of the verb *esse* ‘to be’. Its first attestations are regarded as dating back to the imperial age, with intransitive verbs denoting change of state/location (Norberg 1943: 152; Bassols de Climent 1948: § 30; Väänänen 1982 [1971]: § 342), developing by analogy to other intransitive deponents of similar meanings, such as *sequor* ‘to follow’, *morior* ‘to die’ as in (23), cast on the model of *mortuae sunt* (the perfect of *morior*), with *obitae* = *mortuae*, a form which was very frequent in epitaphs (see also Cennamo 1998):

- (23) a. *sorores una die obitae sunt* (CIL VI 17633) (= *obierunt*)
 sisters.NOM same.ABL day.ABL die.PP.F.PL.NOM be.PRES.IND.3PL
 ‘The sisters died on the same day’
- b. *praeteritus est dies* (= *praeteriit*) (Plin. *Epist. Traian.* 10, 46)
 GO.PP.M.SG.NOM be.PRES.IND.3SG day.NOM
 ‘The day is over’ (lit. is gone)

We, however, take a different view, arguing that the rise of *esse* as an active perfect is related to the reorganization of voice distinctions taking place in late Latin, whereby *esse* +pp may occur in active function, not only in the *perfectum* of deponents, but of all verbs, both transitive (23d) and intransitive (23e) (i.e., Deponentization), with clear attestations from the imperial age onwards (Norberg 1943: 152-158) (see also (12b):

- (23) c. et . . . *cogniti sunt Romulides* (= *cognoverunt Romani*) (Agnell. 81)
 (p. 333, 25) (6th cent. A.D) (Norberg 1943: 155)
 and learn.PP.M.PL.NOM be.3PL.PRES.IND
 ‘And . . . the Romans (have) learnt’
- d. *certati sunt cursu* (Hygin. *Fab.* 273, 12) (Norberg 1943: 153) (1st cent. A.D)
 compete.PP.PL.M.NOM be.3PL.PRES.IND race.ABL
 ‘They (have) had a race (lit. they were competed in the race)’
- e. *lacrimatus est* (Vetus Latina, *Joh.* (a) 11, 35) (Flobert 1975: 209)
 (3d cent. A.D.)
 cry.PP.PL.M.NOM be.3SG.PRES.IND.
 ‘He was in tears (lit. He is cried)’

At some point in late Latin therefore, the passive voice (i.e., the *-R* suffix in the tenses of the *infectum* and *esse* + pp in the tenses of the *perfectum*) could occur in active function with all verbs. The rise of periphrastic perfects with *esse*, though undoubtedly cast on the model of the original *perfectum* of deponents (a form of *esse* + the past participle of the lexical verb), is however to be seen within the wider context of the changes affecting the voice domains in the transition to Romance, whereby the passive and active forms no longer consistently correlated respectively with O and A/S_A arguments in subject function, in that the *-R* suffix and *esse* +past participle could also occur to mark A and S_A arguments, as in (23c) and (23d–e). Whereas in early and classical Latin the phenomenon was confined to a small class of verbs (so-called deponents or semi-deponents), in late Latin all verbs were susceptible to occur in the passive voice (see Flobert 1975 for a detailed survey), which no longer consistently marked the linking of the verb to its O argument, as in earlier stages. It is in this light that the emergence of *esse* and *habere* as split intransitivity markers are to be viewed.

2.4 *Esse* and *habere* as split intransitivity markers in late Latin

By the 7th century A.D., *esse* and *habere* appear to start differentiating two subclasses of intransitives, corresponding to what are usually known in the literature as unaccusatives/class S_O verbs and unergatives/class S_A verbs), with past participle agreement too coming to mark this partitioning. The presence of *esse*, in fact, always entails the agreement of the past participle with the subject, whereas the selection of

habere correlates with lack of this type of agreement, the past participle occurring in the unmarked, neuter form, as exemplified in (24):

- (24) a. In Pannonia *deventi sunt* (Agnell. 95, p. 338, 32) (Norberg 1943: 153)
 (+AGR)
 arrive.PP.M.PL.NOM be.PRES.IND.3PL
 ‘They have arrived, in Pannonia (lit. are arrived)’
 b. (= 22a) sicut *parabolatum habuistis*. (-AGR)
 ‘You had spoken’

The use of *habere* as a perfective auxiliary with intransitive verbs, however, is a late and rare phenomenon, compared with the use of *esse* (see §§ 2.2–2.3). As already pointed out (§ 2.1), we argue that there was no auxiliarization as such of *habere* in late Latin (since it already had auxiliary function), but a specialization of its use, whereby it ends up as a marker of perfectivity (i.e., a tense-aspect marker), and comes to signal A and later S_A status, with *esse* gradually restricting its scope to mark O arguments (the canonical function it had in early and Classical Latin) and S_O arguments (24a).

At some point in late Latin, then, roughly by the end of the 4th–5th century A.D., there arise various types of active coding systems, both in nominal and verbal syntax (some of which develop already existing patterns of active syntax in early Latin) (see discussion in Cennamo 1999, 2001c, *forthc.a*, *forthc.b*). Indeed, one might wonder to what extent the loss of the grammatical dimension of voice, which in some Merovingian texts (e.g., the *Liber Historia Francorum*, of the first half of the 8th century A.D.) is testified by the abandonment of the passive as a strategy and the active being preferred instead, sometimes with impersonality of the pattern (Herman 2002), is related to the rise of (head-marked) active coding systems in the transition to Romance (see discussion in Cennamo 2001c, *forthc.b*).

3. Reflexes of Latin *ESSE* and *HABERE* as split intransitivity markers in old Neapolitan

The early Italian vernaculars show quite a varied picture as regards auxiliary selection and past participle agreement (as well as the marking of split intransitivity in general), which still awaits investigation (see Cennamo 2002).

In this section we discuss the paths of development of the reflexes of Latin *esse* and *habere* as perfective auxiliaries with one-argument verbs in one early Italian vernacular, old Neapolitan, which testifies to the gradual elimination of an active coding system marked through auxiliary selection and past participle agreement, with unaccusatives/class S_O verbs selecting the auxiliary BE (Neap. *esse*) and showing past participle

agreement with the subject (25), and unergatives/class S_A verbs, which select instead the auxiliary HAVE (Neap. *avè*) and lack participial agreement with the subject, the past participle occurring in the unmarked masculine singular form (26):

- (25) *Helena* [. . .] *era andata a quillo tiemplo* (LDT 99.25) *Unaccusatives*: BE
 [+ agreement]
 Helen be.IMPF.IND.3s go.PP.F.S
 ‘Helen had gone to that temple’
- (26) *Achilles avea combattuto* (LDT 224.32) *Unergatives* HAVE [-agreement]
 Achilles have.IMPF.IND3s fight.PP.M.S
 ‘Achilles had fought’

The scrutiny of a number of 14th and 15th century texts⁴, however, reveals the first signs of the process leading to the use of HAVE as the only perfective auxiliary in some contemporary Campanian varieties, with HAVE gradually invading the functional domains of BE, often correlating with lack of past participle agreement with the subject, though agreement may also occur (Cennamo 2002).

This change can be conceived, following La Fauci 1994, as one of the outcomes of the never-ending conflict in the history of the Romance languages, between pre-existing coding systems of the active-inactive type, which developed in late Latin and ‘new’ emerging coding patterns of the nominative-accusative type.

In particular, HAVE occurs with verb classes generally selecting BE (with past participle agreement with the subject), namely verbs denoting **existence of a(n abstract/mental) state** (with a [\pm An] subject (e.g., *dolere* ‘to be sorry’, *bastare* ‘to suffice’, *parere* ‘to seem’, *plazere* ‘to like’) (29 occ.) (and [\pm AGR] of the past participle with the subject) (27), **telic change of location** (either inherently (28a) or compositionally telic (28b) with a [\pm An] subject, [\pm AGR] (e.g., *andare* ‘to go’, *arrivare* ‘to go’, *volare* ‘to fly’ etc.) (24 occ.) and, marginally, **indefinite change of state** (with a [\pm An] subject, [\pm AGR] (*soccedere* ‘to happen’, *apparire* ‘to appear’, *crescere* ‘to grow’, *scolerire* ‘to fade’ (9 occ.) (29), often in contexts of irrealis modality, conveyed by the past conditional (as in (27), (28b) and the pluperfect subjunctive (30b) (see Cennamo 2002, Ledgeway 2003). There are instead only very few examples of HAVE with verbs denoting the **continuation of a state/condition** (*durare* ‘to last’, *stare* ‘to stay’) (4 occ.) (30a–b) and only

4. The old Neapolitan data are taken from Cennamo 2002, where a number of 14th and 15th century texts are investigated, only some of which are quoted in this chapter (see list of sources in the references). The figures for the occurrences of the auxiliary HAVE with the different verb classes refer to the frequency of this auxiliary for each class in the whole corpus (see Cennamo 2002: 186–187 for further details).

one occurrence with **definite change of state** verbs (*scoppiare* ‘to burst’) (with a [-An] subject) (31):

Unaccusatives: HAVE [\pm agreement]

Existence of a state

- (27) *avarria abastata a ffare* (Cronaca 144r.10)
 have.COND.3S suffice.PP.F.S
 ‘It would have sufficed to do’

Telic change of location

- (28) a. *aveva tornato indereto* (Cronaca 111r.22)
 have.IMPF.IND.3S go.PP.M.S.back
 ‘He had gone back’
 b. *l’averia vollato sopra a pieto* (RDF 24 v.17)
 he.DAT have.PRES.COND.3SG fly.PP.M.SG onto breast
 ‘It would have flown onto his breast’

Indefinite change of state

- (29) *Aragona ha cressuto e muntiplicato en regni* (Lupo de Spechio II. 9.7)
 Argon have.PRES.IND.3S grow.PP.M.S and multiply.PP.M.S in reigns
 ‘Aragon has grown and multiplied its reigns’

Continuation of a pre-existing state/condition

- (30) a. *uno . . . haver anche durato fino a* (Plin. Nap. 204r.12)
 one have.INF also last.PP.M.S up until
 ‘(They say) one has lasted till . . .’
 b. *se avesseno stati milli anni nella sua corte* (Lupo de Spechio II.52.6)
 if have.PST.SUBJ.3PL stay.PP.M.PL one thousand years in his court
 ‘If they had stayed at his court for one thousand years’

Definite change of state

- (31) *habiano insieme scoppiato* (sc., *le osse*) (Plin. Nap. 197v. 21)
 have.PRES.SUBJ.3PL burst.PP.PP.M.S together (the bones)
 ‘That they had burst together’

The occurrence of HAVE with all subclasses of one-argument verbs in 14th–15th century texts, though with a different incidence, suggests that this verb already occurred as the only perfective auxiliary in some (Campanian) varieties and in some idiolects, alternating with BE, which is the most frequent auxiliary with (unaccusative) verbs denoting telic change of location, (definite/indefinite) change of state and continuation of a pre-existing state (we are not considering in the discussion unaccusatives preceded by modal verbs, with which the perfective auxiliary is always HAVE) (see Cennamo 2002).

4. Auxiliary selection in old Neapolitan and Sorace’s (2000) gradient model of split intransitivity

The distribution of auxiliary selection in old Neapolitan may be neatly described and accounted for by means of the syntactico-semantic gradient model of split intransitivity

recently put forward by Sorace (2000, 2004) for one of its manifestations, auxiliary selection.

Sorace shows that the distinction between unaccusative and unergative verbs is a gradient along which intransitive verbs can be organized (fig. 1), determined by the interplay of aspectual and lexico-semantic factors such as the degree of aspectual specification (i.e., the degree of telicity) of the situation expressed by the verb, its concrete/abstract, dynamic/static nature as well as the degree of control and affectedness of the subject) and set up on the basis of experimental studies on native speaker intuitions as regards auxiliary selection with one-argument verbs, their acquisitional path in L_1 and L_2 , as well as the degree of variation found in some Western European languages (Sorace 1995; 2000; 2004; Keller & Sorace 2003):

Table 1. *The Auxiliary Selection Hierarchy* (ASH) (Sorace 1995; 2000: 863)

Change of location (It. <i>arrivare</i> 'to arrive') (<i>core</i>) Unaccusatives (select BE)
Change of state (It. <i>nascere</i> 'to be born'(def.), <i>crescere</i> 'to grow' (indef.))
Continuation of a Pre-existing state (It. <i>rimanere</i> 'to remain', <i>durare</i> 'to last')
Existence of a state (It. <i>esistere</i> 'to exist')
Uncontrolled Process
Bodily function (it. <i>tossire</i> 'to cough')
Emission (of substance/light/smell) (it. <i>squillare</i> 'to ring', <i>rimbombare</i> 'to resound/roar', <i>profumare</i> 'to smell')
Weather verbs (It. <i>piovare</i> 'to rain', <i>nevicare</i> 'to snow')
Controlled Process (motional) (It. <i>camminare</i> 'to walk', <i>nuotare</i> 'to swim')
Controlled Process (non-motional)
Controlled, affecting (It. <i>abdicare</i> 'to abdicate', <i>cedere</i> 'to yield')
Controlled, unaffected (It. <i>lavorare</i> 'to work', <i>giocare</i> 'play') (<i>core</i>) Unergatives (select HAVE)

The opposite poles on the gradient realize the core of the unaccusative/unergative categories, which never display variation in auxiliary selection. Core unaccusative verbs are characterized by an *Undergoer*/Theme-Patient subject and denote a dynamic, telic situation (It. *arrivare* 'to arrive', *nascere* 'to be born'. In some languages verbs denoting inherently telic change of location (It. *partire*, 'to leave') realize core Unaccusativity, in that variation never takes place as regards this manifestation of Unaccusativity. Verbs denoting the continuation of a pre-existing state such as *durare* 'to last', *rimanere* 'to remain' lie on the high end of the Unaccusativity gradient. In some Western European languages these verbs select BE – a fact which is consistent with their semantics, which has an implicit change component (Sorace 2000: 867) –, unlike verbs denoting the existence of an abstract/mental state (It. *sembrare* 'to seem', *piacere* 'to like', *bastare* 'to suffice') which select HAVE (Sorace 2000: 869). In the selection of auxiliary in old Neapolitan and in some contemporary Campanian varieties, as well as in other manifestations of split intransitivity (such as the distribution of pleonastic reflexives (*se/sibi*) in late Latin and their optional occurrence in some contemporary southern Italian dialects (Cennamo 1999), the core of the category appears to be realized by verbs denoting definite

(i.e., telic) change of state (Neap. *muri* ‘to die’, *nascere* ‘to be born’), whereas verbs denoting telic change of location (Neap. *parti*, ‘to leave’, *arrivà* ‘to arrive’, *Lat. vadere* ‘to go’) are coded as more peripheral (i.e., display alternation) (Cennamo 1999; 2001b).

Core unergatives are characterized by an agentive subject, i.e., an *Actor/Agent*, with high degree of Control over the verbal situation, which is dynamic and inherently atelic (It. *lavorare* ‘to work’). The thematic and aspectual parameters whose interplay determines the Auxiliary Selection Hierarchy (ASH) illustrated in table 1, are not equally relevant in determining the unaccusative/unergative encoding of verbs. Telicity seems to be relevant for the unaccusative/unergative encoding of verbs denoting change of location and state. The degree of Agentivity and Control of the subject play an important role in the unaccusative or unergative encoding of non-motional activity verbs. Verbs denoting mental processes lie at the periphery of the category of Unergativity: they often denote an uncontrolled, atelic process, with a non agentive subject, which in many cases is affected by the verbal process (i.e., an *Actor/Experiencer*). The degree of variation in auxiliary selection is a function of the position of the verb along the hierarchy: it increases as one moves away from the core of the categories, i.e., with the decrease of the aspectual specification of the situation expressed by the verb and the decrease in the degree of Agentivity and Control of the subject. Variation is maximal in the middle of the hierarchy, i.e., at the stative pole, where telicity is irrelevant and the subject has no/low Agentivity and Control.

From the diachronic point of view, the ASH predicts that verbs at the core of the Unaccusativity/Unergativity categories are more impervious to change that initially involves verbs belonging to the periphery of the categories. In particular, the ASH (which reflects the syntactic and semantic non-homogeneity of unergativity and unaccusativity), allows one to organize and describe the type and the degree of variation in auxiliary selection occurring in old Neapolitan, accounting for various cases of ‘mismatches’ and alternations. (see Cennamo 2002). It also allows one to predict the diachronic path along which HAVE penetrates into the BE domains, to become the only perfective auxiliary selected with one-argument verbs in some Campanian varieties. This change appears to be well-advanced and (probably) nearly completed by the end of the 15th century. The hierarchy in fact predicts the occurrence of variation at the periphery of the categories of unaccusativity/unergativity. For instance, with a non-agentive activity verb such as *figliare* ‘to give birth’ (32a–b), the alternation between the two auxiliaries, BE/HAVE, can be accounted for by the fact that this verb lies at the periphery of the category of Unergativity: the subject has no Control over the process. A different conceptualization of the verbal situation is possible (Ledgeway 2003): if the latter is coded as an event, the auxiliary HAVE is selected (32a) *aveano figliato*; if instead the situation is conceptualized from the point of view of the state resulting from a previous event, BE occurs (32b) *éy figliata*:

- (32) a. sta scripto haverno figliato (event)
 stay.PRES.IND.3S write.PP.M.S have.INF.3PL give birth.PP.M.S

- spesse volte (*Plin. Nap.* 203v. 33)
 several times
 'It is written that they have given birth several times'
- b. *Éy figliata una cane* [. . .] (*LdR* 54v.18) (result state)
 be.PRES.IND.3S give-birth.PP.F.S a bitch
 'A bitch has given birth'

With the verb *figliare*, therefore, auxiliary selection reflects an aspectual difference, the eventive vs. result state interpretation of the pattern.

Also with the indefinite change verb *soccedere* 'to happen', the selection of BE vs HAVE may be regarded as being aspectually determined. One might argue, following a suggestion by Alan Cruse (p.c.), that, whereas BE occurs also in contexts which specify the moment of the past event (compare (33b) where the adverb *mo* ('now') specifies the time of the event, placing it in the recent past), HAVE never occurs in this aspectual context (cf. (33c) **uno miracolo che à succzieso mo*). HAVE in fact only occurs in the so-called experiential or existential indefinite perfect (Comrie 1976: 59):

- (33) a. quanto o signuri averria socciesso beatamente cutale concordia (*LDT* 241, 3)
 when lords have.COND. happen.PP.M.S this harmony
 'When my lords would there have been such harmony?'
- b. uno (sc. miracolo) che èy succzieso mo (*LdR* 55v.3)
 one (miracle) that be.PRES.IND.3S happen.PP.M.S now
 'A miracle that has happened now'
- c. **uno miracolo che a succzieso mo*

As for the diachronic path of the spread of HAVE to the detriment of BE, the rare examples of the auxiliary HAVE with verbs denoting change of state (either indefinite (*soccedere* 'to happen') or definite (*scoppiare* 'to burst') and continuation of a state (*durare* 'to last', *stare* 'to stay') as well as the lack of HAVE with verbs denoting definite change of state and an animate subject (e.g., *muri* 'to die'), suggest a lexical-aspectual path in the penetration of HAVE into the BE domains, where the parameter of Animacy also appears to be involved. In particular, HAVE appears to gradually replace BE initially with verbs denoting static, abstract situations, such as *parere* ('to seem'), *plazere* ('to like'), whose auxiliary is limited to HAVE in some 14th century texts, and later with verbs denoting telic change of location (*andare* 'to go', *arrivare* 'to arrive', *fugire* 'to run away', *tornare* 'to come back', *insire* 'to go out', *procedere* 'to go along'). Verbs denoting continuation of a pre-existing state (*durare* 'to last', *stare* 'to stay') and change of state (*soccedere* 'to happen', *scoppiare* 'to burst') appear to be more resistant to its penetration. In particular, HAVE appears to occur initially with verbs denoting indefinite change (*soccedere* 'to happen' *creocere* 'to grow') (with [\pm An] subjects), later with definite change of state verbs (*scoppiare*), but only

with [-An] subjects, as summarized in table 2, from the bottom of the hierarchy, towards the top:

Table 2. Progression of the change in o. Neapolitan

<i>definite change of state</i> : <i>scoppiare</i> ‘to burst’ ([-An] subjects) (+ Unaccusativity)
<i>continuation of a pre-existing state</i> : <i>durare</i> ‘to last’, <i>stare</i> ‘to stay’ >
<i>indefinite change of state</i> : <i>soccedere</i> ‘to happen’ >
<i>telic change of location</i> : <i>andare</i> ‘to go’, <i>arrivare</i> ‘to arrive’ >
<i>existence of a state</i> : <i>parere</i> (‘to seem’), <i>plazeze</i> (‘to like’) > (- Unaccusativity)

The data concerning auxiliary selection with one-argument verbs in old Neapolitan then, suggest a slightly different organization of some of the points on the ASH, but consistent with its theoretical assumptions. In particular, verbs denoting definite change of state (*scoppiare* ‘to burst’) show minimal variation in auxiliary selection when compared with verbs denoting telic change of location (*arrivare* ‘to arrive’, *andare* ‘to go’). Therefore the former seem to lie on the higher end of the continuum (Cennamo 2002: 197) (see Table 2).

The different organization of some of the points of the hierarchy reflects the fact that the relevance of the lexico-aspectual features characterizing the ASH may vary, both synchronically and diachronically, for a phenomenon which appears to be sensitive to the ASH in a given language.

Sorace’s scalar model of split intransitivity, therefore, allows one to account for the occurrence of HAVE as the only auxiliary with verbs denoting a static, abstract situation, which realize the maximally aspectually underdetermined class of verbs on the ASH, the alternation between HAVE and BE with verbs denoting telic change of location and, marginally, indefinite change of state and continuation of a pre-existing state, as well as the lack of HAVE with verbs denoting definite change of state and having an animate subject. The gradual widening of the functional domains of HAVE, then, appears to proceed from the periphery of the category of Unaccusativity, where both auxiliaries may alternate, towards its core, where only BE occurred (see Table 2). The data therefore seem to point to verbal classes as the main channel of the penetration of HAVE. We cannot however exclude also the relevance of the semantic parameter of modality in the choice of HAVE when either auxiliary may occur. As already pointed out (§ 3), in many attestations of HAVE as a perfective auxiliary, the pattern expresses irrealis modality, realized by the pluperfect subjunctive and the past conditional, as in (28b) *se illo avesse arrivato*, (33b) *quanto . . . averria socciesso . . . cutale concordia* (see further discussion in Cennamo 2002; Ledgeway 2003).

5. Auxiliary selection in some contemporary Campanian varieties

It is interesting to compare the data and path of development emerging for the spread of HAVE into the BE domains in old Neapolitan, with data from contemporary

Campanian varieties where HAVE is the prevalent perfective auxiliary in the perfect (with BE having a very restricted range of occurrences, confined to some verb classes and some persons), except in copular constructions and passives (see Cennamo 2001b and Table 3). These appear to show the opposite phenomenon, the gradual penetration of BE into the system, according to a path which is the reverse of the one we can observe for the penetration of HAVE, but again consistent with the ASH and its assumptions.

The analysis of auxiliary selection in three such varieties, namely Pompei (in the Vesuvio area), Sorrento and Portici (the extreme southern periphery of Naples) reveals a change in progress, the gradual re-establishing of an active-coding system through auxiliary selection, probably owing to the influence of Italian. This change involves, to a different extent, both the working class and the middle class, whose system of auxiliary selection is more clearly oriented towards Italian (see table 3)⁵.

In particular, in **Pompei** in the speech of the working class BE occurs with verbs denoting definite change of state (*nascere* 'to be born', *muri* 'to die') and is confined to the 2nd and/or 3rd person singular (1A.i). In the other verb classes HAVE is the only auxiliary, in all persons (1A.ii.–vi). In the *middle class* BE occurs and/or alternates with HAVE (generally in the 2nd and 3rd sg.) only with verbs denoting change of state/continuation of a pre-existing state/existence of a state (1B.i–iii). Verbs denoting telic change of location, (atelic) motional and non-motional activity, on the other hand, only select HAVE (1B.iv–vi). In the *middle class* auxiliary selection therefore seems to oppose verbs denoting change of state and continuation of a pre-existing state/existence of a state, to verbs denoting motional/non-motional activity (cf. (1A–B) in Fig. 1). In **Sorrento** in the *working class* HAVE is the only auxiliary, with all verb classes, in all age groups. BE occurs however (sometimes in alternation with HAVE) in the 3rd person singular with verbs denoting definite and indefinite change of state such as *nascere* 'to be born', *crescere* 'to grow' (2A.i–ii), and continuation of a pre-existing state/existence of a state such as *ciuncà* 'to remain still' ([et'tʃuŋkata] 'He has remained still') and *avastà/abbastà* 'to suffice', ([evastatə//ɛbbastatə], lit. 'it has sufficed/it is sufficed').⁶

5. The corpus investigated consists of recordings (partly of spontaneous speech and partly based on the use of a questionnaire) of thirty speakers for each variety, representative of two social classes (Working Class and Middle Class) and three age bands (young/middle-aged/elderly informants. Age-range: 18–80). Variation in auxiliary selection involves both classes, and is higher for middle class speakers than for working class informants. In one variety (Portici), variation in auxiliary selection only involves the working class; the middle class conforms to the Italian pattern, with unaccusatives selecting BE and unergatives selecting HAVE (see Cennamo 2001b for further details).

6. In Sorrento, as in several Campanian varieties, there is identity between the 3rd person singular present indicative of the verb HAVE (*avé*) and the 3rd person singular present indicative of the verb BE (*esse*), which both appear as [ɛ], so that only syntactic doubling differentiates between them, as in ([eva'statə] 'lit.(It) has sufficed') (without doubling) vs. [ebba'statə] 'lit. (It) is sufficed') (with doubling) (see also the 3rd person singular in (35a)).

In the *middle class*, on the other hand, BE replaces HAVE and/or alternates with it in some persons with verbs denoting (definite/indefinite) change of state, continuation of a pre-existing state/existence of a state and telic change of location (2B.i–iv). With atelic motional and non motional activity verbs, instead, HAVE is the only auxiliary, for all persons (2B.v–vi), but for the occasional alternation with BE in the 1st/2nd plural of atelic motion verbs (2B.v). In **Portici** in some idiolects of elderly and middle-aged speakers of the working class auxiliary selection opposes verbs denoting change of state and continuation of a pre-existing state, existence of a state, which select BE (or mainly BE) (3A.i–iii) to verbs denoting telic change of location/telic motional and atelic motional/non-motional activity, which, respectively, select HAVE (with BE in the 3rd sg.) and HAVE only (3B.iv–vi).

Some of the paradigms discussed above are illustrated in (35)–(36) below, from Sorrento (working class, elderly people). (For a full discussion of split intransitivity in Campanian varieties and current theorizing see Cennamo 2001b):

- | | |
|---|---|
| <p>(35) a. <i>Definite/indefinite change of state</i>
 ɛddʒə'natə/ɛddʒə' kreʃ'ʃutə (HAVE)
 je'natə/ jekreʃ'ʃutə (HAVE)
 ɛ'natə/(HAVE)/ɛn'natə (BE) ⇔ ɛkreʃ'ʃutə/ɛkreʃ'ʃutə
 immə'natə/ imməkreʃ'ʃutə (HAVE)
 itə'natə/ itəkreʃ'ʃutə (HAVE)
 ɛnnə'natə/ kreʃ'ʃutə (HAVE)
 'I was born/I have grown up'</p> | <p>b. <i>Existence of a state</i>
 ɛddʒəparutə (HAVE)
 je' parutə (HAVE)
 ɛ parutə (HAVE)
 imməparutə (HAVE)
 itəparutə (HAVE)
 ɛnnə parutə (HAVE)
 'I have seeded'</p> |
| <p>c. <i>Continuation of a pre-existing state</i>
 [ɛddʒə tʃuŋkatə] (HAVE)
 [jetʃuŋkatə] (HAVE)
 [ɛt'tʃuŋkatə] (BE)
 [immətʃuŋkatə] (HAVE)
 [itət tʃuŋkatə] (HAVE)
 [ɛnnəʃuŋkatə] (HAVE)
 'I have remained still'</p> | <p>d. <i>Telic change of location/ non-motional activity</i>
 ɛddʒə par'tutə/ɛddʒəfati'katə (HAVE)
 je par'tutə/jefati'katə (HAVE)
 ɛpar'tutə/ɛfati'katə (HAVE)
 imməpar'tutə/ imməfati'katə (HAVE)
 itəpar'tutə/ itəfati'katə (HAVE)
 ɛnnəpar'tutə/ɛnnəfati'katə (HAVE)
 'I have left/I have worked'</p> |

As we can see from table 3, the three contemporary Campanian varieties investigated seem to represent different stages in the gradual change involving the re-introduction of an active coding system through auxiliary selection. In Pompei and Sorrento the change in progress is quite noticeable, though affecting social classes to different extents. In Portici the change is well advanced. Here in the idiolects of some elderly speakers of the lower class auxiliary selection seems to differentiate two subclasses of intransitive verbs, though along different lines from contemporary Italian. Auxiliary selection in fact opposes verbs denoting change of state/continuation of a pre-existing state/existence of a state (which select BE) to verbs denoting telic change of location/telic motional activity (which select HAVE and BE in the 3rd singular) and

Table 3. Auxiliary selection in some Campanian varieties (Pompei, Sorrento, Portici)

	Change of state definite	Change of state INDEFINITE	Continuation of a state/ existence of a state	Change of location telic	Motional activity atelic	Non- motional activity (atelic)
	(i)	(ii)	(iii)	(iv)	(v)	(vi)
1. Pompei	HAVE	HAVE	HAVE	HAVE	HAVE	HAVE
A. Working class	BE: 2nd and/or 3rd sg					
B. Middle class	HAVE BE: 2nd/ 3rd sg; BE/HAVE: 1st/2nd/ 3rd PL	HAVE BE: 2nd/ 3rd sg; BE/HAVE: 1st/2nd/ 3rd PL	HAVE BE: 2nd/3rd sg; BE/HAVE: 1st/ 2nd/3rd PL 3rd PL	HAVE	HAVE	HAVE
2. Sorrento	HAVE; BE: 3rd sg	HAVE; BE: 3rd sg	HAVE HAVE/BE	HAVE	HAVE	HAVE
A. Working class						
B. Middle class	HAVE; BE; BE/HAVE: 1st sg/3rd PL	HAVE; BE; BE/HAVE: 1st sg/3rd PL	HAVE BE: 1st/2nd/ 3rd PL; BE/ HAVE: 2nd sg	HAVE; BE: 2nd sg; BE/HAVE: 1st/ 2nd/ 3rd PL.	HAVE HAVE/BE: 1st/2 PL.	HAVE
3. Portici					HAVE; BE: 3rd sg (if telic)	HAVE
A. Working class	BE	BE	BE	HAVE; BE: 3rd sg		
B. Middle class	BE	BE	BE	BE	HAVE	HAVE

(HAVE = *avè*; BE = *esse*)

verbs denoting atelic motional/non motional activity, which select HAVE in the whole paradigm (for all persons). (see Cennamo 2001b for further details). What is interesting about the contemporary Campanian data on auxiliary selection is the fact that the variation appears to follow the Unaccusativity gradient, though in a reverse way from the variation displayed by old Neapolitan 14th and 15th century texts. BE in fact appears to be invading the functional domains covered by HAVE starting from the core of the category of Unaccusativity (i.e., verbs denoting definite change of state), moving upwards along the various points of the hierarchy, consistently with the ASH and its implicational relationships. If BE occurs with existence of state verbs, it also occurs with continuation of a pre-existing state and change of state verbs. It is never the case, for instance, that BE occurs with telic change of location verbs and not with change of state verbs. The situation in the three Campanian dialects can be summarized as in Table 4 below, which can be compared with the diachronic findings in Table 2:

There is also a striking convergence between the synchronic and diachronic implicational relationships among verb classes on the ASH, whereby the core of the category

Table 4. Presence of BE in Pompei, Sorrento, Portici

Core Unaccusativity	Pompei		Sorrento		Portici	
	Working	Middle	Working	Middle	Working	Middle
<i>Definite change of state</i>	BE*	BE*	HAVE/BE*	HAVE/BE*	BE	BE
<i>Indefinite change of state</i>	HAVE	HAVE/BE*	HAVE/BE*	HAVE/BE*	BE	BE
<i>Continuation of a pre-existing State</i>	HAVE	HAVE/BE*	HAVE/BE*	HAVE/BE*	BE	BE
<i>Existence of a state</i>	HAVE	HAVE/BE*	HAVE/BE*	HAVE/BE*	BE	BE
<i>Telic change of location</i>	HAVE	HAVE	HAVE	HAVE/BE*	HAVE/BE*	BE
<i>Motional activity</i>	HAVE	HAVE	HAVE	HAVE/BE*	HAVE/BE*	HAVE
<i>Non-motional activity</i>	HAVE	HAVE	HAVE	HAVE	HAVE	HAVE
<i>Core Unergativity</i>						

* = with some restrictions on person and number.

of Unaccusativity appears to be realized by verbs denoting definite change of state, whereas verbs denoting telic change of location appear to be more peripheral and rank lower than verbs denoting continuation of a state, which are more resistant historically to the change involving the spread of HAVE (see § 4). On the other hand, verbs denoting definite change of state appear to be affected earlier than telic change of location verbs by the opposite phenomenon, whereby BE gains ground over HAVE.

The slight difference regarding the order of some items on the ASH proposed by Sorace is however in line with its theoretical assumptions: languages may vary as to the parameters triggering the unaccusative/unergative encoding and determining the alternation between them, in that the distinctions languages make on the Hierarchy may be either less or more fine-grained, nevertheless the implicational relations among verb classes remain constant (see Sorace 2000: 886).

6. Markedness, prototypicality and the diachrony of perfective auxiliaries in Italo-Romance

The contrasting paths of evolution concerning the spread of HAVE to the detriment of BE and the introduction of BE as a perfective auxiliary in varieties where there mainly occurs the auxiliary HAVE, can be neatly accounted for by a recent proposal

by Lazzeroni 2005, partially following Andersen 2001a, 2001b, concerning the role of markedness and prototypicality in language change.

One might in fact argue that the opposite progression of the changes discussed in §§ 3–5 reflects their different nature as well as the markedness values of the various subclasses of verbs/predicates along the split intransitivity gradient. In particular, the spread of HAVE into the BE domains may be regarded as instantiating the partial cancellation of the category of split intransitivity, whereas the spread of BE to the detriment of HAVE may be viewed as equalling the introduction of the category of split intransitivity, viewing unaccusativity and unergativity as scalar notions.

Starting from this assumption, following Lazzeroni 2005, one may argue that grammatical categories with a radial structure are introduced starting from their core – as is the case in the acquisition of split intransitivity (both in L_1 and L_2) and of other grammatical categories (Giacalone Ramat 2005) and as shown by the penetration of BE into the HAVE domains in contemporary Campanian varieties. In contrast, they are cancelled starting from their periphery, as shown for instance by the gradual replacement of BE by HAVE in old Neapolitan, by the breaking down of the system of classifiers in Dyirbal (which is kept for human nouns, the prototype (Lakoff 1980: 97–98) as well as by the erosion of verb morphology and the reduction of case-systems in cases of language death (Lazzeroni 2005, Giacalone Ramat 2005 and references therein).

As we have seen in the course of discussion, the changes involving the cancellation and the introduction of the categories of Unaccusativity/Unergativity appear to follow a unidirectional route along implicational scales, each radiating from a core or prototype, where the various subclasses of verbs are ordered according to their ‘distance’ from the prototype, i.e., according to the number and type of criterial features they have. In particular, the verb classes which are more distant from the core (i.e., from the prototype) may be regarded as the marked members of the scale, whereas the verb classes lying at the high end of the scale (i.e., at the prototype) may be regarded as the unmarked members. Change proceeds from the center towards the periphery in the case of changes involving the constitution of a category with a radial structure, but follows a reverse path (from the periphery towards the center) in the case of the (partial) cancellation of a category with a radial structure (Lazzeroni 2005: 18). In particular, ‘the periphery implies the center, but the center does not imply the periphery’ (Lazzeroni 2005: 20). This may indeed account for the unidirectionality of the implicational sequences along the unaccusativity/unergativity hierarchies that can be observed in the actualization of change (e.g., in the last two changes investigated). In fact, the various points along the hierarchies may vary, but the implicational sequences, i.e., the markedness values among them, remain constant. This indeed takes us to the more general principle which appears to be involved, the notion of markedness, regarded, following Andersen 2001, as a ‘principle of cognitive organization that is reflected in human behaviour and apparently fundamental to it’ (Andersen 2001b: 25), which ‘significantly conditions the progression of language change’ (Andersen 2001b: 52). Markedness is ‘an intrinsic characteristic of linguistic oppositions, . . . values speakers

impute to the terms of any and all oppositions in the process of grammar formation' (Andersen 2001b: 51), which 'not only define synchronic systems, but are intimately involved in the actualization of change' (Andersen 2001a: 3).

Then the two changes investigated fall within the more general principle of markedness: change starts from the unmarked forms and proceeds towards the marked ones in the case of the constitution of a grammatical category with a radial structure. In contrast, change starts from the marked forms and then progresses towards the unmarked ones if it involves the (partial) cancellation of a grammatical category with a radial structure and, if it involves more than one parameter (and this indeed seems to be the case in the spread of HAVE in old Neapolitan, which seems to involve lexico-aspectual features as well as modality), both parameters involved will have the same markedness value (as for HAVE starting to invade the functional domains of BE from peripheral unaccusatives and in contexts of irrealis modality, i.e., from forms which are both marked) (Lazzeroni 2005: 21). The spread of HAVE and BE also give further evidence for the fact that the theory of Markedness allows one to organize the actualization of change in such a way as to 'understand change as the projection of synchronic variation onto the diachronic axis' (Andersen 2001a: 10).

7. Conclusions

The changes investigated in this study appear to be a good example of the role played by language internal principles in language change and also show that the cancellation and (re)introduction of an active coding system (through auxiliary choice) follows an orderly progression.

In particular, we have made the following claims:

- *Habere* was already an auxiliary in Latin, therefore no grammaticalization appears to be involved in the transition to Romance. On the contrary, the use of this verb as a perfective auxiliary in late Latin reflects a shift of the construction *habere* + pp from marginal uses in particular contexts and registers, where *habere* already occurred as a tense-aspectual marker, marking the current relevance of a past event (present perfect meaning), to core uses, becoming the 'new' active perfect form.
- The rise of *habere* and *esse* as perfective auxiliaries in (Italo-)Romance is related to a deep restructuring taking place in late Latin in the encoding of transitivity and argument structure, involving the loss of the grammatical category of voice and the rise of active coding-systems, both in nominal and verbal syntax.
- Both the elimination and the introduction of an active-coding system marked through auxiliary selection appear to follow paths and implicational sequences consistent with a gradient model of split intransitivity and reflecting the more general principle of markedness.

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Abbreviations

ABL = ablative; ACC = accusative; COND = conditional; DAT = dative; DO = direct object; F = feminine; FUT = future; IMPF = imperfect; IND = indicative; INF = infinitive; N = neuter; NOM = nominative; M = masculine; PERF = perfect; PL/pl = plural; PLUPF = pluperfect; PP = past participle; PRES = present; S/SG = singular; SUBJ = subjunctive

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Raising patterns in Old High German

Ulrike Demske
Saarland University

Received wisdom has it that subject raising patterns are not attested with infinitival complements in older stages in the history of German. According to Paul (1923) and Ebert (1976, 1986), verbs like *scheinen* ‘seem’ and *dünken* ‘seem’ are restricted to AP and NP complements until Early New High German. Likewise the rise of so-called coherent infinitival constructions is claimed to happen at about the same time in the history of German (Askedal 1998). In this chapter I provide evidence that subject raising patterns are well attested with infinitival complements already in Old High German distinguishing subject-to-subject raising and object-to-subject raising patterns. A classification of infinitival constructions with respect to word order properties, however, is not supported by the historical facts. Rather, infinitival constructions behave all alike in exhibiting diagnostics for a mono-clausal structure.

1. Introduction

According to work by Paul (1896, 1923) and Ebert (1976, 1986), verbs like *scheinen* ‘seem’ and *dünken* ‘seem’ are restricted to AP and NP complements in older stages of German suggesting an analysis as copula verbs. They claim that *scheinen* and *dünken* with VP and CP complements are attested only since Early New High German (ENHG). Elaborating on this work, Diewald (2001) analyzes the alleged rise of infinitival patterns with *scheinen* during the period of ENHG as part of the grammaticalization process modal verbs undergo throughout the history of German.

In this chapter I challenge current views on the analysis of verbs like *dünken* and *scheinen* in Old High German (= OHG) as well as the alleged diachronic scenario for the respective complementation patterns of both verbs. In particular, I demonstrate that *dünken* and *scheinen* select for VP complements already in OHG. Furthermore, I will show that subject-to-subject raising is a rather productive pattern with raising verbs taking infinitival complements, contrary to the findings in Old English, where the rare instances of subject-to-subject raising have been shown to be heavily influenced by the respective Latin sources (Traugott 1972; Denison 1993). As a matter of fact, raising

patterns are not restricted to subject-to-subject raising in OHG, but further include instances of object-to-subject raising. Finally, I address the issue of how to analyze raising constructions in OHG, focussing on the question whether raising constructions display diagnostics of so-called coherent infinitival constructions with respect to word order patterns as they do in Present-Day German (= PDG).

The paper is organized as follows: In section 2 I provide some background on properties ascribed to raising constructions as well as on the concept of (in-)coherent infinitival constructions in PDG. Section 3 introduces the historical facts: In particular, it will be shown that two types of subject raising are attested in OHG, namely subject-to-subject and object-to-subject raising. I also take up the issue of possible Latin influences. Section 4 is devoted to a discussion of word order properties of raising patterns and infinitival constructions headed by verbs of other verb classes in OHG. Section 5 will give a conclusion.

2. Raising in Present-Day German

In PDG, subject-to-subject raising occurs with verbs like *scheinen* ‘seem’, *pflügen* ‘be used to’, *drohen* ‘threaten’, *versprechen* ‘promise’ and aspectual verbs like *beginnen* ‘begin’.¹ Subject raising verbs have in common that there is a syntactic but no semantic relationship between the subject and the raising verb: Though raising verbs agree in number with the respective subject ((1a), (1b)), the subject argument is obviously selected by the embedded and not the raising verb: While *züchten* ‘breed’ and *füttern* ‘feed’ only take an NP argument in subject position, *beeindrucken* ‘impress’ also subcategorizes for sentential arguments (1c).

- (1) a. *Fritzi scheint blaue Hochlandschnecken zu züchten.*
 Fritzi seems blue highland snails to breed
 ‘Fritzi seems to breed blue highland snails’
- b. *Fritzi und Paul pflügen die Schnecken zweimal täglich zu füttern.*
 Fritzi and Paul are used the snails twice daily to feed
 ‘Fritzi and Paul are used to feed the snails twice a day’
- c. *Dass Paul seine Schnecken täglich streichelt, verspricht sie zu beeindrucken.*
 that Paul his snails daily strokes promises her
 to impress
 ‘obviously, she is impressed by Paul stroking his snails daily’

Since raising verbs do not theta-mark their subject, they allow for the embedding of verbal complements with non-referential subjects as well as the embedding of

1. Cf. among many others Olsen (1981) for *scheinen*, Gunkel (2000); Reis (2005) for *drohen* and *versprechen*.

complements lacking any subject arguments such as impersonal passive constructions and impersonal predicates, cf (2). Furthermore, we observe that passivization of the embedded infinitive does not change the truth conditions between the active and the passive sentence (McConnell-Ginet 1982), (3).

- (2) a. *Es scheint seit Stunden zu regnen.*
 it seems for hours to rain
 ‘it seems to have been raining for hours’
- b. *Hier scheint gearbeitet zu werden.*
 here seems worked to be
 ‘work seems to be done here’
- c. *Ihm scheint vor der neuen Züchtung zu grauen.*
 him.DAT seems of the new breed to be terrified
 ‘he seems to be terrified of the new breed’
- (3) a. *Fritzi scheint dort blaue Hochlandschnecken zu züchten.*
 Fritzi seems there blue highland snails to breed
 ‘Fritzi seems to breed blue highland snails’
- b. *Dort scheinen blaue Hochlandschnecken gezüchtet zu werden.*
 there seem blue highland snails bred to be
 ‘blue highland snails seem to be bred there’

Raising patterns of the illustrated type always display the word order properties ascribed to so-called coherent infinitival constructions indicating that we deal with a mono-clausal structure headed by a verbal cluster comprising the matrix verb and the embedded non-finite verb.² Consequently, the raising patterns in question allow for pronoun fronting with an argument of the infinitive preceding the grammatical subject of the raising verb (4a), while extraposition of the infinitival complement yields ungrammatical results (4b) – to name just two out of a cluster of diagnostics for coherent infinitival constructions (cf. Meurers 2000; Reis and Sternefeld 2004 among many others). The word order properties of incoherent infinitival constructions, on the other hand, suggest that the embedded non-finite verb forms one constituent with its complements and adjuncts, hence the well-formedness of the extraposition example in incoherent infinitival constructions (4c). In this respect, the non-finite complement of *bedauern* ‘regret’ behaves as a complement headed by a finite verb.³

2. My focus will be on coherence as a topological notion as first suggested in the influential paper by Bech (1955). Further diagnostics for a coherent infinitival construction include scope facts, cohesion, etc.

3. Cf. the grammaticality contrast:

- i. *Weil Fritzi bedauert, dass sie ihre Schneckenzucht letztes Jahr aufgegeben hat.*
 ii. **Weil Fritzi dass sie ihre Schneckenzucht letztes Jahr aufgegeben hat bedauert.*
 ‘because Fritzi regrets having given up breeding snails last year’

- (4) a. *weil sie_i Fritz_i dort zu züchten scheint.*
 because they Fritz_i there to breed seems
 ‘because Fritz_i seems to breed they there’
- b. **weil Fritz_i scheint, dort blaue Hochlandschnecken zu züchten.*
 because Fritz_i seems there blue highland snails to breed
 ‘because Fritz_i seems to breed blue highland snails there’
- c. *weil Fritz_i bedauert, ihre Schneckenzucht letztes Jahr
 aufgegeben zu haben.*
 because Fritz_i regrets her stock of snails last year
 given up to have
 ‘because Fritz_i regrets to have given up her stock of snails last year’

With respect to the word order properties illustrated above, a raising verb like *scheinen* patterns with modal verbs, *aci* verbs and motion verbs, i.e., all verbs obligatorily construe coherently. The raising verb *scheinen* and the latter verb classes behave differently, however, with respect to the verbal case of the embedded verb, the status of the verb in terms of Bech (1955): While *scheinen* subcategorizes for a *zu*-infinitive, modal verbs, *aci* verbs and motion verbs select a bare infinitive. According to Bech’s coherence rule, verbs subcategorizing a bare infinitive always construct coherently,⁴ while verbs selecting a *zu*-infinitive construe either coherently or incoherently or both. Thus, verbs taking infinitival complements headed by *zu* + infinitive fall into three classes regarding coherency: (i) verbs always triggering coherent infinitival constructions, (ii) verbs always triggering incoherent constructions, and (iii) verbs triggering either coherent or incoherent infinitival constructions. While subject-to-subject raising verbs such as *scheinen* belong to the first class, classes (ii)⁵ and (iii) comprise verbs entering control relations. Class membership is a lexical property of the respective verb.⁶

Besides subject-to-subject raising, we observe a second type of raising to subject, namely object-to-subject raising. While the first type is rather productive in PDG, the second type is highly marked as demonstrated in an extensive empirical study by Grosse (2005). What rare examples she finds in a large digitized corpus involve only two

4. This also holds for verbs selecting past participles.

5. This class comprises among others control verbs selecting propositional and factive arguments such as *behaupten* ‘claim’ and *bedauern* ‘regret’ as well as *gestehen* ‘confess’ and *ankündigen* ‘announce’. These verbs display a grammaticality contrast between intra- and extraposition of the infinitival complement:

- i. *weil Fritz_i gesteht, ihre Schneckenzucht aufgeben zu haben.*
 ii. **weil Fritz_i ihre Schneckenzucht aufgegeben zu haben gesteht.*
 ‘because Fritz_i confesses to have given up her stock of snails’

6. Some verbs like the aspectual *beginnen* ‘begin’ occur in two variants: As raising verbs, they belong to class (i), as control verbs, they belong to class (iii).

verbs, namely *versuchen* ‘try’ and *erlauben* ‘allow’. In Haider (1990) further examples for object-to-subject raising are given including the aspectual verb *beginnen* ‘begin’ as well as the unaccusative verb *gelingen* ‘manage’. In Wurmbrand (2001)’s approach of coherent infinitival constructions in PDG, the class of verbs allowing for object-to-subject raising is considerably larger, including *beabsichtigen* ‘intend’, *vergessen* ‘forget’, among other verbs. It is questionable, however, whether all verbs listed by Wurmbrand (2001) actually allow for object-to-subject raising as claimed.⁷ In (5) the object argument of *reparieren* ‘repair’ has been promoted to the subject of the passivized matrix predicate, i.e., *beginnen*.

- (5) *Der Wagen wurde zu reparieren begonnen.*
 the car was to repair begun
 ‘they started to repair the car’ (Haider 1990: 128)

Both types of subject raising behave alike in not theta-marking their subject. Thematic properties of the grammatical subject, hence, are again due to the non-finite verb. In contrast to the first type, it is the object argument of the embedded verb that is promoted to the grammatical subject of the matrix predicate. This is indicated by the assignment of nominative case as well as by number agreement of subject and raising verb, cf. (6). The lack of a subject argument is either due to a passivization process⁸ or the predicate’s argument structure: *gelingen* ‘succeed’ in (6b) is an unaccusative verb.

- (6) a. [*Zu reparieren versucht*] wurde der Wagen erst gestern.
 to repair tried was.SG the.NOM.SG car only yesterday
 ‘they tried to repair the car only yesterday’ (Höhle 1978)
 b. [*Zu entziffern gelungen*] sind ihm die Briefe nicht.
 to decipher succeeded are.PL him the letters.NOM.PL not
 ‘he didn’t succeed in deciphering the letters’ (Haider 1994)

Again, we find diagnostics for a coherent construction: Fronting of the matrix verb and the embedded infinitive (= VC-fronting) in the examples under (6) indicates the creation of a verbal complex comprising the matrix verb and the embedded verb. Hence, the infinitival complement is not a constituent in the examples in question. Another diagnostic for coherent infinitival constructions is provided by the pattern of pronoun fronting, exemplified with the verb *versuchen*:

- (7) *Gestern wurde ihm der Preis zu überreichen versucht.*
 yesterday was him.DAT the award to present tried
 ‘yesterday one tried to present him the award’

Object-to-subject and subject-to-subject raising, however, behave differently in a number of respects: Unlike subject-to-subject raising, the instances of raising

7. Cf. Grosse (2005) on this point; Lee-Schoenfeld (2007) includes a critical discussion of using object-to-subject raising as a diagnostic for coherence.

8. Hence the notion of ‘long passive’ for this particular construction, a term introduced by Höhle (1978).

illustrated above also involve a control relation: In (6b) there is a control relation between the Experiencer argument *ihm* and the subject argument of the embedded infinitive, meaning that we deal with a dative control construction. The verb *versuchen* in (6a) and (7) on the other hand is a subject control verb. Since there is no thematic relation between the passivized verb and the subject, the respective controller argument has to be reconstructed from the context. Note that object-to-subject raising is possible only with control verbs displaying either subject control as with *versuchen*⁹ or dative object control as with *gelingen*; accusative control verbs are excluded in the raising pattern in question:

- (8) **Der Wagen wurde zu reparieren gebeten*
 the car was to repair asked
 'they asked to repair the car'

Furthermore, raising is obligatory only with subject-to-subject raising, while with verbs occurring in object-to-subject raising constructions we get impersonal constructions, cf. (9).

- (9) a. *Gestern wurde versucht, ihm den Preis zu überreichen.*
 yesterday was tried him the.ACC award to present
 'Yesterday one tried to present him the award'
 b. *Es ist ihm nicht gelungen, den Brief zu entziffern.*
 it is him not succeeded the.ACC letter to decipher
 'he didn't succeed in deciphering the letter'

Apparently, the verbs in (9) do not belong to the same verb class as *scheinen*: Though infinitival constructions with verbs like *versuchen*, *erlauben*, *gelingen* und *beginnen* display word order properties of coherent infinitival constructions, they allow at the same time for the extraposition of the infinitival complement. As shown in (9), there is no raising of the object argument in the subject position involved, the object argument is rather assigned accusative case *in situ*, indicating that verbs like *versuchen* and *gelingen* also trigger incoherent infinitival constructions. Data like (9) suggest that the respective verbs belong to the class of optionally coherently construing verbs in PDG, i.e., to class (iii).

Raising, however, is not a necessary condition for verbs like *versuchen* to construct coherently. As the following examples illustrate, *versuchen* allows for pronoun fronting (10a) and for fronting of the verbal cluster (10b) in the active voice as well.

9. However, there is no symmetric relation between subject control verbs and the property of coherence as brought forward by Bech (1955). As pointed out by Haider (1993), we also find subject control verbs restricted to incoherent infinitival constructions:

(i) 'dass sich Max nicht darum zu kümmern fortfuhr' 'that Max continued not to ...'

It also allows for a Third Construction¹⁰ with the non-finite verb following the matrix verb. In contrast to extraposition patterns, an argument of the embedded verb appears in the middle-field of the matrix clause, as illustrated in (10c). Although the notion of Third Construction suggests a further type of infinitival construction, different from coherent and incoherent infinitival constructions, there is strong evidence that Third Constructions pattern with coherent infinitival constructions in a number of respects.¹¹

- (10) a. *weil sie_i Fritzi schon lange t_i zu züchten versucht*
 because them Fritzi yet long to breed tries
 ‘because Fritzi tries to breed them for a long time’
- b. [*Zu züchten versucht*]_i *hat Fritzi blaue Hochlandschnecken*
 to breed tried has Fritzi blue highland snails
schon lange t_i
 yet long
 ‘Fritzi has been trying to breed blue highland snails for a long time’
- c. *weil Fritzi [ihre Hochlandschnecken]_i schon lange t_i*
 because Fritzi her highland snails yet long
versucht zu dressieren
 tries to train
 ‘because Fritzi has been trying to train her highland snails for a long time’

Considering subject raising patterns in PDG, we find two types of raising, namely raising of subject and object arguments of the embedded non-finite verb. Both types behave alike in not theta-marking the subject and regarding word order properties ascribed to coherent infinitival constructions. Only with subject-to-subject raising, however, raising is obligatory, object-to-subject raising lacks in all instances where infinitival complements of verbs like *versuchen* and *gelingen* are extraposed (cf. example (9)). We might conclude that there is a correlation between raising and coherence: In all cases of raising, we find evidence for a coherent infinitival construction. The opposite, however, does not hold: Not all coherent infinitival constructions are instances of raising, cf. (10).

The standard analysis of coherent infinitival constructions assumes a mono-clausal structure with the matrix verb and the non-finite verb building a verbal complex. It is still a matter of much debate whether this mono-clausal structure is base-generated or derived from a bi-clausal structure: Approaches favoring the assumption of a uniform structure for coherent and incoherent infinitival constructions with

10. Though the notion of ‘Third Construction’ was coined by den Besten & Rutten (1989), Kvam (1979) provides an early discussion of the patterns in question, dubbed ‘Linksverschachtelung’ in his paper.

11. For arguments supporting the coherent character of Third Constructions, cf. Kiss (1955: 110) and Wöllstein-Leisten (2001: 111ff).

the infinitival complement figuring as a CP complement derive the monoclausal structure by structure changing processes such as pruning (Evers 1975), restructuring (Rizzi 1982) or reanalysis (Haegemann & van Riemsdijk 1986). Approaches disfavoring structure changing processes go on the assumption that coherent infinitival constructions involve VP complements, hence a mono-clausal structure, from the very beginning (Haider 1986, 1993; Rosengren 1992). Recently, Wurmbrand (2001) argues for an even more fine-grained typology of infinitival constructions. In particular, she suggests to distinguish between coherent infinitival constructions headed by a lexical predicate and coherent infinitival constructions headed by a functional predicate. And only verbs entering the first type of coherent constructions establish thematic relations to some argument in the clause, as illustrated above with verbs triggering object-to-subject raising, cf. (6). Verbs like *scheinen*, on the other hand, are functional predicates, lacking any thematic relation. Subscribing to an analysis of coherent infinitival constructions in terms of a non-derived mono-clausal structure, Wurmbrand proposes that coherent infinitival constructions of the lexical type involve verbs with VP complements, while the functional counterpart encompasses a functional head F (either Mod or Aux) with a vP complement.

In the remainder of the chapter, my main concern are instances of raising in OHG infinitival constructions. I will look for evidence to establish a typology of infinitival constructions in OHG according to the following aspects: (i) coherent vs. incoherent, (ii) lexical coherent vs. functional coherent.

3. The Old High German situation

It is a widely held assumption that raising verbs like *scheinen* and *dünken* subcategorize only for NP and AP complements in OHG. Both verbs are taken to be copular verbs with predicative complements in earlier stages of German as advocated by Paul (1896, 1923) and Ebert (1976, 1986). In this section, I will show for *dünken* that it takes finite and non-finite verbal complements already in OHG. Focussing on non-finite complementation, I present evidence that *dünken* is a subject-to-subject raising verb establishing a syntactic but not a thematic relation to the respective subject. Furthermore, I will introduce infinitival patterns displaying instances of object-to-subject raising, so far not discussed in the literature.¹² The section closes with some remarks on possible influences by Latin sources.

12. With the exception of Demske-Neumann (1994) where *sein* 'be' and *werden* 'get' and their infinitival complements in OHG are discussed.

3.1 Subject-to-subject raising

Contrary to the claim that a raising verb like *thunken* ‘seem’ is restricted to AP and NP complements in OHG, the historical record provides a larger range of environments: Instances of *thunken* also co-occur with finite and non-finite verbal complements in OHG. Experiencer arguments are optionally realized either as dative or as accusative phrases.

- (11) a. *álliu dīng túncên* [_{AP} *feruôrren-îu. unde irresâm-îu*]
 all things seem complicated-NEUT.PL and blurred-NEUT.PL
 ‘all things seem complicated and blurred’ (N *BCon* 217.25)
- b. *uuêderêr dêro dúnchet tîr* [_{NP} *der máhtig-ero*?]
 which of them seems you.DAT the powerful-COMP?
 ‘which of them seems to be the more powerful to you’ (N *BCon* 189.28)
- c. *Tôh sūmelich-en dūohti.* [_{CP} *daz er zuêlif pîlde ôugi.*
 but some-DAT thought, that he twelve pictures represented
nâh tîen zuêlif stūndon des tages]
 corresponding the twelve hours of the day
 ‘some thought that he represented twelve pictures corresponding
 to the twelve hours of the day’ (N *MC* 71.2)
- d. *tâz platoni dîsiu uuêrlt ne-dūohti* [_{VP} *hâben ânagénne zît-es.*
 that Plato this world NEG-thought have beginning time-GEN
nôh ênde.]
 neither endz
 ‘that Plato thinks of this world as having neither beginning nor end’
 (N *BCon* 263.23)

All instances of *thunken* with non-finite complements provide clear evidence for a raising pattern already in OHG. Support in favor for a raising analysis comes first from agreement facts as illustrated in (11) with AP and VP complements of *thunken*; a further example with a VP complement is depicted in (12), where the subject argument of the non-finite verb agrees with the matrix verb with respect to number, indicating a syntactic relation between the subject and the matrix verb.

- (12) *Mîr dúnch-ent ... tîu zuêi rîngen. únde uuîder*
 me.DAT think-3.PL ... the two.NOM.PL wrestle and against
êin-anderên sîn
 one another be
 ‘I think the two to wrestle and to be against another’ (N *BCon* 239.21)

Thunken is a true raising verb because syntactic and semantic restrictions for the subject of the raising verb originate within the infinitival complement. As shown in (13), the embedded infinitive determines the syntactic category of the subject: While verbs like *breiten* ‘spread’ and *gebresten* ‘lack’ select for an NP, the adjective *unmahltîh* ‘impossible’ also allows for a finite clause (13c). The examples likewise illustrate that semantic properties of the

subject are determined by the embedded predicate: Verbal complements headed by the verbs *breiten* and *gebresten* require an Agent argument and a Theme argument, respectively.

- (13) a. *sô gezîmet uuôla. dâz er ménnisk-ôn ne-dúnche hônen*
 so befit surely that he.NOM men-DAT.PL NEG-thinks humiliating
nâmen bréiten
 name spread
 ‘for all men, it befits surely that he doesn’t think to spread his humiliating name’ (N *BCon* 133.27)
- b. *ne-uuéiz uuâz túnchet mîr. dîr gebrésten.*
 NEG-know what thinks me.DAT you.DAT lack
 ‘I don’t know what I think you lack’ (N *BCon* 37.11)
- c. *Súmelîch-en dúnchet únmáhtlîh. tâz indefînita sâment uuâr sîn*
 several-DAT.PL seems impossible that ‘indefînita’ all in all true be
 ‘it seems impossible to several that ‘indefînita’ be true all in all’ (N *BInt* 29.2)

Further support for an analysis of *thunken* as a raising verb comes from the embedding of impersonal predicates: Lacking an external argument, they yield impersonal constructions, as exemplified by the adverbial predicate *folllun* ‘complete’ in (14) subcategorizing for a genitive complement. Further instances of impersonal *thunken*-patterns are due to the selection of finite clausal complements.

- (14) a. *uuânda ín nieht-es fôllún ne-dúnchet*
 because them.DAT nothing-GEN complete NEG-thinks
 ‘because they consider nothing to be complete’ (N *BCon* 122.22)
- b. *Mîr dúnchet [_{CP} îh nú séhe fôlle-uuémon. ménd-i únde*
 me.DAT seems I.NOM now see be full joy-GEN and
uréuu-i. âllero fertânero sélda]
 happiness GEN-all sinner-GEN.PL souls
 ‘it seems to me that I see now the souls of all sinners to be full of joy and happiness’ (N *BCon* 30.21)

A striking difference between subject-to-subject raising in OHG and in PDG concerns the realization of raising in OHG. Recall that raising with verbs like *scheinen* is obligatory in PDG. As examples like (15) show, raising seems to be optional in OHG: Though the subject argument is ambiguous between nominative and accusative case marking, its occurrence in an extraposition structure rather supports a non-raising analysis with the subject argument of the embedded verb marked for accusative case. I will take up again this pattern in sections 3.3 and 4 from a different perspective.

- (15) *úns sôl mit réhte dúnchen [âllero tât-o*
 us.DAT.PL shall with justification think all deeds-GEN.PL
lôn. an dîu uuésen. dâr úmbe man siu tuot]
 reward.ACC.SG at this be because of that one them.ACC.PL does
 ‘Rightly, the reward of all deeds should be the reason why you do them’
 (N *BCon* 195.21)

Considering the complementation pattern of *thunken* in OHG, the historical record clearly shows a preponderance of nominal complements. The question to be asked, therefore, seems to be whether we deal with a copula subcategorizing for a predicative complement for all phrasal types. The etymology of the infinitive as a nominal category would corroborate such an analysis. Further evidence along these lines is provided by environments where the infinitive undoubtedly functions as a predicative complement, i.e., as a complement of copular verbs such as *sein* ‘be’ and *werden* ‘get’. Since predicative constituents typically do not assign accusative case to a Theme argument, nominative case is assigned to the arguments in question. An unambiguous example with respect to case marking is displayed under (16) with the object argument of the transitive verbs *sagen* ‘say’ and *lêren* ‘teach’ marked for nominative case.

- (16) *ter ûnderskeit ist ze sâgenne. unde mit exemplis ze lêrenne*
 the.NOM difference is to name and with examples to impart
 ‘the difference is to be named and to impart by way of examples’ (N *BInt* 65.7).

Infinitival complements of *thunken*, however, exhibit a different syntactic behavior: As illustrated in (17), the transitive verb *rûoren* ‘touch’ assigns accusative case to its complement *himel* ‘sky’:

- (17) *Ândera uuîla tûohta si mir den himel rûoren.*
 now seemed she.SG.NOM me.DAT the.ACC sky touch
mit ôbenahtigemo houbete
 with highest head
 ‘she now seemed to me to touch the sky with the highest head’ (N *BCon* 8.7)

In my view, data like (17) suggest that *thunken* is not a copular verb in such a context. While complements of copulas as *sein* and *werden* behave all alike with respect to case assignment, we observe an obvious difference between AP and NP complements of *thunken* on the one hand, and VP complements on the other regarding the assignment of accusative case. Further evidence for predicative complements and VP complements of *thunken* comes from the Aktionsart of the embedded non-finite verb: With *thunken* being a copula we would expect only stative verbs figuring as non-finite complements. This is obviously not the case: Examples like (12) and (13a) show that activity as well as accomplishment verbs may appear as complements of *thunken*.

Next, I will turn to the case of object-to-subject-raising, likewise attested in OHG.

3.2 Object-to-subject raising

So far, object-to-subject raising has received hardly any attention in the literature on infinitival syntax in OHG. The only pattern looked at is *sein/werden* + (adjective +) *zu*-infinitive in Demske-Neumann (1994). As a matter of fact, object-to-subject raising is also attested with control verbs in OHG, as will be shown shortly.

The list of unaccusatives appearing with infinitival complements in OHG clearly outnumbers the set of unaccusatives selecting infinitival complements in PDG. A

larger class of verbs, hence, allows for the raising pattern in question for reasons of argument structure, given in (18). Note that the list of possible raising verbs comprises for the moment only verbs involving dative control: At least in PDG, accusative control verbs do not enter patterns with object-to-subject raising (cf. section 2).

- (18) *gifallan (ge)lihhen gilimphan ginuagen girinnan (ge)spuon gezimen wegan*
 befit enjoy befit satisfy satisfy succeed befit worry

In (19) an example for raising from object-to-subject is given with the unaccusative verb *gilimphan* ‘benefit’. Subject-verb-agreement with respect to number corroborates the raising analysis for *thiu* ‘they’ originating as object argument of *halon* ‘bring’.

- (19) *thiu gilimph-ent mir zihalonne*
 they.NOM.PL benefit-PL me.DAT.SG to bring
 ‘I have to bring them’ (T 226.3)

As for passivized matrix verbs with infinitival complements of transitive verbs, we find examples with dative control verbs like *gilâzan* ‘grant’ and *arlouben* ‘allow’ yielding the pattern of object-to-subject raising: Case morphology as well as subject-verb-agreement with respect to number tell us that the object arguments of both transitive verbs *singan* ‘sing’ as well as *ezzan* ‘eat’ are realized as subjects of the respective matrix verbs, namely *ymnus* ‘hymn’ in (20a) and *thiu* in (20b).

- (20) a. *Allen sinen hêilig-on uuirdet ymn-us kelâzen ze sîngenne.*
 all his saints-DAT.PL gets.SG hymn NOM.SG granted to sing.
Den ymn-um singent sie in celesti ierusalem
 the hymn-ACC.SG sing-3.PL they in heaven Jerusalem
 ‘all saints are granted to sing the hymn. The hymn, they sing in heaven’
 (N Ps 537.9)
- b. *inti gâb then thie mit imo uuarun thiu erloubit*
 and gave them.DAT.PL who with him were that.NOM.PL allowed
ni-uuar-un im-o ziezzanne
 NEG-were-3.PL him-DAT.SG to-eat
 ‘and he gave them, who were with him, the bread that nobody was allowed to eat (T 105.27)

Though there is a syntactic relation between the subject in all three examples displayed under (19) and (20), a thematic relation exists only between the subject and the respective non-finite verb. All matrix verbs behave alike in selecting an Experiencer argument which functions as a controller for the infinitival complement.

Besides raising patterns as illustrated above, we find infinitival constructions lacking any instance of raising in the historical record: In (21a) and (21b) two instances of dative control verbs are given with the unaccusative verbs *spuon* ‘manage’ and *girinnan* ‘satisfy’: Though the unaccusative *spuon* does not select a subject argument, the object argument *sînen namen* ‘his name’ of the embedded infinitive is obviously marked for accusative case, hence has not been promoted to the subject of the matrix clause.

This likewise holds for the object argument of *irfollon* ‘to make complete’ in (21b). Hence, both examples do not instantiate object-to-subject raising.

- (21) a. *Dáz tém-o níeht ne-gespúe sîn-en námen únder*
 that this one-DAT.SG not NEG-succeed his-ACC name under
mánigen lúten ze-gebréitenne
 many people to-spread
 ‘that he doesn’t succeed to spread around his name’ (N *BCon* 99.7)
- b. *daz din-ero chreft-o ne-gerinnet sia ze irfolenne*
 that your-GEN power-GEN NEG-satisfies her.ACC to make complete
 ‘that it doesn’t satisfy your power to make her complete’ (N *Ps* 470.7)

Object-to-subject raising constructions in OHG obviously pattern with their PDG counterparts with respect to optionality, cf. section 2. They behave differently only regarding the realization of a grammatical subject: While an expletive *es* ‘it’ has to be realized in PDG, the corresponding patterns in OHG lack an expletive item.

The question to ask at this point is whether accusative control verbs behave in fact in OHG as they do in PDG, namely whether they do not allow for object-to-subject raising. Considering accusative control verbs selecting for infinitival complements in OHG, we observe that there is in fact a class of verbs¹³ lacking a subject argument

- (22) *anagân erdriezen gilimphan langên lustên*
 befit annoy befit yearn for yearn for

suggesting that we might find examples of object-to-subject raising as we did for dative control verbs. But so far, the only pattern attested with verbs of this class involves infinitival complements with the non-finite verb assigning accusative case to its object argument. Hence, the historical data do not provide evidence for a behavior of accusative control verbs in OHG and PDG distinct with respect to raising.

- (23) *Nû lústet míh [mîn-a hánt zu mír ze-zíhenne]*
 now yearn me.ACC my-ACC hand to me to-draw
 ‘I now yearn to draw my hand towards me’ (N *BCon* 49.7)

A third case of object-to-subject raising to consider involves copular verbs such as *wesan* ‘be’ and *werdan* ‘get’, verbs which frequently combine with infinitival complements in OHG.¹⁴ Object-to-subject raising is furthermore attested in *tough movement*

13. The verb *gilimphan* ‘befit’ is attested with controllers either in accusative or in dative case.

14. While examples with *wesan* + *zu* + infinitive abound in OHG, only a few instances of the corresponding pattern with *werdan* are attested. No example exhibits an unambiguous instance of raising to subject; in most instances, the object argument of the embedded infinitive might be marked either for nominative or accusative case:

Únde demo chúnign-e dáz ze-uuízenne uuúrte
 ‘and that came to be well-known to the king’ (N *BCon* 23.15).

constructions, i.e., constructions built by *sein* + adjective + *zu*-infinitive. In (24) either case marking and/or number agreement of subject and finite verb unambiguously identify the object argument of the non-finite verb as the subject of the respective copula. Again, all subjects are theta-marked by the embedded infinitive.

- (24) a. *ter underskeit ist ze ságenne. unde mit exemplis ze lèrenne*
 the.NOM.SG difference is.SG to name and with examples to impart
 ‘the difference is to be named and to impart by way of examples’
 (N *BInt* 65.7)
- b. *Uuánda díse caus-e sémfte sínt ze-bechénnene.*
 because these reasons-PL easy are.PL to make out
 ‘because reasons are easy to make out’ (N *BCon* 211.4)

Regarding their optionality, the above presented patterns behave as the verbs considered so far: Impersonal constructions arise either with transitive or with intransitive verbs embedded by the copula verbs *sein* and *werden*. With tough movement constructions, on the other hand, object-to-subject raising is optional as well, as exemplified in (25): The noun phrase *den rât* ‘the advice’ (25c) is marked for accusative case by the transitive verb *helan* ‘conceal’.

- (25) a. *Êr dáz sô ergánge. êr uuírt temo orator-i ze-geougenne.*
 before this so happens before gets the.DAT orator-DAT to-prove
día meisterschaft sín-es kechôses.
 the.ACC scholarliness his-GEN reasoning
 ‘before this happens, the orator has to prove the scholarliness of his reasoning’ (N *BCon* 60.30)
- b. *uuémo dés únde dés ze-getrüenne sí.*
 whom this.GEN and that.GEN to-believe be
 ‘whoever to give credence to in this matter’ (N *BCon* 87.1)
- c. *Sô íst únnúzze den rât íuuih ze-hélenne.*
 so is NEG-helpful the.ACC advice you.PL to conceal
 ‘it is not helpful to keep this advice from you’ (N *MC* 80.22)

As suggested by the historical data, both types of subject raising seem to be well established in OHG. Before taking a closer look into the word order properties correlated with raising patterns in PDG, I briefly discuss the question of possible Latin influences.

3.3 Latin influence?

The rare occurrences of subject-to-subject raising attested in Old English have been claimed to result from heavy interferences from Latin source texts (Traugott 1972; Denison 1993), cf.

- (26) *swa æt me ynce ofgemynde beon Paulines wundor*
 so that me.DAT seems out-of-memory be.INF Paulines miracle.NOM
Nolane burge biscop-es
 Nola city bishop-GEN
 ‘so that the miracle of Pauline, bishop of the city of Nola, seems to me to have
 been forgotten’
ita ut Paulini miraculum, Nolanae urbis episcopi, memoriae defuisse videtur
 (GD 179.8; Denison 1993: 221),

where the Latin verb *videri* was translated through Old English *pyncan*. The infinitival complement of the Latin source text corresponds to an infinitival construction in Old English.

For the verb *scînan* ‘seem’ it is in fact questionable whether we deal with instances of raising constructions genuine to OHG. There are only a few instances attested with *scînan* taking an infinitival complement. In (27a) the subject argument of the non-finite verb *manigiu ûngelimphe* ‘some hardship’ has certainly not been raised to the subject position of *scînan*, since the respective subject and the finite verb do not agree with respect to the morphological category of number. The subject argument in a second example, given under (27b), is unambiguously marked for accusative case, indicating a fairly close adherence to the Latin *apparere*-construction, though a Latin original lacks in this particular instance.

- (27) a. *Uuânda nû uuôla skînet. manig-iu ûngelimphe dannan*
 because now apparently seems some.PL.NEUT hardship from
ûz uuêrden.
 that originate
 ‘because some hardship seems to originate from that now’ (N *BInt* 67.23)
- b. *sô skînet ôuh tâz tu chîst. tia uuêneghêit ze-dêmo hâldên.*
 so seems also that you say the.ACC misery to the one hold
dêr daz ûnreht tûot. nâls iz lîdet.
 who the injustice does not it suffers
 ‘likewise, misery seems, as you say, to stick to this one who does the
 injustice not the one who suffers it’ (N *BCon* 206.27)

Data like (27) hence suggest that *scînan*, though selecting for infinitival complements, is not a raising verb in OHG. It rather subcategorizes for non-finite verbal complements assigning accusative case to the subject argument *in situ*, as in the Latin example taken from the source text where the subject argument of an embedded copula is marked for accusative case by the verb *apparet* ‘it is evident’:¹⁵

15. Cf. Miller (2002: 25), who quotes Latin examples as

apparet servom hunc esse domini pauperis

‘it appears that he is the slave of a poor master’ from Terence, Eunuch 486.

- (28) *Ex quo liquido apparet. ips-ius bon-i et beatitud-inis.*
 therefore certainly it is evident itself-GEN kindness-GEN and bliss-GEN
unam atque eandem esse substantia-m.
 one and the same be thing-ACC
 ‘certainly, kindness and bliss have to be the same thing’ (N *BCon* 162.26)

Moving to *thunken*-constructions in Notker, our main provider of *thunken*-data, they are in fact frequently translations of a construction figuring the Latin verb *videri* combined with an infinitive (cf. also the OE example above). (28) gives a characteristic example from OHG:

- (29) *tér dir dúnchet fár-en úmbe-duúngen.*
 he.NOM you.DAT seems flow-INF freely
 ‘he seems to you to flow freely’ (N *BCon* 236.30)
 que uidetur fluitare permissis habenis

In addition, however, we find not only *thunken* with infinitival complements lacking any Latin source but also *thunken* translating other syntactic patterns from Latin to OHG, as depicted in (30):¹⁶

- (30) *ne-uuéiz uuáz túnchet mír. dir gebrésten*
 NEG-know what.NOM seems me.DAT you.DAT lack
 ‘I don’t know what you seem to lack’ (N *BCon* 37.11)
 nescio quid abesse coniecto

Turning to object-to-subject raising patterns, a comparison between OHG and Latin shows that there is influence in some respects, while other examples indicate that the raising pattern in question was part of OHG syntax. The OHG example under (20b), repeated here as (31a), in particular, reveals a close dependence on the Latin text with respect to word order. However, as indicated by number agreement of the demonstrative pronoun *thiu* and the auxiliary *uuarun* the OHG author translated the Latin accusative object as a nominative subject in OHG. The second example chosen from Notker’s Psalms relates to a rather short Latin source text lacking any verbal head, cf. (31b).

- (31) a. *inti gáb then thie mit imo uuarun thiu erloubit niuuarun*
 & dedit his qui cum eo erant quos non licebat
im-o ziezzanne
 ei manducare
 ‘and he gave them, who were with him, the bread that nobody was allowed
 to eat (T 105.27)

16. *Videtur* has been translated in OHG also as *gesehen sein* ‘be seen’, as the following example from Tatian illustrates:

quid tibi videtur, Simon? ‘uuaz ist dir gisehan, Simon?’ (T 92.8).

- b. *Allen sinen hêilig-on uuirdet ymn-us kelâzen ze sîngenne.*
 all his saints-DAT.PL gets hymn-NOM.SG granted to sing
 all saints are granted to sing the hymn.
 Ymnus omnibus sanctis eius. (N Ps 537.9)

A quite similar picture results from a comparison of OHG and the corresponding Latin sources with respect to copular verbs. As pointed out in Demske-Neumann (1994: 75), many constructions including *sein* and *zu*-infinitive are translations from Latin gerundival constructions in texts from early OHG. In Notker's work dating from the end of OHG, however, the construction abounds, lacking a Latin model in many cases.

While we observe obvious influences from Latin source texts, cf. instances of the verb *scînan* with infinitival complements, there is a range of verbs exhibiting instances of raising either differing in crucial respects from the Latin source text or even lacking any Latin model at all. I take this to indicate that frequency effects might be influenced by the use of this construction in Latin texts, that raising patterns, however, are genuine parts of OHG syntax.

3.4 Summarizing the historical record

In this section I have provided evidence that contrary to common beliefs, two types of subject raising patterns are attested in OHG, namely subject-to-subject and object-to-subject raising. Regarding thematic restrictions, verbs allowing for raising to take place again fall into two classes: (i) verbs as *werdan* 'get' and *wesan* 'be' lacking any theta restrictions, and (ii) verbs assigning a theta role to their Experiencer argument such as *thunken*¹⁷ as well as dative control verbs lacking a subject argument (either as an unaccusative or a passivized verb). For all verbs, it holds that raising is optional, pointing to a crucial difference between OHG and PDG: In PDG only object-to-subject raising is optional while subject-to-subject raising has to take place obligatorily. Unaccusative adjectives like *semfte* 'easy', *(un-)nuzze* '(not) helpful' etc pattern with verbs of class (ii).

In PDG a relation holds between raising patterns and a cluster of word order properties indicating that raising constructions behave as coherent infinitival constructions. In the following section I will explore whether a similar correlation is attested in the historical record.

4. Word order patterns

In section 2 raising patterns were identified as coherent infinitival constructions by a cluster of word order properties resulting from their mono-clausal structure. Incoherent infinitival constructions, on the other hand, were shown to exhibit word

17. I refrain here from listing *scînan* as a possible raising verb because of the lack of evidence, cf. section 3.3.

order properties proving the infinitival complement as an independent syntactic constituent. Whereas verbs triggering subject-to-subject raising only occur in raising, hence coherent, infinitival constructions, verbs triggering object-to-subject raising also occur in incoherent constructions lacking any instance of raising. Therefore, a wider range of word order patterns is attested with verbs of the latter class in PDG.

In this section I focus on word order properties of raising verbs in OHG, addressing the issue whether the concept of coherence is a sensible concept to apply in OHG. Exploring subject raising patterns in OHG in section 3, we have found that subject raising is optional in OHG, whether the actual subject started out as subject or object argument of the embedded verb. We therefore expect no difference between subject-to-subject and object-to-subject raising constructions regarding word order patterns. First, I consider word order patterns associated with raising verbs; I then proceed to look into the word order properties of infinitival constructions headed by verbs obligatorily triggering incoherent constructions in PDG. Finally, I address the question whether infinitival complements are VPs and/or CPs in OHG.

4.1 Raising verbs

Incoherent infinitival constructions require the infinitival complement to form a single constituent. This constituent may occur clause-initially or it may be either intraposed (i.e., occur in the middlefield of the matrix clause) or extraposed. Word order patterns with infinitival complements not building a constituent can thus be taken to indicate a mono-clausal structure.

Raising constructions display two word order patterns in PDG: They occur either with the infinitival complement intraposed yielding coherent infinitival constructions or with the non-finite verb following the matrix predicate while some or all of its arguments precede the matrix predicate yielding Third Constructions. Both constructions pattern alike not only with respect to raising but also considering pronoun fronting. In the literature on infinitival constructions in PDG, both infinitival constructions are, hence, taken to imply a mono-clausal structure (Wöllstein-Leisten 2001). Note that intraposition of the infinitival complement is not a sufficient condition for an coherent construction as shown by examples with subject control verbs:¹⁸

18. Bech (1955) equates intraposition with coherency. Intraposed infinitival complements, however, behave differently regarding the classical tests for coherence: Though extraposition is favored with infinitival constructions headed by obligatorily incoherent control predicates, they also allow for intraposition of the infinitival complement displaying biclausal behavior, cf. the example taken from Reis and Sternefeld (2004):

weil Peter nicht da gewesen zu sein aufs Äußerste bedauerte
 'because Peter not there present to be utterly regretted'.

- (32) *diê [mîna sêla nals ze bîldonne sunder ze ferliêsenne] suôchent*
 they-NOM.PL my soul not to portray but to spoil tried
 ‘those, who didn’t try to portray but to spoil my soul’ (N Ps 243.6)

Since verbs like *suochhen* ‘try’ occur in coherent and incoherent infinitival constructions, i.e., with extraposition as well as with word order patterns indicating a coherent structure, we cannot decide for examples like (38) whether the non-finite verb and the matrix verb form a constituent or whether it is rather the non-finite verb and its object argument that build a single constituent.¹⁹

In OHG no instances are attested of intraposed infinitival complements exhibiting diagnostics for coherent infinitival constructions, i.e., subject raising or pronoun fronting. But, as the historical record shows, Third Constructions are closely related to raising patterns in OHG: There are many examples where the arguments of an embedded non-finite verb occur in the middlefield of the matrix clause while the non-finite verb itself is extraposed. In (33a) it is the subject argument and in (33b) the object argument of the embedded infinitive that precedes the finite verb in sentence-final position. Both arguments figure as subjects of the respective predicates, i.e., *thunken* ‘think’ and *gilâzan* ‘grant’, and both arguments get a definite interpretation, even the object argument of *singan* in (33b), though it is not explicitly marked for definiteness.²⁰ In contrast to PDG, Third Constructions are not restricted to *zu*-infinitives but occur with bare infinitives as well, cf. (33a).

- (33) a. *sô gezîmet uuôla. dâz er mênnsk-ôn ne-dúnche*
 so befit surely that he.NOM men-DAT.PL NEG-thinks
hônem nâmen bréiten
 humiliating name spread
 ‘for all men, it befits surely, that he doesn’t think to spread his humiliating name’ (N BCon 133.27)
- b. *Allen sinen hêilig-on uuirdet ymn-us kelâzen ze sîngenne.*
 all his saints-DAT.PL is hymn-NOM.SG granted to sing.
 ‘it is granted to all saints to sing the hymn.’ (N Ps 537.9)

19. The historical record, however, suggests that as soon as the non-finite verb and its arguments build one constituent the infinitival complement tends to be extraposed. Grosse (2005) presents quantitative results for the frequency of particular word order patterns of infinitival constructions in PDG: According to her findings, the occurrence of extraposition patterns of most control verbs triggering either coherent or incoherent infinitival constructions outnumbers any other pattern by far. Thus, it does not seem very plausible to relate the high frequency of extraposition patterns with infinitival complements to its less restricted use in OHG, cf. Lenerz (1984); Axel (2007).

20. Cf. den Besten & Rutten (1989) for data from Present-Day Dutch.

Though it is possible to analyze both word order patterns under (32) as instances of Third Constructions, (32b) might also be interpreted as an instance of verb raising with the embedded infinitive having moved from the left to the right of the matrix verb. Going on the assumption that OHG is an OV-language,²¹ we expect the embedded verb to precede the matrix verb in a verbal cluster. This word order is in fact the prevailing order in all cases where the embedded verb is a past participle, while we find many instances of the reverse order with the non-finite verb being an infinitive (either bare or *zu*-infinitive).²² Obviously, no restriction holds with respect to the matrix verb in question: Besides main verbs, modal verbs as well as the auxiliary *sein* 'be' are attested with instances of local inversion.²³ Whether we analyze examples such as (32b) as instances of Third Constructions or verb raising, however, doesn't matter for the question of coherency: Both word order patterns behave alike considering the lack of an infinitival constituent. Apart from indicating a mono-clausal structure, verb raising also implies the building of a verbal cluster. The question whether we are dealing with verbal clusters already in OHG is as yet an open issue going far beyond the scope of this chapter, cf. Oubouzar (1974).

More examples for either Third Constructions or verb raising are provided by infinitival constructions lacking any instance of raising. The pertinent word order patterns also occur in contexts where the object argument of the embedded verb is assigned accusative case. In (34a) it is a pronominal NP, and in (34b) a full NP that occur in the middlefield, while the infinitive is extraposed. Some examples include instances of pronoun fronting, cf. (34c),²⁴ providing further evidence for the mono-clausal character of the word order patterns in question. In this respect, subject control verbs as *biginnan* and *denchen* behave as their PDG counterparts (cf. the subject control verb *versuchen* in section 2).

- (34) a. *Uuára ih tîh pegunnen hábo ze-leitenne*
 where I you.ACC begun have to-lead
 'where I have begun to lead you' (N *BCon* 109.27)

21. Cf. Axel (2007) for a recent account of word order patterns in OHG.

22. In PDG verb raising is restricted to bare infinitives. Since next to nothing is known about verb raising in OHG, it is impossible to decide upon the instances of string inversion documented in the historical record whether they all fall under verb raising or might get a quite different explanation.

23. Examples of two- and three-part verbal clusters are:

- i. *den er furhtet ferlîesen* 'which he dreads to lose' (N *BCon* 121.17)
- ii. *sô er sâgeta. uuio sâliglîh tâz uuâre ze-tûonne.*
 'how he said how propitious this was to do' (N *BCon* 104.25)
- iii. *dâz nioman nemâg triegen.* 'which nobody might deceive' (N *BCon* 240.3)
- iv. *tâz iz târ sôlti fûnden uuêrden.* 'that it should be found there' (N *BCon* 235.25).

24. Note that the demonstrative pronoun in (33c) is ambiguous between accusative and nominative case.

- b. *daz sie sīna predīstinationem dāhton ze iruuéndenne*
 that they.NOM.PL his objective thought to avoid
 ‘that they intended to avoid his objective’ (N *Ps* 11.15)
- c. *uuānda dāz ten consul-em ānagieng ze-tūonne*
 because this.ACC.SG the consul-ACC.SG befit to do
 ‘because it is up to the consul to do this’ (N *BCon* 127.4)

Along with patterns of third constructions where we find an argument of the embedded non-finite verb appearing in the middlefield, we observe word order patterns where the respective argument occurs topicalized. Though in most examples no decision can be made regarding the position of the non-finite verb, the word order pattern provides further evidence for a mono-clausal structure, because the embedded verb and its arguments do not form a constituent: In (35) the infinitive might follow the matrix verb while either the subject or the object argument of the non-finite verb appear clause-initially. And while the *thunken*-example in (35a) and the control construction in (35b) are both instantiations of subject raising, as indicated by subject-verb agreement, the object argument of *zieren* ‘grace’ in (35c) is marked for accusative case, indicating an impersonal construction. Hence, as with Third Constructions, the word order pattern is attested for raising and non-raising constructions.

- (35) a. *tiu mūgen mann-e dūnchen uuēsen negations*
 these.NOM.PL might man-DAT.SG think be negations
 ‘for men, these seem to be negations’ (N *Blnt* 57.17)
- b. *thiu gilimph-ent mir zihalonne*
 they.NOM.PL befit me.DAT.SG to bring
 ‘I have to bring them’ (T 226.3)
- c. *Tin-en brūtestūol lūstet mīh ze-zierenne mīt sänge.*
 your-ACC.SG bridal chair appeals me.ACC to-grace with singing
 ‘it appeals to me to grace your bridal chair with singing’ (N *MC* 112.1)

The data presented so far suggest a strong correspondance between subject raising and word order patterns such as Third Constructions (probably also verb raising) or topicalization, clearly indicating that with both types of subject raising there is no constituent comprising a non-finite verb and its arguments.

On the other hand, the optionality of raising with all verbs under consideration suggests that we find extraposition patterns attested for subject-to-subject as well as for object-to-subject raising. This prediction is in fact borne out: Extraposition is frequently attested with verbs of both classes. On the one hand, it is attested with control verbs lacking a subject argument such as the unaccusative *spuon* ‘manage’ and the passivized verb *arlouban* ‘allow’, cf. (36a) and (36b). Note that we deal with impersonal constructions in both instances, i.e., the object argument of the embedded infinitive is assigned accusative case with no instance of raising involved.

- (36) a. *noh mir ne-gespuota [siê ze irreichenne]*
 neither me.DAT NEG-managed, them.ACC.PL to reach
 ‘neither I managed to reach them’ (N *Ps* 446.20)
- b. *uns n-ist erloubit [zi slahanne eining-an]*
 us.DAT NEG-is allowed to execute anyone-ACC
 ‘we are not permitted to put anyone to death’ (T 194.3)

Likewise, extraposition is attested for *thunkan* ‘think’ and *scînan* ‘seem’, yielding impersonal constructions as well. The subject argument of the non-finite verb is assigned accusative case by the matrix verb in question (cf. section 3.3).

- (37) a. *úns sól mit réhte dúnchen állero tát-o*
 us.DAT.PL shall with justification think all deeds-GEN.PL
lôn. an díu uuésen. dâr úmbe man siu tuot
 reward.ACC.SG at this be because of that one them.ACC.PL does
 ‘Rightly, the reward of all deeds should be the reason why you do them’
 (N *BCon* 195.21)
- b. *sô skînet óuh táz tu chîst. tia uuêneghéit ze-démo*
 so seems also that you say the.ACC.SG misery to the one
hâldên. dér daz únreht tûot. náls iz lidet.
 hold who the injustice does not it suffers
 ‘likewise, misery seems, as you say, to stick to this one who does the
 injustice not the one who suffers it’ (N *BCon* 206.27)

In sum, raising verbs allowing either for subject-to-subject raising or object-to-subject raising obviously behave alike in two respects:

- All subject raising verbs are equally attested in raising and non-raising contexts.
- Word order patterns such as pronoun fronting, Third Constructions, topicalization and extraposition match the raising and the non-raising pattern respectively.

I conclude that subject raising verbs have to be attributed to only one verbal class in OHG, though they fall apart with respect to the verbal case they govern: Subject-to-subject raising verbs always select bare infinitives, while object-to-subject raising verbs select *zu*-infinitives. Hence, the coherence rule stated by Bech (1955) does not hold for OHG: According to this rule, we would expect subject-to-subject raising verbs occurring exclusively in coherent infinitival constructions. This prediction, however, is not borne out in OHG.

This two-fold distinction between (non-)raising contexts and particular word order patterns carries over to unaccusative adjectives, cf. (38). In *tough movement* constructions, the object argument of the embedded non-finite verb appears as the grammatical subject of the matrix predicate (cf. number agreement in (39a)), while the infinitival complement is extraposed yielding an impersonal construction in non-raising contexts (39b).

- (38) *gûot (un-)nuzze umbechâme unsenfte unmahtlih uuunnesam lustsam*
 good (un-)helpful impossible difficult impossible marvellous pleasant
- (39) a. *dîu nûzze sint ze-eruárenne.*
 these.PL helpful are.PL to-learn
 ‘these are helpful to learn’ (N MC 88.19)
- b. *Sô ist únnúzze den rât íuuih ze-hélenne.*
 thus is NEG-helpful the.ACC piece of advice you to-conceal
 ‘it is not helpful to conceal this piece of advice from you’ (N MC 80.22)

Furthermore, the historical facts seem to suggest that we have to distinguish between coherent and incoherent infinitival constructions already in OHG and that all subject raising verbs belong to a class of verbs triggering either coherent or incoherent infinitival constructions. In order to determine, however, whether extraposition of infinitival complements in fact indicates an incoherent infinitival structure, we have to consider word order properties of infinitival constructions headed by verbs always triggering incoherent infinitival constructions.

4.2 (In-)Coherence in OHG?

The findings with respect to word order patterns of infinitival constructions in OHG suggest that subject raising verbs construe either incoherently or coherently. In the former case the infinitival complement is extraposed, in the latter case the non-finite verb does not build a constituent comprising the non-finite verb and its arguments and modifiers. In this section I will address the question whether we should in fact capture the observed differences with respect to word order in terms of (in-)coherence. For this reason, I look again into the word order properties of verbs taking infinitival complements, putting my focus now on verbs which construct either coherently or incoherently in PDG. If the concept of (in-)coherence provides in fact a means to account for the word order properties of infinitival constructions in OHG, we should expect the predicates in question to pattern with raising verbs either in their raising or their non-raising variant. The predicates to consider are (i) verbs triggering accusative control, (ii) verbs selecting propositional or factive arguments and (iii) modal verbs.

As first observed by Haider (1993: 251), verbs triggering accusative control never enter coherent infinitival constructions for structural reasons.²⁵ Therefore, they do not allow object-to-subject raising in PDG, cf. (8) in section 2. Does this observation carry over to OHG, i.e., to verbs like *lêren* ‘teach’, *lustên* ‘appeal’, *anâgan* ‘befit’ and *erdriezen* ‘annoy’? If these verbs behave in OHG as their PDG counterparts, we expect to find

25. The building of a verbal cluster, hence a coherent infinitival construction, requires the embedded verb to figure as direct object in the argument structure of the matrix predicate. With accusative control verbs, however, this position is occupied by the controller argument.

only examples with the infinitival complement building one constituent. In fact, many examples are attested exhibiting this very pattern either in unambiguous extraposition structures or in clauses where a main verb in V2 position does not allow to decide whether the infinitival complement occurs in the middlefield or in an extraposed position, cf. (40b).²⁶

- (40) a. *Âne daz er únsih lêret diemuôte uuésen*
 without that he us-ACC teaches humble be
 ‘without him teaching us to be humble’ (N Ps 132.11)
- b. *er lêret sie iz pedenchen.*
 he teaches them.ACC it consider
 ‘he teaches them to consider it’ (N Ps 256.23)

However, the historical record also attests infinitival constructions with accusative control where the infinitival complement obviously forms no constituent, as with pronoun fronting, cf. (34c), or topicalization structures:

- (41) *Tára lústet míh ze chómenne*
 thither appeals me to come
 ‘it appeals to me to come thither’ (N Ps 80.1)

As for control verbs with propositional or factive arguments, they exclusively exhibit word order properties indicating an incoherent infinitival construction in PDG. With verbs like *bichennen* ‘confess’, *biheizan* ‘presume’, *gilouben* ‘believe’, *meinen* ‘mean’ and *gíforabotan* ‘announce’, however, obvious extraposition patterns are hard to find in OHG. Instances like (42) with *biheizan* ‘presume’ are rare, rendering it difficult in most cases to decide upon the position of the infinitive when the respective verb occurs in a V1- or V2-clause with a single verb. On the other hand, no examples are found with a word order pattern indicating that the infinitival complement is not a constituent, hence, no counterevidence is provided by this class of data.

- (42) *huuer sih dhes biheizssit [sia zi archennenne]*
 whoever himself that.GEN.SG presumes them.ACC.PL to recognize
 ‘whoever presumes to recognize them’ (I 2.3)

In PDG modal verbs are considered to trigger exclusively coherent infinitival constructions. Reis (2001), suggesting a graded notion of (in)coherence, considers modal verbs as displaying a stronger degree of coherence than other verbs heading coherent infinitival constructions. Assuming that modal verbs construct coherently rather than incoherently in OHG, we expect infinitival constructions with modal verbs to pattern with infinitival constructions exhibiting instances of raising, but in particular

26. This observation also holds for verbs like *thunkan* ‘think’ and *gilimphan* ‘befit’ alternating between dative and accusative case marking of the Experiencer argument. No instance is attested where raising co-occurs with an accusative controller argument.

to not allow for extraposition structures. This prediction, however, is not borne out: Besides many instances of intraposed infinitival complements, extraposition of the complement is attested as well.

- (43) *táz tu dānne mūgīst taz uuāra lieht kesēhen.*
 that you then might the genuine light see
 ‘that you might see the genuine light then’ (N BCon 40.11)

The historical facts considered so far suggest that verbs taking infinitival complements do not fall into different classes with respect to word order, as their counterparts in PDG do. The attested word order patterns rather occur independent of the respective matrix predicate (verb or adjective). The conclusion to be drawn is therefore to account for word order properties of infinitival constructions in OHG not in terms of (in-)coherence. To allow for subject raising as well as pronoun fronting, Third Constructions and topicalization, we merely have to require a mono-clausal structure for the infinitival constructions in question, leaving us with the question what syntactic category to assign to the infinitival complement in extraposition structures.

4.3 Sentential complements?

Word order patterns seem to support a two-fold distinction of infinitival constructions in OHG: (i) infinitival constructions where the embedded verb and its arguments appear as a constituent, displaying instances of raising with an argument of the non-finite verb occurring in the matrix clause; and (ii), infinitival constructions where the infinitival complement appears as a constituent which is extraposed in most cases. I assume in accordance with current work that infinitival complements in constructions displaying word order patterns of the first class are VPs. The question to be addressed, however, relates to the analysis of infinitival complements in extraposition structures. Most work on infinitival syntax in PDG is based on the standard assumption that extraposed infinitival complements are CPs in PDG. In my view, there is no support for a CP analysis of infinitival complements in OHG. We rather observe evidence for a mono-clausal structure in these constructions as well.

Evidence comes first from indefinites such as *einīg/eining* ‘anyone’: According to Braune & Reiffenstein (2004: 253), their distribution is restricted to negative and interrogative clauses. The OHG data provide in fact instances of *eining* as the object argument in an extraposed infinitival complement. Its occurrence is motivated by the negative particle *n-* clitized to the auxiliary *sein* ‘be’, hence the infinitival complement does not constitute a clausal domain by itself.

- (44) *uns n-ist erlobit [zi slahanne einingan]*
 us NEG-is allowed to execute anyone
 ‘we are not permitted to put anyone to death’ (T 194.3)

Further support for a mono-clausal analysis of infinitival complements is found in *aci* contexts: In contrast to PDG, even the non-finite complement in *aci* constructions

might be extraposed (as well as the infinitival complement of modal verbs, cf. 4.2), but still the subject argument gets case from a perception or a causative verb. Under the assumption that case is assigned under government, examples like (45) support a VP analysis of infinitival complements in *aci* contexts, just as instances of *thunken* and *scînan* with the infinitival complement in extraposition structures do, cf. the examples in section 4.1.2.

- (45) *sô ir sament sehent. ten mennisk-en in-erdo gan. unde dia*
 as you together see the.ACC man-ACC on-earth walk and the.ACC
sunnun in-himile ûf kan.
 sun in-sky rise
 ‘as all of you see man walk on earth and the sun rise in the sky’ (N *BCon* 266.20)

Data like (44) and (45) suggest that extraposition is not a sufficient condition for the assumption of a CP complement in extraposition patterns. This is not to say that infinitival complements of verbs might never get an analysis as CPs. Support for a bi-clausal structure may also come from scope facts: Only within a bi-clausal structure negation as well as temporal adverbs can take narrow scope, i.e., scope over the embedded infinitival complement, thus indicating two independent clausal domains, while a mono-clausal structure always induces a wide scope reading, cf. Meurers (2000) among others. Examples of temporal adverbials in infinitival constructions, however, are hard to find. One of the few examples in the corpus definitely exhibiting an instance of narrow scope occurs in Tatian, an OHG text known for its close adherence to the Latin original.

- (46) *uuanta so gilanf christ tróen. Inti arstantan fon tode*
 that so befit Christ suffer and rise again from death
thritten tag-es
 third day-GEN.SG
 ‘that the Christ would suffer and rise again from the dead the third day’
 et sic oportebat Christum pati et resurgere a mortuis die tertia (T 334.15)

As to scope of negation, the word order properties of double negation (with a negative particle preceding the matrix verb and the negative adverb appearing in the middle-field, cf. Donhauser (1996)) only allow for wide scope readings (apart from cases with contrastive negation):²⁷

- (47) *dáz ne-uuárd in nieht kelâzen ze-bechénne*
 this.NOM/ACC NEG-got them.DAT.PL not granted to-know
 ‘they are not entitled to know this’ (N *BCon* 182.11)

27. One example is:

diê mina sêla nals ze bildonne sunder ze ferliêsenne suôchent
 ‘those, who didn’t try to portray but to spoil my soul’ (N *Ps* 243.6)

In sum, while data like (44) and (45) support a mono-clausal structure also for infinitival constructions exhibiting an instance of extraposition, no conclusive evidence can be provided for a bi-clausal structure of infinitival constructions in OHG. I therefore suggest to assume a mono-clausal structure also for infinitival constructions with extraposed infinitival complements, i.e., VP complements.

5. Conclusion and outlook

In this chapter I have demonstrated that subject raising is not a fairly young development in the history of German but is already a genuine part of infinitival syntax in OHG. Subject raising comes in two types, namely subject-to-subject raising and object-to-subject raising. Furthermore, we have seen that all verbs occurring in raising patterns also allow for a non-raising variant, i.e., an impersonal construction with the subject or object argument of the non-finite verb assigned accusative case *in situ*. Thus the question arises whether the raising and non-raising variants exhibit systematic differences with respect to word order properties as they do in PDG, best captured by the notion of (in-) coherence. The word order patterns available for raising verbs in OHG in fact suggest that there is a systematic difference. A comparison with word order properties of accusative control verbs, however, suggests that we have to distinguish between diagnostics indicating a mono-clausal structure and diagnostics indicating the building of a verbal cluster. Only the first type of diagnostic elements is supported by historical facts: No instance of VC-fronting is attested, and the potential cases of verb raising rather seem to be instances of Third Constructions. Word order properties of modal verbs, on the other hand, show that a diagnostic for incoherence such as extraposition apparently is not a reliable diagnostic element in OHG. Infinitival constructions with raising verbs are consequently mono-clausal structures with a preference for Third Constructions, pronoun fronting and topicalization in their raising variant, while extraposition is preferred with the non-raising variant.

In PDG verbs like *dünken* ‘seem’ and *scheinen* ‘seem’ are restricted to subject-to-subject raising constructions with the non-raising variant attested in OHG no longer available. The loss of the impersonal pattern might be attributed to the general decline of impersonal constructions in the history of German, as evidenced for example by the gradual increase in frequency of *es*-constructions at the expense of impersonal constructions (Lernerz 1985).

In contrast, verbs allowing for object-to-subject raising in OHG still occur in a raising and a non-raising variant, albeit the class of possible verbs has suffered considerable losses: Many verbs like *gelimphan* ‘befit’ and *(ge-)spuon* ‘succeed’ no longer belong to our mental lexicon. Both variants are not very frequent with those verbs still available in PDG. Object-to-subject raising constructions formerly headed by an unaccusative adjective on the other hand are still quite productive in PDG due to their reanalysis as modal passive constructions in which the predicative adjective has been reanalyzed as

having an adverbial function and the copula verb and the non-finite verb have been reanalyzed as a verbal cluster, cf. Demske-Neumann (1994).

The distinctive behavior of coherent and incoherent infinitival constructions arises only with the increase of the auxiliarisation process affecting verbs with infinitival complements. And only with this process well under way do we observe the building of verbal clusters. This process is apparently further advanced in PDG with what Wurmbrand (2001) calls functional predicates as compared to lexical predicates. And according to Reis (2001), the building of verbal clusters is influenced by the verbal case of the non-finite verb: Bare infinitives all construe coherently in PDG, while *zu*-infinitives display both options. Whether these assumptions have in fact a diachronic reality can only be revealed by a scrupulous reconstruction of the development of individual verbs selecting infinitival complements, but this has to be left to further research.

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The New Passive in Icelandic really is a passive

Thórhallur Eythórsson
University of Iceland

Contra the standard account by Maling & Sigurjónsdóttir (2002), I argue that the New Passive in Icelandic is a passive without NP-movement but with structural accusative case assignment. The absence of structural accusative in the Canonical Passive and its presence in the New Passive is attributed to parametric variation in a case feature in a functional head taking a VP complement. Thus, the New Passive is comparable to the *-no/to*-construction in Ukrainian, a passive preserving structural accusative case. Moreover, parallels in Norwegian and Faroese are pointed out. Finally, I propose that the New Passive emerged from a reanalysis of the canonical existential passive (*það*-passive) with a postverbal NP. The locus for the reanalysis involves cases where the canonical existential passive without NP-movement and the New Passive cannot be distinguished morphologically.

1. Introduction

A syntactic change currently underway in Icelandic involves a construction exhibiting passive morphology which is variously termed the New Passive (Icel. *nýja þolmyndin*; Kjartansson 1991) or the New Impersonal Construction (Maling & Sigurjónsdóttir 2002). For now I label it the New Construction (NC). As shown in (1), the NC contains the auxiliary *vera* ‘be’ and a non-agreeing past participle which is able to assign accusative case to an argument in postverbal position. The postverbal NP can be either definite, as in (1a–b), or indefinite, as in (1c). The expletive *það* ‘it’ is inserted before the finite verb, in the absence of another initial element. As is generally the case in Icelandic, the expletive functions as a placeholder and not as an argument.¹

1. For convenience most examples of the NC (and the canonical existential passive) in this chapter contain sentences with an initial *það* ‘it’, which can occur either in main or embedded clauses, but it is absent in topicalizations, *wh*-questions and verb-initial clauses, e.g., yes/no-questions.

- (1) a. *Það var barið mig.* NC
 it was beaten.N.SG me.ACC
 ‘I was beaten.’
- b. *Það var barið litla strákin.* NC
 it was beaten.N.SG little.DEF.ACC boy.the.ACC
 ‘The little boy was beaten.’
- c. *Það var barið lítinn stráka.* NC
 it was beaten.N.SG little.ACC boy.ACC
 ‘A little boy was beaten.’

The Canonical Passive is also formed with the auxiliary *vera* ‘be’ and a past participle, which, however, exhibits agreement with a nominative NP. It occurs in two kinds of clauses. On the one hand, these are clauses involving full NP-movement, i.e., movement to the canonical subject position (‘SpecIP’), as in (2a); this is the ‘typical’ instantiation of passive, henceforth labeled Full Passive. On the other hand, there are existential clauses containing the expletive *það* ‘it’ (the *það*-passive), as in (2b–c), in which the ‘associate’ NP of the expletive is in a structurally ‘lower’ position, surfacing either to the left or to the right of the participle. In the NC the postverbal NP can be definite, but the canonical *það*-passive (2b–c) only allows indefinite NPs.

- (2) a. *Ég var barinn.* CanPass
 I.NOM was beaten.M.NOM
 ‘I was beaten.’
- b. *Það var lítill strákur barinn.* CanPass
 it was little boy.M.NOM beaten.M.SG
 ‘A little boy was beaten.’
- c. *Það var barinn lítill strákur.* CanPass
 it was beaten.M.SG little boy.M.NOM
 ‘A little boy was beaten.’

The first mention of the NC in Icelandic seems to be in Bernóðusson (1982: 212). A couple of years later the construction was noted in a newspaper column by a well-known Icelandic language purist, urging his readers to correct children if they heard them using it (Hálfðanarson 1984: 31). The NC was briefly discussed by Sigurðsson (1989: 355–356), but Kjartansson (1991) was the first to examine it in some detail. Then, in the fall and winter of 1999–2000, the construction was subjected to an extensive survey by Joan Maling and Sigríður Sigurjónsdóttir (Sigurjónsdóttir & Maling 2001, Maling & Sigurjónsdóttir 2002, Maling 2006). According to Maling

The use of passive in the English translation of the Icelandic NC does not necessarily indicate a commitment to a particular analysis of the syntactic status of the construction. It should be noted that the NC is generally ungrammatical for the present writer, although there is a certain amount of gradience in its acceptability.

and Sigurjónsdóttir,² the NC is mostly confined to the speech of children and adolescents; however, older speakers are known to use it, although it is unclear at which age they would have acquired it. The oldest documented examples unambiguously involving the NC date from the mid-20th century. According to Maling & Sigurjónsdóttir's survey, the NC is found in all parts of the country, but it is least common in the central/western part of the capital, labeled by them 'Inner Reykjavík.' Given that this area is where the level of education is the highest in the country, the diffusion of the innovation is clearly socially conditioned.

The synchronic status and the historical origins of the NC in Icelandic are debated. In the papers just cited, Maling and Sigurjónsdóttir have analyzed it as an 'impersonal active', containing a thematic null subject which must be [+human]. Furthermore, they claim that the NC does not have parallels in other Nordic or Germanic languages, but that there are typological parallels further afield, in particular in Polish and Irish. Finally, Maling and Sigurjónsdóttir claim that the NC arose from the passive of intransitive verbs ('impersonal passive') which was reanalyzed as an 'impersonal active' construction, and spread to transitives via passive of reflexive verbs. Other scholars, however, have argued that the construction is in fact passive, despite the unusual characteristics, and have suggested different accounts of its emergence (Kjartansson 1991, Guðmundsdóttir 2000: 111–113, Barðdal & Molnár 2003: 244–248, Eythórsson 2005).

In this chapter I examine the arguments which have been brought forth for the status of the NC (see also Thráinsson 2007). I show that these arguments do not favor an active analysis along the lines of Maling and Sigurjónsdóttir, and therefore I conclude that the construction really is a passive despite the accusative case marking of the postverbal NP, in breach of Burzio's Generalization, which states that a verb case-marks its object only if it θ -marks its subject (Burzio 1986: 178; see Lavine 2005 for a recent discussion of a comparable construction in Ukrainian; cf. section 5.4 below). However, in order not to prejudice the discussion, I will continue using the label New Construction (NC) until a conclusion regarding its status has been reached. In addition to the analysis of the NC, I propose a scenario about its emergence and development in Icelandic, and point out some parallels in closely related languages, in particular in Norwegian and Faroese, which have so far not figured in this discussion.

The organization of the chapter is as follows: In section 2 I give a brief descriptive overview of the main characteristics of the Icelandic Canonical Passive of transitive verbs as opposed to the NC. In section 3 I discuss 'impersonal' constructions involving

2. 'Maling and Sigurjónsdóttir' refers to the 2002 article by Maling and Sigurjónsdóttir, which is the point of reference here. Most of the examples of the NC in this chapter are taken from or based on this article. Other examples have been collected by the present author, often via the Internet or Icelandic media. – A large survey is currently underway at the University of Iceland, focusing among other things on the NC (Variation in Syntax; Prof. Höskuldur Thráinsson, Principal Investigator). The results of that survey could not be taken systematically into account here.

passive morphology ('impersonal passive') that can be formed to intransitive verbs. In section 4 I report on the main results of the study by Maling and Sigurjónsdóttir, as well as the analysis they propose of the NC as an 'impersonal active.' I subject their arguments to a fresh examination and show that they do not unambiguously favor an active analysis. In section 5 I evaluate the arguments for the NC as an impersonal active and present fresh ones for the position that this construction really is a passive. In section 6 I discuss the accusative case marking of the postverbal NP and point out some parallels to the Icelandic NC. In section 7 I present a scenario of the historical origins of the NC, arguing that it results from a reanalysis of the existential variant of the Canonical Passive without NP-movement. Section 8 concludes the chapter.

2. Transitive verbs: The Canonical Passive vs. the New Construction

2.1 Introduction

In this section I give a brief descriptive overview of the main characteristics of the Icelandic Canonical Passive of transitive verbs as opposed to the New Construction (NC). Starting with monotransitive verbs, in subsection 2.2.1 I discuss the two variants of the Canonical Passive, the Full Passive and the *það*-passive, and in subsection 2.2.2 I discuss the NC. Section 2.3 deals with ditransitive verbs, treating both the Canonical Passive and the NC.

2.2 Monotransitives

2.2.1 *The Canonical Passive*

As stated at the outset, in Icelandic the Canonical Passive is formed with the auxiliary *vera* 'be' and a past participle, which exhibits agreement with nominative NPs. With monotransitive verbs the internal argument (object) in an active sentence, as in (3), shows up as the subject of a passive sentence.

- (3) *Einhver lamdi stúlkuna.* Active
 someone beat girl.the.F.ACC
 'Someone beat the girl.'

The Canonical Passive occurs in two kinds of clauses. On the one hand, the 'typical' instantiation of passive, here labeled Full Passive, occurs in clauses involving full NP-movement, i.e., movement to the canonical subject position ('SpecIP'), as in (4). On the other hand, there are existential clauses introduced by the expletive *það* in the absence of another initial element (the *það*-passive), as in (5); the associate NP of the expletive must be indefinite, occurring in a position that is structurally lower than the canonical subject position. The NP can occur either to the left or to the right of the participle; in other words, it can either undergo 'short movement' leftward, or remain *in situ* in the object position (for a discussion, see Sigurðsson 2000, Thráinsson 2007: 271).

- (4) *Stúlkan var lamin.* CanPass
 girl.the.F.NOM was beaten.F.NOM.SG
 ‘The girl was beaten.’
- (5) a. *Það var lamin stúlka.* CanPass
 it was beaten.F.NOM.SG girl.F.NOM
 ‘A girl was beaten.’
- b. *Það var stúlka lamin.* CanPass
 it was girl.F.NOM beaten.F.NOM.SG
 ‘A girl was beaten.’

Due to the Definiteness Effect (DE) exhibited by the *það*-passive, the sentences in (6) are ungrammatical. In this respect the existential passive patterns with other transitive expletive clauses in Icelandic, whereas the NC does not (see 2.2.2 below).³

- (6) a. **Það var lamin stúlkan.*
 it was beaten.F.NOM.SG girl.the.F.NOM
- b. **Það var stúlkan lamin.*
 it was girl.the.F.NOM beaten.F.NOM.SG

In subject-verb inversion contexts, for example topicalizations and yes/no-questions, the element *það* is absent.⁴

- (7) a. *Í gær var lamin stúlka.* CanPass
 yesterday was beaten.F.NOM.SG girl.F.NOM
 ‘Yesterday a girl was beaten.’
- b. *Í gær var stúlka lamin.* CanPass
 yesterday was girl.F.NOM beaten.F.NOM.SG
 ‘Yesterday a girl was beaten.’
- (8) a. *Var lamin stúlka í gær?* CanPass
 was beaten.F.NOM.SG girl.F.NOM yesterday
 ‘Was a girl beaten yesterday?’
- b. *Var stúlka lamin í gær?* CanPass
 was girl.F.NOM beaten.F.NOM.SG yesterday
 ‘Was a girl beaten yesterday?’

Dative and genitive case with objects of active sentences is ‘preserved’ in the Canonical Passive, the past participle occurring in the default neuter singular. The finite verb is in the default third person singular. These oblique NPs pass the usual

3. As discussed further below, there are certain exceptions to the DE with postverbal NPs, but not with the preverbal ones.

4. Note that (7b) and (8b) are ambiguous as they could also be instances of Full Passive, but this is irrelevant for the present purposes. The placement of sentential adverbs could disambiguate the two constructions in these cases.

subject tests in Icelandic and are therefore on a par with other oblique subjects (cf. Zaenen, Maling & Thráinsson 1985 and many others). The examples in (9b) and (10b) involve Full Passives.⁵

- (9) a. *Einhver hrinti henni í skólanum.* Active
 someone pushed her.DAT in school.the
 ‘Someone pushed her in school.’
- b. *Henni var hrint í skólanum.* CanPass
 her.DAT was pushed.N.SG in school.the
 ‘She was pushed in school.’
- (10) a. *Einhver saknaði kennarans.* Active
 someone missed teacher.the.GEN
 ‘Someone missed the teacher.’
- b. *Kennarans var saknað.* CanPass
 teacher.the.M.GEN was missed.N.SG
 ‘The teacher was missed.’

The same applies to *það*-passives: the dative and genitive is ‘preserved’ and the past participle is in the default neuter singular. In (11) the NP occurs postverbally and in (12) the NP precedes the participle.

- (11) a. *Það var hrint stelpu í skólanum.* CanPass
 it was pushed.N.SG girl.DAT in school.the
 ‘A girl was pushed in school.’
- b. *Það var saknað kennara.* CanPass
 it was missed.N.SG teacher.GEN
 ‘A teacher was missed.’
- (12) a. *Það var stelpu hrint í skólanum.* CanPass
 it was girl.DAT pushed.N.SG in school.the
 ‘A girl was pushed in school.’
- b. *Það var kennara saknað.* CanPass
 it was teacher.GEN missed.N.SG
 ‘A teacher was missed.’

As in passives involving nominative NPs (6a), the DE is regularly observed in the Canonical Passive of verbs taking dative and genitive, and therefore (13) and (14) are ungrammatical.

- (13) a. **Það var hrint stelpunni í skólanum.* CanPass
 it was pushed.N.SG girl.the.DAT in school.the
- b. **Það var saknað kennarans.* CanPass
 it was missed.N.SG teacher.the.GEN

5. I make the standard assumption that the oblique NPs with lexical case (dative or genitive) are assigned abstract ‘Case’, unrelated to morphological case marking (see Sigurðsson 2007).

- (14) a. **Það var stelpunni hrint í skólanum.* CanPass
 it was girl.the.DAT pushed.N.SG in school.the
 b. **Það var kennarans saknað.* CanPass
 it was teacher.the.GEN missed.N.SG

It should be noted, however, that the sentences in (13), as well as the ones in (11), involving a postverbal NP, would be grammatical for speakers accepting the NC. In the canonical *það*-passive with dative and genitive NPs there is no participial agreement. These are among the cases in which the canonical *það*-passive with a postverbal NP and the NC cannot be distinguished morphologically. Such ambiguous cases will be shown to be important for an account of the emergence of the NC (see section 7.2).

In Icelandic the agentive PP is generally accepted in the Full Passive, although it is more restricted than the *by*-phrases in English (for details, see Thráinsson 2007: 272, fn.12).

- (15) *Stúlkan var lamin af óknyttadrengjum.* CanPass
 girl.the.F.NOM was beaten.F.NOM.SG by bullies
 ‘The girl was beaten by bullies.’

On the other hand, the occurrence of agentive PPs with *það*-passives is a lot more restricted, in a similar way as the ‘impersonal passives’ discussed in section 3 below. In particular, as shown in (16), there are certain differences in this respect between canonical *það*-passives in which the NP precedes the participle (short NP movement) and those in which the NP follows the participle (NP *in situ*). Some speakers (including Ottósson 1989: 9 and the present author) find sentences such as (16b) with a postverbal NP less felicitous than the ones with a preverbal NP, as in (16a).

- (16) a. *Það var lítill strákur laminn* CanPass
 it was little boy.M.NOM beaten.M.NOM.SG
af óknyttadrengjum.
 by bullies
 ‘A little boy was beaten by bullies.’
 b. ??*Það var laminn lítill strákur* CanPass
 it was beaten.M.NOM.SG little boy.M.NOM
af óknyttadrengjum.
 by bullies
 ‘A little boy was beaten by bullies.’

In the absence of an agentive PP both sentences in (16) are equally good. Incidentally, a similar kind of restriction on *það*-passives holds for other phenomena as well, for example Conjunction Reduction (17). Again, *það*-passives followed by a second conjunct clause are deemed less acceptable by some speakers if the NP is postverbal, as in (17b), than if it is preverbal, as in (17a).

- (17) a. *Það var lítill strákur laminn* CanPass
 it was little boy.M.NOM beaten.M.NOM.SG

- og fór að gráta.
and began to cry
'A little boy was beaten and began to cry.'
- b. ??Það var laminn lítill strákur CanPass
it was beaten.M.NOM.SG little boy.M.NOM
og fór að gráta.
and began to cry
'A little boy was beaten and began to cry.'

Thus, given that agentive PPs and Conjunction Reduction can be considered criteria for the subjecthood of the internal argument in the *það*-passive, it would appear that the postverbal NP is in some sense more 'objectlike' than the preverbal NP. I will return to this matter further below (section 7.2).⁶

2.2.2 The New Construction

In the New Construction (NC) the postverbal NP is in the accusative with verbs assigning accusative in active sentences. There is no participial agreement, the past participle being in the default neuter singular. The finite verb is in the default third person singular. Just as in the existential passive, the placeholder *það* 'it' is inserted, in the absence of another element in clause-initial position.⁷

- (18) a. Það var lamið stelpu. NC
it was beaten.N.SG girl.ACC
'A girl was beaten.'
- b. Það var lamið stelpuna. NC
it was beaten.N.SG girl.the.ACC
'The girl was beaten.'

As the DE does not hold in the NC, the postverbal NP can be either indefinite or definite.⁸ Note, finally, that agentive PPs are generally not accepted in the NC (cf. 5.5.1 below).

It should be stressed that there are no reported examples of the NC where the NP occurs to the left of the participle (i.e., having undergone short NP movement). So, presumably, the sentences in (19) and (20) would be ungrammatical for speakers who accept the NC (as well as the speakers who do not, of course). Notice that (19a) would not violate the DE, whereas (19b) and (20a–b) would.

6. It is important to note that in active *það*-sentences there is no effect of this kind.

7. Recall that for convenience most examples of the NC in this chapter contain sentences with an initial *það* 'it'. The initial element can also be a topic or a *wh*-phrase, or a finite verb.

8. Guðmundsdóttir (2002) speculates that the NC involves the loss of the DE. However, it is not the case that speakers who accept the NC lack the DE in other constructions, as pointed out by Maling and Sigurjónsdóttir (p. 100).

- (19) a. **Það var stelpu lamið.*
 it was girl.ACC beaten.N.SG
 b. **Það var stelpuna lamið.*
 it was girl.the.ACC beaten.N.SG
- (20) a. **Það var stelpunni hrint í skólanum.*
 it was girl.the.DAT pushed.N.SG in school.the
 b. **Það var kennarans saknað.*
 it was teacher.the.GEN missed.N.SG

According to Maling and Sigurjónsdóttir's findings, the Canonical Passive and the NC are used side by side; there do not seem to be any speakers who only accept the NC and not the Canonical Passive. Moreover, any semantic or pragmatic difference between the constructions is unclear as of yet, and remains to be established.

As we have seen, in some cases there is a formal ambiguity between the Canonical Passive and the NC, so that the two constructions cannot be distinguished on morphological grounds. For example, as shown in (21), there is no morphological distinction in the singular between nominative and accusative with neuter nouns. Therefore, with verbs assigning accusative case in the active, it would only seem to be possible to distinguish between the Canonical Passive and the NC on the basis of definiteness. However, even this is not a waterproof criterion, as there can be a 'leakage' in the DE. Thus, the ban on the occurrence of definite NPs in postverbal position can exceptionally be violated, so that (21b) might involve the Canonical Passive rather than the NC (hence CanPass is in brackets in examples of that kind).

- (21) a. *Það var skammað lítið barn.* CanPass/NC
 it was scolded.N.SG little.NOM/ACC child.NOM/ACC
 'A little child was scolded.'
- b. *Það var skammað litla barnið.* NC (CanPass)
 it was scolded.N.SG little.NOM/ACC child.the.NOM/ACC
 'The little child was scolded.'

Similarly, with dative and genitive NPs only the DE would seem to distinguish the canonical *það*-passive and the NC (cf. (11) and (13) above).⁹ The examples in (22a) and (23a), containing indefinite postverbal dative and genitive NPs, are ambiguous between the canonical *það*-passive and the NC. The (b)-sentences, on the other hand, are more clearly instantiations of the NC as they contain definite NPs, although even here a 'leakage' in the DE cannot be excluded.

9. Maling and Sigurjónsdóttir's study (p. 112) indicates the NC is more common with verbs taking dative objects than with those taking accusative objects. However, this result was not obtained on the basis of comparison of minimal pairs involving verbs that take accusative or dative.

- (22) a. *Það var hrint stelpu í skólanum.* CanPass/NC
 it was pushed.N.SG girl.DAT in school.the
 ‘A girl was pushed in school.’
- b. *Það var hrint stelpunni í skólanum.* NC (CanPass)
 it was pushed.N.SG girl.the.DAT in school.the
 ‘The girl was pushed in school.’
- (23) a. *Það var saknað kennara.* CanPass/NC
 it was missed.N.SG teacher.GEN
 ‘A teacher was missed.’
- b. *Það var saknað kennarans.* NC (CanPass)
 it was missed.N.SG teacher.the.GEN
 ‘The teacher was missed.’

Thus, in the existential variant of the Canonical Passive (the *það*-passive) the DE is generally observed so that only indefinite NPs can occur, but in the NC the NPs can be either indefinite or definite (either a full NP or a pronoun). However, the DE is not without exceptions.

The morphological overlap between the Canonical Passive with a postverbal NP and the NC is particularly noticeable with heavy NPs. Definite NPs in postverbal position often occur among speakers who generally do not seem to allow the NC, especially if the NP is heavy. The sentence in (24a) is taken from a book published in 1944, in which there do not appear to be any unambiguous examples of the NC. The sentence in (24b), recently heard by the present author, was uttered by a well-educated male in his late fifties who does not normally seem to use or accept the NC.

- (24) a. *Það verður boðið öllum þeim, sem mig langar til að hafa.¹⁰*
 it becomes invited.N.SG all.DAT those.DAT that me wants for
 to have
 ‘All who I want to be present will be invited.’
- b. *Það var skilað töskunni hennar.* (male, 59 years old)
 it was returned.N.SG bag.the.DAT her
 ‘Her bag was returned.’

Such cases need not involve the NC, with the NP base-generated in object position. Rather, it is likely that the heavy NP has been extraposed to the right from the canonical subject position, into which an expletive is inserted. The following example illustrates the rightward extraposition of a heavy definite subject NP with the verb *ráða* ‘hire’, which assigns accusative case in the active; the fact that the postverbal NP in (25b) preserves the nominative case (agreeing with the past participle) shows that

10. *Sagan af Tuma litla* (Tom Sawyer) by Mark Twain (an anonymous Icelandic translation), Reykjavík 1944, 131.

this is not an instance of the NC but of the Full Passive with heavy NP extraposition and *það*-insertion:

- (25) a. *Frægi skoski þjálfarinn* CanPass
 famous.DEF Scottish.DEF coach.the.NOM
hjá Manchester United var ráðinn í starfið.
 at Manchester United was hired.NOM for job.the
 ‘The famous Scottish coach at Manchester United was hired for the job.’
- b. *?Það var ráðinn í starfið frægi* CanPass
 it was hired.nom for job.the famous.def
skoski þjálfarinn hjá Manchester United.
 Scottish.DEF coach.the at Manchester United

An unambiguous example of the NC would have to involve either an accusative NP or a non-heavy dative or genitive NP.

Some speakers of Modern Icelandic who mostly seem to use the Canonical Passive can occasionally be heard producing unambiguous NC sentences. This fact raises the issue of (i) how old the NC is and (ii) at which age it is acquired (i.e., whether it is exclusively linked to child language acquisition or whether it can be acquired by adults, at least to some extent). An additional question involves violations of the DE which can be observed in existential constructions in the standard language and may have contributed to the rise of the NC. A systematic study of these matters is a task for future investigation.

In this connection it is worth mentioning that there are some examples in Old Icelandic which look very much like the Modern Icelandic NC.¹¹ All the reported examples, however, seem to involve dative NPs, and neither accusative NPs nor pronouns. Nevertheless, here the postverbal definite NP is not heavy, so from a Modern Icelandic perspective rightward extraposition seems unlikely.¹²

- (26) a. *Og er upp var lokið hurðunni.*
 and when up was opened.N.SG door.the.DAT
 ‘And when the door was opened.’
- b. *Var þá farið upp á húsin og riðið skálanum.*
 was then gone.N.SG up on houses.the and ridden.N.SG hall.the.DAT
 ‘Then someone went up on the house and rode on the ridge of the hall.’
- c. *Var ýtt skipinu.*
 was pushed.N.SG ship.the.DAT
 ‘The ship was pushed.’

11. The examples from Old Icelandic were found by searching the Text Corpus of the University of Iceland Dictionary Project: <http://www.lexis.hi.is/corpus/leit.pl>. (26a–b) is from Grettis Saga and (26c) from Sturlunga Saga. Further examples have been provided by Eiríkur Rögnvaldsson (p.c.).

12. Notice that the expletive *það* ‘it’ did not occur in Old Icelandic, so that the passive auxiliary would either be preceded by some other element, as in (26a–b), or be clause-initial, as in (26c).

Crucially, however, the DE with extraposed NPs appears to have been less strict in Old Icelandic than in Modern Icelandic, although even in the modern language violations of the DE can be found, as we have seen. Therefore, the status of these sentences is uncertain. A convincing example of the NC in Old Icelandic would have to involve a pronoun in an oblique case, or a full NP in the accusative.¹³

It should, however, be recalled that cases in which the two constructions – the canonical *það*-passive with a postverbal NP and the NC – cannot be distinguished morphologically are important as they arguably provide a clue to the emergence of the NC. Moreover, both in Old and Modern Icelandic there can be violations of the DE with the postverbal NP in the existential variant of the Canonical Passive. Such exceptional cases, involving a ‘leakage’ in the DE, may have paved the way for the crucial innovation involved in the NC, i.e., the assignment of structural accusative case to the postverbal NP.

2.3 Ditransitives

Passive in Icelandic can be formed to ditransitive verbs, i.e., verbs taking a double object. In the Canonical Passive of ditransitive dative-accusative verbs the direct accusative object of an active sentence shows up in the nominative and the participle exhibits agreement with the nominative object. The indirect (dative) object preserves its case and is usually the subject of the passive sentence. The example in (27b) involves a Full Passive:

- (27) a. *Vinur minn gaf mér þessa bók.* Active
 friend mine gave me.DAT this.F.ACC book.F.ACC
 ‘A friend of mine gave me this book.’
 b. *Mér var gefin þessi bók.* CanPass
 me.DAT was given.F.NOM.SG this.F.NOM book.F.NOM
 ‘I was given this book.’

In the canonical *það*-passive of ditransitives the DE is observed so that the dative subject must be indefinite, occurring either to the left or to the right of the participle. It seems that, although not ungrammatical, the postverbal position of the indefinite NP is somewhat less felicitous than the preverbal one, as indicated by the question mark in (29a).¹⁴

13. Old Icelandic had both VO and OV orders in the VP, and therefore the NP might precede the participle but still be in object position.

14. Such clauses are rather like the transitive expletive construction in which the subject must not occur within the VP (to the right of the past participle).

- i. a. *Það höfðu sennilega einhverjir stúdentar lesið þessa bók.*
 it has probably some students read this book
 ‘Some students had probably read this book.’

- (28) a. *Það var einhverjum strákk gefin þessi bók.* CanPass
 it was some.DAT boy.DAT given.F.NOM this.F.NOM book.F.NOM
 ‘Some boy was given this book.’
- b. **Það var mér gefin þessi bók.*
 it was me.DAT given.F.NOM this.F.NOM book.F.NOM
- (29) a. ?*Það var gefin einhverjum strákk þessi bók.* CanPass
 it was given.F.NOM some.DAT boy.DAT this.F.NOM book.F.NOM
 ‘Some boy was given this book.’
- b. **Það var gefin mér þessi bók.*
 it was given.F.NOM me.DAT this.F.NOM book.F.NOM

In the NC with ditransitives, on the other hand, the indirect object of the active sentence occurs to the right of the participle and can be definite, whereas the direct object is in the accusative. In (30) the direct object is neuter singular, and therefore it is unclear whether it is accusative or nominative, and hence whether or not participial agreement is involved (M/S 39b, M/S 40c).¹⁵

- (30) *Það var gefið mér nammi / lýsi.* NC
 it was given.N.SG me.DAT sweets.N.SG.ACC(?) / cod.liver.oil.N.SG.ACC(?)
 ‘I was given sweets / cod liver oil.’

Unfortunately, Maling and Sigurjónsdóttir do not provide an unambiguous example showing the accusative case of the direct object. The following sentence, however, heard by the present author, contains the verb *spyrja* ‘ask’, which has both the indirect object and the direct object in accusative case.¹⁶

- (31) *Það var spurt mig eina spurningu.* NC
 it was asked.N.SG me.ACC one.ACC question.F.ACC (girl, 15 years old)
 ‘I was asked one question.’

As expected, in the NC the direct object stays accusative and there is no participial agreement. In the examples known to me the direct object is indefinite, but there is no reason to assume that definite NPs are excluded in principle in the NC with ditransitives.

- b. ??*Það höfðu sennilega lesið einhverjir stúdentar þessa bók.*
 it has probably read some students this book

15. ‘M/S’ will henceforth be used as an abbreviation for the examples in Maling & Sigurjónsdóttir (2002).

16. This example involves an innovative case pattern with *spyrja* ‘ask’, substituting accusative case with the object for the original genitive case; this is common in colloquial Icelandic, especially among younger people. Thanks to Helgi Skúli Kjartansson for providing more examples from Icelandic webpages on varying case patterns with this verb.

Moreover, the direct object can be clausal with ditransitive verbs, e.g., with verbs such as *segja* ‘say’ (DAT-ACC) and *biðja* (ACC-GEN) (33). The canonical *það*-passive of these verbs is only possible with indefinite indirect object NPs, preferably occurring to the left of the participle (32):

- (32) a. *Það var einhverjum stráku* sögð *þessi saga*. CanPass
 it was some.DAT boys.DAT told.NOM this.NOM story.NOM
 ‘Some boys were told this story.’
- b. *Það var einhver strákur beðinn bónar*. CanPass
 it was some.NOM boy.NOM asked.NOM favor.GEN
 ‘Some boy was asked a favor.’
- (33) a. *Það var einhverjum stráku* sagt *að skrifa ritgerð*. CanPass
 it was some.DAT boys.DAT told.N.SG to write essay
 ‘Some boys were asked to write an essay.’
- b. *Það var einhver strákur beðinn að vaska upp*. CanPass
 it was some.NOM boy.NOM asked.N.SG to wash up
 ‘Some boy was asked to do the dishes.’

In the NC, on the other hand, the indirect object of the active sentence occurs postverbally and can be definite (M/S 19a–b).

- (34) a. *Það var beðið mig að vaska upp*. NC
 it was asked.N.SG me.ACC to wash up
 ‘I was asked to do the dishes.’
- b. *Það var sagt mér að taka til*. NC
 it was told.N.SG me.DAT to clean up
 ‘I was told to clean up.’

Finally, in this connection mention should be made of a passive-like construction in Icelandic which is formed to ditransitive verbs taking a reflexive indirect object and a direct object; typically the indirect reflexive object is dative and the direct object accusative. In this construction, which may be labeled the Impersonal Ditransitive Reflexive Construction (IDRC), the dative is preserved with the reflexive and the accusative is preserved with the direct object. Only a limited number of verbs are attested in the IDRC; apparently, the most common one is *fá* ‘get’ (35a–b), but other verbs, such as *kaupa* ‘buy’ (35c), are also known to occur in it. The NP corresponding to the direct object of the active is mostly indefinite, although a few examples involving a definite NP have been found, e.g., (35b).¹⁷

17. The examples in (35) were modified after sentences found on Icelandic websites. The translations of the examples are only approximate and do not necessarily say anything about the precise syntactic status of the construction.

- (35) a. *Það var fengið sér öllara.* IDRC
 it was got.N.SG REFL.DAT beer.ACC
 ‘People got themselves a beer.’
- b. *Það var fengið sér morgunkornið.* IDRC
 it was got.N.SG REFL.DAT morning.cereals.the.ACC(?)
 ‘People had some cereals.’
- c. *Það var keypt sér pizzu.* IDRC
 it was bought.N.SG REFL.DAT pizza.ACC
 ‘People bought themselves pizza.’

It should be emphasized that the Canonical Passive cannot be formed to these reflexive verbs.¹⁸ In other words, the NP corresponding to the direct object of the active is apparently never nominative.

- (36) a. **Það var fenginn sér öllari.*
 it was got.NOM REFL.DAT beer.NOM
- b. **Öllari var fenginn sér.*
 beer.NOM was got.NOM REFL.DAT
- (37) a. **Það var sér fenginn öllari.*
 it was REFL.DAT got.NOM beer.NOM
- b. **Sér var fenginn öllari.*
 REFL.DAT was got.NOM beer

The IDRC, although it is restricted to only a few ditransitive verbs, seems to be quite widespread in a very informal register of colloquial Icelandic, and to be used by speakers for whom the NC with verbs taking non-reflexive objects is ungrammatical. What is particularly interesting about this construction is the fact that the ‘NC’ variant has no ‘canonical’ pendant. Thus, here we have a passive-type construction in which the internal argument cannot be assigned a structural nominative case, but is instead assigned a structural accusative case. As in other structures which do not contain a nominative form, there is no participial agreement. A detailed examination of the use of this construction awaits further study.¹⁹

3. Intransitive verbs: ‘Impersonal’ constructions

In Icelandic an impersonal construction exhibiting passive morphology can be formed to intransitive verbs; as usual, it is introduced by *það* ‘it’ if there is no element in clause-

18. However, when these verbs take non-reflexive indirect objects they can be passivized.

19. Preliminary investigation suggests that there is an implicational hierarchy such that speakers who accept the NC also accept the IDRC and impersonal constructions with passive morphology, including intransitives (‘impersonal passive’) and reflexives, whereas the converse does not hold (cf. Árnadóttir 2006).

initial position. Both unergative verbs of various kinds and at least some unaccusative verbs can occur in this construction, which is traditionally labeled ‘impersonal passive’. The past participle is in the default neuter singular form. Maling and Sigurjónsdóttir (pp. 126–128, 132–134; see also Maling 2006) indicate that, for some speakers of Modern Icelandic, the passive of intransitive verbs involves a thematic null subject, and is thus an NC type construction; in fact, they propose that this is the original locus of the NC (cf. section 7.3). While I disagree with this interpretation, I will use the more neutral label Impersonal Construction (ImpC) rather than ‘impersonal passive’ until I have examined the arguments presented by Maling and Sigurjónsdóttir (section 4 below). It should be noted that an agent cannot in general be referred to in a PP (‘by-phrase’) in the ImpC (Thráinsson 2007: 270).

In Icelandic, as in other Germanic languages except English, unergative verbs can occur in the ImpC. This is true both of unergatives proper, e.g., *dansa* ‘dance’ (38a), and transitive verbs used intransitively, e.g., *lesa* ‘read’ (38b).

- (38) a. *Það var dansað alla nóttina.* ImpC
 it was danced.N.SG all night.the
 ‘People danced all night.’
- b. *Það var lesið á kvöldin í gamla daga.* ImpC
 it was read.N.SG in evenings.the in old days
 ‘People used to read in the evening in the old days.’

Moreover, unergative verbs taking a PP complement can occur in the ImpC.²⁰

- (39) *Það var leikið á mig.* ImpC
 it was played.N.SG on me.ACC
 ‘I was tricked.’

More unusually, in Icelandic a number of unaccusative verbs can occur in the ImpC, for example *koma* ‘come’, *fara* ‘go’, *detta* ‘fall’, *hverfa* ‘disappear’, as well as the verb *vera* ‘be’.

- (40) *Það var komið (farið, verið. . .).* ImpC
 it was arrived.N.SG (gone.N.SG, been.N.SG. . .)
 ‘People arrived (went, were. . .).’

Some unaccusative verbs in Icelandic cannot occur in the ImpC, however, including the verb *deyja* ‘deyja’. This restriction would appear to depend on the lexical semantics of these verbs rather than on any syntactic properties.

20. The label ‘Prepositional Passive’ used in Barðdal & Molnár (2003) is misleading given that objects of prepositions cannot be passivized in Icelandic as in English, for example (cf. Maling & Zaenen 1985). The type in (39) is subsumed under ‘quasi-impersonal passive’ by Ottósson (1989: 39–40).

In addition to the types of verbs just discussed, certain verbs that take infinitival or finite clause complement also occur in the ImpC, including ‘control verbs and aspectuals’ (Maling and Sigurjónsdóttir, p. 172; cf. Sigurðsson 1989: 64).

- (41) a. *Það var reynt að berja gestinn.* ImpC
 it was attempted.N.SG to beat guest.the
 ‘People tried to beat up the guest.’
- b. *Það var sagt að gesturinn hefði farið.* ImpC
 it was said.N.SG that guest.the had gone
 ‘It was said that the guest had gone.’
- (42) *Það var verið (farið/byrjað/hætt . . .) að moka snjóinn í gær.* ImpC
 it was been.N.SG (gone/begun/stopped.N.SG) to shovel snow.the yesterday
 ‘People were (began/started/stopped . . .) shoveling snow yesterday.’

The above types of the ImpC are found already in Old Icelandic. Furthermore, at least some speakers of Modern Icelandic can form ImpC to reflexive verbs. This is the case both with inherently reflexive verbs (43a) and those which take an optional reflexive object (i.e., the reflexive can be replaced by an NP) (43b).

- (43) a. *Það var leikið sér allan daginn.* ImpC
 it was played.N.SG REFL.DAT all day
 ‘People played all day.’
- b. *Það var baðað sig á laugardögum.* ImpC
 it was bathed.N.SG REFL.ACC on Saturdays
 ‘People took a bath on Saturdays.’

Impersonalization (‘passivization’) of reflexive verbs has been considered marginal by some researchers, e.g., Sigurðsson (1989: 355, fn. 60), from whom the examples in (43) are taken. In fact, Sigurðsson gives (43a) a question mark, and (43b) two question marks, but I do not agree with this judgement, nor do most speakers I have consulted, so I omit the question marks here. I have not been able to find any cases of ImpC with reflexive verbs in Old Icelandic; an investigation into its origins is pending. Thus, the reflexive ImpC seems to be an innovation of Modern Icelandic which is increasingly gaining ground and is accepted by many speakers who do not accept the NC with non-reflexive verbs (cf. Maling and Sigurjónsdóttir, p. 122). The same is true of the Impersonal Ditransitive Reflexive Construction discussed in section 2.3 above.

4. The study by Maling and Sigurjónsdóttir

4.1 Introduction

In this section I report on the main results of the study by Maling and Sigurjónsdóttir regarding the diffusion of the NC. I also present a critical review of the basic claims they make on the status and emergence of the NC, as well as parallels in other languages.

4.2 Diffusion, social factors

Maling and Sigurjónsdóttir tested 1731 students (age 15–16) in 65 schools throughout Iceland and 205 adults serving as a control group. Excluding subjects who made more than one error on the ungrammatical control sentences, they evaluated the results from 1695 students (845 males and 850 females), and 200 adults. According to Maling and Sigurjónsdóttir, their results corroborate the view that the NC is mostly confined to the speech of children and adolescents. However, older speakers are known to use it, although it is unclear at which age they would have acquired it. The oldest example of the NC documented in Maling and Sigurjónsdóttir dates from 1959 (M/S 39a), which shows that the construction has existed at least since the mid-20th century.²¹

As for the geographic distribution of the change, Maling and Sigurjónsdóttir claim that their survey shows that the NC occurs in all parts of the country, but that it is least common in the central/western part of Reykjavík, labeled by them ‘Inner Reykjavík.’ Interestingly, according to their findings, there is a divide between Inner Reykjavík and the suburbs in the eastern part of Reykjavík (labeled ‘Outer Reykjavík’), and for the latter the statistics are similar to those for the rest of the country (together Outer Reykjavík and the rest of the country are termed ‘Elsewhere’). A probable reason for this difference has to do with education of the subjects’ parents, as it is Inner Reykjavík where the level of education is the highest in the country. In fact, the study found that there is an inverse relationship with education, in particular that of the mother; the higher the education of the mother, the lower the occurrence of the NC (and vice versa). Thus, the diffusion of the innovation is clearly socially conditioned.²² On the other hand, the fact that the NC appears equally common in all parts of the country, except Inner Reykjavík, is in accordance with the view that there are hardly any significant regional syntactic differences in Iceland.²³

Maling and Sigurjónsdóttir’s questionnaire included examples of both the Canonical Passive and the NC (cf. the test sentences in Maling & Sigurjónsdóttir 2002: 135–140). It is important to note that the results indicate that the NC occurs alongside the Canonical Passive among the speakers who use it. Any pragmatic or semantic difference there may be between the two constructions awaits further investigation.

21. As mentioned in 2.2.2, there are sporadic earlier examples, even from Old Icelandic, that look like the NC. However, there are to my knowledge no examples with an accusative, so these cases do not unambiguously involve the NC.

22. Comparable social factors relating to the distribution of ‘Dative Sickness’ were established by Jónsson & Eythórsson (2005).

23. The preliminary results of the project Syntactic Variation conducted by Prof. Höskuldur Thráinsson and colleagues at the University of Iceland confirm this view.

4.3 Maling and Sigurjónsdóttir's analysis of the NC: a critical review

In addition to the study of the diffusion and distribution of the NC, Maling and Sigurjónsdóttir present an analysis of the construction and its origin, making three basic claims (labeled here M/S Claims 1–3):

- M/S Claim 1: The construction is not a passive but an impersonal active containing a null subject.
- M/S Claim 2: The construction does not have parallels in other Nordic or Germanic languages, but there are typological parallels further afield (Polish, Irish).
- M/S Claim 3: The construction first emerged in passive of intransitive verbs ('impersonal passive') and is spreading to transitives via reflexives.

As to M/S Claim 1, two possible analyses are considered:

(44)	a.	[e]	<i>var barið mig</i>	Passive without NP-movement
	b.	[<i>pro</i>]	<i>var barið mig</i>	Impersonal active
			was beaten.N.SG me.ACC	

On the analysis in (44a), the NC is a variant of the Canonical Passive, with an empty category *e* in subject position but without NP-movement. The analysis in (44b), on the other hand, takes the new construction to be an impersonal active with a null subject pronoun (*pro*) which must be [+human].²⁴ Maling and Sigurjónsdóttir argue for the analysis in (44b) which will henceforth be labeled the Impersonal Active Hypothesis (IAH).

In section 5 below I show that the predictions of Maling and Sigurjónsdóttir in favor of an active construction with a null subject pronoun are not borne out. So instead I defend the hypothesis in (44a) that the NC really is a passive which, however, has the following characteristics: first, it does not involve promotion of the object (no NP-movement), and is thus similar to the canonical *það*-passive with a postverbal NP; second, the postverbal NP is assigned accusative rather than nominative case; and third, there is no restriction on the postverbal NP by the Definiteness Effect (DE).

According to M/S Claim 2, the NC does not have a match in other Nordic or Germanic languages but in more distantly related languages, in particular in Polish and Irish. As a consequence of my analysis, however, I argue that the NC in Icelandic is indeed comparable – *mutatis mutandis* – to accusative passives that have been shown to occur in Ukrainian (Sobin 1985, Lavine 2005) and other languages. Moreover, I point out parallels to the Icelandic NC in the more closely related Mainland Scandinavian, notably in Norwegian, as well as in Faroese, despite certain differences relating to the DE (see section 6).

24. As far as I can see, the reasons for this condition on the NC are nowhere explicitly stated by Maling and Sigurjónsdóttir.

Finally, on M/S Claim 3 the NC originated in intransitives of the following type (M/S 42a):

- (45) *Það var flautað.*
 it was whistled.N.SG
 ‘Somebody whistled.’

Maling and Sigurjónsdóttir argue that in Icelandic, as in other Germanic languages, ‘the understood agent of an impersonal passive can only be interpreted as a human’ (p. 131). Citing Maling (1993), they further claim that this semantic generalization ‘sets the stage for the reanalysis of a thematically empty null subject as a fully thematic pro external argument’ (p. 132). Once the passive construction has been reanalyzed as a syntactically active construction, the [+human] restriction is argued to fall out naturally from the fact that ‘thematic role, e.g., agent, is not a classificatory feature for pronouns whether overt or null’ (p. 132). Based on their study of the NC in Icelandic, Maling and Sigurjónsdóttir propose that the first stage after the reanalysis is the extension of the impersonal passive to inherently reflexive predicates, and that this then extends to non-inherent reflexives and other bound anaphors (p. 133; cf. also p. 122).

In section 5.5 I show that this view is not plausible. As an alternative, I propose that the emergence of the NC results from a reanalysis of the canonical existential passive (*það*-passive) with a postverbal NP. The locus for the reanalysis involves cases in which the Canonical Passive without NP-movement and the New Passive cannot be distinguished morphologically. The ambiguous structures give rise to a resetting of a case parameter (\pm accusative) in favor of accusative case assignment. This account is preferable to the one proposed by Maling and Sigurjónsdóttir as it assumes only a minimal parametric difference between the Canonical Passive and the New Construction, and not two different constructions with distinct grammatical functions. In the remainder of the chapter I present my conterarguments to Maling and Sigurjónsdóttir in more detail.

5. The status of the NC: active or passive?

5.1 Introduction

In this section I focus on M/S Claim 1: the question whether the NC in Icelandic is an impersonal active or a passive. I first examine the postverbal NP in the NC in order to determine whether it is a subject or an object (5.2). I then discuss the status of the NC (5.3), presenting the criteria used by Maling and Sigurjónsdóttir to distinguish the properties of impersonal constructions from passive, i.e., incompatibility with agentive PPs but compatibility with reflexives, subject-oriented adjuncts, and unaccusatives (5.4). Subsequently these properties are tested for Icelandic (5.5). Finally, I evaluate the findings on the status of the NC, bringing fresh arguments for the position that this construction really is a passive (5.6).

5.2 Postverbal NP: subject or object?

Maling and Sigurjónsdóttir argue that the postverbal NP in the NC in Icelandic is an **object** rather than a subject. They present three arguments in favor of this analysis (pp. 100):

- (46) a. The NP has accusative case, not nominative case
 b. The NP does not pass subject tests, e.g., it *cannot* occur in subject position
 c. The NP can be definite (no Definiteness Effect)

The first argument (46a), according to which the NP is assigned structural accusative case, supports the analysis of the postverbal NP as an object. Although case is not a subject criterion in Icelandic *per se*, accusative is expected as a structural object case, not as a structural subject case. The corresponding accusative case of the active can be shown to be structurally assigned.

The second argument (46b) is also persuasive since the subject tests applied in the survey strongly suggest that the NP is not a subject. Crucially, an accusative NP immediately following the finite verb (in the canonical subject position, ‘SpecIP’) in direct questions is generally not accepted (M/S 24a).

				Else-	Inner	
Accusative NP in canonical subject position				where	Rvík	Adults
(47)	<i>Var stúlkuna</i>	<i>lamið</i>	<i>í klessu?</i>	7%	3%	5%
	was girl.the.F.ACC	beaten.N.SG	in mess			
	‘Was the girl beaten up?’					

It may be noted that it should not matter if the accusative NP were indefinite; the sentence should be equally bad (however, Maling and Sigurjónsdóttir do not present evidence bearing on this).

Finally, the third argument (46c) is sound as well since the DE in Icelandic normally pertains to subjects only, and not to objects. Although exceptions to the DE occur, there is nevertheless a clear difference between the NC and the canonical *það*-passive in this respect, as seen above (ex. (11–12) and (18–19)).

In summary, I agree with Maling and Sigurjónsdóttir that the postverbal NP is not a subject but an *object*. All of the tests in (46) are decisive, especially (46a) and (46b).²⁵ Test (46c) is also conclusive although the ban on definites is not without exceptions.

5.3 Impersonal active or passive?

Maling and Sigurjónsdóttir claim that the NC is an impersonal active with a thematic null subject pronoun (*pro* [+human]). However, there are various arguments against this analysis of the NC.

25. However, the results were not equally clear in all cases, in particular (M/S 24d), involving a 2nd person pronoun, which got a relatively high acceptance rate among the adolescents.

First, the construction has a passive morphology: auxiliary *vera* ‘be’ + past participle. It might be considered remarkable to have an active construction with ‘be’ and a past participle (‘null’ [= *someone*] *was beaten me* = ‘someone beat me’). However, such a construction is not in principle excluded, witness for example the so-called deponent verbs in Latin and other old Indo-European languages which have passive morphology but active meaning, e.g., the transitive verb *hortor* ‘I admonish’, *hortatus sum* ‘I have admonished’ (literally: ‘I am admonished’) which takes an accusative object. Thus, there does not in principle have to be a one-to-one relation between morphology and grammatical function.²⁶

More seriously, the status of the alleged null subject in such an active construction would be dubious, given that the occurrence of null subjects in Modern Icelandic is very limited. Maling and Sigurjónsdóttir (p. 134) suggest as a parallel the Impersonal Modal Construction (IMC) in Icelandic, which arguably contains a non-referential *pro* (which must be [+human]) (Sigurðsson 1989: 161, 162ff., 233ff).

- (48) *Það á að gefa börnum brauð.* IMC
 it must to give.INF children.DAT bread.ACC
 ‘Children are to be given bread.’

However, the IMC has active morphology unlike the NC, involving a biclausal construction with a PRO infinitive embedded under an active main verb in the matrix clause. Moreover, in the IMC there is the possibility of an overt subject, for example *einhver* ‘someone’.

- (49) *Það á einhver að gefa börnum brauð.* IMC
 it must someone.NOM to give.INF children.DAT bread.ACC
 ‘Somebody must give the children bread.’

In the NC, on the other hand, an overt subject cannot occur at all. Thus, a sentence such as (50) is completely out for all speakers, irrespective of whether or not they accept the NC (hence the double asterisk). I conclude that the NC is not comparable to the IMC.

- (50) ***Það var einhver barið mig.*
 it was someone.NOM beaten.N.SG me.ACC
 Intended meaning: ‘Someone beat me.’

Second, any semantic difference there may be between the NC and the Canonical Passive is unclear, as indicated earlier. According to Maling and Sigurjónsdóttir’s survey, the two constructions seem to be used side by side; there do not seem to be any speakers who only accept the NC and not the Canonical Passive. It must be emphasized

26. It might be objected that *vera* ‘be’ + past participle does not uniquely involve a passive morphology but can also be found in an active construction. However, here *vera* is arguably not an auxiliary but a copula and the participle is adjectival (Sigurðsson 1989: 331).

that the NC should in particular be compared to the canonical *það*-passive, especially the pattern with a postverbal NP, rather than the Full Passive.²⁷

Third, the NC does not seem to be compatible with various verbs that do not form Canonical Passive, e.g., oblique subject verbs and most middle verbs (cf. Ottósson 1989, Thráinsson 1994, 2007: ch.5). This is unexpected on Maling and Sigurjónsdóttir's (2001: 172, fn. 54) active analysis; supposedly, on their account, the null subject would not necessarily be restricted to agents. If the NC were an active construction it should not be subject to the same restrictions as the Canonical Passive. If, however, the construction really is a passive such restrictions are of course unsurprising. This fact would seem to be a strong argument against the analysis of the NC as an impersonal active.

On the basis of these points I conclude that Maling and Sigurjónsdóttir's claim that the NC is an impersonal active with a thematic null subject pronoun is not called for.

5.4 Properties of impersonal constructions (according to Maling and Sigurjónsdóttir)

Maling and Sigurjónsdóttir assume that impersonal active constructions with a null subject have the following properties:

(51)	Properties	Compatibility with impersonal active constructions
a.	Agentive 'by-phrase' (PP, NP)	No
b.	Binding of anaphors	Yes
c.	Control of subject-oriented adjuncts	Yes
d.	Unaccusative verbs	Yes

In other words, an agentive phrase (typically a PP or an oblique NP) should be incompatible with an impersonal active construction, whereas anaphors (reflexives, reciprocals), subject-oriented adjuncts, and unaccusative verbs should be compatible with it.

The properties proposed by Maling and Sigurjónsdóttir were established primarily on the basis of a comparison between Ukrainian and Polish. These languages have both (i) a Canonical Passive and (ii) a construction labeled 'the *-no/to*-construction'. On the basis of the properties in (51) the *-no/to*-construction can be analyzed as a passive in Ukrainian but as an impersonal active in Polish. In both languages the NP is in the accusative (cf. also Blevins 2003, Sobin 1985, and Lavine 2005, all with further references). Maling and Sigurjónsdóttir contend that the NC in Icelandic has a match

27. For example, it is not clear that the NP *must* be animate although most of the examples in Maling and Sigurjónsdóttir are. Some preliminary research indicates that the NC and other *það*-constructions involve defocusing of the postverbal NP, placing the focus on the verbal action instead. Further investigation is required to establish this, however. See Thráinsson (2007: 321–322) for a survey of the interrelation of the syntax and semantics of pre- and postverbal NPs in *það*-constructions.

in the Polish impersonal active *-no/to-*construction, although it has developed from a Ukrainian-type construction.

In Ukrainian an agentive ‘by-phrase’ (realized as an NP in the instrumental case) is grammatical in the *-no/to-*construction but bound anaphors (reflexives), subject-oriented adjuncts and unaccusatives are ungrammatical in this construction (M/S 12). Note that the copula is optional, and is omitted in (52a) and (52d).²⁸

- (52) a. *Mojim mylym mene zradženo.* ‘by-phrase’ (Instr)
 my.INST beloved.INST me.ACC betrayed.PASS
 ‘I was betrayed by my beloved.’
- b. **Svoju žinku bulo obmaneno.* Reflexive
 REFL.POSS wife.ACC was deceived.PASS
 Intended: ‘Someone deceived his wife.’
- c. **Povernuvšys’ dodomu, hroši bulo znajdeno.* Adjunct
 returning home money was found.PASS
 Intended: ‘Having returned home, the money was found.’
- d. **Umerto/*Zaxvoreno/*Pryjixano* Unaccusative
 died/got.sick/arrived.PASS
 Intended: ‘Someone died/got sick/arrived.’

Conversely, in Polish an agentive PP cannot be used in the *-no/to-*construction, whereas reflexives, subject-oriented adjuncts and unaccusatives can (M/S 10).

- (53) a. *Jana ograbowano (*przez nich).* ‘by-phrase’ (PP)
 John.ACC robbed.IMP by them
 ‘They robbed John (*by them).’
- b. *Zamknięto się w fabryce.* Reflexive
 locked.IMP REFL in factory
 ‘They locked themselves in the factory.’
- c. *Jana ograbowano po pijanemu.* Adjunct
 John.ACC robbed.IMP while drunk
 ‘They robbed John (while they) were drunk.’
- d. *Dawniej umierano młodo.* Unaccusative
 before died.IMP young
 ‘In the old days, people died at a young age.’

Given the different properties of the *-no/to-*construction in Ukrainian and Polish, it would seem that it really is a passive in Ukrainian, irrespective of the fact that accusative case is assigned to the NP (cf. Sobin 1985, Lavine 2005, and Maling & Sigurjónsdóttir, p. 102–106).²⁹

28. Thanks to Henning Andersen for correcting of some of the Ukrainian examples.

29. Maling and Sigurjónsdóttir (p. 105) respond to the problem of accusative case with the object by assuming ‘that the verb can assign accusative case to the object because nominative case is assigned to a null expletive subject.’ This assumption does not capture the various other differences between Ukrainian and Polish, however.

Furthermore, it should be pointed out that there are several additional differences between Ukrainian and Polish constructions, suggesting that they have very different syntactic properties. I only mention here two of the most salient differences: First, there is no auxiliary in this construction in Polish, whereas an auxiliary occurs optionally in Ukrainian (and has both a finite and a non-finite form). The second property is that the construction is restricted to a past tense reading in Polish but not in Ukrainian (Lavine 2000 and Maling & Sigurjónsdóttir, p. 106).

In conclusion, a different analysis of the *-no/to-*construction in the two languages is justified: it is an impersonal active in Polish but, despite the accusative case marking, it is to be considered a passive in Ukrainian.

5.5 The properties tested for Icelandic

5.5.1 Agentive PPs

As discussed above (section 2.2.1), agentive PPs are grammatical in the Canonical (Full) Passive in Icelandic, as shown in (54), from Maling and Sigurjónsdóttir (M/S 27a), although they are more restricted than in English, for example.

	Full Passive	Else- where	Inner Rvík	Adults
(54)	<i>Honum var sagt upp af forstjóranum.</i> him.DAT was fired.N.SG PTC by director.the 'He was fired by the director.'	87%	93%	90%

Maling and Sigurjónsdóttir predict that if the New Construction is syntactically active as they hypothesize, the presence of an agentive PP should be ungrammatical. On the basis of the results of their survey they conclude that this prediction is largely confirmed; while not fully ungrammatical among speakers who accept the NC, the agentive PP is significantly less acceptable than in the Canonical Passive (M/S 28b).

	NC	Else- where	Inner Rvík	Adults
(55)	<i>Það var sagt honum upp af forstjóranum.</i> it was fired.N.SG him.DAT PTC by director.the 'He was fired by the director.'	19%	9%	0%

However, this result is not clear-cut since agentive PPs are often awkward or even infelicitous in the canonical *það*-passive, especially when the NP follows the participle. In my judgement, the sentence with the postverbal NP in (56b) is less acceptable than the one with the preverbal NP in (56a).³⁰ In fact, example (56b) is ambiguous between

30. However, this example should hardly be given a star as in Maling and Sigurjónsdóttir (p. 120, fn. 10) citing Höskuldur Thráinsson (p.c.).

a canonical *það*-passive and the NC. Without an agentive PP, I find that both sentences are equally good.

- (56) a. *Það var mörgu fólki sagt upp (?af forstjóranum)*. CanPass
 it was many people.N.SG fired.N.SG PRT by director.the
 ‘Many people were fired (by the director).’
 b. *Það var sagt upp mörgu fólki (??af forstjóranum)*. CanPass/NC
 it was fired.N.SG PRT many people.N.SG by director.the
 ‘Many people were fired (by the director).’

Thus, agentive PPs are disfavored in *það*-constructions, both in the canonical existential passive (especially with a postverbal NP) and in the NC (Maling and Sigurjónsdóttir, p. 120, including fn. 10). Whatever the reason for this restriction, the limited occurrence of agentive PPs in the NC does not provide conclusive positive evidence in favor of Maling and Sigurjónsdóttir’s analysis of the NC as an impersonal active with a null subject.

5.5.2 Reflexives

According to Maling and Sigurjónsdóttir, if the NC is syntactically active, reflexives should be able to occur in it, as they would be bound by the hypothesized null subject. Their questionnaire contained thirteen sentences involving reflexives: four with a plain *sig* ‘-self’ (accusative), two with a compound self-anaphor *sjálfan sig*, two with a reciprocal, and five with a possessive reflexive. An example of a plain reflexive *sig* is given in (57) (M/S 30a).

				Else- where	Inner Rvík	Adults
(57)	Plain reflexive	<i>Svo var bara drifið sig á ball.</i>		78%	67%	40%
		then was just hurried.N.SG REFL.ACC to dance				
		‘Then people just hurried to a dance.’				

As seen here, simple reflexive objects are judged highly acceptable, not only by the adolescents but by the adults as well, and this is also the case in two of the remaining sentences involving plain *sig* (M/S 30b–c).³¹ In fact, adolescents in Inner Reykjavík were twice as likley, and the adults four times as likely, to accept a sentence with a reflexive object than to accept a sentence with a non-reflexive accusative object (Maling & Sigurjónsdóttir, p. 122). These findings are in accordance with the discussion presented in section 3 above of the occurrence of reflexives in the ImpC (‘reflexive passive’). The similarity between the age groups regarding plain *sig* in Maling and Sigurjónsdóttir’s survey suggests that this construction has existed longer, or at any rate gained ground more rapidly, than the NC. The reason for the high acceptance

31. The example (M/S 30d) contains an unaccusative verb so it does not unambiguously involve the NC.

rate of verbs with a plain reflexive may be that this element is not an object but rather an intransitivizing affix of sorts, attaching to the verb. Thus, reflexive verbs should be analyzed as unergatives rather than transitives (cf. Sells, Zaenen & Zec 1987).

Unfortunately, most of the other examples of reflexives in Maling and Sigurjónsdóttir are irrelevant because they either do not involve the NC at all, or are otherwise unsuitable as test sentences. This leaves only four examples of possessive reflexives that could be potential examples of NC. However, among these cases there is only **one** sentence (M/S 33b) which is accepted by a substantial number of subjects and shows a difference between the three subject groups.

		Else- where	Inner Rvík	Adults
(58)	<i>Á kvöldin var skoðað tölvupóstinn</i> in evenings.the was viewed e-mail.ACC <i>sinn.</i> REFL.POSS.ACC 'In the evenings people checked their e-mail.'	32%	10%	2%

Now, one example is not much to build on, but it indicates that reflexive possessives pattern with non-reflexive arguments rather than simple reflexives, which, as mentioned, are not to be analyzed as 'objects' but as intransitivizing affixes. In any case, the occurrence of reflexive possessives in the NC would have to be studied in much greater detail in order to obtain conclusive results.

Finally, it should be pointed out that, for example, in English (Roberts 1987, Baker, Johnson & Roberts 1989, Collins 2005) and German (Sternefeld & Featherston 2003), reflexives and other bound anaphors can, at least to a limited degree, occur in passive, bound by an antecedent in the context. The following German examples are taken from Sternefeld & Featherston (2003: 243).

- (59) a. *Ich erwarte, dass sich jetzt gewaschen wird.*
I expect that REFL now washed becomes
'I expect that people wash now.'
- b. *Hier wird einander nicht gespitzelt.*
here becomes each.other not spied.on
'One does not spy on each other here.'

This shows that the occurrence of a bound anaphor is not necessarily an argument for a null subject. This fact further undermines Maling and Sigurjónsdóttir's claim that the compatibility of reflexives with the ImpC provides an argument for the IAH that reflexives occur in passives.

5.5.3 Subject-oriented adjuncts

Maling and Sigurjónsdóttir predict that the thematic null subject of the hypothesized impersonal active can be a controller for the participial adjunct. Their questionnaire

contained one example of the NC with a subject-oriented adjunct (M/S 37c). At a first glance the difference between the three groups in (60) would seem to provide striking support for their hypothesis.

		Else- where	Inner Rvík	Adults
	NC with a subject-oriented adjunct			
(60)	<i>Það var lesið minningargreinina grátandi.</i> it was read.N.SG obituary.the.ACC crying 'People read the obituary crying.'	62%	35%	4%

The problem with this example, however, is that it is probably not the adjunct *grátandi* 'crying' but the use of a transitive verb which makes the sentence ungrammatical for adult speakers. The figures for the adolescents, on the other hand, are not much different from those in (61) below, involving subject-oriented adjuncts with the unaccusative verbs *koma* 'come' and *fara* 'go' (M/S 37a–b). By contrast, as Maling and Sigurjónsdóttir mention (p. 126), approximately 50% of the adults accept subject-oriented adjuncts with these unaccusatives.

		Else- where	Inner Rvík	Adults
	ImpC with a subject-oriented adjunct			
(61)	a. <i>Það var komið skellihljæjandi í tímenn.</i> it was come.N.SG laughing.out.loud into class 'People came to class laughing out loud.'	68%	47%	52%
	b. <i>Það var farið hágrátandi heim.</i> it was gone.N.SG crying.loud home 'People went home crying loud.'	61%	50%	49%

The sentence in (62), containing an unergative verb, is also generally accepted by Icelandic speakers who do not accept the NC (M/S 36). This is noted by Maling and Sigurjónsdóttir, who concede that on their account it 'should be ungrammatical in the standard language because there is no referential agent subject to serve as controller for the participial adjunct' (p. 125).

(62)	<i>Það var dansað skellihljæjandi á skipinu.</i> it was danced.N.SG laughing.out.loud on ship.the 'People danced on the ship laughing out loud.'			ImpC
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Concerning the occurrence of intransitives in the ImpC, Maling and Sigurjónsdóttir propose (p. 126) that there are actually two different groups of native speakers and presumably two different grammars: one group for whom the relevant constructions involve passives of intransitive verbs (with a suppressed or implicit subject), and a second group for whom these constructions are impersonal actives (containing a thematic *pro* subject). Maling and Sigurjónsdóttir also state that there is a correlation between the results for subject-oriented adjuncts and those for simple reflexives: 'The more subject-oriented participles are accepted, the more simple reflexives are accepted' (p. 126). However, this is not a strong argument in favor of the IAH as the

correlation does not necessarily require the assumption that the NC involves a thematic null subject. It is equally comprehensible on the assumption that there are speakers who allow for an ‘underlying’ (i.e., an implicit or ‘dethematized’) agent as a controller of reflexives and subject-oriented adjuncts (cf. Barðdal & Molnár 2003: 128).

Moreover, the evidence Maling and Sigurjónsdóttir build their case on is far from straightforward. A significant number of both adults and adolescents accept simple reflexives and subject-oriented adjuncts with intransitives. However, as shown in (60), only a very small number (4%) of the adults accept the subject-oriented adjuncts with transitive verbs. It is unclear on Maling and Sigurjónsdóttir’s account why there should be such a big difference in acceptability between intransitives (including verbs with simple reflexives) and transitives in this respect. The diachronic argument that the NC began with reflexives and is thus more advanced with these is not valid. One would assume that speakers for whom the NC, containing the alleged thematic null subject, is grammatical would be able to use the adjuncts with transitive verbs just as with intransitives.

So once again the evidence intended by Maling and Sigurjónsdóttir to support their analysis in fact does not. Moreover, the following consideration weakens their claim further still. Maling and Sigurjónsdóttir point out that certain adjuncts require a syntactic (subject) controller, and that therefore (63) is judged ungrammatical (M/S 35b).

- (63) ??*Valsinn var dansaður skellihlæjandi.* CanPass
 waltz.the.NOM was danced.NOM laughing.out.loud
 ‘People danced the waltz laughing out loud.’

In fact, however, such sentences improve given suitable context, as is indeed pointed out by Maling and Sigurjónsdóttir themselves with respect to the example in (64a) involving a Full Passive (p. 125 n. 14 ex. (i), citing Höskuldur Thráinsson, p.c.). A further example is given in (64b).

- (64) a. *Eftir að hljómsveitarstjórinn hafði sagt þennan* CanPass
 after bandleader.the had told that
brandara voru síðustu dansarnir dansaðir skellihlæjandi.
 joke were last dances.NOM danced.NOM laughing.out.loud
 ‘When the band leader had told that joke people danced the last dances
 laughing out loud.’
- b. *Ferðin var farin fótgangandi.*
 journey.the.NOM was gone.NOM on.foot
 ‘People went on the journey on foot.’

The fact that subject-oriented adjuncts can occur in the Canonical Passive of transitive verbs, as in (64), strongly suggests that the use of an adjunct depends on an implicit agent in the context; therefore the assumption of an impersonal active with a null subject is not needed.³²

32. It is generally doubtful that depictives like these adjuncts are good subject tests. As John Whitman (p.c.) reminds me, they can, for example, be anteceded by the agent in English passives, e.g., *The drinks were quaffed by the cops laughing.*

5.5.4 *Unaccusatives*

Maling and Sigurjónsdóttir claim (p. 126) that passives of unaccusatives verbs are ‘sharply ungrammatical’ in all the Germanic languages that allow intransitive verbs to form passives, including standard Icelandic.³³ They argue (p. 127) that their results, reproduced in (65), indicate that the New Construction is ‘beginning to extend its usage to nonagentive verbs which do not form passives in the standard language.’ In other words, Maling and Sigurjónsdóttir contend that the fact that unaccusative verbs can occur in the ImpC in (65) shows that it involves an impersonal active with a null subject rather than an impersonal (subjectless) passive (M/S 38a–b, d–e).

	ImpC with unaccusatives	Else- where	Inner Rvík	Adults
(65) a.	<i>Það var dottið í hálkunni fyrir framan it was fallen.N.SG on ice.the in.front.of blokkina. apartment.block.the ‘People fell on the ice in front of the apartment block.’</i>	55%	45%	25%
b.	<i>Í morgun var komið of seint í skólann. in morning was come.N.SG too late to school ‘This morning people came too late to school.’</i>	36%	38%	58%
c.	<i>Það var horfið sporlaust í stjórnstríðinu. it was disappeared.N.SG traceless in star.war.the ‘People disappeared without a trace in the star war.’</i>	30%	23%	22%
d.	<i>Það var dáið í bílslysinu. it was died.N.SG in car.accident.the ‘People died in the car accident.’</i>	14%	11%	2%

Maling and Sigurjónsdóttir (p. 128) further remark that the range of acceptability is extremely wide. However, the evidence in (65) does not warrant such a claim, as it is only *deyja* ‘die’ (65d) which stands apart. It should be noted that this verb scores low among the adolescents as well. I agree, however, with Maling and Sigurjónsdóttir’s (p. 128) further suggestion that some semantic factor must account for the difference between the acceptability of *deyja* ‘die’ and the other unaccusatives in the ImpC.³⁴

Maling and Sigurjónsdóttir also speculate that the alleged changes in the lexical restrictions on a particular morphology are ‘the last stage’ in the reanalysis of impersonal

33. This is not correct; at least ‘come’ and ‘go’ occur in passive in various Germanic languages, including Swedish (C. Platzack, p.c.), Afrikaans (T. Biberauer, p.c.) and – as shown in this chapter – in Old and Modern (standard) Icelandic.

34. In German, for example, there are occasional occurrences of a passive of *sterben* ‘die’.

passive to a syntactically active construction. But they acknowledge that adults like the first three sentences in (65) as much as the adolescents do – in fact, even more, as (65b) shows – and that, crucially, adults accept these examples of the ImpC to a much greater extent than they accept constructions with a definite postverbal object (i.e., true NCs).

The fact that the sentences in (65a–c) are accepted by many adult speakers manifests once again that there is a serious problem with Maling and Sigurjónsdóttir's analysis; actually, it would seem that they are turning things on their head. It must be emphasized that this type of construction is not new in Icelandic; already in Old Icelandic there are examples of unaccusatives in the ImpC (cf. section 3). So the occurrence of an unaccusative in the ImpC does not support the IAH and there is no need to assume a null subject. Depending on their lexical semantics, unaccusative verbs in Icelandic are compatible with the 'impersonal passive'.

5.6 Evaluation and a new proposal

The predictions of Maling and Sigurjónsdóttir regarding the application of the properties listed in (51) to the NC are not borne out in a clear-cut way. In fact, they concede that '... the Icelandic "New Passive" represents the **first stages** [emphasis added, T. E.] of the reanalysis of the Canonical Passive morphology from passive to syntactically active' (Maling and Sigurjónsdóttir, p. 101). (The specifics of their historical account is examined in section 7.3.)

Moreover, in order to maintain their analysis, Maling and Sigurjónsdóttir (cf. also Maling 2006) have to assume that an impersonal active with a null subject is not only involved in the NC, but also, for many speakers at least, in the 'traditional' impersonal construction (ImpC) with intransitive verbs, which, except for reflexives, is attested already in Old Icelandic.

It is clear that there is a lot of variation in speakers' acceptance of all these constructions which might be taken to indicate the co-existence of an innovative 'impersonal active' and a passive construction. But matters are even more complicated than this because, as is clear from the evidence presented by Maling and Sigurjónsdóttir themselves, there is also variation between individual predicates (verbs) in the ImpC and the NC, and even object types in the NC, e.g., depending on case or whether the object is a full NP or a pronoun.

So instead of analyzing the Canonical Passive and the NC as two fundamentally different constructions, it would seem more plausible to assume that there is some factor involved, be it syntactic or semantic, or possibly both, determining which type of predicate can be passivized, and whether or not an agentive PP, a reflexive, or an adjunct is compatible with the relevant predicate.

It should be stressed here that the thematic null subject hypothesized by Maling and Sigurjónsdóttir is by no means required to account for the existence of the NC, nor does an unpromoted internal argument and the absence of a thematic subject conflict with the analysis of the ImpC and the NC as a passive. Assuming with Comrie (1977) that the main function of passive is to 'demote' (suppress) the subject (often

but not exclusively the agent), a passive analysis can be maintained. On such a view, ‘promotion’ of the direct object would be a secondary function of the passive, being found exclusively with transitive verbs in a particular type of clause (i.e., a clause involving NP-movement). This view of the passive is in accordance with the empirical facts of Icelandic and various other languages, as against the opposite theory according to which promotion of the object is the main function of the passive, while the ImpC-type (especially with unaccusatives) and NC-type constructions are excluded (cf. Perlmutter 1978; Blevins 2003; Burzio 1986). As for the preservation of the accusative in passive, see the discussion in section 6.

On the basis of the evaluation of the criteria used by Maling and Sigurjónsdóttir, I conclude that there is not sufficient evidence to show that the NC involves two arguments with monotransitives. Therefore, I assume that only the internal argument is involved and the external argument (the subject) is suppressed.³⁵ In this case it would seem unproblematic to assume that the subject is understood from the context. In other words, the subject is implicit (or ‘dethematized’), and this accounts for the partial conformity with the properties in (51) (cf. Barðdal & Molnár 2003). The morphological means to form the NC *qua* passive, as other types of passive in Icelandic, involves the passive morphology consisting of the auxiliary *vera* ‘be’ plus the past participle, which only exhibits agreement with a nominative NP, regardless of whether or not it is a subject. Thus, the NC really is a passive in Modern Icelandic (cf. also Kjartansson 1991 and Barðdal & Molnár 2003).

6. Accusative preserved in passive

6.1 Introduction

In the previous section I argued that there is no independent evidence for the assumption of a thematic null impersonal subject in the NC in Icelandic; recall that the expletive *það* ‘it’ is not an argument but a placeholder which is inserted in the absence of another initial element in main and embedded clauses. This means that the NC is a passive with structural accusative case assignment. In this respect, the NC – *qua* the New Passive – is directly comparable to the *-no/to*-construction in Ukrainian and other languages (Sobin 1985, Lavine 2005).³⁶

35. There are of course two arguments involved in the NC from ditransitive verbs, but both are internal.

36. Passive constructions preserving accusative case have been argued to occur in various languages, including Finnish (Manninen & Nelson 2004), Korean and Japanese (John Whitman, p.c.), and Old Irish (Pedersen 1913: 394–400). The Modern Irish ‘autonomous’ construction that has developed from the Old Irish passive has been analyzed as an impersonal active rather than a passive (Stenson 1989, Noonan 1994).

Maling and Sigurjónsdóttir claim that the Icelandic construction does not have a match in other Nordic or Germanic languages. I would now like to point out some parallels to the Icelandic New Passive that have largely gone unnoticed so far. These parallels are found in some of the closest relatives of Icelandic, namely Norwegian (6.2) and Faroese (6.3). In addition, I will highlight the importance of the Icelandic Impersonal Ditransitive Reflexive Construction (IDRC), mentioned in section 2.3 above, in which accusative occurs with the direct object (6.4). Finally, I briefly discuss the theoretical challenge presented by the existence of passive constructions preserving structural case assignment.

6.2 Norwegian

In Norwegian the so-called Impersonal Passive, introduced by the element *det* ‘it’ (or *der* ‘there’), contains an auxiliary ‘be’ and a past participle (Åfarli 1992, Faarlund et al. 1997).³⁷ The associate NP corresponding to the direct object of an active sentence must be postverbal and, as in the canonical *það*-passive in Icelandic, it must normally be indefinite (66a). On the other hand, in the Norwegian construction an NP corresponding to the indirect object follows the participle and may be definite, as seen in (66b). In this respect, the Norwegian Impersonal Passive is similar to the Icelandic New Passive in which a definite indirect object must follow the participle.

- (66) a. *Det vart lagt eit dokument/*det framfor oss.*
 it was placed a document/it before us
 ‘A document/*it was placed before us.’
 b. *Det vart overrekket vinnaren ein pokal/*pokalen.*
 it was given winner.the a cup/cup.the
 ‘The winner was given a cup/*the cup.’

To be sure, exceptions to the DE of the indirect object in the Norwegian construction have been reported, but they mostly involve heavy postverbal NPs, as shown in (67) (cf. Faarlund et al. 1997: 845–847, with further examples and references). However, such sentences do not belong to the ‘core grammar’ of Norwegian (J.T. Faarlund, D. Haug, p.c.).

- (67) *Såvidt vi kan forstå, er det her tatt med de totale omkostninger.*
 so.far we can understand is it here taken with the total cost
 ‘As far as we can understand, the total cost is included here.’

What is important is that the postverbal NP is standardly argued to be an object, assigned structural accusative case (cf. Hestvik 1986, Åfarli 1992 & Faarlund et al. 1997). Even though there is no overt case morphology on nouns in Norwegian, the

37. Neo-Norwegian shows participial agreement either with the expletive *det* ‘it’ or the postverbal NP (see, e.g., Christensen & Taraldsen 1989).

postverbal NP in the Impersonal Passive can be shown to exhibit object-like behavior as it does not pass subject tests such as Conjunction Reduction and the possibility of having an agentive PP (Faarlund et al. 1997: 847). Compare in this respect Icelandic, where the postverbal NP in the **canonical** *það*-passive also exhibits object-like characteristics with respect to such subject tests, as discussed in section 2.2.1 above (examples (16b)–(17b)).³⁸

In sum, the Norwegian *det*-passive is a close parallel to the New Passive in Icelandic in that the postverbal argument is an object rather than a subject. Moreover, in Norwegian an NP corresponding to the indirect object of an active ditransitive verb follows the participle and may be definite, just as is the case in the Icelandic New Passive. The main difference is that the direct object NP must generally be indefinite in Norwegian. The reason for this difference between Icelandic and Norwegian remains to be established.

6.3 Faroese

Closer to home, in Faroese some ditransitive verbs, e.g., *ynskja* ‘wish’, that exhibit the DAT-ACC case frame in the active (68a) preserve accusative case with the postverbal NP in the passive (68b).³⁹ On the other hand, the structure with a nominative NP, as in (68c), is apparently not widely accepted in Modern Faroese (cf. Barnes 1986, Thráinsson et al. 2004: 273).⁴⁰

- | | | | | | |
|------|----|-----------------------------------|---------------------|------------------------|---------|
| (68) | a. | <i>Tey ynsktu</i> | <u><i>honum</i></u> | <i>eina góða ferð.</i> | Active |
| | | they wished.3.PL | him.DAT | a good trip.ACC | |
| | | ‘They wished him a good journey.’ | | | |
| | b. | <u><i>Honum</i></u> | <i>varð ynskt</i> | <i>eina góða ferð.</i> | Passive |
| | | him.DAT | became wished.N.SG | a good trip.ACC | |
| | | ‘He was wished a good journey.’ | | | |
| | c. | ? <u><i>Honum</i></u> | <i>varð ynskt</i> | <i>ein góð ferð.</i> | Passive |
| | | him.DAT | became wished.N.SG | a good trip.NOM | |
| | | ‘He was wished a good journey.’ | | | |

Moreover, an existential variant of the Full Passive in (68b) is shown in (69), in which there is an expletive *tað* ‘it’ and a postverbal indefinite NP in the accusative.

38. Similar conditions also hold of *there*-insertion in English.

39. The Faroese examples involve the passive auxiliary *verða* ‘become’. Another passive auxiliary in Faroese is *blíva* ‘become’, which is more common in the spoken language (Thráinsson et al. 2004: 265).

40. On the basis of Old and Modern Icelandic it can be assumed that this construction used to take the DAT-GEN case frame in Old Faroese, which was then replaced by DAT-NOM. In Modern Faroese, however, there has been a further change from a DAT-NOM frame to DAT-ACC. It may be noted that a parallel development occurred in Middle English (cf. Allen 1995: 237–240).

- (69) *Tað varð ynskt honum eina góða ferð.*
 it became wished.N.SG him.DAT.SG a good trip.ACC
 ‘People wished him a good journey.’

Further examples are given in (70a–b). The construction is reported to be relatively uncommon and has, to my knowledge, so far not been discussed in the literature. It seems, however, that there is a DE such that definite nouns and pronouns cannot occur postverbally, and therefore (70c) and (70d) are judged ungrammatical; however, nouns can be modified by the demonstrative *hesi* ‘this’, as in (70b).⁴¹

- (70) a. *Tað varð lovað henni eina teldu.*
 it became promised her.DAT a.ACC computer.ACC
 ‘She was promised a computer.’
 b. *Tað varð lovað henni hesa telduna.*
 it became promised her.DAT this.ACC computer.ACC
 ‘She was promised this computer.’
 c. **Tað varð lovað henni telduna.*
 it became promised her.DAT computer.the.ACC
 d. **Tað varð lovað henni hana.*
 it became promised her.DAT her.ACC

Crucially, the case of the postverbal NP is accusative, which cannot be observed in Norwegian due to the lack of case morphology on nouns in that language. In Faroese, on the other hand, case morphology has been preserved to a large degree. In this connection, it should be noted that an alternative – presumably older – construction in Faroese has a postverbal nominative NP which must be indefinite.

- (71) a. *Tað varð lovað henni ein telda.*
 it became promised her.DAT a.NOM computer.NOM
 ‘She was promised a computer.’
 b. **Tað varð lovað henni henda teldan.*
 it became promised her.DAT this.NOM computer.the.NOM

In the relevant examples above, viz. (69), (70a–b) and (71a), the indirect object occurs to the right of the participle and can be definite, which is different from the Canonical Passive in Icelandic. Remarkably, the *tað*-passive with a postverbal accusative NP seems only possible with ditransitives, not with monotransitives.

It is clear that, just as the Impersonal Passive in Norwegian, the Faroese construction under discussion is a parallel to the New Passive in Icelandic. Further work is required to establish the status of this construction in Faroese, in particular the complicated issue regarding the nature of the DE.

41. Thanks to Helena á Løgmansbø and Victoria Absalonsen for providing these examples and judgements.

The fact that these very similar passive constructions occur in closely related languages, Icelandic, Faroese and Norwegian, raises the question of their origins. Are these phenomena common West-Norse inheritance, or are they due to contact between these languages? Neither possibility seems plausible in this case, and thus I provisionally conclude that the constructions instantiate a parallel structural development in these languages, something which can also be observed in other domains of their grammar.⁴²

6.4 Icelandic: The Impersonal Ditransitive Reflexive Construction

Finally, I briefly discuss the Impersonal Ditransitive Reflexive Construction (IDRC), introduced in section 2.3, which preserves the accusative case with the direct object. Example (35a), given above, is repeated here as (72).

- (72) *Það var fengið sér öllara.* IDRC
 it was got.N.SG REFL.DAT beer.ACC
 ‘People got themselves a beer.’

As mentioned earlier, although the IDRC is restricted to only a few ditransitive verbs, it seems to be quite widespread in colloquial Icelandic, and to be accepted by speakers for whom the New Passive of verbs taking non-reflexive objects is ungrammatical. Like other reflexive verbs, this type does not have a Canonical Passive pendant. However, just as with passive of reflexives and the New Passive, there is no reason to assume that the IDRC involves a thematic null subject; the fact that a reflexive pronoun occurs in this construction can be attributed to its status as an affix on the verb rather than an object. Thus, the IDRC is a passive construction in which the direct object is assigned (or ‘preserves’) structural accusative case. As in other structures which do not contain a nominative form, there is no participial agreement. The generalization to be derived from the properties of the IDRC is that, in the absence of nominative case, which is the default (or unmarked) case in Icelandic *par excellence*, accusative is assigned to an internal argument as the default structural object case (see Sigurðsson 2007).

6.5 Empirical evidence – theoretical problems

According to the properties in (51), assumed by Maling and Sigurjónsdóttir to distinguish passive of impersonal active, the Ukrainian *-no/to*-construction clearly is a passive, as is in particular evident from the fact that it can co-occur with an agentive

42. Faarlund (2002) argues that the postverbal NP, presumably a subject in Old Norse, was reanalyzed in Norwegian as an object because it was in object position. According to Faarlund, the loss of case marking was an important factor in this development in Norwegian, but it is clearly not a necessary condition, assuming that the NC in Icelandic is a parallel development.

PP (cf. Sobin 1985; Lavine 2005). The syntactic difference between the Ukrainian canonical passive and the *-no/to-*construction is minimal, boiling down to assignment of nominative in the former and accusative in the latter.⁴³ By assumption, both constructions involve an implicit ('dethematized') subject that can be retrieved from the context (Lavine 2005) and not a thematic null subject. The *-no/to-*construction in Polish, on the other hand, is a much better candidate for a real impersonal construction with a thematic null subject.

The question arises whether the 'preservation' of accusative is to be considered a problem for the passive analysis. Within certain influential theories it is commonly assumed that accusative is not preserved in passive – accusative case and passive are supposed to be mutually exclusive. However, this assumption depends on a particular theory-internal definition of passive. For example, Blevins (2003), following Perlmutter (1978) and others, explicitly argues that the Ukrainian *-no/to-*construction is not a passive precisely because he defines passive in such a way that it cannot contain an accusative argument and cannot be formed to unaccusatives. A similar view is inherent in Burzio's Generalization in generative grammar (Burzio 1986). If passive is defined such that it cannot involve an accusative, then it is clear that constructions containing an NP assigned structural accusative case in Ukrainian, Icelandic, and other languages are not passives. But *a priori* there is no reason to assume a theory which excludes accusative from passive (for arguments, cf. Áfarli 1992, Collins 2005, Lavine 2005).

The existence of constructions such as the New Passive in Icelandic – a passive with structural accusative case assignment – can provide empirical support for the analysis advanced by Collins (2005), combining aspects of the principles and parameters approach and Chomsky's (1957) claim that the arguments in the passive are generated in the same positions as they are in the active. On this view, the absence of structural accusative case assignment in the Canonical Passive, where there is nominative case instead, and its presence in the New Passive is attributed to parametric variation in the assignment of accusative case assignment. The basic assumption is that there is a case feature [\pm accusative] in a functional head (F) taking a VP complement. The value of this parameter determines the case of the postverbal NP. This proposal, which can only be sketched here very briefly, is in line with the view all parametric variation is localized to variation in uninterpretable features (cf. Collins 2005 with further references). The properties of the New Passive, the passive of reflexives and the Impersonal Ditransitive Reflexive Construction (IDRC) show that, in the absence of nominative case assignment, accusative is assigned to an internal argument. This is in keeping with the assumption, mentioned earlier, that while nominative is the general default (unmarked) case in Icelandic, accusative is the default structural object case and can be assigned to an internal argument in passive if nominative case assignment fails to occur.

43. However, various pragmatic differences between the two constructions have been reported in the literature (see, e.g., Lavine 2000).

6.6 Summary

The NC in Icelandic really is a passive and not an impersonal active **despite** the accusative case marking. In this respect, the NC in Icelandic is comparable to the *-no/to*-construction in Ukrainian (and not the Polish one, as claimed by Maling and Sigurjónsdóttir). Further parallels to the NC, so far unnoticed, are found in languages closely related to Icelandic, namely Faroese and Norwegian. Finally, the Icelandic Impersonal Ditransitive Reflexive Construction can be captured on the assumption that, in the absence of nominative case assignment, accusative figures as the default structural object case in passive.

7. How did the change happen?

7.1 Introduction

The previous discussion has shown that the alleged arguments for an impersonal active construction are not persuasive. Given the crosslinguistic evidence that accusative case is compatible with passive (*pace* Burzio's Generalization), I proposed that the NC should indeed be analyzed as a passive – and hence the label New Passive should be used for this construction.

Thus, the difference between Canonical Passive and the New Passive is minimal, as is *a priori* suggested by the fact that there does not seem to be any fundamental semantic difference between the two constructions. As discussed in section 6.5 above, a way of accounting for this minimal difference in morphosyntactic terms is to attribute it to a parametric variation in a case feature [\pm accusative] determining the case of the postverbal NP.

The question arises what the source of this parametric variation is. We have seen that there are parallels in other Scandinavian languages, in particular in Faroese and Norwegian. However, there is no evidence that the origins of the New Passive in Icelandic was due to contact with any other language. Therefore, the New Passive must be considered a 'home-grown' innovation in Icelandic.

The first step in pinpointing the emergence of the New Passive of the Canonical Passive is to look for an 'area of contact' between the two constructions. We have seen that there is a morphological overlap, a structural ambiguity, between the New Passive and the canonical existential passive with a postverbal NP in neuter singulars and in NPs that have oblique case (dative, genitive). The NP in the existential passive is generally subject to the DE, although there are instances of a 'leakage' where the postverbal NP is definite.

By assumption, then, the structural ambiguity and the 'leakage' in the DE can lead to reanalysis of the canonical existential passive with a postverbal NP as the New Passive. There are good reasons to believe that this reanalysis is intimately linked to first language acquisition. The New Passive is common among children and adolescents,

but among adults it seems largely to give way to the Canonical Passive. As Maling and Sigurjónsdóttir show, speakers for whom the New Passive is grammatical generally also accept the Canonical Passive; both to judge by their survey and impressionistically, there do not seem to be any speakers who only have the New Passive. This suggests that the diffusion of the innovation has not been completed with any speaker of Icelandic. The existence of two passive constructions raises the question whether there are two (competing) grammars in the same speaker, or variation in one grammar. Detailed surveys must be carried out before this question can be answered satisfactorily.⁴⁴

7.2 The emergence of the New Passive: A proposal

Given these background assumptions, an account of the emergence of the New Passive in Icelandic can be sketched as follows.⁴⁵ The point of departure is the claim in Maling and Sigurjónsdóttir (p. 112) that the NC began with dative forms because it appears more common with verbs taking dative objects than with those taking accusative objects; this claim is consistent with the observations for Ukrainian and Polish, ‘that the change began with those forms where the morphological evidence of nonagreement is least obvious’ (cf. also Maling 2006). In fact, postverbal oblique NPs (datives and genitives) and, moreover, neuter singular NPs involve a formal ambiguity between the New Passive and the canonical *það*-passive, as shown in (73). Furthermore, the postverbal NP in the canonical *það*-passive is arguably object-like, at least for some speakers, and so the preconditions for a change from nominative to accusative (the default structural object case) may already have been latent for a considerable period.

- (73) a. *Það var skammað lítið barn.* CanPass/NC
 it was scolded.N.SG little.NOM/ACC child.NOM/ACC
 ‘A little child was scolded.’
- b. *Það var hrint litlum strák.* CanPass/NC
 it was pushed.N.SG little.DAT boy.DAT
 ‘A little boy was pushed.’

The ambiguity is even more robust in cases of the above-mentioned ‘leakage’ in the DE with postverbal NPs, which is of course an exceptional pattern in the Canonical Passive.

- (74) a. *Það var skammað litla barnið.* NC (CanPass)
 it was scolded.N.SG little.DEF.NOM/ACC child.the.NOM/ACC
 ‘The little child was scolded.’

44. Actually, such surveys are currently underway within the project Syntactic Variation at the University of Iceland.

45. The present account develops further the ideas in Eythórsson (2005), although the details are different.

- b. *Það var hrint litla stráknun.* NC (CanPass)
 it was pushed little.DEF.DAT boy.the.DAT
 ‘The little boy was pushed.’

In order for structures with postverbal NPs to signal to the acquirer that the construction in question is the canonical existential passive, either or both of the following two conditions on the postverbal NP must be met: (i) the NP must be unambiguously nominative, and/or (ii) it must be indefinite. In case of a formal ambiguity in morphological case forms and a ‘leakage’ in the DE a reanalysis of the postverbal NP can take place. Due to this reanalysis, the postverbal NP in ‘object position’ is assigned structural object case – accusative – rather than nominative case.

The question that immediately comes up is: Why did this change happen in Icelandic when it did and not at some other time? This is the ‘actuation problem’, and it cannot be given an answer at present. The fact remains that there do not seem to be any unambiguous examples of the New Passive containing either full NPs in the accusative or pronouns until the mid-20th century (Maling and Sigurjónsdóttir, p. 129).

For the purposes of this chapter, I would like to concentrate on a plausible scenario for the emergence of the New Passive rather than stating the exact conditions on the actuation of the change. The basic assumption here is that the absence of structural accusative case in the Canonical Passive and its presence in the New Passive is attributable to parametric variation in a case feature [\pm accusative] in a functional head (F) taking a VP complement, which determines the case of the postverbal NP (cf. Collins 2005).

As we have seen, there is ample comparative evidence for this assumption, involving the preservation of accusative case in passive in languages such as Ukrainian. Moreover, the change from nominative to accusative case assignment with objects in original DAT-NOM constructions in Faroese and Middle English would seem to provide further supporting evidence for the assumption (see above, 6.3). The premise is that nominative is the default structural case *par excellence*, but accusative is the default structural object case. Thus, if nominative is not assigned to the external argument, it can be assigned to the internal argument. This is the reason for nominative case assignment to the internal argument in the Canonical Passive to transitive verbs, where there is no external argument, and in DAT-NOM structures, where the external argument is not assigned nominative. However, if the evidence for nominative is somehow weakened, for example as a result of shifts in the input available to the acquirer, accusative can be assigned to the internal argument instead; hence the accusative case assignment in the New Passive of Icelandic and comparable constructions and the DAT-ACC structures in Faroese and Middle English.

So on the account developed here, a child faced with ambiguous evidence regarding the morphological case of the postverbal NP would conclude that the structural case of the NP in object position should be accusative and not nominative. The ambiguous structures give rise to a resetting of the case parameter in favor of accusative case – the

default structural case with objects. Once the postverbal NP has been reanalyzed as an object that is assigned structural accusative case, the New Passive emerges:

- (75) *Það var barið lítinn strákr.* NC
 it was beaten.N.SG little.ACC boy.ACC
 'A little boy was beaten.'

Presumably, the reanalysis takes place as a result of a drop in the frequency of the evidence that the acquirers have for nominative case with the postverbal NP below a certain threshold which remains to be specified. However, this is about as precise as we can be about this matter at this point (for some general speculations, see Lightfoot 1999, 2006). The statistics relating to type and token frequency of nominative vs. oblique case with (postverbal) NPs in the Canonical Passive remain to be established.

As the New Passive does not involve nominative case assignment to the object, the absence of participial agreement in favor of the default neuter singular form is an inevitable part and parcel of the change. Recall that the assumption is that the New Passive emerges in structures where the participial agreement could be interpreted as 'defective'. It is reasonable to assume that this reanalysis is favored by lack of agreement in other types of passive: the impersonal passive of intransitives, including reflexives and unaccusatives (see examples in section 3). In all of these structures the participle is in the default neuter singular form. Since the postverbal NP is assigned accusative rather than nominative there is no agreement with the past participle.

Moreover, in this case no NP-movement (A-movement) can occur, neither long nor short, since the movement of objects is only to A²-positions.⁴⁶

- (76) **Það var lítinn strákr barið.*
 it was little.ACC boy.ACC beaten.N.SG

Finally, since the NP is not a subject but an object, the DE no longer applies. As a result, the following structures are possible in the New Passive:

- (77) a. *Það var barið litla strákrinn.* NC
 it was beaten.N.SG little.DEF.ACC boy.the.ACC
 'The little boy was beaten.'
- b. *Það var hrint litla strákrnum.* NC
 it was pushed.N.SG little.DEF.DAT boy.the.DAT
 'The little boy was pushed.'

In conclusion, the main motivation for the emergence of the New Passive can be identified. Due to instances of formal and structural ambiguity, the postverbal NP

46. Lavine (2005) speculates that the Ukrainian *-no/to*-construction involves NP-movement (A-movement). However, the arguments that this fronting is actually A-movement do not appear persuasive.

is reanalyzed as an object which is assigned structural accusative case rather than nominative. This change amounts to a resetting of the case parameter in favor of the accusative. The other properties of the New Passive, i.e., the lack of NP movement and the DE, follow from this reanalysis.

A further reason favoring the New Passive over the Canonical Passive is comprehensible on the view that the main function of passive is demotion (suppression) of the external argument rather than the promotion of the internal argument (NP-movement); cf. Comrie (1977) and the discussion in 5.6 above. This view implies that since promotion is a ‘secondary’ function of the passive, it can be dispensed with, while the grammatical function of passive is preserved.

Finally, it should be stressed that passivization as an ‘impersonalizing’ device is ubiquitous in Icelandic, whereas ‘man’-impersonals are constrained compared to related languages (cf. Jónsson 1992, Ragnarsdóttir & Strömquist 2005 for a comparison of Icelandic and Swedish). In Icelandic the indefinite pronoun *maður* ‘one’, homonymous with the noun meaning ‘man’, only has a specific/inclusive meaning in that it must include the speaker (first person singular). It does not have a generic or an arbitrary meaning excluding the speaker (‘people (in general)’). The restrictions on the use of the indefinite *maður* must be seen in relation to the proliferation of constructions with passive morphology in Icelandic.

7.3 Alternative views

The account just sketched of the origins of the New Passive differs from those proposed by previous researchers: Maling & Sigurjónsdóttir (2002), Kjartansson (1991) and Barðdal & Molnár (2003).

Maling and Sigurjónsdóttir (p. 101) argue that the NC is due to a reanalysis of the passive of intransitive verbs (‘impersonal passive’) as an impersonal active containing a thematic null subject, and spread to transitives via the Impersonal Construction (ImpC) with reflexives (‘reflexive passive’). Based on their study of the NC in Icelandic, they propose that the first stage after the reanalysis was the extension of the impersonal passive to inherently reflexive predicates; this then was extended to non-inherent reflexives and other bound anaphors (p. 122, p. 133).

As discussed in section 3, in Icelandic an impersonal passive can be formed to reflexive verbs, both inherent reflexives and optional reflexives, as in (43) (from Sigurðsson 1989: 355, fn. 60), repeated here as (78). In this case there is no participial agreement, as is expected since there is no argument that is assigned nominative case.

- | | | | |
|------|----|--|------|
| (78) | a. | <i>Það var leikið sér allan daginn.</i> | ImpC |
| | | it was played.N.SG REFL.DAT all day | |
| | | ‘People played all day.’ | |
| | b. | <i>Það var baðað sig á laugardögum.</i> | ImpC |
| | | it was bathed.N.SG REFL.ACC on Saturdays | |
| | | ‘People took a bath on Saturdays.’ | |

Moreover, as shown in section 5.5.2, the acceptance rate for the ‘ImpC’ is much higher for sentences with a reflexive object than with a non-reflexive accusative object (Maling & Sigurjónsdóttir 2002: 122). It is therefore a reasonable assumption that the reflexive passive is older, or at least gained ground more rapidly, than the New Passive.

However, serious objections can be raised against the proposal of Maling and Sigurjónsdóttir; these objections are of two kinds:

On the one hand, as argued at length above, the basic hypothesis that the NC is an impersonal active (the IAH) is not supported by valid evidence; hence it is inevitable that their further hypothesis about the origins of this construction is compromised. On the other hand, there are some specific problems with the latter hypothesis itself. Thus, the hypothesis requires an unmotivated reanalysis of a passive construction as an active retaining passive morphology, as Maling and Sigurjónsdóttir admit themselves (p. 133). They seek to relate this reanalysis to the fact that in Icelandic, unlike the mainland Scandinavian languages, passive is restricted to [+human] agents. In other words, they claim that because of the [+human] restriction in Icelandic, passive of intransitive verbs is reanalyzed as an active. However, given that the [+human] restriction also holds of the Full Passive in Icelandic, the question arises why the Full Passive in Icelandic has not been reanalyzed as an active.

Furthermore, Maling and Sigurjónsdóttir claim (p. 134) that constructions in the standard language such as the IMC (79a) (M/S 46) and infinitive constructions containing uncontrolled unexpressed subjects (PRO–arb) (79b) (cf. M/S 48b) serve as models for the reanalysis of the impersonal passive as a syntactically active impersonal construction.

- (79) a. *Það verður að kjósa hana.* IMC
 it becomes to elect her.ACC
 ‘She must be elected.’
- b. *Það var verið að gefa mér lýsi.* PRO–arb
 it was been to give me.DAT cod.liver.oil.ACC
 ‘I was being given cod liver oil.’

However, the IMC is an active construction, in which the unexpressed subject (*pro*) can be replaced by overt NP, as shown in (49) above. This is impossible in the NC/New Passive. Moreover, PRO-infinitival clauses involve non-finite verbs in the active, and do not of course contain a thematic null subject. Therefore, it is highly unlikely that these constructions could have been instrumental in the change proposed by Maling and Sigurjónsdóttir.

Finally, as to the claim that the NC spread from its alleged original locus in the ImpC of intransitive verbs to transitives via reflexives, it should be pointed out that the ImpC with reflexives (‘reflexive passive’) is rather marginal and is hardly robust enough to be a model for the NC transitives. More importantly, as reflexive verbs are plausibly analyzed as unergatives, the plain reflexive being an affix rather than an object of the verb, it is by no means clear that the reflexive would have been a model for arguments of transitive verbs.

The remaining potential argument for the IAH would be the occurrence of accusative. As we have seen, however, the force of this argument is weak given the crosslinguistic evidence for the compatibility of accusative with passive.

So in light of this critique the hypothesis proposed by Maling and Sigurjónsdóttir on the origins of the NC/New Passive cannot be accepted. A different proposal is found in Kjartansson (1991) and Barðdal & Molnár (2003), although it also seeks the origins of the New Passive in the passive of intransitive verbs. Taking for granted that the New Passive really is a passive, these scholars claim that its origins are to be sought in unergatives taking a PP complement, as in (80a). Specifically, Barðdal & Molnár (2003: 245) propose that the new construction arose via reanalysis of the preposition as a particle so that the structural object case came to be assigned by the verb (rather than the preposition/particle). Presumably, then, this pattern would have been subsequently generalized to transitive verbs.

- (80) a. *Það var leikið á mig.* CanPass
 it was tricked.N.SG on me.ACC
 ‘I was tricked.’
- b. *Það var platað mig.* NC
 it was tricked.N.SG me.ACC
 ‘I was tricked.’

However, it must be asked whether it is really plausible to assume that the development of the New Passive involved an extension from the argument structure of a preposition to the argument structure of a verb so that it is preserved in passive. The analysis is theoretically problematic and, as far as I can see, there would be no empirical evidence in Icelandic to back it up.

In sum, the accounts of the historical origins of the New Passive proposed by Maling & Sigurjónsdóttir (2002), Kjartansson (1991) and Barðdal & Molnár (2003) are problematic for various reasons and cannot be accepted.

8. Conclusion

In this chapter I have examined the arguments which have been brought forth for the status of the New Construction (NC) in Icelandic. I showed that these arguments do not favor an analysis of the NC as an impersonal active, along the lines of Maling & Sigurjónsdóttir (2002). I examined the status of the construction on the basis of the criteria used by Maling and Sigurjónsdóttir to distinguish the properties of impersonal active constructions from passive. While accepting their arguments that the postverbal NP in the NC is an object, I concluded that the construction really is a passive despite the accusative case marking of the postverbal NP, in breach of Burzio’s Generalization. Thus, the NC *qua* New Passive is – *mutatis mutandis* – comparable to the *-no/to-*construction in Ukrainian, a passive preserving structural accusative case assignment. Moreover, I pointed out some parallels in languages closely related to Icelandic, in

particular in Norwegian and Faroese. These parallels involve a postverbal NP which exhibits object-like characteristics, and have so far not figured in the literature on the Icelandic construction; they show that the New Passive is not an isolated case in Scandinavian, although it is plausible that it emerged independently in Icelandic, Faroese and Norwegian. Finally, I proposed a scenario of the innovation that gave rise to the New Passive in Icelandic. I argued that the construction resulted from a reanalysis of the existential variant of the Canonical Passive without NP-movement. The locus for the reanalysis involves cases that are formally and structurally ambiguous, i.e., cases where the canonical existential passive without NP-movement and the New Passive cannot be distinguished morphologically. Attributing the minimal difference between the New Passive and the Canonical Passive to a parametric variation in a case feature [\pm accusative] (cf. Collins 2005), I argued that the ambiguous structures give rise to a resetting of the case parameter in favor of accusative case assignment. The alternative views by Maling & Sigurjónsdóttir (2002), Kjartansson (1991) and Barðdal & Molnár (2003), seeking the origins of the New Constructions in the passive of intransitive verbs ('impersonal passive'), were critiqued and rejected.

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CHAPTER 7

A mentalist interpretation of grammaticalization theory

Jan Terje Faarlund
University of Oslo

The notion of ‘grammaticalization theory’, the way it is canonically used by non-generativists and the way it is presented in recent grammaticalization literature, involves some very fundamental theoretical and meta-theoretical issues, such as the principle of unidirectionality and the concept of change as a gradual process. Underlying the way some authors address those issues is a view of language as an abstract object independent of speakers. Within a mentalist theory of language this ontology must be rejected. Some version of the principle of unidirectionality is obviously correct, however; the data which grammaticalizationists describe and which grammaticalization theory is supposed to explain, are obvious facts of historical linguistics. It is therefore a challenge to generativists to account for those facts on mentalist grounds. I propose an account of the predominant directionality of change on the basis of one initial premise of UG: ‘there are words; and words have meaning’; and the null hypothesis: ‘a string is a word with lexical content’. On this basis the child uses cues in the input to assign morpheme boundaries, meaning, and structure to the string. The kind of change generally subsumed under ‘grammaticalization’ follows from failure to assign morpheme boundaries during the acquisition process. The apparent unidirectionality then follows from the trivial fact that elements (including boundaries) are more likely to be omitted than inserted in the acquisition process. I use data mainly from Scandinavian and from Zoque (Meso-American) to illustrate this process.

1. Introduction

Within historical linguistics, the notion of ‘grammaticalization theory’ has become increasingly important, as can be seen from the number of recent publications and conference papers with the term ‘grammaticalization’ in the title (cf. the references below, and in Heine 2003: 578). Grammaticalization may be seen as a descriptive term used about a generalization over a class of linguistic changes. The notion of ‘grammaticalization theory’, on the other hand, involves some very fundamental theoretical

and meta-theoretical issues, such as the principle of unidirectionality and the concept of change as a gradual process. This again presupposes a certain view of the ontology of language, where language is seen as an abstract object independent of speakers. Since generative theory, on the other hand, sees language as a mental object, generativists and other mentalists are faced with the challenge of accounting for and explaining the obvious fact that grammaticalization processes do exist, and that unidirectionality of language change has a certain empirical basis. This chapter is an attempt to meet that challenge. I will consider those kinds of change which are generally considered parts of grammaticalization processes, and which by some linguists are explained by a grammaticalization theory. My goal is to explain precisely those types of change on the basis of a mentalist conception of language. This does not mean that I deny the occurrence of other kinds of change, e.g., lexical and phonological changes, but those will be outside the scope of this chapter, as they are outside the domain of grammaticalization theory. Section 2 is a brief presentation of current grammaticalization theory, and in section 3 I discuss some of the theoretical and metatheoretical issues raised by the theory. In section 4 I propose a mentalist approach to language change, and concrete and attested types of change are explained within such an approach.

2. Grammaticalization

One of the most influential authors of work on grammaticalization and grammaticalization theory is Bernd Heine. I therefore find it most adequate to use the characterization of grammaticalization in Heine's contribution to the *Handbook on Historical Linguistics* (Heine 2003: 578–579) as a point of departure:

Technically, the grammaticalization of linguistic expressions involves four inter-related mechanisms:

- i. desemantization (or 'bleaching', semantic reduction): loss in meaning content;
- ii. extension (or context generalization): use in new contexts;
- iii. decategorialization: loss in morphosyntactic properties characteristic of the source forms, including the loss of independent word status (cliticization, affixation);
- iv. erosion (or 'phonetic reduction'), that is, loss in phonetic substance.

It is a fundamental property of grammaticalization theory that it involves changes in several components of the grammar, and as we can see, changes in all components of the grammar are involved in Heine's definition: semantics, pragmatics, syntax, morphology, and phonology. Note that three out of the four mechanisms involve a 'loss'. (Mechanism number ii also involves a loss, namely loss of conditions on use.) A similar list of changes is provided by Elizabeth Closs Traugott in her contribution to the same volume (Traugott 2003).

In the most recent edition of a standard book-length introduction to grammaticalization theory (Hopper & Traugott 2003), grammaticalization is described as follows:

[G]rammaticalization is usually thought of as that subset of linguistic changes whereby a lexical item or construction in certain uses takes on *grammatical characteristics*, or through which a grammatical item becomes *more grammatical*. (Hopper & Traugott 2003; italics added by JTF)

Here the emphasis is on *grammatical* properties. From the way it is described in the following sections of the chapter, it is clear that being grammatical involves semantic, morphosyntactic, and phonological properties.

The changes subsumed under the term 'grammaticalization' in these and other works are said to constitute a *cline*, one version of which is given in (1) (from Hopper & Traugott 2003: 7).

- (1) content item > grammatical word > clitic > inflectional affix

This cline, and the transitions symbolized by '>' represent different kinds of change, or different 'mechanisms' in Heine's sense: content item to grammatical word is a morphosyntactic and semantic change, while grammatical word to clitic and clitic to affix are primarily phonological changes. The cline in (1) should therefore be split in two:¹

- (2) a. content item > grammatical word
b. word > clitic > affix

A typical and often cited example of the change in (2a) would be the change from a lexical verb to an auxiliary, amply attested and thoroughly described for the history of English (e.g., in Lightfoot 1979, Roberts & Roussou 2003). The changes in (2b) may be illustrated by the development of the definite article in Norwegian, whose origin is a demonstrative which was a separate word. This demonstrative became an enclitic with the function of a definite article in Old Norse, and in Modern Norwegian it is an inflectional suffix (but see footnote 6).

3. Problems of grammaticalization theory

3.1 Unidirectionality

An important part of grammaticalization theory is the principle of *unidirectionality*, the claim that changes can only go in one direction along the clines in (1) or (2). '[I]t seems to me that it is undeniable that the unidirectionality of grammaticalization is

1. Andersen (2005) reserves the term 'grammation' for the change in 2a, which he sees as a type of change fundamentally different from those represented by the clines in (1) and (2b).

by far the most important constraint on morphosyntactic change' (Haspelmath 2004: 21). 'The path taken by grammaticalization is always from less grammatical to more grammatical' (Bybee et al. 1994: 9–22). Haspelmath and others do admit that there are changes in the opposite direction. However, those are not counterevidence to unidirectionality, they claim, but some other kind of change. The unidirectionality principle is thus immune to empirical refutation. This of course reduces the principle to a tautology; it is no longer a hypothesis that can be empirically tested, and therefore it is uninteresting as a claim about language change (cf. among others Newmeyer 1998, Janda 2001, Campbell 2001, Joseph 2004).

To Haspelmath, unidirectionality is an empirical claim about a very strong tendency. As already mentioned, most of the apparent counterexamples are something else, but he does admit that there are true exceptions; those are rare cases, however, which need not be covered by the theory (Haspelmath 2004). A theory, in his view, is meant to cover the main phenomena, not the exceptions. This is, to put it mildly, a rather unconventional concept of theory. Since 'grammaticalization theory' cannot be used to make predictions, it is not a theory, but a general description.

I agree with Campbell (2001: 133–134) 'that the directionality tendency observed in changes discussed in the grammaticalization literature is derived as an expected by-product of general properties of linguistic change'. The general properties which I will promote as explanation of the directionality tendency in section 4 below, are, however, based on a mentalist and generative theory of language, and therefore different from the ones discussed by Campbell.

3.2 The ontology of language

A seriously working linguist would hardly deny that language depends on speakers, and that language change has something to do with a change in the minds of speakers. Nevertheless, underlying descriptions as well as explanations of language change by grammaticalization theorists there is a presupposition that language is an independent object which exists somewhere 'out there', separate from speakers, acquisition, and use. The following statement by Roger Lass is typical of this philosophy:

I suggest that whatever else languages may be, they are objects whose primary mode of existence is in time. Historical products, which ought to be viewed as potentially having extended (trans-individual, trans-generational) 'lives of their own'. (Lass 1987: 156–157)

The view of language as an independent object also allows for treating change as a continuum, a gradual process, something which happens to the language, or which the language does to itself: 'Since category change does not take place over night nor in clearly distinct stages, but is a slow process along a continuum, we expect to find cases of category change "on the go"' (Klamer 2004: 300). Whether language change is gradual or abrupt, is of course a question of perspective. In the perspective of the communal

language, a change may spread from one area or domain, or from one register or group of speakers to another over several generations, and thus appear as a gradual process. In the perspective of the individual speaker or learner, however, a change is abrupt in the sense that a new form is either acquired or not acquired. One can probably learn ‘fuzzy’ categories and ambiguous cases from the input material, but a continuum is not learnable *per se*, especially not one which spans several generations. It is true that an infant can learn two (or more) variants of a form or construction, where one is old and another is a recent innovation, but there is no way that the child will know which is which, and thus which direction the change is going. Frequency in itself will not help, since the old form is the most frequent at the beginning and the new form at the end of the period of spread of the change, and again the child has no way of knowing at what stage the ongoing change is. Some of my colleagues have suggested that the child may be able to distinguish between forms used by the grandparents and those used by siblings, and thus distinguish between old and new forms. I have seen no evidence that this initial assumption is true, but even so, the consequence does not follow. For this to be the case, the child would need to know that this kind old woman who takes me on her lap and gives me cookies uses older forms in her speech than that big boy who pushes me around and takes my toys away. I find that highly unlikely.²

A historical continuum not only presupposes an existence outside of speakers, but also a history which proceeds according to its own principles. Those who see language as an independent object with its own rules and principles may even promote them to the status of a *grammar*. And since it is a grammar of change, it has to be a *panchronic* grammar: ‘for a theory of grammaticalization it is both unjustified and impractical to maintain a distinction between synchrony and diachrony’ (Heine, Claudi & Hünnemeyer 1991: 258). ‘An “adequate” linguistic description has to provide information in particular on the number and types of grammaticalization chains occurring in the language’ (ibid. 259–60). Now a grammaticalization chain is not only a generalization over a series of changes, a change schema (Andersen 2001), but a distinct type of category (Heine 1992, 2003), presumably of the kind that can enter into a syllogistic deduction. (Several more quotes can be found in Janda 2001.) This view of the ontology of language is irreconcilable with a theory of grammar as a mental object. A mental grammar is created anew by each speaker in the acquisition process as a form of knowledge, but learners of the language do not know the history of the language; a panchronic perspective is possible only for linguists, unless one assumes an existence of language outside the speaker.

2. One possibility might be that the child is sensitive to the distribution of the old and new forms. New morphological forms tend to spread first in inflectional classes with a large number of lexical items where individual forms must be constructed by productive rules, while the most frequent lexical items manage better to keep the old morphology, as their forms are learned individually (Kjartan Ottosson, personal communication).

But, for anyone who adopts or maintains the metaphor whereby individual morphemes (and constructions) undergo putative long-term developments as if they were single living organisms, claims of unidirectionality/irreversibility are quite consistent, since organisms live only forward. (Janda 2001: 287)

A language is not an organism, and any metaphor on such a basis cannot be a metaphorical account of language change.

3.3 Explanatory value

The next question is whether grammaticalization theory is a theory in the sense that it has explanatory value. Bernd Heine thinks it does: 'the main task of grammaticalization theory is to provide explanations of why grammatical forms arise and develop' (Heine 2003: 583). Note that here he is not talking about describing and generalizing, but in fact *explaining*. And an explanatory theory is one that can *predict*: 'Grammaticalization theory . . . makes it possible within limits to predict what is going to happen in the future' (ibid. 598).

For a theory to have explanatory value, it has to be based on something outside of what it is supposed to explain; explanans and explananda must belong to different domains. For example, a syntactic process or form, say a certain word order pattern, may be explained in terms of discourse functions, which are not part of syntax; it cannot be explained just by reference to a syntactic rule such as 'scrambling' etc. Similarly, factors having to do with articulation and perception constrain possible phonological structures, and factors having to do with conceptualization determine what semantic structures are coded by language. Whether changes in language can be explained by grammaticalization theory, as Heine and many others claim, therefore hinges on whether this theory is anchored in something outside of itself. Grammaticalization theorists operate with certain principles, such as unidirectionality and panchronic grammars, which are assumed to be part of 'language'. But as I have argued, 'language' in this sense can only be understood as an object separated from speakers or learners, since speakers have no access to previous stages of the language, and cannot therefore have a panchronic grammar, and since unidirectionality only makes sense across generations. Therefore, I side with Andersen (2001: 242) who, adopting a term from Kuryłowicz, views grammaticalization as a 'change schema', and he emphasizes that change schemas do not make empirical claims, and therefore do not explain anything.

3.4 Generative grammaticalization theory

David Lightfoot (1979 and later) has argued that there is no such thing as a 'theory of change', in the sense that one might try to define formal constraints on a mapping of one grammar on to another. Thus there is no algorithm for relating one historical stage to another. This does not mean, however, that generative linguists are not interested in grammaticalization. As it turns out, there are some very widespread types of change

which can be easily described within a generative framework, and some of those are clearly instances of grammaticalization in the canonical sense. The question is, however, whether generative theory at this stage offers explanations of those changes. There are particularly two scholars who in much of their work have been interested in grammaticalization from a formal generativist perspective, Ian Roberts (partly in collaboration with Anna Roussou) and Elly van Gelderen.

For Roberts & Roussou (2003) grammaticalization is a change from a lexical to a functional category. As a result of the change, the item in question ends up as a head of a functional projection. The source may be a lexical head further down in the structure, as when a lexical verb becomes an auxiliary in English, or when a preposition becomes a complementizer, as the infinitival marker; the source may also be a complement of the lexical projection, as when the pronoun *that* becomes a complementizer, as in *He proved that: the earth is round*; or it may be a specifier of the same phrase as the target head, as when a demonstrative becomes a determiner (definite article) in Germanic and Romance languages. Roberts & Roussou's notion of grammaticalization is couched in formal terms, and explicitly formulated, but like the functionalist versions it is also not related to speakers, acquisition, or use.

Van Gelderen (2004) bases her notion of grammaticalization on an economy principle, which means that a change will lead to a simpler and thereby more economical grammar. Words are more economical than phrases, which van Gelderen expresses as the *Head Preference Principle*: 'Be a head, rather than a phrase' (p. 18). Syntactic changes consist of elements changing from being phrases in specifier positions to being simple words or morphemes in head positions. An instance of this may also be a demonstrative in Spec-DP changing to a definite article as a head in D. Like Roberts & Roussou's grammaticalization, van Gelderen's Head Preference Principle also explains the change from demonstrative to determiner and the like. Furthermore, movements are uneconomical and will be avoided whenever possible. Therefore, an element will be analyzed as merged in its surface position rather than merged lower down and then moved. This leads to the *Late Merge Principle*: 'Merge as late as possible' (p. 28). Changes due to this principle are e.g., prepositions becoming complementizers.

As we see, there are great similarities between these two generative approaches to grammaticalization, but also one important difference. Roberts & Roussou take grammaticalization as an explanatory principle in itself; rather than being related to other domains, it is treated as a property of the 'language'. Van Gelderen's approach is more interesting from our point of view, since it bases the changes on a general principle, economy, which is directly related to acquisition and use, and thereby to speakers.

4. The mentalist approach

Whatever theoretical and empirical problems that are raised by the notion of grammaticalization and 'grammaticalization theory', and however we want to characterize

the counterexamples to unidirectionality, whether they are true exceptions, or ‘something else’, it remains a fact that the kinds of change subsumed under ‘grammaticalization’ are common across languages, and that they usually do not go in the reverse direction. It is indeed much more common for a lexical word to change into a grammatical word than for a grammatical word to change into a lexical one, and there are many more documented cases of words changing into clitics than vice versa, etc. This is thoroughly documented in the grammaticalization literature already referred to, and in particular in Heine & Kuteva 2002. Any linguistic theory should be able to account for this, and if we do not accept ‘grammaticalization theory’ as an explanatory theory in itself, we are obliged to seek other explanations based on the theory that we espouse. In this section I will offer an explanation of the apparent unidirectionality of grammaticalization based on a generative theory of grammar.

Before embarking on this endeavor, however, I need to point out that not all changes are grammaticalizations. What follows is not meant to account for all kinds of change in language, any more than grammaticalization theory is. First of all, lexical changes will not be treated; also, many phonological and certain morpho-syntactic and semantic changes are due to other factors than those causing grammaticalization. Such changes are therefore outside the scope of this chapter (cf. Traugott 2003: 645). Phenomena such as metaphor and metonymy may cause semantic changes not subject to the unidirectionality requirements predicted by any grammaticalization ‘cline’ or ‘path’. In morphology and syntax, analogy causes changes that are also not governed by directionality. Kiparsky (2005) argues that most of those changes that have been presented as counterexamples to unidirectionality ‘are not degrammaticalizations, but ordinary analogical changes’ (p. 5). Word order change, especially the change from ‘free’ to ‘fixed’ word order, has sometimes been called ‘grammaticalization’ (cf. Faarlund 2003, Say 2004), but this is not grammaticalization along a ‘cline’ or a ‘path’ in the usual sense of grammaticalization theory.

4.1 Acquisition and change

Language as a mental object or an ‘organ’ of the mind implies that language exists in the brain of each individual speaker and is thus created anew by each generation (Chomsky 1986, 2002; Lightfoot 1991; Anderson & Lightfoot 2002). Therefore ‘language history’ can only be understood as the history of the *communal* language. The *grammar*, or I-language, has no history beyond the life span of the individual speaker. Grammatical change is discontinuous. Any study of the historical grammar of a language can only be a study of a sequence of grammars, transmitted from one generation to the next (I will return to the notion of ‘generation’ below). The similarity between different stages of the same (communal) language can only be due to the fact that most features are faithfully transmitted from one generation to the next, and historical change is mainly (but not exclusively) due to the failure to transmit a

given feature from one generation to the next. Acquisition is therefore the real locus of change.³

According to standard generative theory (cf. references above), speakers acquire their grammar by means of their innate *Language Faculty*, which includes *Universal Grammar* (UG) and a language learning instinct, and the input from the persons in the environment in the form of their E-language. Figure 1 is a simplified model of language acquisition.⁴

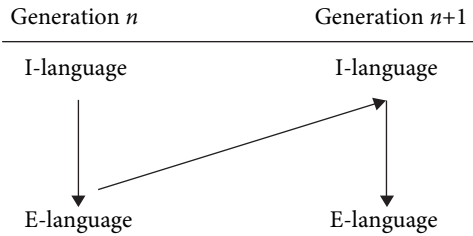


Fig. 1. Model of language acquisition.

Generation $n+1$ acquires its I-language and its internalized grammar by applying their Language Faculty to analyze the E-language input from Generation n . It is important to note that ‘Generation n ’ should not be taken literally to refer only to parents or caretakers. It includes older siblings, peers, pre-school mates, and anybody else who might provide input data during the acquisition period. Nor is the E-language restricted to whatever is generated by the I-language once acquired by those speakers. It also includes innovations made by adults of that generation, and various contact phenomena. This acquisition model thus does not exclude the possibility of adults changing the grammar of their language. Adults may change their linguistic practice and innovate, but only those innovations that make it into the next generation are considered grammatical changes. For a historical change to take place, the new form has to become part of the I-language of the next generation. The linguistic environment may also include material from other dialects or languages, and in that way language contact may lead to change in the form of borrowing, but still it is acquisition that brings the new form into the language. There is therefore no necessary conflict between the view of acquisition as the locus of change, and the view promoted by Martin Haspelmath and many

3. This is by no means a new idea introduced by generativists, cf. Aitchison 2003: 737, with quotes and references.

4. A similar model was presented by Andersen (1973), and has later been used in various shapes in different frameworks and contexts by a variety of linguists (for a much more elaborate version, see Janda 2001: 277).

others: ‘There is no reason to think that language acquisition plays a central role in this explanation. The relevant principles are as relevant to adult language as they are to child language. Grammaticalization occurs in language use, not in language acquisition’ (Haspelmath 1998: 55).

Since new speakers (infants) have no access to previous forms, meanings or functions of the items that they acquire, the earlier history of a (communal) language can have no effect on the acquisition process and the result of any reanalysis. The history of a language can only be seen as a more or less random sequence of changes taking place as the language is acquired by new speakers, resulting in a random sequence of grammars. As Janda (2001: 271) succinctly points out, ‘it is only by means of such transmission [across generations] that some reflex of a linguistic system can survive for more than a single speaker’s lifetime.’ This fact is commonly neglected by historical linguists because they tend to ‘formulate their descriptions and explanations in terms of morphemes, words, phrases, sentences, discourses, texts, and languages – rather than in terms of speakers’ (ibid.) A certain morpheme etc. may have a history which can be traced across generations in the form of changing appearance from one stage to another, but the changing appearance cannot be explained on the basis of a ‘theory of change’, whether ‘grammaticalization theory’ or something similar, with explanatory and predictive power. This would presuppose a different ontology of language, language as an independent object with an existence outside of speakers.

If there are no mechanisms or principles of change inherent to language as a historical object, and since the child acquiring the language has no knowledge of its history, there is no way the child can know whether a given morpheme, say a grammatical word, corresponds to a lexical word or an affix in the language of previous generations. Therefore a change in either direction is equally logical or plausible at the outset, but as we know, not equally frequent. The challenge of any linguistic theory is to offer an explanation of the relatively high frequency of ‘grammaticalization processes’ as compared to the much lower frequency of ‘degrammaticalization processes’. In different terms, the challenge is to explain the apparently overwhelming ‘unidirectionality’.

The mentalist response to this challenge is based on the hypothesis of a Universal Grammar, representing the initial state of the innate Language Faculty. UG includes a set of initial assumptions about the nature of human language. One pair of such assumptions can be formulated as in (3).

- (3) *Initial assumptions*
- a. There are words.
 - b. Words are signs, combining expression and content.

The language faculty is a faculty to acquire a grammar on the basis of experience. Starting with the assumptions in (3) as a premise, part of the grammar acquisition process, besides setting parameters etc., consists of the following tasks:

- *Segmentation*: In order for the child to analyse and interpret the speech flow which he or she is exposed to, and thus acquire the grammar of the parental language,

the speech flow has to be divided up into smaller units. According to (3a), those units are words. Word boundaries must be assigned within the string of speech sounds.

- *Interpretation*: On the basis of the context in which the words are used and learned, they are assigned meaning and category labels.
- *Hierarchization*: The string of words is assigned a hierarchical structure in accordance with UG (X' theory).

In what follows, I will concentrate on the first of those tasks, segmentation, since this is what is most relevant to grammaticalization. The segmentation process has to start before the child has acquired any lexical knowledge, since knowledge of words depends on the identification of segments. The caretakers' intentional teaching of words to the infant starts after the child has begun to speak (Cutler 1996: 88f.). The segmentation starts from a null hypothesis derived from the assumptions in (3):

- (4) *Null hypothesis of language acquisition*:
A string is a word with lexical content.

The earliest stage of an infant's language acquisition and development is the one-word stage, where utterances consist of one single word: *mummy*, *daddy*, *milk*, etc. Those are all words referring to entities in the real world of the child, they have a concrete lexical content. The null hypothesis in (4) also leads the child to interpret input strings of more than one word, as a single word. Thus at the one-word stage, a child may utter strings such as *look-at-that*, *open-the-door*, *what's-that*, *I-still-have-some*. These examples are from the works of Ann Peters (1977, 1983, 1985), who refers to this as *gestalt language*. The prosody as well as the way these expressions are used clearly show that they are analysed as single words by the infant. The missing segmentation may also persist until later stages, as in *The candy is allgone*. O'Grady (1997: 16) cites a case where a child uses *it's* instead of *it* in expressions like *It's fell*, presumably from frequent expressions such as *It's hot*. My own (less systematic) observations of the speech of Norwegian children include a preterite verb form *blimte* from a postulated infinitive **blime*, inferred from the verb-particle construction *bli med* 'come (along) with' of the adult language, where the particle *med* is pronounced [mə]. (See also Feilberg et al. 1988: 60f.) Another interesting indication of a missing segmentation is children's use of compounds. In a conversation (in Norwegian) with my then two-year old grandchild I referred to her coat as *frakk*. But I was corrected; it was *regnfrakk* 'raincoat'. The word *regnfrakk* had not been segmented into its two components; until the words *regn* and *frakk* have been assigned their separate meanings, *frakk* can not be used to include *regnfrakk*.

During the acquisition process the child depends on cues in the input string to modify the null hypothesis in (4). Various cues have been discussed in the acquisition literature, and caretakers' speech to children, 'Motherese', is characterized by particularly clear cues. O'Grady (1997: 250) provides a list of properties of Motherese, which includes 'slower speech with longer pauses . . . after content words' and 'exaggerated intonation and stress'. In general, prosody plays a crucial role in the child's segmentation

of the speech chain. The literature on child language acquisition is replete with studies of infants' ability to draw boundaries between segments of adult speech, cf. the various chapters in Morgan & Demuth 1996, most of which concentrate on the role of prosody. 'There is evidence in English that the boundaries between clauses and phrases are marked by large alterations in fundamental frequency, final syllable lengthening, and relatively long pauses' (Eimas 1996: 33). '[I]nfants are sensitive to these and other prosodic properties of speech' (ibid.). Among the works cited in Morgan & Demuth 1996 is Jusczyk et al. (1993), who show that American English speaking infants 6 months old do not seem to react differently to words with a trochaic (strong-weak) or an iambic (weak-strong) stress pattern, although typical English words have a trochaic pattern. At 9 months, however, the preference is clearly for the trochaic pattern. Peters (1985: 1034ff) lists a set of Operating Principles which the child uses to identify and delimit chunks of speech which correspond to units (i.e., words) in the adult language. Those Operating Principles are either semantic or phonological (prosodic). Prosody also plays a part in languages where stress patterns are not as relevant as they are in English and other Germanic languages; in French the syllable structure is exploited in identifying word boundaries, and in Japanese the mora structure is basic.

Besides prosody, phonotactic constraints are important for the segmentation. Certain consonants may have different allophones word initially and word finally, e.g., voiceless stops in English and Scandinavian, which are aspirated in initial position but not in final position. Thus the only way of distinguishing (5a) from (5b) in Southeast Norwegian fast speech is the aspiration of the /t/.

- (5) a. *Jeg hørte Tor.*
 [jæhø: t̚ət^hu: r]
 'I heard Tor (a name)'
 b. *Jeg hørte et ord.*
 [jæhø: t̚ətu: r]
 'I heard a word'

Jusczyk & Kemler Nelson (1996: 400) cite studies showing that American 2-month-olds react differently to *nitrate* and *night rate*. Aslin et al. (1996) use a connectionist model to demonstrate how phonotactic constraints can aid in word boundary recognition. Since phonotactic cues may also occur word internally at syllable boundaries (e.g., as in *there - father*), they are particularly prone to misconceptions and therefore reanalysis at acquisition.

Words are of course not the only relevant morphological unit in many languages. Crosslinguistically there seem to be three different categories of morphological units: words, clitics, and affixes (Zwicky & Pullum 1983). The most general definitorial criterion for distinguishing among those is based on cohesion; they differ in the degree to which they are attached to a neighboring unit, affixes being more closely tied to their stem than clitics to their hosts, while words are free in their relation to other units. Segmentation, therefore, does not only consist in determining word boundaries,

but (in many languages) two additional types of segment boundaries must be recognized. In this task, prosody and phonotactics may be of less help. Rather, bound morphemes (clitics and affixes) may be recognized by their re-occurrence in different contexts (Morgan et al. 1987). Thus a suffix *-er* is identified because of its recurrence in words such as *baker*, *driver*, *player* etc. This technique also leads to false segmentations, as when a child comes up with a verb *mez*h for ‘measure’, obviously derived from *measure* (*mez*h-*er*) (Peters 1985). Another famous example from acquisition studies is the word /*heyv*/, extracted from *behave*: *Now, be good! – I am good / Now, behave – I am /heyv/* (Peters 1983: 43). A similar overgeneralization takes place when Norwegian children use the word *lak* ‘bed-sheet’, instead of the correct *laken*. The reason is that the definite article in Norwegian is the suffix *-en*, while the *-en* in *laken* is part of the root. This kind of boundary identification by recurrence probably also helps to segment early gestalt words like *open-the-door* (cf. above) on the basis of expressions like *shut-the-door* (Peters 1985). A compound will be recognized as such when its individual parts are heard in other contexts and assigned separate meanings.

In sum, the construction of a specific grammar starts from scratch in each generation. The child, equipped with UG, starts off with the initial assumption (3) (‘there are words’), and modifies the null hypothesis (4) (‘a string is a word’) by means of various cues for morpheme boundaries. This process is usually referred to as *reanalysis*,⁵ and reanalysis is what underlies grammaticalization (Harris & Campbell 1995: 20, Campbell 2001: 150–151). The changes of a morphological unit from one cohesion type to another is perhaps the most typical and widely discussed kind of grammaticalization process; a free word becomes a clitic, and a clitic becomes an affix, as shown in (2b) above. Grammaticalization can therefore be seen not only as a special case of reanalysis, but as a direct result of the acquisition process. Grammaticalization has now been given a mentalist interpretation. In the next section I will show how the predominance of unidirectionality in grammaticalization follows from a very obvious condition on reanalysis.

4.2 Fundamental conditions

In Figure 1 there is an oblique arrow going from the E-language of one generation to the I-language of the next. This arrow symbolizes the acquisition process. The fundamental question of historical linguistics is then what can happen along this arrow. If speakers and learners are put at the center of the acquisition process, rather than some abstract properties of ‘language’, as agreed by both generativists and non-generativists (cf. several citations and references above), the infant acquiring the language can

5. Since the null hypothesis is independent of the language input and the target language, there is nothing to ‘reanalyse’; therefore a more appropriate term would simply be *analysis*, or perhaps *neanalysis* (Andersen 2001). For convenience, I will continue to call it reanalysis, however.

have no access to its history. It follows that in principle anything can happen along the oblique arrow in Figure 1, as long as the result does not violate principles of UG or prevent inter-generational communication.

However, since certain kinds of change are more likely and more frequent than others, leading for example to apparent unidirectionality, some other factors must be involved. In the child's analysis of the linguistic input, it is much more likely for an element to be ignored and therefore omitted from the new grammar, than for something to be added at random. I will therefore propose the following condition on acquisition:

$$(6) \quad * \emptyset > X / X > \emptyset$$

The formula in (6) does not exclude the possible addition of new (semantic or phonological) material, but such addition will require specific circumstances, for example a previous loss of other material. The loss of material, on the other hand, may happen any time unconditionally. '[S]ome apparent 'constraints' are simply low probability outcomes' (Aitchison 1989: 152). As we shall see, many changes consist of a combination of loss and addition. My claim is then that typically the loss is random, and the addition follows from the loss (see specifically section 4.5.3). The fact that it is much more likely for an element to be lost than added, seems logical and trivial, but my claim is that it underlies those kinds of language change which are typically referred to as grammaticalization. Grammaticalization is reduction, and unidirectionality follows from (6). Any change that does not involve reduction, and which by some might be seen as counterexamples to unidirectionality, 'degrammaticalization' or 'anti-grammaticalization', occur when special circumstances allow something to be inserted or added. Kiparsky (2005) invokes analogy as a conditioning factor in 'degrammaticalization'. He says that 'the fusion of two or more words into one [...] can occur spontaneously'. On the other hand:

The opposite process, fission of one word into two or more words [...] is not only more rare, but [...] it is always exemplar-based: it occurs only by analogy to specific existing constructions. The reason why fusion does *not* require an analogical model is that it is driven by a language-independent preference for structural economy: other things being equal, *one word is always better than two*.
(Kiparsky 2005: 6; italics added by JTF)

This insight can also be expressed as in (6) above. Grammaticalization involves reduction in all the different components of grammar, and in the lexicon. In the remainder of this section I will discuss some cases of reduction/grammaticalization in different components, with special attention to morphosyntactic change.

4.3 Phonological reduction

By phonological reanalysis segments or features may be lost. When segments are lost, the word is shortened, and variation in length occurs. In Norwegian, high frequency verbs (auxiliaries and others) have lost their root final consonant and thereby also the

infinitival ending: *hava* > *ha* ‘have’, *taka* > *ta* ‘take’ (Torp 2003). When features are deleted, phonemes change, e.g., from voiced to voiceless, or from rounded to unrounded. The change from a full vowel to schwa is a typical kind of change in connection with grammaticalization, as in Scandinavian *barnit* > [barnə], where *-it* was the Old Norse cliticized definite article, and [ə] (written *-et*) is the modern definite affix (see 4.3).

I want to emphasize that there are many types of phonological change that are not reductions, such as intervocalic voicing, compensatory lengthening, diphthongization, insertion of epenthetic vowels, etc. Those have nothing to do with grammaticalization, and are therefore not counterexamples to (6).

4.4 Semantic reduction

Semantic reduction means deletion of semantic features, which makes the meaning of the expression more general, less specific. This is what has led the word *dog* from referring to the male, to referring to the animal of either sex: loss of the feature *MASCULINE*. In many Norwegian dialects, the cognate of ‘bitch’, *bikkje* has lost the feature *FEMININE*, and now means ‘dog’ in general.

Loss of semantic features is what is involved in *semantic bleaching*. Generally, lexical words have more semantic features – are more specific – than grammatical words. When a verb meaning ‘want’ becomes a future marker it loses the feature *VOLITION*, but keeps the feature *FUTURE*, which is present already in the meaning of ‘want’. Also when a grammatical item becomes more grammatical, semantic reduction may take place. In many languages a definite article has evolved from demonstratives or pronouns, and in this process a specific kind of referential meaning is lost (cf. section 4.5.1).

Other types of semantic bleaching include the change from sentence internal adverbials, such as *indeed* and *anyway*, to discourse markers (Traugott 2003: 642), and the development of complementizers from verbs, which is well known from creolization. More generally, when a word or morpheme loses some of its semantic features, it becomes more general, and its use may be *extended*, which means that the item is allowed to occur in less restricted contexts (Heine 2003: 580).

There are types of semantic change which do not necessarily involve reduction in any obvious sense, perhaps most typically metaphoric and metonymic extension, and melioration and pejoration. Again, these are not typically connected to grammaticalization, and are thus not a problem for a generalization like (6).

4.5 Morphosyntactic reduction

In the context of grammaticalization theory, morphosyntactic reduction is the most interesting case. I will therefore concentrate on that from now on. The most general kind of morphosyntactic reduction is the change in morpheme boundaries. Other kinds of reduction involve the total removal of morphemes.

4.5.1 *Boundary reduction*

According to most accounts, grammaticalization may involve the change from free word to clitic to affix (cf. section 1 and the clines in (1) and (2) there). This means a change in cohesion and thereby a change in the type of boundary between two elements. The three types of elements, words, clitics, affixes, correspond to three degrees of boundary, which I will symbolize with slashes: / for affix boundary; // for clitic boundary; and /// for word boundary. Morphosyntactic reduction then consists in the loss of one or more slashes. In terms of acquisition and reanalysis, this means that the child misses some of the boundary cues, and interprets the input string as having a weaker boundary (fewer slashes, stronger cohesion) at a certain point. A similar idea is suggested by Uriagereka in a recent paper: '[T]he intuition to pursue is that 'grammaticalization' is performed by language learners, upon misanalyzing originally periphrastic sequences as word-level units, presumably i simpler option [. . .] It is more economical to pre-compile a symbol sequence $\langle x, y \rangle$ as a word w than as separate symbols x, y ' (Uriagereka 2005).

To illustrate, consider the development of the postposed definite article in Norwegian (Faarlund 2007c). In the oldest recorded stage of Scandinavian, Ancient Nordic (200–800 AD), we find a demonstrative following the noun: *halli hino* 'stone this (ACC.)'. The demonstrative is a separate word at this stage, and there is no definite article distinct from the demonstrative. Old Norwegian (800–1400 AD) has a postposed definite article on the noun. This article is still inflected for gender, number, and case, but it follows the number and case endings on the noun. A definite noun thus has a double representation of inflectional categories; the article agrees with the noun, at the same time it is a bound morpheme, and it is therefore best considered a clitic: *hallinn* 'the stone', *hestarnir* 'the horses (NOM.)'. In Modern Norwegian the separate case and number inflection on the noun has disappeared, and the article is now an affix, which in many cases cannot be separated from the plural affix: *hestane* 'the horses'.⁶ These changes, conforming to grammaticalization theory, can now be described as a gradual reduction of the number of slashes between the morphemes, from three in Ancient Nordic, via two in Old Norse, to one in Modern Norwegian.⁷

- (7) a. *halli///hino* > *hall//inn* > **hall/en*
 b. **hest/āz///hiniz* > *hest/ar//nir* > *hest/a/ne*⁸

6. Lahiri & Wetterlin (2005) argue on the basis of its role in tone assignment that the postposed Norwegian definite article is still a clitic. However this may be, it remains a fact that its cohesion properties have changed since Old Norse times.

7. In the word *verden* 'world' in Dano-Norwegian the final slash is also gone, so that *-en* is part of the lexical form of the word: *én verden* 'one world' – *mange verdener* 'many worlds'.

8. The word *hall* 'stone', which is the only attested noun with a following demonstrative in Ancient Nordic, has disappeared from the modern language, and *hest* 'horse' is not attested in Ancient Nordic.

The word *halli* in (7a) is in the accusative singular, where there is no case or number suffix; the final *-i* is a stem-forming vowel. On the other hand, **hestāz* in (7b) has both a plural suffix *ā* (actually, the long *ā* is a merger of the stem-forming vowel *a* and the plural suffix *a*) and the case suffix *-z* for masculine nominative.

4.5.2 Trapped morphemes

Cliticization may lead to ‘trapped’ morphemes, as in (7b), where the number and case morphemes in Old Norse, *-ar*, are trapped between the stem *hest* and the clitic *-nir*. Such trapped morphemes may be reduced or lost (Harris & Faarlund 2006). In the Mainland Scandinavian languages the case inflection in nouns was generally lost in the transition from the Old to the Early Modern stage, but even before then case morphemes could be lost in the trapped position, as in Old Swedish:

- (8) a. *færp//innar* < *færp/ar//innar*
 b. *præst//ins* < *præst/s//ins*

A more spectacular case of trapped morphology is offered by Zoque, a Meso-American language. This language has a set of case endings with local reference, as exemplified in (9a). The corresponding bare nouns are given in (9b).

- (9) a. *te^s nü^s-kukmü*
 the water-in ‘in the water’
te^s mexa-küsi
 the table-on
 ‘on the table’
y-kopa-küsi
 her-head-on
 ‘on her head’
 b. *nü^s* ‘water’
mexa ‘table’
kopa ‘head’

The case endings *-kukmü* and *-küsi* and other similar case endings are bound forms. In addition to these case endings, Zoque also has a set of simple case endings, including the locative *-i* and *-mü*. The longer, or secondary case endings derive from nouns with the shorter endings. Thus there is a noun *kuk* meaning ‘middle’, and another noun *küs* with the basic meaning of ‘body’, and with the metaphorical extension ‘surface’ or ‘top’. See the example in (10).⁹

9. The following abbreviations for grammatical morphemes are used in the glosses: CAUSSUB = causative subordinator; CNT = continuative auxiliary; CP = completive aspect; 1/2/3E = 1st/2nd/3rd person ergative prefix; ERG = ergative; ERG:1 = first person ergative suffix; FOC = focus marker; GEN = genitive; ICP = incomplete aspect; LOC = locative; PL = plural; PRED = predicator/copula; 1/2/3PS = 1st/2nd/3rd person possessor; REL = relativizer; SUB = subjunctive.

- (10) *kim-u kūs-mü*
 climb-CP top-LOC
 ‘(S)he climbed to the top’

In this usage *kūs* and similar nouns can be used as relational nouns, (11), and as such they can also be used in possessive constructions, as in (12a,b). Possessive constructions in Zoque are both head and dependent marked: the possessor carries the genitive suffix *-^sis*, and the head, the possessee, has a person prefix.

- (11) *kuk-i, kuk-mü* ‘in the middle of’
kūs-i, kūs-mü ‘on the body/surface of’
- (12) a. *kumguy-^sis y-kuk-i*
 village-GEN 3PS-middle-LOC
 ‘in the middle of the village’
- b. *te^s-^sis y-kūs-mü ijtu te^s kotzüjk*
 the-GEN 3PS-top-LOC be the hill
 ‘above it is the hill’

The complex locative endings *-kukmü*, *-kuki*, *-küsmü*, *-küsi* exemplified in (9a) are the results of cliticization of the locative forms of the relational nouns. In this process, both the genitive suffix on the ‘possessor’ and the person prefix on the relational noun are lost:

- (13) *nü^s-^sis y-kukmü* > *nü?-kukmü* ‘in the middle of the water’
mexa-^sis y-küsi > *mexa-küsi* ‘on the table’
y-kopa-^sis y-küsi > *y-kopa-küsi* ‘on his head’

4.5.3 Counterexamples

The principle of reduction is of course not without exceptions. There are in fact changes which consist in semantic or phonological material being added to the original expression, or in cohesion being increased. This reflects the fact that unidirectionality of grammaticalization is not absolute. One type of exception are cases where a morpheme takes on additional meaning as a result of a reduction or deletion somewhere else in the same construction. The meaning of a whole construction is thereby taken over by a single morpheme, which earlier was just a grammatical marker of the construction. As an example, consider focus constructions in Zoque, which have the form of cleft sentences, formed in the same way as in English: the focused element becomes the predicate of a copula sentence, while the rest of the sentence becomes a relative clause (*It was John who broke the window*) (Faarlund 2007a, 2007b). Unlike English, however, Zoque forms copula sentences by means of a clitic, *-te*, on the non-verbal predicate.

- (14) *te^s une che^sbü-te*
 the child small-PRED
 ‘The child is small’

Relative clauses are formed by means of the suffix *-pü* on the verb:

- (15) *te^s kayu te^s pün-^s is y-tsak-u-pü*
 the horse the man-ERG 3E-beat-CP-REL
 ‘the horse that the man beat’

A cleft sentence is now a combination of those two constructions:

- (16) *üj-t nü-t n-sun-u-pü kayu-te*
 I-ERG CNT-ERG:1 1E-want-SUB-REL horse-PRED
 ‘What I want is a horse’

As the next step, the copula *-te* can be used as a focus marker independently of a cleft construction:

- (17) *y-jamtsüjk-yaj-pa-ajkü-te nimeke*
 3E-miss-PL-ICP-CAUSSUB-FOC very
 ‘because s/he missed them very much’

The clitic *-te* is now no longer just a copula. It can be used as the only focus marker in non-cleft sentences. Thus it has a semantic or pragmatic function, a content, which is not present in the copula element. This development is in turn the result of the omission of the relative clause from the cleft construction.

A similar case can be seen in the development of the use of the subjunctive in reported speech in German (Askedal 2006). The subjunctive is used more or less automatically in complement clauses after verbs of saying etc., as in (18a). In such contexts, the subjunctive is more or less devoid of meaning. In a later development in German, the matrix verb may be omitted, while the verb in the reported speech is still in the subjunctive, as in (18b) and (18c), which are a continuation of (18a). Now the subjunctive has acquired the meaning of ‘reported speech’ through the omission of the conditioning matrix verb.

- (18) a. *In E., sagte sie, habe sich ein Schüler erhängt.*
 in E said she have.SUB himself a student hanged
 ‘She said that a student had hanged himself in E.’
 b. *Am nächsten Morgen hätten Jungen verschiedener Klassen*
 on-the next morning had.SUB boys different classes.GEN
schwarze Armbinden getragen.
 black arm-bands worn
 ‘The next morning boys from different classes were wearing black
 arm-bands’
 c. *Der Schüler sei Mitglied der jungen Gemeinde gewesen.*
 the student be.SUB member the young society.GEN been
 ‘The student was allegedly a member of the young society’

4.6 ‘General principles’

According to grammaticalization theorists, like the ones cited in section 2, there are *general principles of grammatical change* which govern language change, independently of factors related to acquisition or use. Haspelmath (1999: 586–7) lists five such ‘generalizations in need of further explanation’. Below I will discuss each of those to see whether they can be explained in terms of condition (6) in 4.2. above, which states that it is more likely for an element to be omitted, than for something to be added. Each sub-heading below is taken from Haspelmath (1999: 587), and the following quotes are also Haspelmath’s.

‘Final Devoicing

In phonological change, voiced obstruents may become voiceless in final position, but the reverse never happens. Example: Old High German *rad* > Middle High German *rat* ‘wheel.’

Devoicing appears as a change of the value of the feature VOICE from ‘plus’ to ‘minus’. This in itself is not a reduction or loss. But devoicing, in High German at least, is not just the change from [+VOICE] to [-VOICE], it can be interpreted as the neutralization, that is the loss, of the feature [VOICE] in a certain position. The reason that the result is a voiceless obstruent, is because negative value is the default value for any feature not specified otherwise (Wiese 1996: 204). The second part of Haspelmath’s sentence, ‘the reverse never happens’, is false. Final voicing is known from early Latin and from Proto-Germanic.

‘Lexical > Functional Category Change

Lexical categories may turn into functional categories. The reverse does not occur, and lexical categories do not turn into other lexical categories.’ An example of this is the French preposition *chez* ‘with, at’, from Old French *chies* ‘house’.

A parallel development yielded the Scandinavian preposition *hos* ‘with, at’ from *hús* ‘house’. This type of change has been widely described and discussed in the diachronic literature. Within the generative tradition the focus of interest has mainly been on the change from lexical verb to auxiliary, which is attested in many Indo-European languages (Lightfoot 1979, Roberts & Roussou 2003, cf. the discussion in section 4.4). Lexical words have a more specific meaning than function words. The word ‘house’ denotes a specific object with a spatial extension, locality, and a specific size, shape and function (now in the sense of purpose or use). The preposition *chez* or *hos* only expresses a local relation. The change from lexical to functional category thus involves the loss of semantic features, as discussed in section 4.4 above.

It is not quite clear to me how the second part of the quote is to be understood: ‘lexical categories do not turn into other lexical categories.’ It may mean that there is no such principle. But if it means that this kind of change does not occur, it is obviously false. There are plenty of cases of a noun turning into a verb, for example, as *to*

staple, and consider spontaneous verb formations like *to fed-ex* ‘to dispatch by (using the company known as the) Federal Express,’ and the verb *verb* in *You can verb any noun*.¹⁰

No Degrammaticalization

Grammaticalization is irreversible; degrammaticalization does not occur.’

Although there is well known counterevidence to this, as discussed above, and as acknowledged by Haspelmath in a later work (2004), the irreversibility may be considered a principle. In that case it follows directly from (6).

Survival of the Unmarked

When a privative opposition is given up, it is the unmarked member that survives. Example: Old English opposition *i/y* > Middle English *i*’

The feature accounting for the opposition *i/y* is [ROUNDED]. The failure by new learners to acquire this feature lead to the loss of the opposition. The result of the loss of a privative opposition can be interpreted in two ways: either the phonetic property represented by the feature is lost, so that everybody says [i] and nobody says [y] any more, or [i] and [y] become allophones. In both cases [ROUNDED] ceases to be a phonological feature. It follows from (6) that it is the unmarked member that will survive as the default value in such cases, since the loss of the unmarked member would not involve the loss of a feature.

Behavioral before Coding

When a non-subject argument turns into a subject, it first acquires behavioral subject properties before acquiring coding properties of subjects.’

This last one has nothing to do with grammaticalization in the usual sense, and is not explained either by grammaticalization theory or by the condition in (6). All the other principles follow from the constraint that something may be omitted but not inserted.

5. Conclusions

Grammaticalization is at best a generalization over a set of observations about language change. It is not a theory in the sense that it has explanatory value, and as has been demonstrated by many linguists, e.g., Newmeyer (1998, chapter 5), Campbell (2001), and Janda (2001), the changes involved in grammaticalization processes are in fact causally independent of each other. Thereby the whole notion of a grammaticalization theory vanishes into thin air. Grammaticalization is an epiphenomenon, a

10. I owe this example to Alice Harris.

set of simple processes which follow from other factors, and which may or may not coincide. One such factor is reanalysis in connection with first language acquisition; the strong tendency towards unidirectionality follows from the fact that it is easier to omit something than to insert something new.

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Linguistic cycles and Economy Principles

The role of Universal Grammar in language change

Elly van Gelderen
Arizona State University

In this paper I review the two basic Economy mechanisms with which a Minimalist syntax accounts for the linguistic change that is most often referred to as grammaticalization. I will also add a third mechanism. These Minimalist Economy Principles lead to cycles of change, and I identify several such cycles here. Examples of three cycles are drawn from languages such as Norwegian, Swedish, English, and Sami. I then focus on some differences and similarities in the mechanisms.

1. Introduction

As is well-known, grammaticalization is a process whereby lexical items lose phonological weight and semantic specificity and gain grammatical functions. Andersen (This volume) distinguishes lexical elements becoming grammatical, which he terms *grammation*, from grammatical elements becoming other grammatical element, for which he uses *regrammation*. Both processes have frequently been investigated in a functionalist framework. Recently, however, structural accounts have started to appear (e.g., van Gelderen 2004) accounting for the cyclicity of the changes involved. Van Gelderen, for instance, uses Economy Principles that help the learner acquire a grammar that is more economical, and as a side-effect more grammaticalized.

It has long been recognized that language change is cyclical (e.g., Bopp 1868, and more recently Tauli 1958). This fact has also been denied, e.g., by Jespersen (1922) and more recently by Newmeyer (1998). Hodge (1970) calls this cyclical phenomenon the ‘Linguistic Cycle,’ and (1) is of course one way how analytic languages become synthetic in a cyclical manner:

(1) word > clitic > affix > 0 (from Hopper & Traugott 1993)

At the end of the cycle, renewal and borrowing will bring new words into the language, leading to a more analytic language again.

In this paper, I first review two mechanisms from van Gelderen (2004) that account for a number of these cycles. I then have three main aims: (a) to add another such mechanism, namely Specifier Incorporation, (b) to focus on the cyclical change, which van Gelderen (2004) doesn't do, and (c) to identify new data.

The outline is as follows. In section 2, I'll review the syntactic Economy Principles and the Cycle. In section 3, I provide some examples of the Negative Cycle in Scandinavian and in Sami and Finnish. Section 4 provides new data from English on the Aspect Cycle. Section 5 considers the CP. Section 6 is an evaluation of the differences in cycles.

2. Economy and Cycles

Two Economy Principles are formulated in van Gelderen (2004). They are part of UG and help learners construct a grammar. They are similar to principles such as c-command, in that they remain active in the internalized grammar and therefore also aid speakers in constructing sentences. They are different from absolute principles such as c-command because prescriptive and innovative tendencies can counteract them.

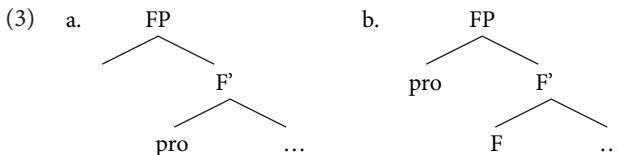
In section 2.1, I quickly review these two principles, and show how they are relevant to linguistic change. In 2.2, I discuss the status of these Economy Principles. In section 2.3, I justify and add a third principle.

2.1 Economy

Principle (2) is a UG principle at work in the internalized grammar and holds for merge (projection) as well as move (checking):

- (2) **Head Preference Principle (HPP):**
Be a head, rather than a phrase.

This means that a speaker will prefer to build structures such as (3a) rather than (3b). The FP stands for any functional category and the pronoun (but categories such as adverb or preposition could occur too) is merged in the head position in (3a), and in the specifier position in (3b):



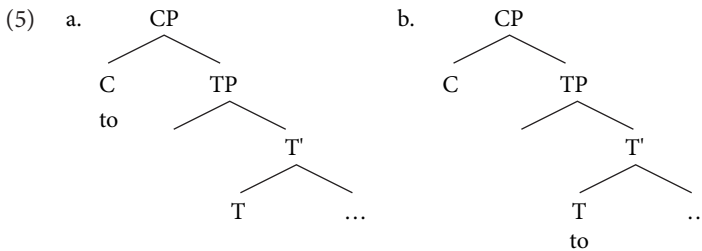
The speaker will only use (b) for structures where a phrase is necessary, e.g., coordinates. There may also be prescriptive rules stopping this change (as there are in French, see Lambrecht 1981).

The Head Preference Principle is relevant to a number of historical changes: whenever possible, a word is seen as a head rather than a phrase. Syntax is inert and doesn't change; it is the lexical items that are reanalyzed. In this way, pronouns are reanalyzed from emphatic full phrases to clitic pronouns to agreement markers, and negatives from full DPs to negative adverb phrases to heads. This change is, however, slow since a child learning the language will continue to have input of, for instance, a pronoun as both a phrase and a head. Lightfoot (1999) develops an approach as to how much input a child needs before it resets a parameter. In the case of pronouns changing to agreement markers, there will have to be a large input of structures that provide evidence to the child that the full phrase is no longer analyzed as that. The exact nature of the input needed for the change, the 'cue', is not explored in this paper, however.

Within recent Minimalism, there is a second economy principle (see e.g., Chomsky 1995: 348). Combining lexical items to construct a sentence, i.e., Merge, 'comes "free" in that it is required in some form for any recursive system' (Chomsky 2001: 3) and is 'inescapable' (Chomsky 1995: 316; 378). This means that it is less economical to merge early, as in (4), and then move than to wait as long as possible before merging:

- (4) **Late Merge Principle (LMP):**
Merge as late as possible.

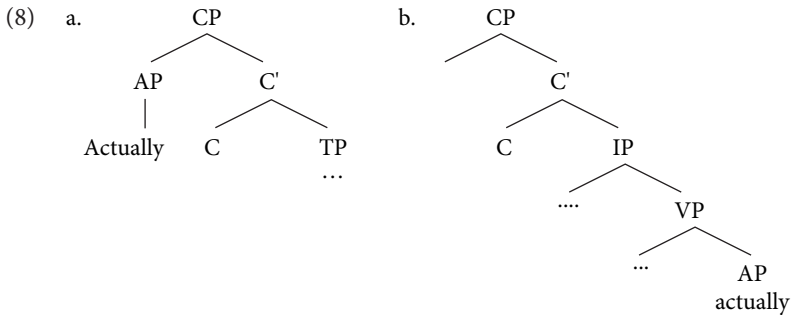
This principle works most clearly in the case of heads. Thus, under Late Merge, the preferred structure would be (a) with *to* basegenerated in C, rather than (b) with *to* in a lower position and moving to C. See also Kayne (1999). This accounts for the change from lexical to functional head or from functional to higher functional head so frequently described in the grammaticalization literature (e.g., Heine & Kuteva 2002):



Late Merge also accounts for lexical phrases becoming base generated in the functional domain. An example is *actually*. When it is first introduced into the English language from French, it is as adjective (in 1315), and is then used as a VP adverb in the 15th century, meaning 'with deeds in actual reality' as in (6). It then changes to a CP adverb, as in (7), in the 18th century:

- (6) Those who offend *actually*, are most grievously punished (OED 1660 example).
(7) *Actually*, it is kind of an interesting problem (CSE-FAC97).

Structure (8a) shows the more recent structural representation and (8b) the earlier one. The preferred one under the LMP is (8a):



How exactly does Late Merge account for language change? If non-theta-marked elements can wait to merge outside the VP (Chomsky 1995: 314-5), they will do so. I will therefore argue that if, for instance, a preposition can be analyzed as having fewer semantic features and is less relevant to the argument structure (e.g., *to*, *for*, and *of* in ModE), it will tend to merge higher (in TP or CP) rather than merge early (in VP) and then move. Chomsky (2001) uses external merge for the initial merge and internal merge for one where an element is merged for a second time (and where subsequently one copy has to be deleted). Chomsky assumes they are both economical, but it seems to me that internal merge still requires additional steps and that the LMP is still valid. The change from (8b) to (8a) is Andersen's grammation. Andersen's regrammation is the change from (5b) to (5a).

Like the Head Preference Principle in (2), Late Merge is argued to be a motivating force of linguistic change, accounting for the change from specifier to higher specifier and head to higher head. Roberts & Roussou (2003), Wu (2000), and Simpson & Wu (2002) also rely on some version of Late Merge.

2.2 Economy and language acquisition

I have mentioned above that I consider the HPP and LMP to be part of UG and that they help learners construct a grammar. In this section, I will first discuss how these Economy Principles are different from others that have been suggested, in that they are more like Preference Principles. Then, I show that child language provides evidence for these.

UG provides access to Principles (and possibly parameters). A list of Principles is hard to come by. Some candidates are c-command, locality (small steps), Merge (with a binary structure as result), the UTAH (Uniformity of Theta Assignment Hypothesis). Some of these are absolute Principles and cannot be violated. For instance, no matter how much societal pressure there is, the interpretation of who votes for whom in (9) cannot be changed; it must be the uncle of Kerry, not Kerry since the latter antecedent is too deeply embedded to c-command *himself*:

- (9) The uncle of Kerry voted for himself in 2002.

There are also what seem to be more preference principles since prescriptive or other rules can stop them from applying, e.g., (10):

- (10) **Stranding Preference Principle**
Move as little as possible.

This principle has been used to explain why speakers in English typically front the DP, as in (11) and (12), rather than the full PP in (13) or the full QP in (14):

- (11) Who did you talk to ~~who~~?
 (12) The children might have been all ~~the children~~ reading happily.
 (13) To whom did you talk ~~to whom~~?
 (14) All the children might have been ~~all the children~~ reading happily.

Preposition stranding, as in (11), is preferred under (10). However, applying (10) has been stopped by prescriptive rules since the late 18th century (e.g., Coar 1796). So the economy principles of the speakers would guide speakers to stand prepositions as they derive sentences. Since (10) is not absolute, however, it can be violated for pragmatic reasons.

As expected, children acquiring their language obey the economy principles. For instance, according to Diessel (2004), young children produce only stranded constructions in English, as in (15)

- (15) those little things that you play with (Adam 4:10, from Diessel 2004: 137).

Once they become (young) adults, they are taught to take the preposition along as in (13). This means UG Principles come in two kinds, absolute and not absolute.

The economy rules I have been discussing in section 2 are of the non absolute kind: if there is evidence for a pronoun to be both a phrase and a head, the child/adult will analyze it initially as head unless there is also evidence in the input (e.g., from coordination) that pronouns also function as full DPs. There is evidence from acquisition studies that children make a prosodic difference between phrasal and pronominal subjects. Gerken (1991) shows that children produce no prosodic boundary between the subject pronoun and the verb, i.e., analyze them as heads. Diessel (2004: 137) shows, on the basis of 4 children, that when children start to produce relative pronouns, they produce 165/297 cases of *that*, 6/297 of *who* (all by one child), and 126/297 of zero. Following the common assumption that English *that* relative pronouns are heads in C but *wh*-pronouns are phrases in the Specifier of CP, the acquisition data shows that children avoid phrases completely (even the 6 instances of *who* can be argued to be heads).

In this subsection, I have argued that Economy Principles are ‘softer’ principles in that they can be violated by other tendencies, prescriptive and innovative. They are still part of Universal grammar.

2.3 The Linguistic cycle and specifier incorporation

How are the two principles just mentioned responsible for cyclical change? Let's see what happens when we combine the effects of the HPP and the LMP, as in Figure 1. The HPP will be responsible for the reanalysis, as a head, of the element in the specifier position; the LMP will ensure that new elements appear in the specifier position:

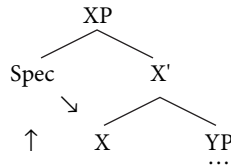


Figure 1. The Linguistic Cycle.

This scenario works perfectly for changes where a negative object such as Old English *na wiht* 'no creature' becomes a Spec and subsequently a head *not* of a NegP, and for a locative adverb being reanalyzed as part of the higher ASP(ect)P.

There are also a number of changes where a new element comes from outside of the sentence, e.g., a demonstrative being incorporated into the CP to indicate subordination, and an emphatic topic pronoun becoming the subject (in Spec TP). Therefore, I will argue that there is a principle that incorporates (innovative) topics and adverbials in the syntactic tree:

(16) **Specifier Incorporation (SIP)**

When possible, be a specifier rather than an adjunct.

The cycle would look like that in Figure 1, but with the Specifier position being filled from the outside.

Givón (1979) and others have talked about topics that are later reanalyzed as subjects, and calls this a shift from the pragmatic to the syntactic. What this means is that speakers tend to use the Phrase Structure rules, rather than loosely adjoined structures. With (16) added, typical cycles can therefore be seen as (17), rather than as (1) above:

- (17) a. Head > higher Head > 0 (=LMP)
 b. Adjunct > Spec > Head > 0 (=SIP/LMP and HPP)
 Phrase

The change in (17a) is the one from lower head (either lexical or grammatical) to higher head, via LMP. The change in (17b) shows that either an adjunct (via SIP) or a lower phrase (via LMP) can be reanalyzed as specifiers, after which the specifier is reanalyzed as head (via HPP). The last stage, the shift to zero, is not accounted for and I come back to that in section 6. Some well-known changes making use of the HPP are

given in Table 1, and of the LMP and SIP in Tables 2 and 3 (for more on these see van Gelderen 2004).

Table 1. Examples of the HPP.

Relative pronoun <i>that</i> to complementizer	Demonstrative pronoun to article
Negative adverb to negation marker	Adverb to aspect marker (see s 4)
Adverb to complementizer (e.g., <i>till</i>)	Full pronoun to agreement

Table 2. Examples of the LMP.

<i>For</i> , from P > C (<i>for him to do that ...</i>)	VP Adverbials > TP/CP Adverbials (e.g., (8))
<i>Like</i> , from P > C (<i>like I said</i>)	Negative objects to negative markers (see s 3)
Modals: v > ASP > T	
<i>To</i> : P > ASP > M > C (<i>to in (5)</i>)	

Table 3. Examples of the SIP.

Demonstrative pronoun <i>that</i> to relative
Emphatic to subject

Many historical linguists see language change as determined by two kinds of factors. There are internal ones, such as the HPP, SIP, and LMP, of economy or of ‘ease’, as in Jespersen (1922). There are also external reasons for language change such as a ‘need’ by speakers to be innovative and creative. This need to be innovative may introduce new loosely adjoined elements into the structure, and the latter may tend to stop the cycle. These come into the language via (16). A ‘need’ by society to be conservative and prescriptive stops change altogether. Jespersen formulates this tension as a ‘tug-of-war’, and Lightfoot (1979) recognizes the difference between ‘changes necessitated by various principles of grammar’ and those ‘provoked by extra-grammatical factors’. Van der Gabelentz (1912) uses ‘Deutlichkeit’ (‘clarity’) and ‘Bequemlichkeit’ (‘comfort’) as important (competing) factors. I’ll now put these principles to work.

3. The Northern Negative Cycle

Cross-linguistically, the Negative Cycle (also known as Jespersen’s Cycle) may be one of the most pervasive, even though Dahl (1979: 88) suggests that the universality of the Negative Cycle cannot be verified due to ‘lack of information about the earlier stages of non-European languages’. In this section, I provide a few examples from Northern Germanic and Finno-Ugric. The changes in the history of English and those in German are well-known (see e.g., Jespersen 1917 and Abraham 2003).

3.1 North Germanic

In early Germanic, the negative element *ne* precedes the verb (as in other Indo-European languages). In the North Germanic languages, this *ne* is phonologically very weak. As Wessén (1970: 100) puts it '[d]a die Negation schwachtonig war, machte sich das Bedürfnis nach Verstärkung stark geltend'. This strengthening comes in the form of an enclitic *-gi* that attaches to regular words. This results in *eigi* 'not', as in (18), *aldrigi* 'never', *eitgi/ekki* 'nothing', and numerous other forms:

- (18) *þat mæli ek eigi* Old Norse
 that say-1s I not
 'I am not saying that' (from Faarlund 2004: 225).

Faarlund (2004: 225) states that the *-gi* suffix is no longer productive in Old Norse but rather that it is part of negative words. That means that *eigi* and other negatives in Old Norse are phrasal adverbs, as is obvious because they trigger V-second, as in (19):

- (19) *eigi vil ek þat* Old Norse
 not want I that
 'I don't want that' (Faarlund 2004: 225).

For Modern Norwegian, Bondi Johannessen (2000) argues that *ikke* 'not' is a head. That means that between Old Norse and Modern Norwegian, the negative is reanalyzed from specifier to head. An expected further change is that the head would weaken phonologically and this is indeed the case as is fairly obvious from sentences such as (20), pretty common according to native speakers:

- (20) *Men detta æ'kke et forslag som vi har interesse av* Norwegian
 but that is-not a proposal that we have interest in
 'But that's not a proposal we are interested in' (from Solstad 1977: 70).

This is similar to the development in English with negative auxiliaries such as *don't*. The reason that English doesn't reinforce the weakened *-n't* is a prescriptive one.

The next stage, where the weakened negative is reinforced, may be occurring in certain varieties of Norwegian. Thus, Sollid (2002) argues that in the Northern Norwegian dialect of Sappen a double negative is starting to occur, as in (21):

- (21) *Eg har ikke aldri smakt sånne brød* Sappen Norwegian
 I have not never tasted such 'bread'
 'I haven't ever tasted that kind of bread' (Sollid 2002).

She argues this is under the influence of Finnish, which may well be the case. This would, however, not be possible if the grammar wasn't ready for this, i.e., if *ikke* weren't already a head.

The changes can be summarized in Figure 2, where (a) and (b) represent Old Norse, (c) is Norwegian, and (d) represents a variety such as Sappen with the verb moving through the Neg head.

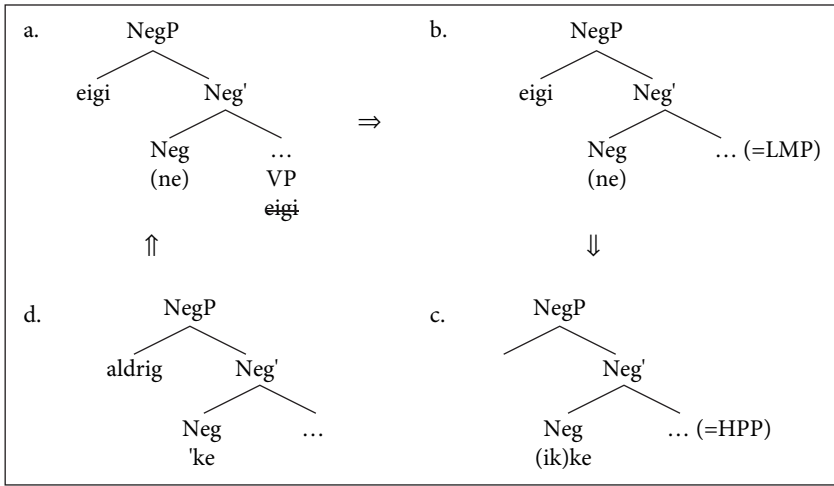


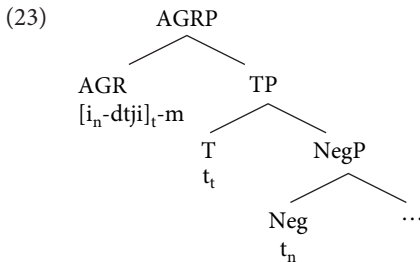
Figure 2. The Negative Cycle.

3.2 Negatives in Finno-Ugric

Sami, a collection of Finno-Ugric languages spoken in Northern Scandinavia, has an interesting negative construction where the negative word is inflected for person, number, and tense, as in (22ab):

- (22) a. *Im* (manne) *daejrieh* Southern Sami
 NEG-PRES-1S (I) know
 'I don't know'.
- b. *Idtjim* (manne) *daejrieh* Southern Sami
 NEG-AST-1S (I) know
 'I didn't know' (from Bergsland 1994: 44).

These sentences show that the Negation is a head *-i*, moving to and left-adjoining to *-dtji* in T (to check tense) and then to *-m* in AGR (to check person and number), as in (23):



Since the negation is a head, one might expect a reinforcement of another negative element in the Spec position, and this is definitely true in Northern Sami, as (24) shows, and what we 'll also see happening below in related Finnish:

- (24) *In leat goassege dahkan dan* Northern Sami
 NEG-S-1 be never do-PART it-ACC
 'I have never done that' (Trosterud p.c.).

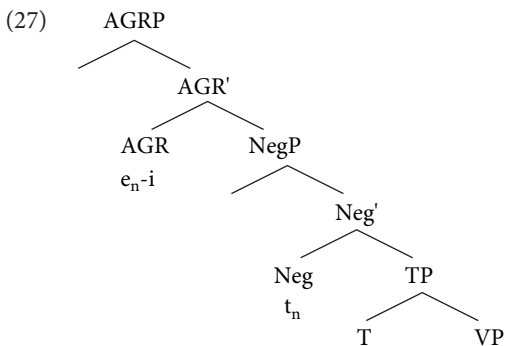
The negative is also inflected in Sami's linguistic relative Finnish, be it only for subject agreement not for tense. As in Sami, this could be the result of the negative being analyzed as a head and then moving to a higher position to check the inflection. This is precisely what Holmberg et al. (1993) argue, namely that the Finnish negative moves. The evidence is that (25) only has the meaning indicated in its gloss, i.e., where the CP adverb *varmaan* 'surely' has scope over the negative. This is expected if *ei* originates in the position below *varmaan*:

- (25) *Jussi e-i varmaan ole ostanut sitä kirjaa* Finnish
 Jussi NEG-3S surely has bought that book
 'It is certain that Jussi didn't buy that book' (Holmberg et al 1993: 201–2).

The scope of TP adverbs such as *aina* 'always' is different. The gloss to (26) shows that the negative has scope over the adverb:

- (26) *Jussi e-i aina ole pitänyt sinusta* Finnish
 Jussi NEG-3S always has liked you
 'Jussi hasn't always liked you' (Holmberg et al 1993: 202).

(26) shows that the negative is generated/merged above the TP adverb, but not higher than the CP adverb, as (25) shows. The negation carries only inflection, and this fits if it moves into AGR in (27) (AGR is represented as FP by Holmberg et al.):



The only difference between Sami and Finnish is the order of the NegP: it is below the TP in Sami but above it in Finnish.

If the negative element moves to the AGR position, one might expect it to weaken (through feature syncretism), as in Northern Sami, and reinforce the negative force with an adverb. This is indeed possible, as (28) shows:

- (28) *En ole koskaan maistanut sellaisia leipiä* Finnish
 NEG have never tasted such bread
 ‘I have never tasted such bread’ (from Sollid 2002).

Thus, the situation in Finnish and Sami is very similar to that shown in Figure 2 for North Germanic.

4. The Aspect Cycle

In many languages, perfective aspect goes through a cycle in which an aspectual prefix weakens and is replaced by an adverb. Well-known from Greek and Latin, see Horrocks (1981) and Smyth (1920), is the change shown in (29):

- (29) *eo trans flumen* > *trans-i-eo flumen* > *transieo trans flumen* Latin
 go through river through-go river go-through through river
 (Dag Haug p.c.)

As Smyth (1920: 366) puts it, ‘[t]he addition of a preposition . . . to a verbal form may mark the completion of the action of the verbal idea (perfective action)’. Thus, in Greek (30), *δια* ‘through’ renders the predicate perfective:

- (30) *διαφεύγειν* Greek
 [through-flee]
 ‘succeed in escaping’ (Smyth 1920: 366).

Slavic languages have gone through the same changes. In Bulgarian, both (31) and (32) occur, where the latter is the innovation. The two sentences have different interpretations, with the PP in (31) an adjunct but the DP in (32) an object:

- (31) *Ivan skoči prez ogradata* Bulgarian
 Ivan jumped over fence-the
 ‘Ivan jumped over the fence.’
- (32) *Ivan preskoči ogradata* Bulgarian
 Ivan over-jumped fence-the
 ‘Ivan jumped the fence’ (Mariana Bahtchevanova p.c.).

This development occurs in many languages other than Indo-European ones, e.g., in the Amazonian language Nadëb, as described by Weir (1986) and in Athabascan languages such as Chipewyan, as described by Li (1967).

In Old English, there is an aspectual prefix, e.g., *upp* in (33), similar to the prefixes in Latin, Greek, and Bulgarian:

- (33) *Hu lange sceal min feond beon **upp**ahafen ofer me*
 ‘How long shall my enemy be elevated over me’ (*Paris Psalter*, p. 19; HC OE3).

This prefix disappears in Middle English and perfective aspect is not expressed grammatically.

Starting in Early Modern English, as in (34), perfective aspect is again expressed through adverbs with verbs such as *offer up*. The order of adverb and object as in (34a) is more frequent in the examples provided by the *OED* than that in (34b):

- (34) a. to offer **up** his only son (1548, Udall, from the *OED*)
 b. those that offer it **up** (1657, from the *OED*).

With other verbs this is not the case, e.g., *receive in* followed by an object is less frequent than the pattern *receive* followed by an object and then *in*. The earliest instances of each pattern from the *OED* are shown in (35). These examples suggest that both orders are introduced around the same time:

- (35) a. they . . . did **receive in** such booties of catell or other things (1607, Cowell, from the *OED*).
 b. Each grape to weep, and crimson streams to spin Into the Vate, set to **receive them in** (1605, Sylvester, from the *OED*).

Other recent innovations are provided in (36) to (39): *out* in (36), and *up* in (37) to (39). All except (38) were recently uttered by speakers of American English. Note that in (39), the verb *offer* has undergone a shift as well from the earlier (34):

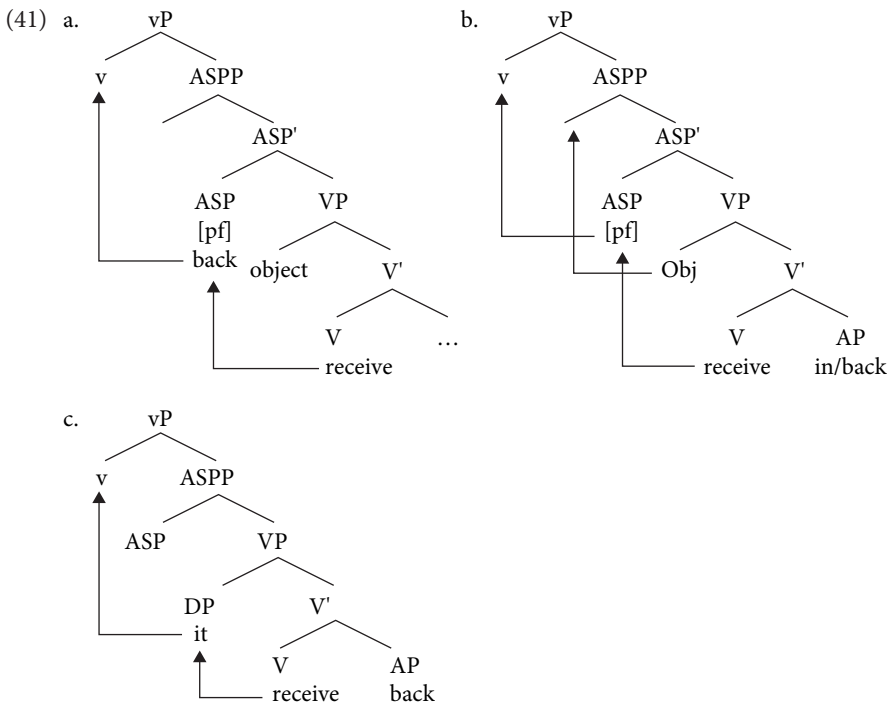
- (36) They’ll issue them **out**.
 (37) I ordered one **up**
 (38) to boost **up** tourism (ICE-Tanzania)
 (39) offered **up** that suggestion.

As mentioned, two different word orders are possible, one with a definite object preceding the adverb, as in (36) and (37), and one with the object following the adverb, as in (38) and (39). The second kind has become more frequent in the recent period, according to Davies (2005), even with definite nominals. The use of pronominal objects, typical for the first order, with these verbs has gone down too. The difference in frequency patterns is evident for the verb *receive* followed by a particle. In the 100-million British National Corpus, *receive* occurs nine times in constructions such as (40a)

and four times in constructions such as (40b) (twice with a pronoun and twice with a DP):

- (40) a. Elizabeth's accession allowed him to **receive back** his wife (BNC-GTB938)
 b. a husband who changed his mind to **receive his wife back** without ceremony (BNC-HTX2122).

Taking the tree in (41) to be a representation of aspect, the adverb could either be inside the VP or in ASP. The order in (40a) can be derived by having the adverb be late merged in ASP and the verb moving via ASP (left adjoining to the adverb) to v, as shown in (41a). To show perfective aspect, it is also possible for the (definite) nominal object to move to either head or specifier of the ASPP (see e.g., Leiss 2000 for the relationship between definiteness and aspect), after which the verb will move to v via ASP (combining with the pronoun if the pronoun is in the head of ASPP). The result is (40b), shown in (41b), if the object moves to the specifier of ASPP and the verb to ASP. It is also possible for the object to move as head (under the HPP), when it can be analyzed as a head, and for the verb to left-adjoin to it on its way to v. This is shown in (41c):



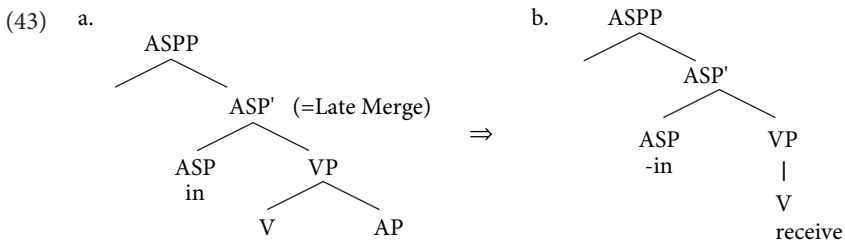
Of these three structures, (41a) is the most economical because there is late merge of *back* and regular V-movement. This construction turns out to be the one that is more frequent as well.

Some evidence for the structures in (41) comes from modification. When the adverb is in the VP, it is a full phrase and can therefore be modified, e.g., by *right* as in (42a); when it is the head of ASP, it cannot, as in (42b):

- (42) a. He received that package **right back**.
 b. *He received **right back** that package.

Another way to express the patterns in (35) and (40) is to argue that adverbs optionally project as head or as phrase, as Elenbaas (2005) argues for adverbs in the history of English. Then, in accordance with the HPP, a language learner will reanalyze the phrase as an aspectual head.

A scenario for further change is that the adverb becomes reanalyzed as an affix. After the adverb stage in (43b), the adverb initially becomes reanalyzed as ASP in (43a), and since the V moves to ASP on its way to v, the element in ASP automatically loses its independence:



The internal reason for this change will be mentioned in section 6.

There are a few phenomena that might lead one to think, as I incorrectly did in van Gelderen (2004), that the change in aspectual particles is from independent adverb to specifier position, resulting in a prefix rather than in a suffix. Examples (45) and (46) are the first instances recorded in the OED of *downplay* and *play down*. The late appearance of the former seemed to indicate a development from adverb to prefix:

- (45) Their chief tended to **downplay** the report of heavy damage
 (1968 *N.Y. Rev. Bks.* 25 Apr. 34/3, from OED).
- (46) They accused the Washington departments of being in league with the large employers to **'play down'** the number of the unemployed and so encourage the too-ready optimism which continues to assert that prosperity is, once again, just round the corner (1930 *New Statesman* 27 Dec. 351).

However, the examples are not systematic enough to be able to sustain this. There was also data from Dutch that seemed to indicate a change from separable prefix in (47) to inseparable prefix in (48):

- (47) *mer tis een flaute die hem over ghecomen is* Early Dutch
 but it-is a swoon that him over PART-come is
 ‘He fainted’.
- (48) *Hem is een flauwte overkomen* Dutch
 him is a fainting-spell happened (from Blom 2003: 33).

However, Fertig (2005) has convincingly argued that (48) was already an early Germanic form (OE *ofercuman* and OHG *ubarqueman*) and that there is no direction to this change. Different forms stayed around. Thus, the change is not from (46) to (45), since they are very infrequent, but from (41b) to (41a), or from Adv to ASP, in accordance with the LMP. For theoretical reasons (prefixes are hard in a system of left-adjunction, as in Kayne 1994), this is also to be preferred.

To end this section, I’ll summarize the changes in Figure 4.

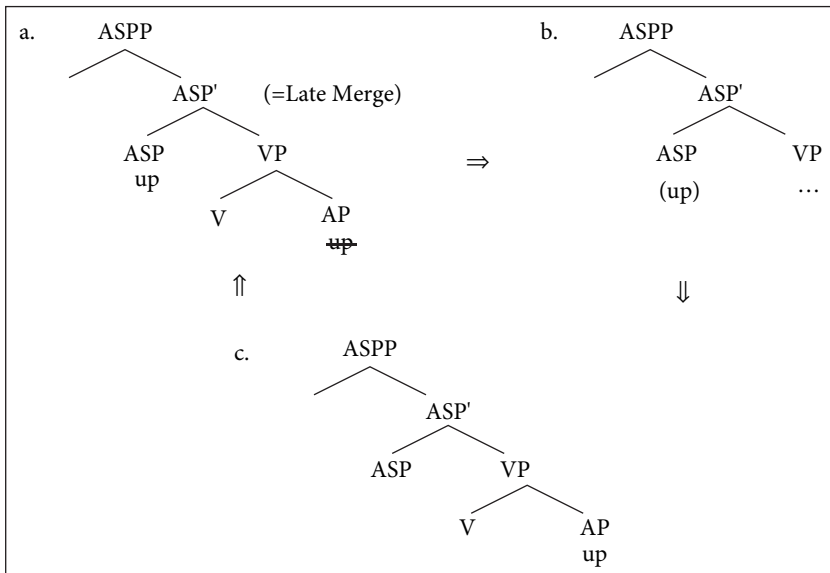


Figure 4. The Aspect Cycle.

5. CP grammaticalization

In this section, I examine a change in the highest functional layer, namely one concerning the CP. In (6) and (7) above, an example is given how a VP adverb is reanalyzed

as a CP adverb through the LMP, and in this section, I show that the LMP, HPP, and SIP are at work in relative clauses and main clause interrogatives.

It is well-known that English speakers prefer a *that* complementizer over a *wh*-pronoun in relative clauses, by at least a 4 to 1 ratio (e.g., van Gelderen 2004; Montgomery and Bailey 1991, etc). This is expected under the HPP, since *that* is in the head C but the *wh*-pronoun is in the specifier position. This preference for heads also holds in Swedish (Wessén 1970), Norwegian, Pennsylvania German (Haag 1982), Yiddish (Fleischer 2005), Non-Standard French (Joseph 1988), and in Spanish (Escobar 2004). An example from French is given in (49), where *que* ‘that’ is used rather than the standard *qui* ‘who’:

- (49) *Les enfants que jouent là*
 the children who play there
 ‘The children who are playing there’ (from Joseph 1988).

In some languages, the element from the specifier combines with the element in the head position, e.g., as in Gothic (50) and Old English (51):

- (50) *Abþan all uskiusaiþ þatei gop sijai gahabaiþ*
 but all prove that-that good is hold
 ‘Prove all things; keep what is good’ (I *Thessalonians* 5,21).
- (51) *and wundor godes þætte on þam crihtum gecyþed wæs*
 and miracle of-god that-that to the youths made-known was
 ‘and God’s miracle that was made known to the youths’ (*Daniel* 470–1, from Grossmann 1906: 26–7).

Since this fact about relatives is well-known, I will turn to the application of the HPP, SIP, and LMP in *wh*-questions.

In Norwegian dialects, interrogative main clauses display the same tendency to be situated in the head, as evidenced by the absence of verb-movement to C, as in (52):

- (52) *Kven du såg* Norwegian variety
 who you saw
 ‘Who did you see’ (from Åfarli 1985: 6).

Westergaard (2005) provides more background on the conditions where this happens; one of them is that the *wh*-word is one word, i.e., a head. Thus, (53) with a phrasal *wh*-element requires verb-second:

- (53) *Ka for nokka sa dokker* Norwegian variety
 what for something said you
 ‘What kind of thing did you say’ (from Taraldsen 1985: 21).

To end this section, I summarize the changes in Figure 5. Stage (a) represents the stage when a word is introduced into the specifier of the CP. The element chosen is often a demonstrative, as in Gothic and Old English. Stage (a) represents the standard word order (where verb-movement is triggered). Stage (b) represents a variety as in (46) and stage (c) might come about when the head is reanalyzed as a question-indicator, and a new *wh*-element appears (usually from an indefinite pronoun).

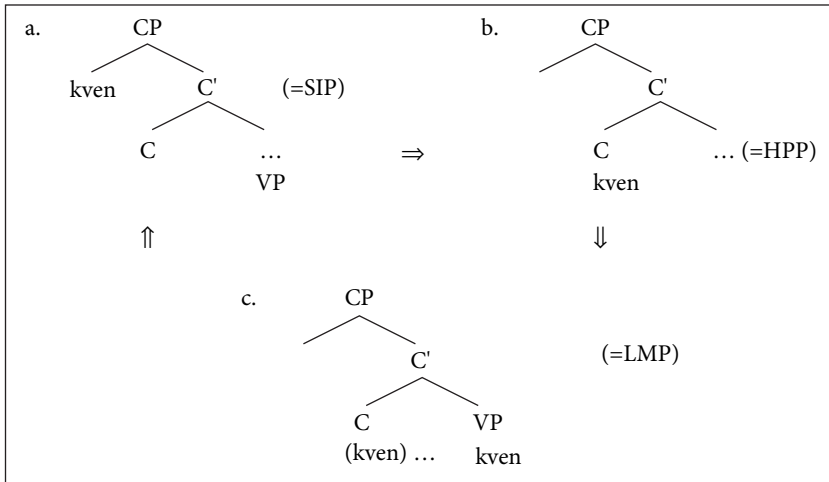


Figure 5. The CP Cycle.

6. Contrasts and conclusion

In this paper, I have argued that there are Economy Principles that guide the language learner. The result is a reanalysis of phrases as heads, and heads as higher heads. These principles are also used by speakers to build derivations. One stage of the Cycle not addressed in this paper is the last one, i.e., the change to zero. Once an element becomes a functional head, other heads moving through the earlier empty head might conceal the newly formed head's function. This happens in the Negative Cycle as well as in the Aspect Cycle and seems to be a result of the avoidance of feature syncretism, e.g., as in the Southern Sami negative which encodes person, number, negation, and tense. Faarlund (This volume) has argued that children tend to analyze a string as containing as few as possible morpheme boundaries, and Slobin (1985) provides evidence that children prefer analytic constructions. A task for future research is to formulate this in a way compatible with the approach I have taken in section 2.

To conclude, I will briefly compare the different cycles. For instance, the Aspect Cycle is different from the others in that it doesn't use HPP. The differences can be summarized in Table 4.

Table 4. Comparing the cycles.

	Neg Cycle	ASP Cycle	CP Cycle
HPP	yes	–	yes
LMP	yes	yes	(yes)
SIP	(yes)	yes	yes

The brackets indicate changes not provided full evidence for in this paper. The Negative Cycle allows incorporation of adjunct-elements (in accordance with the SIP), e.g., *never* might end up being used as the regular negation in English since the *-n't* has weakened too much. The CP Cycle also sees Late Merged elements replenish its expressions.

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Abbreviations

BNC	British National Corpus, see references.
CSE	Corpus of Contemporary Professional American English, see references.
HPP	Head Preference Principle
ICE	International Corpus of English, see references.
LMP	Late Merge Principle
OED	Oxford English Dictionary
SIP	Specifier Incorporation Principle
UG	Universal Grammar

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CHAPTER 9

Explaining exuberant agreement

Alice C. Harris
SUNY Stony Brook

1. Introduction

Several languages of the Nakh-Dagestanian (Northeast Caucasian) family, including Archi, Khinalug, Tabasaran, and Lak, have developed multiple ('exuberant') agreement marking with a single argument.¹ In this chapter, the origins of such systems are investigated in verbs in one of the languages of the family, Tsova-Tush, not closely related to any of those named above.

- (1) a. *v-ux-v-erc'-v-ie* Tsova-Tush
v-back-v-return-v-PAST²
'turn him back'
- b. *y-ux-y-erc'-y-ie* (Dešeriev 1967: 239)
y-back-y-return-y-PAST
'turn her back'

My goal in this chapter is to explain both why exuberant agreement is typologically rare and why it occurs at all. The explanation has two parts. First, it is hypothesized that multiple agreement of this kind is ordinarily eliminated, but that in languages of this family the presence of agreement is one of the factors that distinguishes one verb from another. Second, it is suggested that the typological rarity of this structure is not explained as the result of its inability to function, the difficulty of its acquisition, the difficulty of processing it, our innate endowment, or by any universal rule specifically

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1. The term 'exuberant agreement' was first used by Anderson (2001), as far as I am aware.
 2. The following abbreviations are used in glosses: ABS = absolutive, ALL = allative, AOR = aorist, CAUS = causative light verb, CON = contact case, DAT = dative, DIR = directional, ERG = ergative, EV = epenthetic vowel, EX = exclusive first person plural, GEN = genitive, IMPF = imperfect, INST = instrumental, INTR = intransitive light verb, LOC = locative, OBL = oblique, ORD = ordinal, PAST = immediate past, PL = plural, PRES = present, RPT = reported, SG = singular, SUBJV = subjunctive, SUPERESS = superessive, TR = transitive light verb, UNACC = unaccusative (Georgian only); I, II numbers of classes (Chamalal only). In the text, CM is class marker, N-D Nakh-Dagestanian (Northeast Caucasian).

outlawing it. Rather, it is suggested here, this structure results from a complex sequence of quite ordinary diachronic events.

The results reported here are relevant to theories that claim naturalness as a basis of morphological change, to theories of grammar optimization, and to the Elsewhere Condition, identity avoidance, and the representation of extended exponence in morphological theory.

In section 2, I introduce exuberant agreement and Tsova-Tush. Section 3 proposes the specific origin of exuberant agreement in this language. I discuss in section 4 the explanation of this phenomenon and in § 5 the wider implications of my proposal for synchronic and diachronic linguistics.

2. Exuberant agreement in languages of the Nakh-Dagestanian family

Tsova-Tush is a severely endangered member of the Nakh or Vainakh subgroup of the Nakh-Dagestanian (henceforth N-D) language family. The other members of this subgroup are Chechen and Ingush, which have somewhat similar phenomena, as do some more distantly related languages. This section makes specific proposals about the origins of forms, such as those in (1), with exuberant agreement.

2.1 Exuberant agreement

Extended exponence (or multiple exponence) is a term used by Matthews (1972), and by many others since, to refer to the realization of a feature by more than one morpheme within a word. In exuberant exponence, illustrated in (1), more than one instance of the **same** morpheme realizes a morphological feature within a single word. Clearly exuberant agreement, then, is a subtype of extended exponence. The Old Georgian example in (2) illustrates extended exponence but not exuberant agreement.

- (2) *da ušʒulo x-i-kmn-n-es* (1 Esdras 1: 46–48) Old Georgian
 and iniquity 3-UNACC-DO-PL-3PL
 ‘and iniquities were committed’

Here both of the suffixes indicate plurality of the nominal *ušʒulo* ‘iniquity’, whose plurality is not in fact marked on the noun itself. The first suffix, *-(e)n*, marks plurality of subjects of unaccusative verbs and direct objects of transitive verbs (Harris 1985: 209–230). The second suffix, *-es*, marks the plurality of third person subjects. Since both realize the feature [+plural], this is one example of extended exponence. The prefix *x-* refers to the same nominal, but marks person and grammatical relation, not number. Because *x-* and *-es* mark person of the same argument, they constitute a second example of extended exponence. Neither of these qualifies as exuberant in the sense defined above, since no morpheme in the Georgian example is repeated.

Although I have defined exuberant agreement as more than one occurrence of the same agreement morpheme, in this chapter I also pay attention to the occurrence of more than two realizations of the same feature (by same or different morphemes), since both this and exuberant exponence are of particular interest to linguistic theory. Thus Yip (1998: 220), having categorized cases of identity avoidance, writes

The first type [i.e., a language in which the same morpheme appears two or more times in a given word – ACH] is rare, perhaps non-existent, but it is not clear that the morphophonology underlies this: in most cases it seems likely that syntactic and morpho-syntactic principles will achieve this end without identity avoidance being involved at all.

On the other hand, Noyer (1992) proposes a principle of Feature Discharge to regulate potential cooccurrence of exponents. Once a given feature has been realized by means of one (occurrence of an) affix, that feature has been ‘discharged’ and cannot be realized again, even in a different position (‘discontinuous bleeding’). This is modified to permit a set of morphosyntactic features to have a ‘primary’ and a ‘secondary’ exponent, where the latter is an exponent of more than one feature. Thus Yip assumes that exuberant exponence will not occur, while Noyer proposes a principle that would prevent realization of a single feature by more than two morphemes.³

2.2 Tsova-Tush

Tsova-Tush has the largest number of gender-classes (henceforth ‘classes’) of any N-D language – eight (Črelašvili 1967). Holisky and Gagua (1994: 162–163), however, define only five classes, on the grounds that the remaining three are very small. The class markers (CM) are listed in Table 1, with an example of a noun in each class. As illustrated by the examples, class markers do not appear on most nouns.

In Caucasian linguistics it is conventional to refer to classes by number, but there are too many in Tsova-Tush for the reader to easily remember the corresponding class marker of each. Therefore, in glosses of Tsova-Tush, I give the singular class marker with nouns, because it does not generally show up on the noun itself. If the noun is in the plural in the example, I give the singular CM followed by the plural, e.g., ‘ear(*d/y*)-PL.ABS’, a noun of the fifth class in Table 1, conditioning the CM *d*- in the singular and *y*- in the plural. In glossing the verb, I simply repeat the marker, instead of providing a class number.

In Tsova-Tush, as in the proto-language, some verbs agree in class and number. The agreement trigger is the absolutive nominal, that is, the subject of an intransitive verb

3. The theoretical relevance of the data presented here is dependent upon these CMs occurring in a single word. The chapter is preliminary, in that I have not yet been able to undertake the fieldwork that would provide specific evidence regarding wordhood. In fact some sources write the preverb as a separate word, while others write it with the verb. This is not deemed here to be of great importance, since the preverb is only one of six sources of CMs in Tsova-Tush. Arguments for wordhood are presented briefly in the last paragraphs of §§ 3.1, 3.2, 3.4 and 3.5.

Table 1. Major grammatical classes in Tsova-Tush
(after Holisky and Gagua 1994: 162)

Singular	Plural	
v	b	<i>mar</i> 'husband'
y	d	<i>pst'u</i> 'wife'
y	y	<i>cark'</i> 'tooth'
d	d	<i>bader</i> 'child'
d	y	<i>bat'r</i> 'lip'
b	b	<i>borag</i> 'knit slipper'
b	d	<i>ča</i> 'bear'
b	y	<i>bak</i> 'fist'

or the direct object of a transitive verb. In the proto-language, verbs that lacked class agreement had no agreement at all. Only agreeing verbs are illustrated here.

- (3) *mux* *d-oj̣-eⁿ* (Dict 491a)⁴
fly(d).ABS D-flee-AOR
'The fly flew away.'
- (4) *o-qu-s* *yoh* *y-ex-ö* (Dict 237b)
that.one-OBL-ERG woman(y).ABS Y-ask-PRES
'He (distal) is asking (proposing to) the woman.'

Some adjectives also agree with their heads, as in (5).

- (5) *vir-e-go-h* *y-ax: eⁿ* *lark'-i* *y-a* (Dict 61b)
donkey(d)-OBL-ALL-LOC Y-long ear(d/y)-PL.ABS Y-be
'The donkey has long ears.'

In Tsova-Tush, there is also one numeral, one pronoun, and one preverb that take a CM (Holisky and Gagua 1994: 162).

In all respects described above, Tsova-Tush closely resembles Proto-Nakh-Dagestanian, except that the modern language has more noun classes.

3. Origin of exuberant agreement in Tsova-Tush

There is widespread agreement that in Proto-Nakh-Dagestanian, CMs were prefixal (e.g., Talibov 1961; Magometov 1965: 243–244; Cercvaže 1970; Alekseev 1985, 1988).

4. Most of the examples in this chapter are from Kadagiže & Kadagiže (1984) and are cited as 'Dict', with a page number. Superscript (ⁿ) represents nasalization of the vowel in word-final position (see Holisky and Gagua 1994: 160). Breve, (<˘>), over a vowel marks reduction (see Holisky & Gagua 1994: 153).

The verb was agglutinative and certainly had other parts. Given that some verb roots seem not to have taken CM agreement, and given that the imperative consisted of the root alone, the root alone probably constituted the minimal verb form.

3.1 First innovation: grammaticalization of light verbs

Tsova-Tush or, more likely, Proto-Nakh innovated by using inherited nouns, verbs, and adjectives together with light verbs. This innovation occurred in many of the N-D languages, but it is usually assumed to have been relatively late, after the split into individual languages. A simple example is the causative, illustrated in (6b), contrasting with the non-causative in (6a).

- (6) a. *nik'ð* *šayrī* *naq'bist'-v-aʔ* *v-aʔ-eⁿ* (Dict 72b)
 Niko(v).ABS 3SG.GEN friend-INST-CASE V-COME-AOR
 'Niko came, together with his friends.'
- b. *ag-a-s* *katam* *c'-i-n⁵* *ču*
 grandmother(y)-OBL-ERG chicken(d).ABS house-OBL-DAT in
d-aʔ-it-iyēⁿ
 D-COME-CAUS-AOR
 'Grandmother let a chicken come in the house.' (Dict 73a)

While the causative suffix *-it* has no prefixal CM of its own⁶, in Tsova-Tush other light verbs do. For example, *d-al-ar* is a light verb that forms intransitives, as in (7), where the incorporate is an adjective. (*-ar* here and in other examples is the formant of the masdar, or verbal noun, the citation form. I follow Kadagiže and Kadagiže 1984 in citing with the CM *d-* a verb that requires a CM.)

- (7) *yoh* *c'eg-y-al-iⁿ* (Dict 34b)
 girl(y).ABS red-Y-INTR-AOR
 'The girl blushed.'

(8) illustrates a light verb, *d-ar* 'do, make', whose base I assume has been eroded until no root remains, only the CM prefix and various tense, mood, voice suffixes. It forms transitives.

- (8) *aqsb-a-x* *gagn-i* *c'eg-y-o* (Dict 759b)
 Easter(d)-OBL-CON egg(y)-PL.ABS red-Y.TR-PRES
 'At Easter they paint (lit. make) eggs red.'

This verb can also be used independently, as in (9).

5. Holisky & Gagua (1994: 160) note that *n* of the dative case does not condition nasalization of the vowel and undergo deletion.

6. As an independent verb, this root does have a CM: *d-it-ar* 'cause'.

- (9) *vux-k'* *d-in-o-lo-s!* (Holisky & Gagua 1994: 182)
 what.ABS-*ever* D-AOR-RPT-SUBJV-1SG.ERG
 'Whatever have I done?'

If one of the light verbs that take a prefixal CM incorporates a verb stem that also takes a CM, we have the beginnings of exuberant agreement.

- (10) *darĵaⁿ* *it':-lye-čö* *k'lası* *y-ot'-y-ıyeⁿ* (Dict 494a)
 Darejan(y).ABS ten-ORD-in grade Y-go.OVER-Y.TR-AOR
 'They took Darejan over into the tenth grade.'
- (11) *káb* *y-ox-y-ıyeⁿ* (Dict 498a)
 dress(y).ABS Y-rip-Y.TR-AOR
 '[She] ripped the dress.'
- (12) *k'nat* *ču-reⁿ* *kalak-ı* *v-eh-v-al-iⁿ* (Dict 241b)
 boy(v).ABS in-from city-DIR V-steal-V-INTR-AOR
 'The boy stole away from home to Tbilisi.'

Thus, by adding light verbs to existing verb stems, together with their prefixal CMs, we get – in some cases – two CMs.

In (10–12) it is easy to see that the lexical roots in complex verb forms (*-ot'* 'go over', *-ox-* 'rip', and *-eh-* 'steal') have no tense-aspect-mood suffix, unlike the verbs in all other examples. In Tsova-Tush, verbs (apart from 'be', which is irregular in this regard) without either a marker of tense-aspect-mood or a formant of a non-finite form, such as a masdar or participle, are interpreted as imperatives. The lexical root in the complex verb form has neither, yet it is not interpreted as an imperative; thus it cannot be an independent verb form and a word distinct from the light verb. This confirms that complex verbs formed with light verbs are single words.

3.2 Second innovation: grammaticalization of pronouns

More recently, Tsova-Tush, like a few of its sister languages, has independently innovated person-number-case agreement. Personal pronouns listed in (13) have become suffixes on the finite verb form, indicating agreement, usually with the subject, sometimes with an object (Holisky 1994: 144). Subjects of transitives occur in the ergative form of the pronoun, while subjects of many intransitives are in the absolutive form.

- | | | | |
|------|------------|------------------|---------------------------------------|
| (13) | Absolutive | Ergative | |
| 1SG | <i>so</i> | <i>as</i> | |
| 2SG | <i>hō</i> | <i>ah, ahō</i> | |
| 1EX | <i>txo</i> | <i>atx, atxō</i> | |
| 2PL | <i>šu</i> | <i>aiš, aišū</i> | (Data from Holisky & Gagua 1994: 173) |

The first person inclusive, *vai*, occurs as a separate word immediately following the verb, not as a suffix (see Holisky & Gagua 1994: 177–178). Third person pronouns and nouns do not condition person-number-case agreement in the verb (see also Gagua 1952).

Suffixal agreement is illustrated in (14), where the older class marking is also present.

- (14) *psťu-yaš-e-n* *t'atb-u-n* *t'ard* *d-eyš-n-as* (Dict 234a)
 wife-sister(y)-OBL-DAT silver-OBL-GEN ring(d).ABS D-promise-AOR-1SG.ERG
 'I promised a silver ring to my wife's sister.'

In (14) the CM prefix *d-* agrees in class with the direct object, 'silver ring', while the final suffix, *-as*, agrees in person, number, and case with the subject 'I', which does not, however, show up overtly in this particular example. In an intransitive, the two kinds of agreement are conditioned by the same nominal, as in (15).

- (15) *so* *osi* *v-a-ra-sō* (Dict 24a)
 I.ABS there v-be-IMPF-1SG.ABS
 'I (male) was there.'

Both agreement affixes are conditioned by *so* 'I'; *v-* indicates grammatical class and number, while *-sō* indicates person, number, and case. The agreement suffixes are not part of the exuberant agreement, as I have defined it, but they are nevertheless interesting in this context. When the inherited verb takes a prefixal CM, a light verb with a CM occurs, and suffixal agreement is present, we have three layers of agreement, as in (16).

- (16) *čxindur* *d-ol-d-in-as* (Dict 489a)
 sock(d).ABS D-start-D-AOR-1SG.ERG
 'I started [e.g., to knit] a sock.'

Holisky & Gagua (1994) refer to the agreement markers in (13) as suffixes, and I assume this analysis here. It is supported by the fact that before this suffix, the aorist suffix *-(i)n* does not condition nasalization of the preceding vowel and undergo word-final deletion (see footnote 5 above), as illustrated in (14) and (16). (This can be contrasted with (12), for example, where these processes do apply.) Their analysis can also be supported by the fact that a vowel does not undergo word-final reduction when followed by these suffixes, as shown in (15).

3.3 Third innovation: grammaticalization of preverbs

In some other N-D languages adverbs also agree in class (and number); agreement is as in the verb, with the grammatical class of the subject of an intransitive or with the direct object of a transitive. This is illustrated from Chamalal in (17).

- (17) a. *di-č'* *ve-qX̣:e* *hadam* *ida*⁷ Chamalal
 1SG-SUPERESS I-behind man(I).ABS stand
 'A man is standing behind me.'

7. The symbol \widehat{qX} : denotes a fortis voiceless uvular affricate (Bokarev 1949: 12).

- b. *dī-č̣* *ye-qX̄:e* *yah* *ida* (Bokarev 1949: 108)
 1SG-SUPERESS II-behind woman(II).ABS stand
 ‘A woman is standing behind me.’

In Tsova-Tush there is only one adverb *d-ux* ‘back’ that agrees in class; and that adverb, like many others, has become a preverb in most contexts. When this preverb is combined with an incorporated verb, together with a light verb, each taking a CM, we get three CMs.

- (18) *ik’u-y-n* *šalt* *y-ux-y-erc’-y-in-as* (Dict 578b)
 Ik’o(v)-OBL-DAT dagger(y).ABS Y-back-Y-return-Y-AOR-1SG.ERG
 ‘I returned the dagger to Ik’o.’

3.4 A further source of exuberant agreement: verb compounding

It is also possible to form verbs with more than one agreement marker through compounding, as illustrated in (19).

- (19) *šobi-lō* *xširoš* *v-uyt’-v-ay-o-s* (Dict 571b)
 Pšavs-ALLII often v-go-v-come-PRES-1SG.ERG⁸
 ‘I often come and go among the Pšavs.’

The verb in (19) is formed from the simple verb *d-uyt’-ar* ‘go’ (Dict 571b) and the simple verb *d-ay-ar* ‘come’ (Dict 51b). Additional examples of verb compounding are given in (20–21).

- (20) *ħaⁿ* *b-exk’-b-eč-iⁿ* *išt’* *i* *doⁿ?* (Dict 239a)⁹
 who.ERG B-arrange-B-?-AOR this.way this horse(b).ABS
 ‘Who tied this horse this way?’
- (21) *teg-b-a-b-ol-b-ie* (Dešeriev 1967: 241)
 order-B-EV-B-begin-B-AOR
 ‘S/he just began to work.’

In (21), *teg-ar* is an intransitive verb meaning ‘be put in order’. From it, a transitive verb is derived regularly: *teg-d-ar* ‘do; put in order’. In the example, this is combined with another regular verb *d-ol-ar* ‘begin (intr)’, from which a transitive is derived regularly: *d-ol-d-ar*.

The argument for wordhood given in § 3.1 applies also to compounds. The first element in compounds has neither a tense-aspect-mood suffix nor a suffix forming a non-finite form, and thus it cannot be an independent verb form and a word distinct

8. On the use of the ergative with an intransitive, see Holisky 1987.

9. The first element, *d-exk’-ar*, [alon]e means ‘tie’ in the same sense, and (*d*)-*eč-ar* is not an entry in the dictionary.

from the second element in the compound. This confirms that compound verbs are single words. In (19) we see additional evidence that the compound is a single word. There is only one marker of the first person subject. First person singular conditions a person agreement suffix, as described in § 3.2; and if the compound in (19) were really two words, each should have an agreement suffix.

3.5 A further source of exuberant agreement: periphrastic reported tenses

Č'relašvili (1984) and Holisky & Gagua (1994: 180–181) describe a set of reported tenses (evidentials). These reported tenses are formed, at least historically, with an aorist reported form of the verb 'be'. The copula alone is illustrated in (22), and the reported tenses are illustrated in (23–24).

- (22) *st'ak' v-a* (Dict 24a)
 man(v).ABS v-is
 'He is a man.'
- (23) *tet'-o-d-a-n-o* (Holisky & Gagua 1994: 181)
 cut-PRES-D-be-AOR-RPT
 'she was apparently cutting it'
- (24) *xet':-(o)-d-a-n-o* (Č'relašvili 1984: 108)
 read-PRES-D-be-AOR-RPT
 'apparently he was reading it, has read it'

Although these tenses are not frequently used, any one of them would increase the number of CMs in a given word.

While these are described as periphrastic, both (sets of) authors write them as a single word. This contrasts with the set of auxiliaries described in Holisky (1994), which she writes as independent words, some of which 'show evidence of becoming suffixes' (1994: 157). There is additional evidence that the copula *d-a-* has become an affix and is no longer an independent word. Here the CM indicates agreement with the absolutive argument of the (main) verb, indicating that the copula is not an independent auxiliary. If 'be' were an independent word, it would agree instead with its subject.¹⁰

3.6 Summary

Although three is the highest number of CMs I have found in a single example, there is the potential for as many as six CMs in Tsova-Tush: (i) before the preverb, as

10. This argument is used in Handel (2003: 137–138) to characterize the perfect and pluperfect of Ingush, which are cognate to the periphrastic reported tenses of Tsova-Tush.

in (18), (ii) before the first conjunct in a compound verb, as in (19), (iii) as a transitive or intransitive marker of the first conjunct, as in (8) and (12), (iv) before the second conjunct in a compound verb, as in (20), (v) as a transitive or intransitive marker of the second conjunct, as in (21), (vi) before the formant of a periphrastic reported tense, as in (23). This number does not include the CMs in the auxiliaries, some of which also take a CM and are described as on the way to becoming suffixes (see Holisky 1994, especially p. 157).

4. Explanation

There are two parts to the explanation of why structures like (18) occur in Tsova-Tush and not, for example, in Norwegian. One part of the explanation involves grammaticalization of the inflection, and the other, the reason the structure is rare.

4.1 Loss or retention of trapped inflection?

The first part of the explanation must confront the reality that when two units fuse, trapping inflectional morphology between them, either of two things can happen.

Harris & Faarlund (2006) provide both attested and reconstructed examples of inflection that is lost when the host to which it is attached and another word collide in grammaticalization. The authors argue that this process is not phonological, but morphological. Although phonological changes may also take place, of course, loss of inflection under these circumstances does not depend on phonological change. Faarlund and Harris's strongest examples, attested changes, include the loss of case in Mainland Scandinavian when trapped between a noun and a definite article, the loss of a person marker in Georgian when trapped between a main verb and an auxiliary, the loss of a verbal suffix in Mainland Scandinavian when trapped between a verb and a reflexive clitic, and other losses. Loss of trapped morphology preserves the iconicity of agreement (one morphological representation for one referential entity), and it preserves the universally preferred order of morphemes, with agreement on the outside.

We have seen the other possibility in Tsova-Tush examples above. It is clear that when a light verb incorporated a verb stem, the morphology trapped between them was not lost. When a preverb fused with a verb, trapping a CM, the CM was not lost. When two verbs were joined in a compound, trapping a CM, the result was the same, and the CM was retained. And when an auxiliary was grammaticalized as a formant of reported tenses, the CM was again retained. Retention of the trapped CM results in a counter-iconic structure; for example, there is no possible reading for (18) where each *y-* refers to a different entity. Retention of the trapped CM also results in a dispreferred morpheme order, with some agreement marking close to the root, instead of the preferred order, with agreement marking on the edges of the word. The development of both counter-iconic agreement and dispreferred morpheme order needs to be explained.

While multiple realizations of an agreement feature are unusual, they are not unique to N-D languages. They also occur, for example, in Skou (Donohue 2003), Kiranti (van Driem 1990, 1991, 1993, 1997), North Ometo (Hayward 1998), and Hocank (Helmbrecht & Lehmann, in press).

What determines what the outcome will be? At the time of the change which produced the first interior CM in Pre-Tsova-Tush, what led speakers to tolerate the trapped inflection, rather than to lose it, as in some other languages? I hypothesize that loss is the ordinary outcome, because it preserves iconicity and preferred word order. I further suggest that the explanation of the different outcome in Tsova-Tush lies in the fact that in this language, as in other N-D languages, only some verbs have (verb-initial) class agreement.¹¹ This means that one lexeme can be distinguished from another by the presence vs. absence of the verb-initial CM. Examples are given in (25).

(25) Some verb pairs in Tsova-Tush:

<i>ak'-ar</i> 'burn (intr. stat.)	<i>d-ak'-ar</i> 'burn (intr. active)'
<i>at'-ar</i> 'say'	<i>d-at'-ar</i> 'give'
<i>abl-ar</i> 'arrange, place; bail, carry liquid'	<i>d-abl-ar</i> 'put, place; lay (egg); put down in'
<i>ebc'-ar</i> 'push, pull; weigh; milk; smoke'	<i>d-ebc'-ar</i> 'tie'
<i>ot'-ar</i> 'spread'	<i>d-ot'-ar</i> 'go, go over'
<i>ot:-ar</i> 'stand, stay'	<i>d-ot:-ar</i> 'pour into'
<i>ol:-ar</i> 'thread (e.g., needle); put on (e.g., clothing)'	<i>d-ol:-ar</i> 'put down (inside s.t.); lock'

In addition, some perfective/imperfective pairs differ in taking vs. not taking the initial CM, though these pairs may also differ in vowel quality. For example, *d-ek'-ar* 'fall' is perfective and contrasts with *ak'-ar* 'fall', which is imperfective. A similar pair is *d-at'-ar* 'run PERFECTIVE' vs. *it'-ar* 'run IMPERFECTIVE' (see Holisky 1994: 153 and Holisky & Gagua 1994: 179 for more).

The light verb that forms transitives has no actual root (see examples (8) and (9) above). If its CM had been lost, there would be no marker at all of transitivity. The light verb that forms intransitives, on the other hand, has the root *-al-*. While there is not currently a lexeme that contrasts with it in terms of the presence vs. absence of a CM, the examples in (25) show that this is a potential distinguishing feature of lexemes in Tsova-Tush. Therefore, I suggest that the loss of trapped morphemes is usual, that the trapped suffix on the core was lost as shown in Schema 1 (if indeed there was one), and that the CM prefix on the light verb was not lost because in Tsova-Tush this is a potential distinguishing feature of a lexeme.

11. Since agreement is inflection, it is usually assumed that it will occur with all members of the category verb. Sign languages, too, have agreement with only a subset of verbs; see Aronoff et al. (2005: 321–324) for a recent summary and references. In Tsova-Tush, unlike sign languages, the set of verbs taking agreement cannot be predicted on a semantic basis.

Af1-	Core	-Af2	Af3-	Periphery	-Af4
v-	eħ	-AF2	v-	al	-i ⁿ



Af1-	Core	-Af2	Af3-	Periphery	-Af4
v-	eħ		v-	al	-i ⁿ

Schema 1. Fusion of *d-eh-ar* ‘steal’ with *d-al-ar*.

Schema 1 uses the example of the verb in sentence (12), repeated here as (26).

- (26) *k’nat* *ču-reⁿ* *kalak-ĩ* *v-eh-v-al-iⁿ* (Dict 241b)
 boy(v).ABS in-from city-DIR v-steal-v-INTR-AOR
 ‘The boy stole away from home to Tbilisi.’

While the Affix 2 position may have been empty from the beginning, in some related languages in which a verb form is incorporated by a light verb, an affix that nominalizes the verb is included. For example, in Udi, the infinitive marker, *-es*, is included in this context.

Why was the verb-initial CM not lost when adverbs were grammaticalized as preverbs and when verb compounding was initiated? When a child acquires a language that already has an interior CM, she learns that this kind of interior inflection is **unmarked for this language**. For such a speaker, there would be no reason to lose the trapped inflection in the course of grammaticalization of a preverb.

I conclude that loss of trapped morphology is the expected outcome cross-linguistically. Tsova-Tush, in the first instance, namely grammaticalization of light verbs, presents an exception because class marking in N-D languages occurs with some, but not all, verbs. The presence vs. absence of a CM in these languages can potentially distinguish one lexeme from another and in this sense is part of the lexeme. In grammaticalization of the verbs *d-al-ar* INTRANSITIVE and *d-ar* TRANSITIVE as light verbs, the CM was not lost because it was part of the lexeme in this unusual sense. When the grammaticalization of adverbs as preverbs trapped the verb-initial CMs, and when the innovation of verb compounding trapped various CMs, interior CMs had been established as a language-specific unmarked feature. Children acquiring the language had no reason to lose these interior agreement markers.

4.2 Simple probability

Let us turn to the issue of why structures such as those in (18) are rare. We might attribute the relative rarity of exuberant agreement to one or more of the following factors.

- our innate endowment discourages this structure (perhaps as part of a more general feature)
- this structure does not function well
- this structure cannot be acquired easily by children
- this structure is not easily processed.

All of these may, in fact, be true. True or not, each one leaves us wondering how such a structure can exist at all. Do speakers of Tsova-Tush not know that this is innately discouraged? Do they not need a language that functions well? Are their children able to acquire structures others would fail at? Are the speakers able to process speech better than the rest of us?

I have proposed in earlier papers (Harris 2005, 2007) that the rarity of certain other phenomena are to be explained by probability, and I suggest that the development of this system too is a simple matter of probability. As we know, it is extremely common for an auxiliary to be added to a main verb, or for a light verb to incorporate a verbal or other base, as Tsova-Tush did in adding the light verbs *d-ar* ‘make, do’ and *d-al-ar*, the formant of intransitives. It is likewise extremely common for a subject pronoun to cliticize to a verb and become an affix, as *so* ‘I.ABS’, *as* ‘I.ERG’, and other pronouns did in Tsova-Tush. We know that many languages, including Latin, Greek, Germanic, Slavic, and Kartvelian languages, have turned adverbs into preverbs. Compound verbs may be somewhat less common than the others, but they are certainly not rare. One way in which Tsova-Tush differs from the other languages that have undergone these very common changes is that in Tsova-Tush all four have occurred. For this system to develop, it was, of course, essential that Tsova-Tush had agreement on verbs and on the verbs that became light verbs, then transitivity markers. I assume that it is entirely irrelevant that inherited agreement in Tsova-Tush happens to be class agreement, but in any case this in itself is not uncommon (the Bantu languages are probably most famous for it). It was also apparently essential that only some verbs in Tsova-Tush have agreement, and hence that the presence vs. absence of inherited class agreement has the potential of distinguishing one lexeme from another. This may be somewhat unusual, but the main thing that makes Tsova-Tush uncommon with respect to exuberant morphology is that it combines all these attributes and changes:

- fusion of light verbs as formants of transitive/intransitive structures
- fusion of a subject pronoun as an agreement affix
- fusion of an adverb as a locative preverb
- introduction of verb compounding
- fusion of an auxiliary as a marker of evidentiality
- inherited class agreement on some, but not all, basic verbs
- inherited class agreement on some light verbs
- inherited class agreement on an adverb/preverb.

Few languages have exuberant agreement because it is simply statistically improbable that many languages would combine all of these conditions and changes.

But couldn't exuberant exponence – two occurrences of the same morpheme – occur just through one of the five changes, without involving all five? This would seriously compromise the explanatory value of complexity and probability. It is true that one change, together with appropriate conditions, could give rise to two occurrences of the agreement marker. I have presented the full complexity of the Tsova-Tush case because its relevance to linguistic theory as a counterexample to Noyer's (1992) proposal is dependent on the fact that it exemplifies more than two realizations of the same feature. Consider further that a language with two instances of an agreement marker is somewhat unusual and requires one change, with appropriate conditions; while a language with three instances is considerably more unusual and requires two changes, with appropriate conditions; and a language such as Tsova-Tush, which can potentially take many morphemes realizing a single feature is very rare and requires many changes, also with certain conditions. Thus, the rarity of the phenomenon is in proportion to the number of change (and conditions) required to reach it, as would be predicted.

But it is lexical verbs that are shown in (25) to occur in minimal pairs, where the presence of the CM distinguishes one verb from another. Do light verbs also occur in minimal pairs, so that loss of the CM would confuse two light verbs? The light verb that forms transitives has no actual root (see examples (8) and (9) above); even as an independent verb, it consists only of the CM and tense-aspect-mood marking. If its CM had been lost, there would be no marker at all of transitivity. This is discussed in greater detail above in § 4.1.

But perhaps there are other pathways to exuberant agreement? In another language exuberant agreement might develop somewhat differently. Nevertheless, I submit that no simple pathway could produce exuberant agreement. As discussed above, only multiple instances of fusion or compounding will introduce multiple copies of agreement. While agreement on some but not all basic verbs may not be essential, it is likely that some other characteristic distinguishes between languages that develop exuberant agreement and other languages.

Crucial to the explanation above is the fact that some verbs in Tsova-Tush have agreement, while others lack it; and this in itself is rare. How did this arise? Cercvaže (1970) has pointed out that throughout the N-D family, agreement markers occur in word-initial position only with verbs whose stems begin with vowel. Although there is no consensus on the exact form of the agreement markers in Proto-Nakh-Dagestanian, they are uniformly reconstructed as consonants, generally of approximately the form of those in Tsova-Tush, *w-, *y- (or *r-), *b-, *d- (see for example Alekseev 1985, 1988, and Schulze 1992). Some languages, such as Lak, have agreement markers before consonants in word-internal position, but not in word-initial, e.g., *d-a-r-cuna* 'went', where both *d-* and *r-* are markers of class agreement. Cercvaže observes further that throughout the N-D family there is a phonotactic constraint against a cluster of consonants in word-initial position. While we cannot be certain of developments with

such time depth, it is likely that the use of agreement with only certain verbs is due to (i) this common phonotactic constraint, coupled with (ii) the fact that agreement markers were consonants and (iii) were prefixes, and (iv) the fact that some verbs were V-initial and others C-initial. These common conditions seem to explain the fact that some verbs agree in these languages, while others do not. And this, in turn, is a key to explaining the retention of exuberant agreement.

Notice that my explanation does not suffer from the drawback of the others described above. I have not claimed that any linguistic principle makes exuberant agreement uncommon, and therefore I have no need to explain why that principle is relaxed for Tsova-Tush.

I conclude that exuberant agreement is rare in part because the common changes and common conditions that lead to it are rare in combination – simply because of the low probability of any eight features being combined in one language.

5. Discussion: the wider implications of this explanation

It is not claimed here that the low probability of combinations of historical events and other factors explains all rare phenomena. In Harris (2005) and Harris (2007) it is argued that the same considerations account for the existence of three distinct case marking systems in Georgian, a situation identified only in languages of the Kartvelian family, as far as I am aware, and for the existence of endoclitics situated inside root morphemes in Udi, the only language for which such a system has been identified.

While the phenomena mentioned above are extremely rare, the same considerations, together with others, can account for the relative frequency of prefixes and suffixes, on the one hand, and the comparative rarity of infixes and circumfixes, on the other. We may assume that prefixes and suffixes develop in two changes, from independent words, via a clitic stage. It may be assumed that infixes develop from prefixes or suffixes through an additional step (cf. Yu 2003). Circumfixes, on the other hand, develop from a prefix (two steps) and a suffix (two additional steps) that become linked (a fifth step).

(27)	prefix	2 steps
	suffix	2 steps
	infix	3 steps
	circumfix	5 steps

Although (27) is perhaps over-simplified, it predicts that prefixes and suffixes will be equally widespread, infixes will be somewhat less common, and circumfixes will be considerably less common. Clearly one must take other factors into account also. One that is important is the fact that once an affix of any type is established, it sets a precedent in a particular language; it becomes part of system congruity, in the sense of Wurzel (1989), and we may then expect other tokens of this type to develop in this language. Another point of importance is that once an affix of any type is established in a language,

its daughters inherit the affix, and its type becomes part of the system congruity of the family or subgroup. An affix type established early in a very large family may be expected to be found today in a large number of languages, while a type established equally early in a very small family may be expected to be found in few. This also contributes to the large or small number of languages having affixes of any given type.

While this approach may not explain the rarity of all phenomena, it is based on a sound footing, simple probability. In contrast, other explanations proposed to date – innateness, functionality, ease of processing, ease of acquisition – are not so firmly based. (i) There is no direct evidence, only indirect, to indicate what information our innate endowment provides. For the most part, evidence that a specific structure functions poorly, or is difficult to acquire, or is difficult to process is also lacking.¹² (ii) The claim that a phenomenon is difficult to acquire, difficult to process, dysfunctional, or innate may be based on the fact that it is rare. Yet if this is offered as an explanation of its rarity, the reasoning is circular. (iii) Tsova-Tush has not been documented over a long period of time, but both Georgian and Udi have been, and it is known that the rare phenomena mentioned above from these languages have lasted for well over a millenium. It is not clear why such phenomena would demonstrate such longevity if they are contrary to our innate endowment, dysfunctional, difficult to acquire, or difficult to process. (iv) Finally, as mentioned above, it is not clear why rare phenomena should occur at all if they are to be explained in one of these four ways. On the other hand, the approach advocated here faces none of these problems. (i) Events are expected to be distributed according to probability. (ii) The reasoning here is not circular. (iii) It is not predicted that phenomena that require many steps or conditions to develop would disappear rapidly, and thus there is nothing to explain regarding the longevity of some rare phenomena. (iv) This approach explains why a rare phenomenon can occur.

6. Conclusions

In this chapter I have shown that ‘exuberant’ agreement – many instances of identical class-number agreement – may occur in the Tsova-Tush verb, together with a marker of person-number agreement. I have argued that this developed because the CM in Tsova-Tush, as in other N-D languages, is used with only some of the verbs of the language and thus helps to distinguish one verb from another. In the first instance, it was essential to maintain the CM on the grammaticalized light verbs as part of the identification of those verbs. Exuberant agreement is rare, it is argued here, because developing such a system requires many steps and conditions, and the probability of this combination of factors all falling together is low.

12. But there is evidence concerning acquisition of the rare three coexisting systems of case marking in Georgian, and the evidence indicates that it is not difficult to acquire (Imedadze & Tuite 1988).

While I have not claimed that the probability of the occurrence of events and conditions explains the rarity of all rare phenomena, I have argued that this approach does explain many such phenomena, and that it should be taken into account as one important element in explaining the distribution of types generally. I have tried, in addition, to cast doubt on innateness, functionality, ease of acquisition, and ease of processing as explanations for the distribution of language types.

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From resultatives to anteriors in Ancient Greek

On the role of paradigmaticity in semantic change

Dag Haug
University of Oslo

This chapter discusses the cross-linguistically common change from resultative to anterior and in particular the instantiation of this change in Ancient Greek. It is argued that the dynamics of the change was different from the oft-discussed, similar changes in the 'have'-perfect of Germanic and Romance, since pragmatic inferencing did not play any role. The Greek resultative, being from the start a part of the verbal system was much more influenced by paradigmatic relations than by syntagmatic relations, which are active in pragmatic inferencing.

1. Introduction

In this chapter, I will examine the semantic evolution of the Ancient Greek perfect, the most unstable of the verbal categories in this language. The path of change was correctly identified by Haspelmath (1992) as one from resultative to perfect/anterior semantics, a change which is found in many languages and is commonly considered to be a case of grammaticalization (Bybee and Dahl 1989: 68–70). Haspelmath's work was a clear improvement on previous studies which focused entirely on language-internal explanations (and even culturally motivated ones, see Rijksbaron 1984) without taking any account of cross-linguistic studies. Still, the study of a particular change is not exhausted by reference to the cross-linguistic type it belongs to. Indeed, one could argue with Joseph (2004: 51f.) that the focus on cross-linguistic change types such as grammaticalization can lead to a superficial treatment of the actual changes found in particular languages, because scholars automatically assume that these tokens conform to the cross-linguistic type. Research on how the types are instantiated in the history of languages is therefore likely to surprise us and offer insights into what drives language change. In particular the case study presented here demands a revision of the role of subjectification and invited inferencing (Traugott & Dasher 2005) in semantic change.

The tokens of the change type resultative > perfect/anterior that have been most extensively studied are the *have*-constructions of Germanic and Romance. But these constructions differ from what we find in Greek in crucial ways. First, the Germanic and Romance perfects originate as (and still are) periphrastic constructions, at start only loosely integrated in the verbal paradigm structure. Furthermore, the original *have*-construction is biclausal on most standard analyses – therefore, an important step in the evolution of the construction is the identification of the subject of the verb *to have* with the underlying agent of the participle:

- (1) *Habet dentes emptos*
 have-3.SG.PRES tooth-ACC.PL bought-PFCT.PART.ACC.PL
 ‘She has bought teeth (i.e., teeth that were bought)’

This sentence is formally ambiguous as to whether the possessor bought the teeth herself, whereas in the perfect construction *Elle a acheté des dents* this is no longer so.

In contrast with this, the Greek perfect, even in the earliest attested stages, is analytically formed and its construction is therefore obviously monoclausal. Furthermore, the early Greek perfect shows a clear preference for intransitive use, whereas such constructions are impossible in the early stages of the perfect in Romance. For example, a form like *bebe:ke* ‘has come’ (more on the exact semantic value later) is a fairly prototypical example of an early Greek perfect, whereas in the early stages of the Romance construction, the verb *uenire* ‘to come’ cannot occur, neither with *habere* or *esse* as an auxiliary, simply because being an intransitive verb, it does not form a participle.¹ This means that the origin of the Romance construction must be sought in transitive constructions, and that the extension to intransitive verbs must have come later whereas exactly the opposite holds for the Greek perfect.

It seems then that although the Germanic, the Romance and the Greek grams under discussion all undergo a semantic change from resultative to perfect/anterior, there are important dissimilarities to be kept in mind, which means that the changes possibly proceeded in different ways and were driven by different factors. These cross-linguistic differences are likely to be as instructive as the observable similarities.

1.1 A sketch of the Greek verbal system

A Greek verb has three different themes associated with different aspectual values: in traditional Greek grammars these are called the present stem, the aorist stem and the

1. The situation in Germanic seems to have been slightly different, since some intransitive verbs did form passive participles, as witnessed by archaic ablaut correspondences such as Gothic *qumans* = Old Norse *komenn* = Old English *cumenn* (but Old High German *queman*). There is uncertainty about the exact distribution of the participle in Proto-Germanic, but it was probably linked to aktionsart as stated by Dal (1966: 117): ‘Von den intransitiven Verben mit durativer Aktionsart wurde ursprünglich kein Part. Prät. gebildet (. . .)’.

perfect stem.² In some cases, we find suppletion as in the verb ‘to go’, present stem *erk^h-*, aorist stem *elt^h-* and perfect stem *ele: lut^h-*, but in most cases the themes belong to one and the same root, from which they are derived through more or less predictable processes. Sometimes these themes can be associated with different verbal prefixes: for example, the verb to die, *t^hne:sko:* almost invariably has a prefix *apo-* ‘away’ in the aorist, whereas the perfect is almost always unprefixes (Veitch 1871: 281). But in this article, I will abstract away from verbal prefixes, even in verbs which are rarely found as simples, such as *p^hth^heiro:* ‘to destroy’.

From the three verbal stems, Greek can form a past and a present³ indicative as well as a subjunctive, an optative and an imperative. Each form has two voices, active and middle, except the aorist which has three: active, middle and passive. Outside the aorist, the middle form can also be used as a passive, and as we will see, this is particularly frequent in the perfect. The system is not complete in that the aorist does not form a present tense and the non-indicative moods of the perfect stem are rare throughout the history of Greek. For our purposes, only the indicative forms are relevant:

Table 1. Indicative forms of the Greek verb

	Present		Past		
	Active	Middle	Active	Middle	Passive
Present	<i>grap^ho:</i>	<i>grap^homai</i>	<i>egrapp^hon</i>	<i>egrapp^home:n</i>	–
Aorist	–	–	<i>egrapsa</i>	<i>egrapsame:n</i>	<i>egrapp^he:n</i>
Perfect	<i>gegrapp^ha</i>	<i>gegrammai</i>	<i>egegrapp^hein</i>	<i>egegramme:n</i>	–

These are the forms that any Greek grammar is likely to present. The table is, however, an idealization even for the classical period of the language. This is particularly true for the perfect, since not all verbs form a perfect stem at all, and among those that do, many do not form all four possible combinations of tense and voice. Importantly, there is a complex interaction between tense and voice which changes throughout the Ancient Greek period, and which is often ignored in Greek grammars

1.2 Periods of the Greek language

The Greek language is first attested in the Mycenaean inscriptions of the Bronze Age (1400–1200 BC). However, the scanty nature of these sources, especially when it comes

2. A more appropriate terminology would be imperfective, perfective and perfect (or resultative) stem, but I will use the traditional terms here.

3. There is also a future, so that we do not have a past: non-past system. The future has an unstable position in the system throughout the history of Ancient Greek, being on the borderline between mood, tense and verbal theme. It is not directly relevant to our subject, and will be ignored here.

to finite verbs, does not allow us to draw a complete picture of the verbal system. Only from the Homeric epics (8th/7th century B.C.) do we have texts that are extensive enough to allow for a fairly complete description of the language. But to speak of Homeric Greek as a stage in the history of Greek is an idealization, since Homeric Greek is an artificial language which combines elements from different times and places (for the general problem, see Haug 2002). Therefore, several stages in the evolution of the perfect are likely to be present in Homer and we have to use comparative evidence to show which forms are the oldest. In this chapter I have left out much of this discussion, but have added references to Chantraine (1927) whose conclusions generally still hold on this matter. After Homer, the perfect goes through a morphological normalization down to the time of the early Attic writers in the 5th century B.C. The most important change in the semantics of the perfect happens later, in the early fourth century B.C. at least in Attic. As for what happened in the other dialects of Greek, we are poorly informed. For this reason, the post-Homeric data in this chapter are all from Attic, which I have divided into two periods, 5th and 4th century. The subsequent evolution in koiné (Common Greek) will not be touched upon.

2. Semantic change

The search for universal laws has had an immense appeal in historical linguistics since the days of the neo-grammarians. The most famous example is the concept of sound laws which put historical linguistics on a secure methodological footing in the late 19th century. This was such an astonishing success that it is easy to understand why scholars attempted to transfer the concept from phonology to other domains and propose laws of analogy and laws of semantic change.

Such efforts have had considerably less success than the sound laws. Well-known attempts to establish laws or at least tendencies of analogy, such as Kuryłowicz (1945–9) and Manczak (1958) are controversial at best, and it has been notoriously hard to find general principles of semantic change.

Lots of propositions have been made, however, and the problem – if it is one – was noticed by the neo-grammarians themselves. Paul (1920: 87–103) reckoned three principles were at work in semantic change: specialization (as when German *Schirm*, originally any kind of cover, comes to mean ‘umbrella’), restriction to a part of the original content (as when *fertig*, ‘ready for a journey (*Ferd*)’ comes to mean ‘ready (in any sense)’ and metonymy. The first two are, as Paul (1920: 91) acknowledges, obviously opposites.

In general, expositions of semantic changes looked more like taxonomies than universal laws with potential explanatory value. In Bréal (1897: 117) mention is made of both pejoration and melioration, both narrowing and broadening, but the author is not satisfied with the apparent potential bidirectionality of semantic change and tries to solve the problem by claiming that only narrowing of meaning is conditioned

by the fundamentals of language. Broadening of meaning is, he claims, due to ‘the events of history’: in the case of his example *praedium*, which changed in meaning from ‘mortgaged property’ to ‘any landed property’, he claims that the change resulted from a legal change.

The hypothesis that broadening of meaning is always caused by language external factors and narrowing by language internal ones is probably easy to falsify empirically. But there is a number of more interesting questions one could pose to this tradition of research. The most important one is why the potential bidirectionality of semantic change should be a problem at all. After all, no-one ever worried that there can be both monophthongization and diphthongization in the history of languages.

On the other hand, cognitive principles are more obviously involved in semantic change than in sound change (although this is less clear today than it was for the neogrammarians who regarded sound change as purely mechanic) and they could be expected to put stronger restrictions on semantic change than on sound change. And as unidirectionality of processes of change has become an important issue in grammaticalization theory, the search for principles of semantic change again attracts a number of scholars. The crucial role of pragmatics in semantic change has been recognized since the earliest work on implicatures, and Grice (1975: 58) suggested that ‘It may not be impossible for what starts life, so to speak, as a conversational implicature to become conventionalized’. Building on such insights, Traugott and Dasher (2002; second edition 2005) developed the Invited Inference Theory of Semantic Change (IITSC) which makes important unidirectionality claims.

2.1 The Invited Inference Theory of Semantic Change

IITSC relies crucially on a division between semantic and pragmatic meaning or coded meanings and utterance meanings. This division has been widely discussed and the boundary between semantics and pragmatics seems eternally subject to redrawing. Traugott and Dasher follow a (neo-)Gricean tradition according to which semantics deals with non-cancellable, context-invariant meanings. For example (Traugott/Dasher 2005: 12), ‘in Present Day English, in its function as a conjunction introducing finite clauses, *after* is used to mean “at a time later than,” but *since* has both the meanings “from the time that” and “because” - since *since* can sometimes have a non-cancellable causal interpretation as in

- (2) *Since you are not coming with me, I will have to go alone.*

In contrast with *since*, which has a semantic meaning of causality, *after* only implies causality. Such implications, inferences or pragmatic meanings can be cancelled in the context.

- (3) *After the trip to Minnesota she felt very tired.*

gives rise to the pragmatic inference that ‘because of the trip she felt very tired’, but this can be inference can be cancelled, as in

- (4) *After the trip to Minnesota she felt very tired. It turned out she had been sick for quite some time.*

Some such inferences arise on the fly in specific communicative situations and disappear again, whereas others become conventionalized as what Traugott and Dasher call generalized invited inferences.

In the neo-Gricean tradition, these inferences are seen as arising from the application of certain conversational maxims. According to Traugott & Dasher (2005: 19), following Horn (1984), the principle which is most operative in semantic change can be formulated ‘Say/write no more than you must, and mean more thereby.’ This principle leads to enriched meanings, as when in the above example (3), one makes the inference *post hoc, ergo propter hoc* (‘after this, therefore because of this’), or when “If p then q” gives rise to the inference ‘If not-p, then not-q.’⁴

According to the invited inference theory, semantic change proceeds by conventionalization of such implicatures, by which the inferences that can be made from the meaning of a particular form eventually become part of the meaning of that form. A well known example is the development of causal meaning in the originally temporal connective *since* mentioned above (Traugott & König 1991: 184–95; Bybee et al. 1994: 197). The original meaning is conserved in

- (5) *I have done quite a bit of writing since we last met.*

In the following example, the non-cancellable, semantic meaning is still temporal, but a causal inference is possible, because on this reading, the information that Susan left John becomes more relevant:

- (6) *Since Susan left him, John has been very miserable.*

Since the causal meaning is only pragmatic, it can be cancelled as in the follow-up:

- (7) *Since Susan left him, John has been very miserable. In fact, he has been miserable ever since he first met her.*

In (6), then, causality is an inference. However, English *since* can also have semantic, non-cancellable causal meaning as in (2) above. Leaving aside pragmatics, the two semantic meanings of *since* (temporal and causal) coexist in present day English. In other words, *since* has become polysemous. This is, as Traugott and Dasher observe, a general characteristic of semantic change: it proceeds along the path $A > A \sim B$ and then eventually further to B only, through loss of the old meaning A.

2.2 Subjectification

According to IITSC, then, semantic change occurs in language use. In any communicative situation, there are two parties active in constructing pragmatic meaning: the speaker

4. For example, ‘I will give you \$5 if you mow the lawn’ is likely to be interpreted ‘If and only if you mow the lawn will I give you \$5.’

implies more than he asserts and the hearer infers more than is asserted. But although both speaker and hearer participate in the speech event, the speaker has the central role and Traugott & Dasher (2005: 7) argues that a production-oriented view of language change is necessary – hence the term ‘invited inference’.⁵ The central role of the speaker is further reflected in the claim that ‘the major type of semantic change is subjectification’, i.e., semantic change leads to more subjectivity understood as explicit encoding of the speaker’s point of view for example in deixis, modality and marking of discourse strategies. This is what we see, for example, when Old English *mot-* (the root of Modern English *must*) goes from expressing ability/permission to encoding deontic modality and then finally epistemic modality, i.e., the speaker’s view of the proposition’s truth content.

The case studies that Traugott and Dasher present in favour of this view of change are interesting and convincing: English modal verbs, discourse adverbials and performatives and Japanese social deictics all seem to follow the path drawn up in the book.

However, they are all dealing with lexical items or items of relatively low grammaticality such as English modal verbs, as opposed to inflectionally expressed modality. In these cases, syntagmatic relationships – the relationships between a word and its surroundings – are crucially important, since what inferences a lexeme typically gives rise to will depend on what contexts it typically appears in. Still, Traugott and Dasher hypothesise that pragmatic inference lies at the heart of *all* semantic change. This suggests a unidirectionality constraint on semantic change: pragmatic meaning can become semantic meaning (i.e., it can become context-independent and non-cancellable), but the reverse does not occur.

While the theory has considerable merits in the case of semantic change in items of low grammaticality, it is not obviously clear that the claim to universality holds. In particular, I will argue that as lexemes or grams become more grammaticalized and are integrated into paradigm structures, paradigmatic relations – the relationship between a word form and other word forms that could replace it – increase in importance to the point that they can be more significant than syntagmatic relations in determining the course of eventual semantic change.

3. The resultative and the Anterior (a.k.a. the perfect): terminology, semantics and typology

The field of tense and aspect is a notorious terminological quagmire. This is not the place to solve the problem, but it is necessary to be explicit about ones terms and definitions to avoid misunderstandings.

5. As opposed to only ‘inference’ which is used by Bybee et al. (1994: 285) according to whom ‘it appears to be the hearer-based strategy and the speaker’s sensitivity to the hearer’s need that conditions the semantic changes in question.’

Regarding the *Resultative*, I follow the definition by Nedjalkov (1988: 6): ‘The term resultative is applied to those verb forms that express a state implying a previous event.’ Furthermore, a distinction is made between subject and object resultatives according to whether ‘the underlying subject of the state in a resultative construction [is] co-referential with [. . .] the underlying subject or the object of the previous action.’ So the following Russian construction with a past passive participle is an object resultative:

- (8) *Na stene povešena kartina*
 On wall hang-PPP picture
 ‘A picture is hung on the wall’

since the subject *kartina* would be the object of a past event expressed by the verb *povesit*. On the other hand *zaržavlen* ‘is rusty’ from *zaržavet* ‘to get rusty’ is a subject resultative (Nedjalkov 1988: 344).⁶

Furthermore, I shall use the term *Anterior* to refer to the cross-linguistic gram most commonly known as the perfect. There are several reasons for this: first, this terminology prevents any confusion with perfective aspect. Second, it leaves the traditional term *perfect* free to be used for that language-specific sign of Ancient Greek which undergoes semantic change (from Resultative to an Anterior), syntactic change (loss of restrictions on transitivity) and morphological change (creation of a diathesis opposition), but which keeps some kind of transtemporal identity, just like a lexical etymon, say Latin *caput* ‘head’, and its later manifestation in French *chef* ‘leader’ are in some sense ‘the same word’ although both form and content have changed. Just as for the Ancient Greek perfect, I will use ‘perfect’ for other language-specific constructions such as *have/be* + participle which are or become instantiations of the cross-linguistic gram Anterior.

Linguists have, since McCawley (1971), acknowledged the following meanings of the Anterior (in the terminology of Comrie 1976):

- Result: *Bill has gone to America*
- Experiential: *Bill has been to America*
- Persistence: *We have lived here for ten years*
- Recent past: *Bill has just arrived*

6. Although I will occasionally use this terminology, I doubt that it is useful to see a semantic distinction on the basis of syntactic relations: from the point of view of semantics, the important thing is that the resultative denotes a state of the *theme* of the event, whether this is expressed as a subject or an object. Agents, on the other hand, do not undergo a change of state. Thus, subject resultatives from transitive verbs are only possible when the subject has theme-like properties such as in perception verbs like (*w*)*oida* ‘know’ from the root **weid-* ‘see, get to know’.

All these meanings of the Anterior are associated with dedicated grams in some languages:

- RESultative (Chinese) *Yugan wan-zhe*
fishing rod bent-RES
'The fishing rod is bent'
- EXPeriential (Chinese) *Wo shuaiduan-guo tui*
I break-EXP leg
'I have broken my leg' (It has healed since)
- PRESent (French) *Je vis ici depuis dix ans*
I live here since ten years
- HODiernal pasts (French) *J'ay écrit* (according to Arnault/Lancelot
1660: 109)

Cross-linguistically, however, the Resultative, the Experiential, the Present and the Hodiernal/Recent past very often have a common expression, something which allows us to infer the existence of a common vague gram which I will refer to here as Anterior. In Haspelmath et al. (2005: 271), the combination of resultative and experiential use is considered the defining feature of this gram: persistence and recent past are less universal and will be ignored below.

It is important in this connection to note that in the opinion of most semanticists today, the semantics of the Anterior is vague and not ambiguous between resultative and experiential use. The English perfect is a possible translation of both Chinese sentences above because it has underspecified semantics and not because there is a covert distinction between resultative and experiential in English. There have been several attempts at giving such a unified, underspecified semantics for the Anterior: some argue that it states the current relevance of a past event; others hold that it has a purely temporal semantics, referring either to an indefinite past or to an extended now. For our purposes, we can ignore this debate and only retain the fact that in all current theories, the perfect does have a single, underspecified meaning. To see what this means, consider the sentence:

(9) *John has disappeared.*

This will often have a resultative reading. But the Anterior construction does not directly encode resultativity; rather, this is a pragmatically enriched interpretation of the truth conditional content which is either *a*) a disappearance event by John is currently relevant, or *b*) a disappearance event by John happened in the indefinite past, or *c*) a disappearance event by John happened in the extended now – depending on your favored semantic theory. The Anterior never actually has the *semantic meaning* (as defined above) of a Resultative or an Experiential, but it can take on this *utterance meaning* in certain contexts. *John has died* would in the context of normal world knowledge often invite the resultative inference that *John is dead*, but as we see from

the sentence (*for if we believe that*) *Jesus has died and risen again* (1st Thessalonians 4: 14, quoted from The NET Bible, www.bible.org) this is not, strictly speaking, the semantic meaning of ‘has died’.⁷

Having now defined the grams Resultative and Anterior, we note some properties that keep them apart (see Bybee and Dahl 1989: 68–9):

- Resultatives directly encode resultativity; Anteriors need not imply resultativity at all (*Mary has danced*), but they can in certain context give rise to a resultative inference.
- Therefore, Resultatives are lexically restricted to verbs with defined resultant state, whereas Anteriors can in general be formed from any verbs.
- Resultatives and Anteriors differ in how they combine with certain temporal adverbs. *Still*, which modifies states is felicitous with Resultatives (unless they express irreversible states) – *he is still gone* – but not with Anteriors – **he has still gone*. This is important since it shows that the possible contexts for a Resultative is not merely a subset of the possible contexts for an Anterior (Bybee and Dahl 1989: 69).
- Anteriors usually do not have any affect on the valency of a verb, whereas typically Resultatives are valency-changing and/or part of the voice system.

4. IITSC and the change type: RESULTATIVE to ANTERIOR

Now if inferences tend to become conventionalized and part of semantic meaning, we would expect Anteriors, which invite the inference that the resultant state holds, to become Resultatives, which entail that the resultant state holds. If *I have broken my leg* generally invites the inference that my leg is broken, IITSC would predict that it should come to mean that. But actually, the opposite happened: the perfect derives from a construction which entailed that the leg is still broken, but this entailment was weakened to an implicature – witness *I have broken my leg on several occasions*.

Furthermore, this weakening of a resultative entailment to an inference is a cross-linguistically common evolution and Resultatives appear to be a major source for Anteriors (Bybee et al. 1994: 68). At first sight, it is hard to think of how this can be accounted for in a theory based on strengthening of implicatures.

Still, pragmatic inferencing can have played a role in the development from a biclausal to a monoclausal structure that I briefly touched upon in the introduction: the crucial step here is the identification of the subject of the main verb *have* with the underlying agent of the participle. In some contexts, this is an almost unavoidable inference

7. In all fairness I should note that most translations of the Bible seem to have *that Jesus died and rose again*, suggesting perhaps that for many speakers of English, the perfect of the verb *to die* actually has the semantic meaning of a resultative – which may have arisen through conventionalization of an implicature valid in most contexts.

(*hoc cognitum habeo* – I have this realized) or at least a very likely inference (*litteras scriptas habeo* – I have a written letter) and we may surmise that it was conventionalized there and then spread to other contexts such as *litteras amissas habeo* ‘I have a lost letter’ where the identification would originally be less likely. Note that the original inference would be due to *syntagmatic* relations between *habeo* and *scriptas* and similar verbs whose semantics makes the identification of subject of the main verb and underlying subject of the participle likely. The spread to contexts where such identification is not likely would, however, be caused by *paradigmatic* relations between different realizations of the construction *habere* + perfect participle.

Once the construction is fully grammaticalized as an Anterior participating in the Romance verbal system, paradigmatic relations with the other tenses become even more important. For example, the semantic evolution of the French *passé composé* to a simple past quite obviously has something to do with its paradigmatic relations with the disappearing *passé simple*. On the other hand, pragmatic inference probably plays no role at all. In the case of category loss such as in French, this is particularly evident, but in the following I will try to show that paradigmatic relations can influence semantic evolution also in other ways.

The scenario sketched here leaves room for inferencing in the early stages of the evolution Resultative > Anterior, even though the final result of the change is a weakening of core semantic meaning to implicature. In fact, inferencing is the bridge from a biclausal to a monoclausal construction. And as a biclausal construction, *habere* + participle is not even an individual gram whose semantic evolution can be studied in a meaningful way: its semantic and syntactic properties are simply derived compositionally from its parts. Therefore inference may have played an important part in the early stages of the have-perfect. However, in the case of the Greek perfect, it is hard to see that inferencing played any role at all, as we shall now see.

5. The Greek Perfect

The basic philological study of this change is Chantraine (1927) where much more data can be found. Closer semantic analyses than I can present here are found in Gerö/ Stechow (2003) and Haug (2004).

5.1 The oldest stage (Homer, ca. 750 BC) and before

Homeric Greek already has all the four forms of the perfect: perfect active and middle, pluperfect active and middle. Still, diathesis oppositions are very rare, because most verbs form only one voice of each tense: there are very few cases where we do find both an active and a middle of the same perfect or pluperfect, and when it happens, one of the forms can be shown to belong to the most recent layer of the Homeric language (Chantraine 1927: 21–22); these cases announce the transition to the Classical system

were diathesis oppositions are normal, as we will see. The normal situation in Homer, however, is that active and middle are in complementary distribution: the perfect of a single verb is either active or middle, and the same holds for the pluperfect. One verb can have an active perfect and an active pluperfect; or an active perfect and a middle pluperfect; or a middle perfect and a middle pluperfect; the combination of a perfect middle and a pluperfect active is very rare.

This is not the original state of affairs, as we can see from comparative evidence. Only the perfect active forms are original: the other forms are secondary enlargements of the perfect system through use of verbal morphology which originally belonged elsewhere. This was easy to do since outside the perfect stem, Greek expressed tense and diathesis by personal endings which could easily be transferred to the perfect:⁸

Table 2. Greek verbal endings - athematic indicative

	Present		Past		Perfect
	Active	Middle	Active	Middle	'Active'
1. SG.	-mi	-mai	-n	-me:n	-a
2. SG.	-s	-sai	-s	-so	-as
3. SG.	-si	-tai	-Ø	-to	-e
1. PL.	-men	-met ^h a	-men	-met ^h a	-amen
2. PL.	-te	-st ^h e	-te	-st ^h e	-ate
3. PL.	-a:si	-ntai	-san	-nto	-asi

Originally, the perfect stem could only take the endings in the rightmost column, and therefore the perfect was outside the normal tense/diathesis system. Only the form which is later called the perfect active, *gegrap^ha* in table 1, is original, the rest being the results of secondary extensions of the general tense/diathesis system to the perfect stem. The creation of a perfect middle voice was relatively unproblematic since the present and past middle endings could easily be attached to the perfect stem. In the active past, new endings were created, probably for phonological reasons.⁹ Through these innovations, the perfect stem was made similar to the other stems of the Greek verbal system in having four tense/voice forms.

Although the morphological expansion of the diathesis system has already happened in Homeric Greek, there are, as already noted, very few cases in which an active and a

8. The table only gives the so-called athematic endings formed without a theme vowel. Although these are not the most frequent ones in Greek, they are the ones which influenced the perfect.

9. The origin of these endings are not directly relevant here; see Berg (1977).

middle stand in opposition to each other. This has two important consequences: first, that we have a crucial intermediate stage between the original stage where the perfect stem had only one set of endings and the later system with four sets. We can therefore to some extent see how the extension happened. Second, since there are very few diathesis oppositions in Homeric Greek, the value of the old forms in the system has not changed, but conserve original syntax and semantics quite well, as the comparative IE perspective also tell us.

So let us start our study of the Homeric perfect with these old forms. We will see that although this form lacked overt expression of diathesis, it obviously did interact with the argument structure of the verb - something which is a general feature of Resultatives, as noted above. It is therefore useful to present the perfect forms in four classes according to the syntactic and semantic properties of the present and aorist stem: intransitive actives; transitive actives with theme-like subject (typically perception verbs); intransitive middles (deponents); and 'normal' transitive verbs (with theme-like objects):

Table 3. Class I – Intransitive active present; intransitive active perfect

Present	Perfect
<i>baino</i> : 'I go'	<i>bebe: ka</i> 'I have gone, am at a certain place'
<i>t^hne:sko</i> : 'I die'	<i>tet^hne: ka</i> 'I am dead'
<i>p^heugo</i> : 'I flee'	<i>pep^heuga</i> 'I have fled, am secure'

Table 4. Class II – Transitive active present with theme-like subject; active perfect

Present/aorist	Perfect
<i>edeisa</i> 'I got afraid'	<i>deido</i> : 'I am afraid'
<i>eidon</i> 'I saw'	<i>oida</i> 'I know' ¹⁰
<i>meiromai</i> 'I receive'	<i>emmore</i> 'he has got'*

*Only 3.sg forms are found.

Table 5. Class III – Middle-only present (deponents); active perfect

Present	Perfect
<i>gignomai</i> 'I become'	<i>gegona</i> 'I am'
<i>paroik^homai</i> 'I approach'	<i>paroik^ho:ka</i> 'I am here'

10. Synchronically in Greek, *eidon* and *oida* do not belong to the same paradigm. But they do belong to the same verbal root and I mention the example here, since it shows that type IV is old, *oida* having correspondences in most IE languages.

Table 6. Class IV – Transitive active present and intransitive middle present:

A. Active perfect		
Present active	Present middle	Perfect active
<i>iste:mi</i> ‘I make to stand’	<i>istamai</i> ‘I place myself’	<i>heste:ka</i> ‘I stand’
<i>ollumi</i> ‘I destroy’	<i>ollumai</i> ‘I perish’	<i>olo:la</i> ‘I am destroyed’
<i>(se:po:)</i> ‘I make rotten’	<i>se:pomai</i> ‘I rot’	<i>sese:pa</i> ‘I am rotten’
B. Middle perfect		
Present active	Present middle	Perfect middle
<i>demo:</i> ‘I build’	<i>demetai</i> ‘It is being built’	<i>dedme:tai</i> ‘It is built’
<i>luo:</i> ‘I release’	<i>luomai</i> ‘I am being released’	<i>lelutai</i> ‘I am released, free’

We see from this table that the perfect denotes a resultant state of the event’s affected participant (theme), whether this is the subject or the object. In I and II, this means that the perfect patterns with the active, since these verbs are intransitives or transitives with a theme-like subject. When the verb is deponent (class III), the active perfect patterns with the middle. The most interesting class is IV, the normal transitive verbs (with theme-like object). In this class, the perfect typically patterns with the middle. For example, the subject of *olo:la* ‘am destroyed’ is the same participant as the subject of the present middle *ollumai* ‘perish’ – but it corresponds to the object of the present active *ollumi* ‘destroy’.

Generally in class IV, the present middle and the perfect has quite similar semantics; although the present focuses on the action and the perfect on the resultant state, they both describe the situation from the same perspective regarding the participant roles. And this patterning of the perfect and the middle gives rise to instability: Since the perfect, although not participating in a diathesis opposition at this stage, has endings that have morphological affinities with the active rather than with the middle, the perfect appears as the only formally active part of a paradigm where the present and has middle forms and the aorist (not shown in the above examples) passive forms.¹¹ In some cases, namely the verbs in class IVb, this had led to the creation of a medial perfect. This must be due to a tendency to normalize the morphological expression of diathesis: since the perfect patterns semantically with the present and aorist *middle* and not the active, it gets middle voice morphology. In other words, the pattern in class IVB is a secondary regularization of the pattern found in class IVA.

5.2 The creation of a past perfect

Already in the Homeric language the Greek present perfect has a past beside it, but comparative evidence shows clearly that this is more recent development. The past

11. Recall that only the aorist and not the present has a separate passive form.

perfect, or pluperfect as it is commonly known, also has two voices. But again, there are no diathesis oppositions: not a single verb in Homer has both an active and a middle pluperfect. This raises an interesting question: when the Greeks made up a past tense to their old perfect, why did they make two forms with different voice morphology?

A full answer will have to await a detailed study on the pluperfect middle in Homer, but some preliminary suggestions can be made here. We find in Homer verbs with active perfect and active pluperfect; or with middle perfect and middle pluperfect. This is what we would expect: the same diathesis is used in both the perfect and the pluperfect. The combination of a middle perfect and an active pluperfect does not seem to occur, but we do find an interesting group of verbs with active perfect and middle pluperfect:

Table 7. Verbs with diathesis alternation between the perfect and the pluperfect

<i>Active perfect</i>	<i>Middle pluperfect</i>
<i>ere:ripen</i> 'lays in ruins'	<i>ereripto</i> 'lay in ruins'
<i>eoike</i> 'resembles'	<i>eikto</i> 'resembled' (from a verb 'make similar')
<i>emmore</i> 'has a share in'	<i>eimarto</i> 'had a share in' (from a verb 'get a share in')
<i>ep^hth^{ore}</i> 'is destroyed'	<i>ep^hth^{arto}</i> 'was destroyed'

All these verbs belong to class IVa. As we have seen, such verbs tend to move into class IV b and form a middle perfect. The class of verbs where the pluperfect has middle endings and the perfect active ones may represent an old transitional stage and suggest that the middle endings entered the perfect from the pluperfect. The use of middle endings there can have phonological reasons (Chantraine 1927: 57), but possibly also reflects the semantic affinity with the middle. Later, then, the perfect and the pluperfect were brought into line with each other, by making them both active or both middle, but the reasons behind the choice will need further study.

5.3 From Homer to Old Attic Greek (5th century BC)

In Homer then, we found three possible combinations of the perfect and the pluperfect. Most verbs of class I and II have both an active perfect and an active pluperfect:

Table 8.

	<i>Pres.</i>	<i>Perfect</i>	<i>Pluperfect</i>
Act	<i>baino:</i> 'go'	<i>bebe:ka</i> 'have come, am'	<i>bebe:kei</i> 'had come, was'

Verbs of class IVb have only middle forms:

Table 9.

	Pres.	Perfect	Pluperfect
Act	<i>demo:</i> 'build'	–	–
Mid	<i>demetai</i> 'is being built'	<i>dedme:tai</i> 'is built'	<i>dedme:to</i> 'was built'

The verbs of class IVa, however, give an impression of diathesis alternation or mismatch between the active morphology and the middle semantics of the verb, whether both the perfect and the pluperfect is active, or only the perfect:

Table 10.

	Pres.	Perfect	Pluperfect
Act	<i>p^ht^hairo:</i> 'destroy'	<i>ep^ht^hora</i> 'am destroyed'	–
Mid	<i>p^ht^heiromai</i> 'be destroyed'	–	<i>ep^ht^harto</i> 'was destroyed'

Table 11.

	Pres.	Perfect	Pluperfect
Act	<i>peit^ho:</i> 'persuade'	<i>pepoit^ha</i> 'obey'	<i>pepoit^hein</i> 'obeyed'
Mid	<i>peit^homai</i> 'am being persuaded'		

What happens from Homer to Old Attic is basically a normalization of the valency pattern of the perfect. This means that the types *p^ht^hairo:* and *peit^ho:* become very rare; instead, new middle perfects are created. By the 5th century almost all transitive verbs (except those with theme-like subject) form middle perfects and pluperfects. Only the types *baino:* and *demo:* remain productive. Forms like *ep^ht^hora* 'am destroyed' with active morphology and middle semantics are replaced with *ep^ht^harmai* with middle morphology, though some irregularities persist, sometimes alongside the new forms: *pepoit^ha* 'I trust' continues to be used alongside the new and regular *pepeismai* of the same meaning. The irregular form even becomes more frequent in later Greek (Veitch 1871: s.v. *peit^ho:*) when the perfect as a category is disappearing – a sure sign that it was no longer linked to the verbal paradigm.

So, from the fifth century, transitive verbs normally form both the present and the past perfect with middle endings, and this is concordant with the fact that they express

a state of the object. Semantically the category is still a Resultative and not an Anterior, as can be seen f.ex. from its compatibility with the adverb *eti* ‘still’:

- (10) *kai mek^hri toude eti anôikismenoi eisin* (Thucydides I.7):
 and until this still build-inland_{3.PLPFCT.MID}
 ‘And still today [these cities] lie inland’

A further testimony to the resultative semantics of the perfect at this stage is the restriction to telic verbs with clearly defined resultant states. It cannot be used to express current relevance in a loose sense. This is clear from the following example (Thucydides VI.38), where the obvious emphasis on current relevance demands an perfect in the English translation, whereas Greek uses the aorist:

- (11) *kai dêta, ho pollakis eskepsamên, ti kai boulesthe?*
 and after all, what often wonder_{1.SG.AOR} what and want_{2.PL.PRES}
 ‘And after all, as I have often wondered, what would you have?’

Current relevance is obviously not enough to trigger the use of the perfect in 5th century Greek; reference to a current resultant state is necessary.

5.4 4th Century Attic

By the 5th century, then, there are no longer arbitrary diathesis alternations in the perfect system: verbs with a theme-like object (i.e., most transitive verbs) form both the present and the past perfect with middle endings, i.e., the promotion of the object is morphologically marked. Verbs with a theme-like subject (intransitives and some transitives like perception verbs) form the present and the past perfect with active endings. Diathesis oppositions are still rare.

What we have described up to now are therefore purely morphological changes: as we saw at the end of the last section, the perfect is still a Resultative in Old Attic. The driving force behind the change seems to be a desire to bring the valency pattern of the perfect in line with that of the other tenses: in other words, we have to do with analogical influence from the other tenses on the perfect - made possible, of course, by the paradigmatic relations between the perfect tense and the other tenses: when the subject of the perfect is the same event participant that would be the subject of a present middle, the perfect also gets middle endings.

But although these changes are purely morphological, they carry the seeds of a future semantic change: When it is possible to make both active and middle perfects, although generally not from the same verb, the next step is to make both an active and a middle perfect from one and the same verb. This is only possible if the semantics of the category perfect change, and as we will see, that is what happened.

Consider the verb *p^ht^heiros*: ‘I destroy’, middle *p^ht^heiromai* ‘I am being destroyed’ (table 10 above). In Homer, it has an active perfect *ep^ht^hora* ‘I am destroyed’. The semantics of the perfect correspond to the middle present, so *ep^ht^hora* is supplanted by

the middle perfect *ep^ht^harmai* ‘I am destroyed’. This is a crucial step, because it means that there are now both an active perfect and a middle perfect: through this opposition the value of the active form *ep^ht^hora* changes and it comes to mean ‘have destroyed’ in 5th-century Attic (see Veitch 1871: 602); later this old form is supplanted by another active perfect *ep^ht^harka*, also with the meaning ‘have destroyed’.¹² But the agent of the event of destroying is not at all a participant in the resultant state of this event; only the theme is. Therefore, the perfect *ep^ht^harka* cannot refer to a resultant state at all, but only to a more loosely defined state of current relevance.

Perfects such as *ep^ht^harka*, active and in opposition to a corresponding middle form, are found in the fifth century but become particularly frequent from the fourth century onwards. In the same period we begin to find perfects from atelic verbs, such as in the following example (Lysias 25.12.5)

- (12) *pollas* *naumakhias* *huper aute:s* *nenaumakhe:ko:s*
 many_{ACC.PL} seabattles_{ACC.PL} on-her-behalf fight-on-sea_{PEFCT.PTC.ACT}
 ‘having fought many seabattles on her behalf’

The expansion of the category perfect to verbs and voices where it cannot express resultant state means that these new forms get Anterior-like semantics: they are simply not interpretable as Resultatives. Still, the old forms seem to keep their resultative semantics, as I have argued elsewhere (Haug 2004: 409). This means that the category does not have a unified semantics in fourth century Greek; even in the Gospels many of the old perfects have kept their resultative semantics according to Chantraine (1927: 233) and it is actually unclear whether Anterior semantics is generalized to all verbs before the category disappears; further studies into later Greek are needed to answer this question.

But at any rate, we can conclude that the appearance of Anterior semantics of the perfect is due to the generalization of this verbal category to verbs and voices that are incompatible with the original semantics. Again, paradigmatic relations are crucial: this time not between different tenses of one verb, but between the different voices: when the middle has a perfect, the active should have one too. When telic verbs have perfects, atelic verbs should have one too. Or so the speakers of Ancient Greek seem to have thought.

6. Conclusion

The change that we have seen in Greek involves a semantic change from resultative to anterior semantics as well as a change in diathesis: *ep^ht^hora* goes from meaning ‘I am destroyed’ to ‘I have destroyed’. The conditioning factor behind this change is not any

12. After the creation of the new active perfect *ep^ht^harka*, the old middle voice meaning of *ep^ht^hora* is revived as an archaism.

pragmatic inference, but simply the creation of a middle perfect *ep^htharmai* which covers the old meaning 'I am destroyed'. Although the evolution from Resultative to Anterior is a semantic change – and a grammaticalization in the sense that the new meaning of the morpheme is more general and able to combine with all verbs – conventionalization of inference plays no role, contrary to the predictions of IITSC. Other syntagmatic relations within the sentence also do not seem to interfere. Rather, the tendency towards integration of a verbal category into the verbal paradigm is the driving force. Something similar can be seen in the later stages of the evolution of the have-perfect in Germanic and Romance, when new participles are made from intransitive verbs, to make it possible to form a have-perfect to them: the driving force is the generalization of the perfect category: 'Partizipformen wie *geschlafen, gestanden, gelaufen* usw. sind erst nach der Ausbildung der zusammengesetzten Verbalformen als Analogiebildungen entstanden' (Dal 1966: 117). In the Romance and Germanic evolution, there are two stages: a syntactic and semantic reanalysis which happened in certain contexts and thus was conditioned by syntagmatic relations; this reanalysis created a single gram from what was originally a combination of two grams with compositional semantics. Thereafter, this construction was analogically extended to other contexts, an evolution conditioned by paradigmatic relations.

But in the Greek case, even the original semantic change seems to have been caused by paradigmatic relations. Why is this so? I would like to suggest that the reason is that the Greek perfect, even in its oldest stages when it clearly has resultative semantics, is an analytic form which belongs within the verbal paradigm – it is a gram in its own right, something the original construction *have* + participle before reanalysis was not.

It seems then, that invited inference and subjectification may be more important at earlier stages of grammaticalization, that it is more operative in the semantic change of lexical items than in that of grams. Grams that are obligatory expressions of certain semantic traits will be influenced by other grams expressing related traits. And this can lead to semantic changes that involve weakening of entailments to implicatures, and even to loss of subjectivity.

As a case of the last phenomenon, consider the later evolution of the periphrastic perfect in French. As the *passé simple* disappears, the *passé composé* has become a general perfective past tense. This evolution involves a loss of subjectivity since a *passé composé* like *Jean a lu le livre* was earlier used not only to signal that the speaker placed a complete event of Jean's reading the book in the past, but also that he viewed this past event as currently relevant; as a perfective past, it only serves to place the complete event in the past. As noted in the introduction, the evolution seems driven by the paradigmatic relations between the *passé composé* and the disappearing *passé simple*.

In conclusion, then, it seems that the proposal in Traugott/Dasher (2005: 279) that 'the main mechanism of semantic change is subjectification' only holds for items of low grammaticality. In the semantic change of grammatical morphemes, other factors, and notably paradigmatic influence, seem to be at work.

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Lexical nonsense and morphological sense

On the real importance of ‘folk etymology’ and related phenomena for historical linguists

Martin Maiden
University of Oxford

Arguments for separation of morphological structure from semantic content are widely accepted, but they prompt the question ‘What, if any, is the role played in language change by purely morphological structure, in abstraction from lexical or grammatical meaning?’ Recent work by Maiden shows that elements of word structure indeed have significant diachronic consequences, independently of any such meaning.

This chapter examines diachronic evidence for the view that ‘lexical formative’, independently of lexical content, has a similar status. This is revealed by close analysis of so-called ‘folk etymology’ and of various other types of apparently lexical change. I tentatively suggest that the autonomously morphological status of lexical formatives plays an unsuspectedly major role in lexical change generally, and that accordingly, contrary to a widely held view, it may not be the case that not all languages ‘have morphology’.

1. Morphological structure and morphological meaning

One of the benefits of ‘separationist’ approaches to morphology,¹ with their acceptance of a pervasive lack of isomorphism between the meaning of a word-form, on the

1. In discussion of this chapter Henning Andersen objected to my recurrent description of such phenomena as ‘morphological’. One could, if one wished, describe the type of phenomena in which I am interested as a matter of ‘expression form’, leaving ‘morphology’ just for those elements of word structure to which a meaning can be transparently assigned. This would of course imply that many of the most important contributions to morphological theory of the past forty years, in the ‘Word and Paradigm’ tradition, are not about morphology. I submit that the ‘morphology’ encompasses the relation between the inner structure of word-forms and the meanings expressed by them, including where that relation may be nil or not expressible in terms of a coherent set of semantic or grammatical features.

one hand, and its inner morphological structure, on the other, is that they stimulate exploration of purely morphological structure, abstracting away from lexical or grammatical meaning and, indeed, from phonological form. A case in point is Aronoff's identification (e.g., 1994) of what he terms a 'morphomic level' – defined as an autonomous level mediating between morphosyntax and phonological realization, perhaps the most striking examples of which are paradigmatic 'morphemes'. These take the form of autonomously morphological distributional regularities in inflectional paradigms, involving irreducibly heterogeneous agglomerations of paradigmatic cells which lack any common denominator, and are not synchronically anchored in, or derivable from, any extramorphological (grammatical, phonological) factors (see also Booij 1998; Pirrelli 2000; Stump 2001). One simple example of a 'morpheme', given by Aronoff, is the English past participle, which embraces a phonologically heterogeneous array of forms (*opened, sung, brought, eaten, broken, set, lost, sold, stolen* etc.), and also quite disparate functions, namely the formation of passives and the formation of perfects. Indeed it is a wholly exceptionless observation about English that the verb-form (whatever it may be) used in the perfect is always identical to that used in the passive, and vice versa. Thus not only *I have brought / found / eaten / lost / sold / stolen the food*, but also *The food is brought / found / eaten / lost / sold / stolen*.

Might morphemes in fact be no more than the accidental residue – noticed by linguists but not by speakers – of earlier *états de langue* in which they really were functionally or phonologically motivated? In Maiden (2000; 2001a) I dispel such suspicions by showing (with evidence from the Romance verb) that morphemes can play a determining role in morphological change, and are therefore 'psychologically real' for speakers. Particularly, morphemes may resist changes liable to destroy the integrity of their distributional pattern (so that innovations affecting any one member of the specified set of cells invariably affect all the others in the same way), and they can be subject to a kind of 'analogical levelling', such that they tend to acquire common distinctive phonological properties over time (for example, in the history of Spanish, the high vowels characteristic of a subset of lexical roots associated with a particular morpheme eventually spread to all roots associated with that morphomic distribution). I analysed this diachronically unitary, 'coherent' and 'convergent', behaviour, as a manifestation of the familiar principle of 'one meaning - one form', except that here the 'signatum', is a purely morphological entity – the morpheme itself.²

In recent studies (Maiden 1999a; 1999b; 2001b; 2004c; also 2004a and 2005), I have explored from a diachronic perspective the 'morphomic' status of the linear components of the structure of word-forms. In particular, I have found evidence that the simple fact

2. Cameron-Faulkner & Carstairs-McCarthy (2000) provide further evidence of autonomously morphological signata. The notion of 'intramorphological signata' may seem to contradict Aronoff's description (1994: 47) of 'pure morphology' as 'form without meaning', but it is clear that he is alluding to absence of referential or grammatical meaning.

of being a ‘derivational affix’, or even an ‘augment’ (a piece of referentially and functionally ‘empty’ morphological material obligatorily intercalated, in certain paradigmatic cells of Romance verbs, between the lexical root and the inflectional ending, such as the *-isc-* of Italian *finisce* ‘he ends’), can constitute a ‘signatum’.³ For example, and as argued in detail in Maiden (2004c), the ‘augments’ (whose forms may differ entirely according to conjugational class) behave as diachronic ‘sames’, being subject to analogical levelings (such that the augments of one conjugational class simply replace, wholesale, those of another), and reacting in a unified fashion in respect of certain changes: for example, the augment appears among lists otherwise comprising only lexemes, as an entity subject to, or exempt from, certain lexically sporadic phonological and morphological changes. This unified behaviour despite disparate phonological manifestations, and lack of lexical or functional meaning, together with the fact that in some respects augments seem to have the same autonomous status as lexemes, invites the conclusion that the very fact of being an augment, an entity intercalated between lexical stem and inflectional ending, is in itself a signatum.⁴

It might be objected (as does Henning Andersen – personal communication) that in Peircean terms ‘signatum’ is not available for ‘the fact of being a signans’, but must mean ‘meaning’ or ‘content’. But it is precisely my contention that it is part of the ‘information content’ (for the term, see Carstairs-McCarthy 1994) of, say, *dog*, that it is a lexical signans of English. In any case, the use of the term ‘signatum’ to refer to entities that lie outside conventional lexical or grammatical meaning seems to me entirely appropriate, indeed necessary, as when, for example, Cameron-Faulkner & Carstairs-McCarthy (2000), show that the distribution of inflectional endings in Polish nouns cannot be adequately stated unless, alongside and among the conventional ‘grammatical’ signata of those endings, one includes the autonomously morphological fact of the presence vs. absence of allomorphy in the root. So I maintain the term ‘signatum’, while recognizing that my use of it may not be universally accepted.

3. These are what Rudes (1980) describes as ‘meaningless, functionless residues’, ‘semantically empty, functionless morphemes’, ‘singularly meaningless’ (Rudes 1980) – and they are certainly ‘empty’ in the sense that it has no extramorphological reference (see Maiden 2003 for detailed discussion of this claim). Those who find the notion of ‘semantic emptiness’ unsettling may be consoled by the fact that the augments do possess a kind of *intramorphological* ‘indexicality’: an augment ‘points to’ a preceding lexical root-formative and (in the usual case) a following tense, mood, person and number marker. For the difficulties of assigning any other kind of ‘meaning’ to the augments, I have to refer to my 2003 paper.

4. Packard (2000: 130n25) cites with approval the view that ‘the notion of meaning in identifying the morphemes of a language may be overrated, [...] sometimes it is the distribution of a particular form in the language that results in its morphemic status rather than its containing ‘meaning’ per se.’

2. The morphological aspect of lexical formatives

The issue with which this study is centrally concerned is the importance for language change of *lexical* formatives (or lexical root morphemes), viewed as purely morphological entities and in abstraction from the lexical meanings associated with them. Aronoff (1994: 13) entertains the possibility of extending the definition of ‘morphology’ to encompass ‘all translation into phonological substance, including that of lexemic stems and free forms. On this latter account, the fact that we say [pul] in English or [pisin] in French are facts about morphology. This extension is in fact close in spirit to what led Baudouin de Courtenay to coin the term *morpheme*’. Aronoff actually opts to restrict ‘morphology’ to the ‘realization of morphosyntactic properties through bound forms’, but I submit that there are good reasons to view ‘lexemic stems’ and ‘free forms’ as purely morphological entities in abstraction from their lexical meaning. One is the practical, descriptive, advantage of stating explicitly what is realized in a language by a lexical formative rather than by a more complex structure: for example, the meaning ‘one’s child’s spouse’s parent’ has no compact lexical expression in English, but could be said to be ‘morphologically’ expressed in Romanian because that language has a formative /kuskɾ/ (e.g., *cuscru* ‘child’s father-in-law’) bearing that meaning. The broader issue is whether one should approach cases like this by saying ‘The meaning ‘one’s child’s spouse’s parent’ is expressed by the string /kuskɾ/’, or by saying ‘There is a lexical formative /kuskɾ/, and the meaning associated with it is ‘one’s child’s spouse’s parent’’. In what follows I shall argue that the latter perspective is presupposed by various types of linguistic change, in that it is often necessary to say that some phonological string is, or comprises, a lexical formative, in abstraction from the particular lexical meaning associated with that formative.

A nice example of the utility of such a perspective (of which further examples later) is provided by Aronoff (1994: 28), who cites as an example of a morpheme ‘the inheritance of irregular morphology from a root or morphological head, even in the absence of compositionality. Thus all English verbs of the form *stand*, regardless of their sense, and all verbs whose root is *stand* have *stood* as their past tense and perfect participle [. . .]. [. . .]. In each case, the set of irregular forms is obviously not a single lexeme (WITHSTAND and UNDERSTAND are not semantically related), so their unity must be expressed at a purely morphological level.⁵ I would add (the point will be of great significance later) that the

5. One might, perhaps, argue against Aronoff that *withstand* is semantically linked to *stand*, in that ‘withstanding’ involves ‘standing up to’ something. But it is stretching credulity too far to claim that native speakers of English habitually discern any such meaning in *understand*, even if it is perfectly possible to induce sufficiently imaginative speakers to invent one (or indeed to reconstruct the original metaphorical meaning of ‘standing under’, or perhaps ‘standing among’). Given this, there is actually no necessity to seek the meaning ‘stand’ in *withstand* even if it may, for some, be there. The ‘-stand/-stood’ of *understand* has no more semantic content than the recurrent morph *-ceive* of verbs such as *receive*, *deceive*, *conceive*, *perceive* (all with derived

lexical verb *STAND* itself consistently displays past *stood* over a wide span of meanings some of them so semantically remote from the ‘core’ meaning of ‘erect and immobile’ as to qualify as *homonyms* of the basic verb. Indeed, one could just about imagine the following utterance, showing multiple meanings for *STAND* but identical morphology: *He stood for election and stood no attempt to deter him, but stood no chance of winning, even though he stood for values shared by the electors, and indeed stood them all a drink.*⁶ This is clearly different from the type of morpheme which involves identity over a class of functionally and phonologically heterogeneous paradigmatic ‘cells’: the ‘purely morphological’ entity at issue here is, or is also, an entity which, despite the lack of any coherent meaning, is shown to be ‘the same thing’ in all its manifestations by virtue of its paradigmatic behaviour. The second element of *WITHSTAND* and *UNDERSTAND* sounds exactly like *stand*, the word-form of the lexeme *STAND*, and acts just like it morphologically. What one feels one wants to say about all the different *stands* under consideration is that they are ‘the same word, except they don’t mean the same thing’. While I shall not consider the specific case of *stand* any further, I shall be arguing that the apparently nonsensical nature of this formulation is dispelled if one accepts that the various *stands*, while sharing no lexical meaning, do share the purely *morphological* one of being a lexical formative.

3. Stuff and nonsense: the nature of folk etymology

The relevance of ‘folk etymology’ (henceforth ‘FE’) to the issues sketched above may not be immediately apparent. FE has certainly never been considered as throwing light on issues of morphological theory and, indeed, it has long been something of a Cinderella in historical linguistics, forming the object of few monographic studies, and in descriptions of individual languages and dialects often being treated as little more than a peripheral linguistic eccentricity. Early editions of the *Cours* even have Saussure dismissing it as ‘pathological’.

Some linguists (e.g., Pisani 1960: 643; Kilani-Schoch 1988: 91; Bolinger 1992: 29; Pöckl, Rainer, Pöll 2003: 41) interpret FE as motivated by a need to lend ‘semantic motivation’ to unfamiliar (and usually long) words by replacing portions of them with elements that help ‘make sense’ of them. The problem with this view is that it is not clear why speakers would need to act in this way: for they already know the *meaning* of words subject to FE, and what they are unsure about is in fact their *form*. Indeed

form in *-cep*, as in *reception*, *deception*, *conception*, *perception*) or, even more dramatically, its semantically vacuous cognate /səv/ in French (with alternants /səv/, /swa/, /swav/, /sy/ applying systematically across verbs such as *recevoir*, *décevoir*, *percevoir*, *apercevoir*, *concevoir*).

6. The semantic estrangement of the meaning ‘present oneself for election’ from ‘basic’ *stand* is clear if we consider that in US English exactly the same meaning is usually expressed by *run*, not *stand*!

it is surprisingly hard to find folk etymologies in which the result can convincingly be said to be ‘motivated’ semantically, although some possible cases (see also Coates 1987: 323f.) are Old High German *mar-greoz*, literally ‘sea-grit’, ‘pearl’, from Latin MARGARITA; German *Hängematte* lit. ‘hang mat’ < Fr. *hamac*; Calabrian *rotamobbuli* lit. ‘mobile wheel’ < Italian *automobile*; Barese *accendili* < Italian *acetilene* (+ *accendere* ‘set light’); Romanian (substandard) *incuibație* ‘incubation’, influenced by *cuib* ‘nest’.

The epithet ‘nonsensical’ is appropriate for FE, in that the ‘input’ is often simply opaque, no connection being detectable between the form and the meaning of the word affected, while ‘output’ is often potentially misleading, in that elements are introduced whose meaning has little or no connection with the meaning of the target word (cf. Baldinger 1973).⁷ For example, English *sparrow-grass* ‘asparagus’ denotes something which is perhaps (rather) like ‘grass’, but has no connection with ‘sparrows’! The relative unimportance of semantic factors is underlined by the fact FE is also found in proper names (cf. Olschansky 1996: 210f.; 214f.), which are often inherently devoid of sense.

Many linguists have observed that conventional semantic (re-)motivation of opaque words cannot explain most of FE (cf. Ducháček 1964; Olschansky 1996: 131–35). I reproduce here some pertinent observations (my emphasis):

- i. Paul (1890: 232; 236): Nothing is in fact operative but the natural expectation of finding, in a word which *looks like a compound, familiar elements*. we expect [. . .] in *a word which gives the impression of a compound*, that its single elements should admit of connection with simple words.
- ii. Saussure (1968: 238; 240): ce sont des tentatives d’expliquer approximativement un mot embarrassant en le rattachant à *quelque chose de connu* des interprétations pures et simples de formes incomprises par *des formes connues*
- iii. Wartburg (1925: 17): Unwillkürlich sucht es der sprechende oder hörende *mit irgend einem ihm bekannten wort* zu verknüpfen, er sucht es irgendwo zu verankern. Und da ist ihm jede auch noch so vage ähnlichkeit willkommen.
- iv. Bloomfield (1935: 450): popular etymology may render the form *structurally* or lexically more intelligible.
- v. Alessio (1937/38: 359): È veramente straordinario il bisogno che ha il popolo di ravvicinare voci che hanno una parziale omofonia *anche se di significato completamente diverso*. . . .
- vi. Hockett (1958: 287): From time to time it happens that a form of an unusual shape – say an unusually long single morph, or an idiomatic combination of morphemes in which the shapes are highly irregular – will be reinterpreted as though it consisted of *more familiar morphemes* represented by more familiar shapes.
- vii. Ullmann (1951: 91f.): It is in many ways akin to analogy as a factor of group-formation counteracting the mechanical effects of phonetic change.

7. Baldinger provides an entertaining account of how folk etymologies can induce subsequent semantic reanalyses.

- The intervention of associative etymology may result in *formal or semantic modifications*, or in both [...].
- viii. Coates (1987: 324): [T]he influence of meaning is never a necessary condition for A[nalogical]R[eformation] [here = 'FE'] to take place [...]. In fact all AR could be *purely formal in character*, since formal similarity is a precondition for such changes anyway.
- ix. Matthews (1991: 83): '[a] source of opaque compounds'
- x. Hamp (1992: 427): Folk etymology *endows opaque strings with parsing*, either appropriate [...] or *nonsensical* [...].
- xi. Blank (1997: 306): Die Sprecher ziehen [...] offenbar eine semantisch häufig nicht ganz stimmige oder sogar widersinnige [...], aber *formal zumindest teilweise motivierte* Bezeichnung einer völlig unmotivierten vor [...]. *Das Ziel volksetymologischer Prozesse ist also zumeist nicht die semantische Uminterpretation des veränderten Wortes, sondern formale Transparenz, auch wenn es sich dabei nur um eine semantisch völlig abwegige Pseudo-Durchsichtigkeit handelt.* . . .
- xii. Ronneberger-Sibold (2002: 116) In Manchen Fällen läßt sich die Lautgestalt des ersetzten Wortes jedoch nur durch ein Wort nachahmen, das zwar formal regulär gebildet und somit transparent ist, *dessen wörtliche Bedeutung aber nicht auf die referentielle Bedeutung des ersetzten Wortes paßt*. Diese Volksetymologien bilden Strukturtyp Ib: *transparent aber nicht motiviert*.
- xiii. Hock (2003: 442). . . *folk etymology* [...] assign[s] *transparent compound structure* to words.

On the semantic side, then, the consensus is that there is no necessary semantic link between the 'folk etymological' form and the source of its components (v, viii, ix, x, xi, xii), and FE involves endowing the unfamiliar with familiar content from elsewhere in the speakers' lexicons (i, ii, iii, vi, xiii). Thus, for example:⁸

- Italian: *battisucera* 'cornflower' < Latin BAPTISECULA (+ *batti* 'beat' + *suocera* 'mother in law'); *Campidoglio* < Latin CAPITOLIUM (+ *campi* 'fields' + *d* 'of' + *oglio* 'oil'); *gelsomino* 'jasmine' < Persian *yasmi:n* (+ *gelso* 'mulberry'); *bergamotto* 'bergamot' < Turkish *beg armudi* (+ *bergamotto* 'from Bergamo'); *bompresso* 'bowsprit' < French *beaupré* (+ *b(u)on* 'good' + *presso* 'near, at').
- Other Italo-Romance dialects: Abruzzese *kampo[m]oill* 'camomile' < *camomilla* (+ *campo* 'field'); Arpinate *taumaturco* 'silly' < *taumaturga* 'miracle worker' (+ *turco* 'Turk'); Catanzarese *bekkamortu* 'bergamot' < Italian *bergamotto* (+ *bekkamortu* 'gravedigger'); (krapa) *animahjurita* 'hermaphrodite (goat)' <

8. These examples, not all of which are necessarily established in the standard languages, are drawn from various sources cited in the bibliography. Notably Olschansky (1996); Ducháček (1964), especially for French; Hristea (1958) for Romanian; Bertolotti (1958) and Alessio (1937/38) especially for Italian.

(krapa) *armahjuțrita < Greek HERMAPHRODITES (+arma 'soul', influenced by Italian *anima* 'soul', + hjurita 'floral, flowery'); Cosentino paragustə 'gate to choir stall in a church' < It. *balaustra* (+para 'stop, ward off' and gustə 'taste'); Modenese ondes 'rotten egg' < Latin INDICEM (+ Modenese ondes 'eleven'); E. Trentino *avarizia* 'liquorice' < Latin LIQUIRITIA (+ *avarizia* 'avarice').

- Romanian: *chirpici* 'sun-dried brick of mud, straw and dung' < Turkish *kerpiç*; but also *cârpici* (+ *cârpă* 'rag, duster'), *cipici* (+ *cipic* 'type of slipper'), *ciupici* (+ *ciupi* 'pinch'), *clipici* (+ *clipă* 'blink, wink') + *-ici-a* derivational suffix; dial. *filigram* 'filigree' < *filigran* (+ *-gram* common element in technical expressions); (*gaz*) *metal* < *gaz metan* 'methane gas' (+ *metal* 'metal') *Portocalia* 'Portugal' < *Portugalia* (+ *portocală* 'orange'); *știucă* 'WWII German warplane' < German *Stuka* (+ *știucă* 'pike' (fish)).
- Spanish: *truchuela* 'type of cured cod' < *trechuela* (+ *trucha* 'trout'); *ruiseñor* 'nightingale' < Latin LUSCINIOLUS (+ *Rui* [personal name] + *señor* 'gentleman'); *regaliz* 'liquorice' < Greek GLYKYRRHIZA (+ *regalo* 'present')
- French: *agonir* 'hurl insults' < *ahonir* (+ *agonie* 'death throes'); *aiglefin* 'haddock' < Dutch *schelvisch* (+ *aigle* 'eagle' + *fin* 'fine' or 'end'); regional *apôtre* 'bowsprit' < *apôte* (+ *apôte* 'apostle'); *chat-huant* 'tawny owl' < *chuan* (+ *chat* 'cat' + *huant* 'hooting'); *beaupré* < English *bowsprit* (+ *beau* 'beautiful' + *pré* 'meadow'); *beaucuit* 'buckwheat' < English *buckwheat* (+ *beau* 'beautiful' + *cuit* 'cooked'); *bouledogue* 'bulldog' < English *bulldog* (+ *boule* 'ball'); *courte-pointe*, *contre-pointe* 'counterpane' < *coute-pointe* (+ *courte* 'short' / *contre* 'against'); *éponge* 'edge, shore' < *esponde* (+ *éponge* 'sponge'); *gratte-cul* 'rosehip' < Greek KRATAEGOS (+ *gratte* 'scratch' + *cul* 'arse'); *Honfleur* and other placenames in *-fleur* < Norse *-flóf* 'fjord' (+ *fleur* 'flower'); *malveillant* 'malevolent' < *malveillant* (+ *veiller* 'wake, watch'); dialectal *noire mère* 'oriole' < *oire mele* < Latin AUREA MERULA (+ *noire* 'black' + *mère* 'mother'); dialectal *Sainte-Hélène* 'acetylene' < *acétylène* (+ *Sainte Hélène* 'St Helen'); *pomme d'amour* 'love apple' < Italian *pomo dei mori* (lit. 'fruit of the Moors') + *amour*; dialectal *noble épine* 'hawthorn' < French *aubépine* (+ *noble* 'noble' + *épine* 'thorn'); regional *salse pareille* 'greenbier' < Spanish *zarzaparilla* (+ *salse* 'petit volcan émettant de la boue salée' + *pareille* 'the same'); regional *taupe* 'WWII German warplane' < German *Taube* ('dove') (+ *taupe* 'mole')⁹
- English *crayfish* < French *écrevisse*; *mushroom* < French *mousseron*; *redshire* / *redshare* / *red-short* 'brittle, white hot' < Swedish *rödskört*; *bridegroom* < OEnglish *bryd-goma* 'bride's man'; *gooseberry* < *groze-berry*; *female* < French *femelle* (+ *male*); *titmouse* (bird) < *titmase* (+ *mouse*); *service tree* < *syrfestrew*; *worm-wood* < *wermood* (+ *worm* + *wood*); *milt* 'fish semen' < *milk* (+ *milt* 'spleen')

9. In some cases (and perhaps the initial element of *beaupré* is one) folk etymology may operate on the orthographical as well as, or instead of, on the phonological. This does not affect the wider theoretical conclusions I shall be drawing.

- German: *Liebstöckel* ‘lovage’ < Latin *Levisticum* (+ *lieb* ‘dear’ + *Stöckel* ‘stick’); *Meerkatze* ‘(type of) monkey’ < Sanskrit *markatah* (+ *Meer* ‘sea’ + *Katze* ‘cat’); *Aberraute* ‘southernwood’ < *abrotanum* (+ *aber* ‘pseudo-’ + *Raute* ‘rue’); *Tannenfreud* (Swiss placename) < Latin *Fontana Frigida* (+ *Tannen* ‘fir’ + *Freude* ‘joy’).

While there is no necessary semantic link between ‘folk-etymologized’ forms and their components, it is often true that those components are in the same general semantic field as the word affected. In Italian *gelsomino* ‘jasmine’, a *gelso* ‘mulberry’ is an utterly different kind of plant (in appearance, uses, scent, etc.) from a ‘jasmine’, but they are still both *plants*; and in Spanish *truchuela* ‘type of preparation of cod’, is not a ‘trout’ (*trucha*), but a *trucha* is still a kind of *fish*. Is there not, then, a degree of semantic *motivation* at work after all? I do not think so. Just as the substitutions observed in FE involve forms bearing a degree of *phonological* similarity to the input (cf. Olschansky 1996: 130; also Ronneberger-Sibold 1992), so speakers will tend initially to search for substitute forms in the same semantic field as the target word. The case of French *beaupré* ‘bowsprit’ is interesting in this respect: Wartburg (1928: 477) cites a 17th century variant folk etymological development of this word, namely *paupret*, where the first element, *pau*, is an old word meaning ‘pole’; a ‘bowsprit’ is indeed a kind of ‘pole’, but it was a semantically opaque form, *beau*, that prevailed in this word. Apparent semantically ‘motivating’ folk etymologies are generally the *accidental* result of a search strategy which begins – but certainly does not end – among items of similar meaning (see also Alinei 1997: 21). I would suggest, in fact, that even where we do seem to have a case of semantic motivation (as in German *Hängematte* cited above), the semantic appropriateness is rather accidental. Speakers are not seeking to ‘explain’ the meaning of a word, but to give it a familiar inner structure.

The consensus is also (i, iv, vii, x, xi, xii, xiii) that FE involves conferring internal structure on unfamiliar (and usually long) forms. What kind of ‘structure’ is involved? First, we do not necessarily find exhaustive structural reanalysis: Italian *gelsomino* starts with the word *gelso* ‘mulberry’, but the rest of the target word remains structurally opaque (*-mino* is meaningless); the same is true of Abruzzese *kampomöjllə*, only the first element of which is analysable as another word. Although scholars have been struck by the way in which longer words become structural compounds under FE, the most general statement one can make is that FE minimally involves a lexical root-formative. In a few cases, it seems that a root-formative alone is introduced, as in Romanian *chirpici* which has apparently been analysed as already comprising the derivational ending *-ici* (cf. *lipici* ‘glue’ with the root *lip-* ‘stick’) preceded by a lexical root-morpheme; likewise *Portocalia* involves replacement of the root of *Portugalia* (where *-ia* is a very common suffix in names of countries), with the root of the word *portocală* ‘orange’. Similarly, Spanish *truchuela* introduces the root of *trucha* ‘trout’, into a word already analysable as comprising an opaque root *trech-* + the derivational suffix *-uela*. In very many cases (especially in languages such as French, English and German with a large number of monomorphemic word-forms), one cannot tell whether the element introduced into

the target word is *just* a root formative, or a word-form containing a root formative. For example, French *éponge* for *esponde*, *apôtre* for *apôte*, or English *milt* for *milk*, comprise elements that are at once root formatives and full word-forms. More commonly, the result of FE ‘gives the impression of a compound’ (to quote Paul), and may have exactly the same synchronic status as semantically non-compositional compounds (cf. also Olschansky 1996: 136).¹⁰ There is a clear tendency in all of the western European languages from which I draw my examples for stems containing two or more syllables to have composite internal morphological structure (cf. also Hockett 1958: 285).¹¹ Some of the descriptions of FE listed in i–xiii above speak of ‘morphemes’, and others of whole ‘words’. Are the *sparrow* and *grass* of *sparrowgrass* the words *sparrow* and *grass* or the lexical morphemes *sparrow* and *grass*? What the Italian data show is full word-forms, not just lexical roots, a fact which conforms perfectly to the structure of Italian compounds, which typically comprise root + inflectional ending. Take *gelsomino* ‘jasmine’: this is based on *gelso* ‘mulberry’, where *gels-* is the lexical root and *-o* a masculine singular inflection (cf. plural *gelsi*). It is the whole word-form *gelso*, not *just* the root, which is implicated in the folk etymological creation of Italian pseudocompounds. Similarly, full word-forms are involved in those relatively rare cases where folk etymology involves analysis of the target word as comprising a prepositional phrase, for example Italian *Campidoglio* ‘fields of oil’, or French (Baldinger 1973: 253) *cresson à la noix* ‘a type of (nut-free!) salad < *cresson orlenois* (+ *à* ‘to, with’ + *la* (definite article) + *noix* ‘nut’). The fact remains that in every case of FE, there is a structural element – a root-formative – which is otherwise associated with a lexical meaning, but which speakers redeploy to confer inner structure on lengthy and/or unfamiliar words, by *completely abstracting the lexical signantia from their lexical signata*.¹²

10. Usually the resultant ‘compound’ is a completely new one, but Catanzarese *bekkamortu* for Italian *bergamotto* actually uses an existing compound meaning ‘gravedigger’ (literally, ‘take dead’).

11. This observation seems to me to be borne out by inspection of dictionaries of any modern Germanic or Romance language. For example, an examination of the first 150 entries with stems beginning in *ba-* in Devoto & Oli (1995), polysyllabic roots turn out to have internal morphological structure at a ratio of about 2:1.

12. What we observe in FE seems closely related to what Alinei (1996; 1997) has termed ‘sign-recycling’ (*riciclaggio di segni preesistenti*). Alinei develops a useful distinction between the ‘meaning’ of a sign, and its ‘motivation’, a sign being ‘motivated’ (or an ‘iconym’, to use Alinei’s terminology) to the extent that it is simply a familiar, existing, member of the repertoire of signs in a language, and as such is potentially available as a structural element in the creation of new lexemes. The iconym (1997: 24) is a ‘name that has lost its own qualities to become the label of a new referent, a label that is already known and serves only to publicize the name’ (*‘un nome che ha perso le proprie qualità per diventare l’etichetta di un nuovo referente, etichetta già nota che serve solo a pubblicizzarlo’*).

Let us consider what must be involved in the emergence of a particular case of FE, say the French *beaupré* and Italian *bompresso* ‘bowsprit’. Dauzat (1938) gives the etymology of the French word as Middle English *bouspret* (itself a loan from Dutch).¹³ An early sign of the relative unfamiliarity of the word may be seen in the fact that its first recorded French attestation (*Comptes du Clos des Galées de Rouen*, 1382) is in the garbled (metathesized) form *bropié*. But there is already an indication that the word has been endowed with inner structure, in that *-pié* seems to reflect the influence of *pié* ‘foot’. The replacement of the first part of the word by a formative *beau* meaning ‘beautiful’ and of the second by *pré* ‘meadow’, presupposes abstraction of form from meaning: ‘bowsprits’ are not inherently or even characteristically ‘beautiful’, and they are most certainly not ‘meadows’. Speakers appear to have searched their mental lexicon for (phonologically appropriate) lexical formatives which could be combined to confer structure on the word. What they have done is to treat *beau* and *pré* not as signantia with extramorphological signata, but as signantia whose signatum is simply that of being a lexical formative, and therefore an element available for the creation of a composite. When French *beaupré* is in turn borrowed into Italian, a similar process is repeated, with the first element being replaced by *bom-* a phonotactic variant of *buon(o)* ‘good’ (a ‘bowsprit’ is no more inherently or characteristically ‘good’ than it is ‘beautiful’), and the second element apparently being replaced by *presso* ‘near’.

The ‘folk etymological’ creation of opaque compounds in fact demonstrates the active role played in language change by a phenomenon more familiar to historical linguists as the ‘passive’ result of semantic change. The most prominent examples of this kind are compound words such as *butterfly* (see also the discussion above of English words in *stand*). True, the referent is a ‘fly’ of sorts, but the meaning ‘butter’ is simply irrelevant to the meaning of the compound as a whole. At the same time, my pre-theoretical native-speaker intuition about this compound is that the first element *is* the formative *butter*,¹⁴ and the intuition is supported by Libben & de Almeida (2002) (see also Jarema 2005: 47–51), who find experimental evidence, from aphasia to suggest that speakers generally carry out a ‘prelexical parsing’, such that the ‘butter’ of ‘butterfly’ is initially analysed as, precisely, the word ‘butter’, with attendant semantic correlates. Subsequent recognition of the compound would seem, then, to involve a separation of meaning from form: the *butter* of *butterfly* is so to speak ‘the formative *butter* minus its lexical meaning’. Similarly, Devoto & Oli’s dictionary (1995) lists 35 Italian compound nouns whose first element is the verb-form

13. Bloch & Wartburg (1964: 64) prefer a derivation direct from Dutch *boegspriet*.

14. The *Oxford English Dictionary* surmises that this element originates with reference to the yellow or creamy-white colour of familiar species such as the brimstone. If the word originates in some time or place where the ‘prototypical butterfly’, so to speak, was of a yellow(ish) colour, this is certainly no longer true for many speakers: my own ‘prototypical butterfly’ is, if anything, the variety named ‘red admiral’.

copri- meaning ‘cover’ and whose second element is a noun, X, interpretable as the direct object of that verb. In 34 cases the meaning is ‘entity whose function is to cover X’ (e.g., *copritastiera* ‘keyboard cover’, *copriteiera* ‘teapot cover, tea cosy’), and such cases are to a high degree semantically compositional, with *copri-* clearly analysable as an element meaning ‘cover’. The odd-man-out in this paradigmatic series is *coprifuoco*, literally ‘cover fire’ (cf. *fuoco* ‘fire’), but meaning ‘curfew’. In one regard *coprifuoco* is probably as opaque to Italian speakers as its cognate *curfew* is to English speakers, for special historical knowledge is needed to be aware that ‘curfew’ was, in medieval Europe, a time of the evening, indicated by the ringing of a bell, when the populace was required to cover or extinguish its fires. Yet Italian speakers certainly recognize in this word the same *copri-* that appears in the 34 other compounds, and in the verb *coprire*, where it means ‘cover’. There is also an important phonological respect in which this *copri-* is the same as the 34 other compound *copri-*s, and in which they are all the same as the inflected verb form *copri*, namely that the pronunciation of *coprifuoco* is kɔpriˈfwɔko. It is a general rule of Italian phonology that the vowel /ɔ/ can only appear in the maximally stressed syllable of a word (cf. 'kɔpri ‘cover’ 2SG. imperative and kɔˈprite ‘cover’ 2PL. imperative). However in compounds, although main stress always falls on the second element, the initial element may retain the vowel quality it would have as an independent word (cf. also 'pɔrta ‘carry 2SG. imperative’ pɔrˈtate 2PL. imperative, but pɔrtaˈkɔjavi lit. ‘carry keys’, ‘keyring’; see Lepschy 1992; 1993 for detailed exposition of the facts). Speakers must recognize in the *copri-* of *coprifuoco* the *same* element which in other compounds means ‘cover’. It is, once again, ‘the same except for the meaning’. But there is a further dimension of form-meaning anisomorphism which affects all instances of *copri-* and indeed the initial verbal element of Italian compounds in general, namely that they are morphologically identical to the second person singular imperative of the verb (see Maiden 1995: 184). Clearly, they cannot be imperatives of any kind, yet they are in every respect formally identical to imperatives.

Coprifuoco is the kind of entity which Anderson (1992: 294–99) might describe as a structurally analysed composite. It is clearly analysable as comprising structural elements, including lexical roots, which occur elsewhere in the language, but the meanings and functions associated with those structural elements are absent. The disparity between structure and meaning is here interpretable as the *result* of a diachronic process involving changes in the referent (presumably a metonymic change whereby the meaning ‘regulation forbidding people to be out of doors within certain hours’ wholly supersedes any association with covering fires). In a word like *coprifuoco* the discrepancy between form and meaning is the synchronic *effect* of such semantic changes, whilst in FE it is precisely the separability of form and lexical meaning which *drives* the diachronic emergence of words that ‘give the impression of compounds’.

To summarize, it is a recurrent characteristic of FE that it involves changes in word-structure which are ‘nonsensical’ from the point of view of the lexical meaning of the formatives which are introduced into long and/or unfamiliar words. FE is of value to historical morphologists because, so often, it reveals that speakers focus on this fact

in abstraction from the lexical meaning of those formatives.¹⁵ In what follows I shall tentatively suggest that ‘lexical root’ as signatum may play a major and unsuspected morphological role in the mechanism of other changes which seem, at first blush, to belong squarely under the heading of ‘lexical change’. The tentative and programmatic nature of my discussion is largely the result of an inherent difficulty in conclusively showing that lexical meaning, or certain other factors, such as jocular intent, are not sufficient to determine the observed changes. But I intend at least to show that there is ‘a case to answer’; that certain changes presuppose ‘lexical-formativeness’ as a signatum, and that this property could in fact be a major neglected factor in much of lexical change.

4. Morphologically synonymous homophones

Imagine the following scenario. Two homophonous formatives, Xi and Xj, exist in a language. Subsequently, a (near) synonym of Xi, namely Yi, emerges, and starts (for whatever reason) to replace Xi. But this replacement eventually extends to the semantically unrelated homophone Xj as well. The two homophones have disjunct lexical meaning, so that no lexical semantic motivation for their joint replacement can be invoked (by definition: if there were some common core of lexical meaning connecting the two forms, we would be in the realm of ‘polysemy’, not of ‘homophony’), and the joint replacement of Xi and Xj is an occurrence uniquely peculiar to those homophones, inexplicable in terms of more general (e.g., phonological) principles at work in the language. Our interpretation of what has happened would be quite simple: speakers have analysed the replacement of Xi by Yi, as a replacement of X by Y. That is to say that speakers treat Xi and Xj as *the same thing*, abstracting away from their disparate meanings.

Real examples are elusive rather than necessarily rare. One problem is that the boundary between homophony and polysemy is rarely clear-cut (see Ruhl 1989; Pustejovsky 1995; also Taylor 2003: 36), and ‘polysemy’ raises the possibility of a fundamentally semantic motivation rooted in a common core meaning. The second problem is constituted by *puns*, which often depend for their effect on the punster’s *feigned* unawareness that two formally identical words differ in meaning; it is quite likely that a good number of possible cases cited in the literature, of the kind I have sketched in theory above, really have jocular, punning, origins (see also Paul 1890: 234; Von Wartburg 1925: 23; Baldinger 1980: 220–222; Olschansky 1996: 171–176), and I shall not retail examples here. It is very difficult to exclude a jocular origin for any given case, but I offer here an example which is taken at face value both by von Wartburg, who firsts cites it (1925: 24), and later Baldinger (1973: 258), and is certainly not a matter of polysemy.¹⁶

15. The term ‘reanalysis’ would be inappropriate here. Speakers are not ‘reanalysing’ lexical formatives as purely morphological, for no loss of lexical meaning in the source forms is involved.

16. It is implicit in von Wartburg’s analysis that what is involved is not a matter of identity between phonological strings (it is not the case that any string *aze* would be replaced by *saumo*), but between words having these phonological representations.

In the dialect of La Canourgue (Lozère, southern France), Latin *ASINUS* ‘donkey’ and *ACINUS* ‘berry’ became homophonous, in the form *aze*, as a result of regular sound change. Later, *aze* ‘donkey’ is replaced by its (near) synonym, the feminine noun *saũmo* (originally ‘beast of burden’), but this replacement strikingly affects not only *aze* in the meaning ‘donkey’, but equally *aze* in the meaning ‘(black)berry’, so that *saũmo* comes to mean both.¹⁷ My interpretation of such a change is as follows:¹⁸ a lexical replacement whose motivation is, in part, synonymy (*aze* and *saũmo* mean the same thing, ‘donkey’) undergoes a reanalysis such that the synonymy resides not in lexical meaning but merely in the fact that both *saũmo* and *aze* are lexical forms of the language, so that the former replaces the latter. The relevant shared signatum of *saũmo* and *aze* is no longer the meaning ‘donkey’, but the fact that they both constitute lexical formatives. This example should, by the way, have received wider attention in the historical linguistic literature, because it is exactly antithetical to the principle of ‘avoidance of homonymic clash’ made famous by Gilliéron and other practitioners of Romance dialect geography. In La Canourgue, speakers have been presented with a golden opportunity to disambiguate two homonyms, but an intramorphological ‘sameness’ has prevailed over an extramorphological (lexical semantic) difference.

A rather similar example of analysis of homophones as morphologically, but not lexically, identical emerges from Frolla’s description (1960: 69f; 72f.) of the Ligurian Italo-Romance dialect of the Principality of Monaco.¹⁹ Here, as a result of historical phonological merger, the root *va-* means both ‘go’ and ‘be worth’: e.g., *vaj* ‘you go/are

17. Observation of data from the *Atlas linguistique de la France* (map 41, ‘âne, ânesse’) reveals that this replacement *normally* only takes place in the word for ‘she-donkey’, the masculine/male form remaining unaffected (or replaced by a masculine diminutive form corresponding to *saũmo* – cf. Cremona 1956: 648f.). La Canourgue has apparently gone a stage further by introducing *saũmo* as the *general* term for ‘donkey’, and it is perhaps this generalization which give impetus to the even more extreme development described here. There is, however, an alternative scenario, which von Wartburg did not consider, but which still supports my general conclusion. The *Atlas linguistique de la France* gives *aze* ‘blackberry’ (map 892) as a *feminine* noun at S. Chély-d’Apcher (point 810), which is the nearest survey point to La Canourgue, about 40km away. The same is reported for Leguiole (point 718). The etymon is presumably Latin feminine **ASINA*. If *aze* in La Canourgue, as well, had actually been feminine (we are not told), then we would have an analogical development such that feminine *aze* ‘blackberry’ is replaced by feminine *saũmo* ‘she ass’, because *saũmo* is analysed as the feminine form of masculine *aze* ‘ass’. In other words, the two *aze*’s have been analysed as containing the same lexical root, regardless of their distinct lexical meanings.

18. This is the clearest example of the proposed scenario that I have found in the literature, although readers might like to assess for themselves the status of some similar cases cited by von Wartburg or Baldinger.

19. Maiden (2005: 167f.), suggests a conceptually similar case in dialects of north-eastern Italy.

worth, *va* ‘it goes/is worth’, *van* ‘they go/are worth’. There are various reasons to regard this fact as constituting homophony, not polysemy:

- i. /*va-*/ is the result of a formal convergence brought about by regular sound changes, involving reflexes of the originally distinct Romance roots *vad-* ‘go’ and *val-* ‘be worth’;
- ii. in other Romance languages the two verbs remain formally distinct, with no sign of ‘contamination’ (e.g., Spanish and Italian *va* ‘it goes’ vs. *vale* ‘it is worth’);
- iii. there is no evidence from other Romance languages that speakers perceive any particular semantic link between ‘going’ and ‘being worth’;
- iv. even in Monégasque, these verbs remain morphologically distinct in some parts of their paradigm: e.g., infinitives *an'da* ‘to go’ vs. *vae* ‘to be worth’. Note that the suppletive alternation between the lexical root *va-* ‘go’ and the lexical root *and-*, is of a quite unique type, found exclusively in the verb ‘to go’ and distributed over a disjunct set of paradigmatic cells specifiable as [-present], [+1PL.], [+2PL.].

Nonetheless, the diachronic paradigmatic behaviour of ‘be worth’ strongly suggests that *va-* ‘be worth’ is, at some level, ‘the same’ as *va-* ‘go’: the former has acquired *and-* – the idiosyncratic, suppletive, alternant of the latter – in present and past finite forms of the verb (although not in the future and conditional: e.g., *va:ia* ‘it will be worth’ vs. *and:e:ia* ‘it will go’) (1):

(1) Pres.	<i>vagu</i>	<i>vaj</i>	<i>va</i>	<i>andamu</i>	<i>ande</i>	<i>vaŋ</i>
Pres. subj.	<i>vage</i>	<i>vagi</i>	<i>vage</i>	<i>andamu</i>	<i>ande</i>	<i>vagu</i>
Imperf.	<i>andavu</i>	<i>andavi</i>	<i>andava</i>	<i>andavamu</i>	<i>andavi</i>	<i>andavu</i>
Imperf. subj.	<i>andəssa</i>	<i>andəssi</i>	<i>andəssa</i>	<i>andəssəmu</i>	<i>andəssi</i>	<i>andəssu</i>

A lexically motivated differentiation of homonyms is overridden roughshod in favour of an interpretation which is, in two respects, exquisitely morphological. The new suppletive alternant of *va-* ‘be worth’ assumes a ‘morphomic’ paradigmatic distribution typical of many Romance languages (of a kind discussed at length in Maiden 2005).²⁰ But this redistribution is the result of a prior reanalysis such that the accidentally homophonous root formatives of the 2SG., 3SG. and 3PL. forms of the present tense

20. But the morphomic distribution of *and* ‘be worth’ is not exactly the same as that of *and-* ‘go’, since the latter does occur in future and conditional. The discrepancy is problematic, but it is consistent with a distributional pattern often observed in Romance verb-root alternation, such that the future and conditional, jointly, behave differently from the rest of the paradigm. On this see Maiden (2004b: 244–46). More seriously problematic (and not consistent with other observed paradigmatic patterns) is the fact that non-finite forms of the verb ‘be worth’ also do not adopt the *and-* alternant.

of these two verbs are interpreted as a *morphological* ‘same’, despite their *lexical* distinctness.²¹ Needless to say, a ‘phonological’ explanation can be immediately discounted. There is no general phonological process at work replacing /va/ with /and/.

5. Lexical or morphological synonymy?

The notion of ‘synonymy’ is fundamental to the description of lexical replacement. When we say that French *tête* has replaced older *chief*, we understand that: ‘the meaning ‘head’ is expressed in modern French by *tête* but was expressed in Old French by *chief*. In the general case, diachronic lexical replacement presupposes synchronic synonymy: there must have been a stage at which *tête* and *chief* were alternative expressions of the *same* meaning, the former ultimately having been preferred over the latter. However, it is widely accepted among linguists that (intralinguistic) synonymy between forms is rarely, and possibly never, perfect (see Baldinger 1980: 237–241; Cruse 1986: 270; Clark 1987). Lexical replacement involves synonymy simply to the extent that there is substantial semantic overlap between forms, but there is almost always an inherent asymmetry, such that the range of meaning associated with one form does not map perfectly on to the range of meaning associated with the other. This asymmetry is frequently manifest in the *partial* nature of replacements, more ‘eccentric’ or peripheral polysemous senses often behaving differentially in respect of more ‘core’ ones. Thus modern French retains *chef* in various originally figurative senses such as ‘chief, boss’, ‘leader’, ‘head cook’, ‘heading’, ‘(legal) charge’, ‘head as a religious relic’ (e.g., *chef de St. Jean*), and in compounds and fixed expressions such as *chef-lieu* ‘administrative centre’, *couvre-chef* ‘kerchief’, ‘head-gear’. Replacement of English *calf* by Norman French *veal* affects only the (metonymic) sense of ‘calf’s flesh for the table’ leaving other senses of *calf* intact. This much is unremarkable, and is a staple of text-book discussions of lexical change. It has parallels in those analogical levellings which fail to affect semantically specialized or estranged senses of the relevant lexeme, as when, in English, the analogical plural *brothers* replaces *brethren* everywhere except in the sense of ‘members of a religious fraternity’.

My contention is that what should attract our attention is also the *absence* of such differential replacement, in cases where the semantic potential for differentiation clearly exists.²² The division between ‘core’ and more ‘peripheral’ senses is rarely discrete, and

21. Fortson (2003: 663n15) draws attention to a possibly similar case in Old Irish. See also Ducháček (1964: 72) for Anglo-Saxon.

22. See also Aronoff’s discussion (1994: 24) of the English past participle (identified as a ‘morpheme’ since the same forms is always associated both with passive and perfect constructions). Despite the coexistence of variant forms of certain past participles, such as *spelled* or *spelt* such variation is *equally* present in both passive and perfect uses, and there is no sign of one variant being specialized as a passive and the other as a past participle.

lexical replacement frequently embraces a wide range of senses only loosely connected to the core: *tête* may not have replaced *chief* in the figurative sense ‘chief, boss’ but it *has* done so in the sense ‘leading, foremost’ (*être en tête*), and even ‘chapter heading’ (*tête de chapitre*) alongside *chef* as a ‘heading’ or ‘item’ in a list. Similarly, *brethren* survives in the religious figurative sense, but it does not do so in other equally non-biological figurative senses such as *brothers in arms*. All this is to say that the apparently unremarkable ‘smoothness’ of diachronic lexical replacements should not be taken for granted.²³ Sometimes lexical replacement operates differentially on the different senses of the word; but at other times it occurs ‘smoothly’, despite the existence of sense differences which have at least the potential to block replacement. The coherence of some replacements seems underdetermined by the lexical meaning. Where no differentiation occurs, what exactly is the ‘glue’ which holds the form together, so to speak, and stops it snagging on the semantic rocks? I suggest that it is precisely the fact that the form in question has among its signata the fact of being a lexical formative.

Take the verb ‘to give’ in Romance languages. It displays a range of meanings so wide or ‘granular’ that the link with any core is sometimes – as so often the case with highly frequent and semantically basic vocabulary – fairly opaque. For example, Italo-Romance *dare* ‘give’ has additional meanings often most naturally translatable into (say) English with distinct lexemes, such as ‘hit’, ‘beat’, ‘burst’, ‘open (onto)’, ‘tend’, ‘occur’.²⁴ In some Romance languages, most notably French, reflexes of Latin *DARE* ‘give’ were replaced by reflexes of *DONARE* (originally ‘grant, bestow’ – a meaning which it retains in many Romance varieties), whence modern French *donner*. This looks like a (relatively) straightforward case of one synonym ousting another. But, almost certainly under (Norman) French influence from the eleventh century, the use of reflexes of *DONARE* as a synonym of *DARE* is introduced into some dialects of the far south of Italy (Calabria and Sicily) as well (see Maiden 2005; 2006). There ensues an intricate and differential pattern of *mutual* replacement of the two verbs (see particularly Trumper 2001: 540–42; Leone 1980). They meld into a single, suppletive, paradigm with the two verbs differentially distributed according to abstractly morphological paradigmatic criteria: *DONARE* occurs only, and exclusively, in the singular and third person plural forms of the present tenses, with only *DARE* in all other cells. e.g., the Sicilian dialect of Modica (where /d/ > /r/) (2):

23. It would of course be entirely circular to argue that because lexical replacement is ‘smooth’, this implies a unitary and homogeneous semantic content.

24. More accurately, the verb occurs in contexts where the sense ‘give’ seems absent, and the other sense emerges as a function of context: e.g., *dare sul rosso* lit. ‘give on the red’, ‘tend towards redness in colour’, or *darsi il caso* lit. ‘to give itself the case’, ‘to turn out’, *dare in escandescenze* lit. ‘give in outbursts’, ‘erupt with anger’.

- (2) Present ruḡnu *runi* runa *ramu* *rati* rununu
 Imperfect indicative *rava*
 Subjunctive *rassi*
 etc., etc.

In only one locality (Trebisacce, in Calabria) is the differential replacement stated by Trumper to be sensitive to the ‘granular’ semantics of Italo-Romance ‘give’: here DARE is preserved in the sense ‘give’, but largely replaced by DONARE just in the sense ‘beat (up)’. Such semantically-based formal differentiation is exceptional, in that although there is indeed *differential* and *partial* replacement of one verb by the other, it is not in general *semantic* distinctions which are relevant.²⁵ Rather, the differential replacement is sensitive to purely morphological factors: first, it replicates an abstract paradigmatic distributional pattern found in many Romance verbs (cf. Maiden 2005) and second, more centrally for my present argument, it usually occurs in total abstraction from the extremely diffuse semantics of the two forms. Rather in the manner suggested above for ‘donkey’ and ‘blackberry’ in La Canourgue, we have replacement of the form of the lexical root of one verb by that of the other: speakers appear to have made the simple equation of the lexical root don- with the lexical root da-, independently of their lexical meaning.²⁶

6. Conclusion and wider implications

Aronoff (1994: 164) states that ‘Morphology is not necessary. There are languages that do without it [...]’, and also opts (1994: 13) to limit ‘morphology’ to the realization of morphosyntactic properties through bound forms, declaring (1994: 40) that ‘A root is what is left when all morphological structure has been wrung out of a form’.

25. Maiden (2006) adduces some evidence that in the early phases of the integration of the two verbs, in Sicily, the reflex of DONARE may have distinctively retained meanings close to ‘grant, bestow, give to the benefit of the recipient’, in some parts of the paradigm outside the present. If so, then the morphological integration of the two verbs began to operate at a time when there were still clear semantic distinctions between them. The lexical semantic distinctions seem, then, to have been ‘overridden’ by morphology.

26. I might be accused of naively drawing conclusions from comparison of two distant synchronic phases, without allowing the possibility that the two verbs encroached on each other by semantically gradual stages. The near total absence of any trace of such gradual stages (either in replacement of DARE by DONARE or in replacement of DONARE by DARE) over a geographically wide range of (often morphologically quite differentiated) dialects speaks against such a diachronic trajectory. But even a gradual progression would necessarily entail a growing semantic ‘bleaching’ of the root, such that in the final stages, affecting the most ‘peripheral’ senses, replacement must have been a matter of equating the root don- with the root da- and nothing more.

The thrust of the present study has been that such assumptions may in fact be unnecessarily modest. ‘Roots’ (or lexical formatives) are morphological entities which – like morphemes in paradigmatic morphology or ‘empty elements’ such as the Romance ‘augment’ – reveal properties independent both of lexical (or grammatical) meaning and phonology.²⁷ In so far as all languages have lexical roots, and lexical roots can be seen to have autonomously morphological properties, it may be premature to claim that there are languages that ‘do without’ morphology: it is in principle possible that even a classically ‘isolating’ language like Vietnamese could have undergone developments comparable to the *aze* / *saumo* example cited above for La Canourgue.²⁸

In some regards, what is claimed in this study is quite banal. It is obviously true that we know about certain formatives that they are bearers of lexical meaning, in addition to, or sometimes even in the absence of, the lexical meaning itself.²⁹ More generally, we are able to recognize recurrent structural elements without necessarily and always knowing what functions are associated with them (this much is the common currency of the decipherment of extinct, unknown languages and, I suspect, also of the process of language acquisition).³⁰ All that I have done here is to argue that such knowledge plays an active role in language change, and that some, and perhaps a very great deal, of what might easily be assigned to ‘lexical change’ is in fact driven by the essentially grammatical, morphological fact of being a lexical formative.

27. Of course, ‘independent of lexical meaning’ does not signify literally ‘meaningless’: a lexical root can only exist as such by virtue of bearing lexical meaning, but the crucial point is that there are phenomena which require reference to such roots in abstraction from that meaning. And roots are ‘phonological’ only in the trivial sense that all morphology presupposes phonological content. No principle of the phonological organization of the languages I have considered can account for the types of substitution of roots which have been central to this study.

28. Compare also Packard (2000: 116) on the attribution of ersatz morphological (and syntactic) structure to an English loanword in Chinese.

29. Fortson (2003: 651), discussing the transition of the meaning of English *bead* from ‘prayer’ to ‘perforated ball on a string’, implies the possibility that separation of form and meaning plays a role in semasiological as well as onomasiological change: ‘Reanalysis rests crucially on meanings *not* being available; the word was without meaning to the learner until one was assigned’. Of course this cannot be the whole story, since the new meaning had to be accepted by other members of the speech community who presumably knew the old one, and for whom the innovation probably constituted an easily interpretable metonymy, but the example recognizes a common experience of native speakers of all ages, that of *knowing lexical forms without knowing their meanings*.

30. There is one linguistic level at which this especially obvious: orthography. In languages such as English, where orthography is frequently estranged from phonology, the experience of structural elements divorced from the functions usually associated with them is ubiquitous: consider for example the ‘silent letters’ of *wrist*, *gnarl*, *debt*, *salmon*, *coup* or *ptarmigan*.

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The diffusion of systemic changes through the inflectional system

Evidence from person-number inflection in the Nordic languages and German

Kjartan Ottosson
University of Oslo

This chapter explores the interplay, in systemic changes of inflectional morphology, of primary generalisations (which are the motors of change) and factors influencing the process of change, which may take the form of lexical diffusion. In this latter instance, different degrees of storage for individual inflectional forms must be seen as crucial. The primary generalisations, to be established empirically, may have different degrees of abstractness and possibly be as abstract as so-called ‘drift’ in some cases. The empirical basis of this chapter is changes in the person-number inflection in Old Norwegian and Icelandic and in High German. It turns out that the primary generalisations can have different scope even in closely related languages. Changes of the relevant kind may appear first where additional favoring factors are present and reach conclusion first in the productive inflectional class. Conversely, change may happen most reluctantly in the most unmarked subparadigm or even leave it out. The final phase of change, when characterised by ‘lexical erosion’ of exceptions, may be quite long.

1. General background

What makes it interesting or important to study morphological change in progress? One obvious advantage at a coarse-grained level is that it shows which changes were real and not only diachronic correspondences in Henning Andersen’s terms. Language changes can enter into a chain of changes that may be causally unrelated, and this kind of ‘telescoping’ may yield correspondences which make the motivation of the constituent changes inaccessible to study. This factor is probably more important in morphology than in phonology, because the units of morphological change are often more difficult to delimit. More specifically, close study of morphological change in progress may help determine which units of a *prima facie* change that is observed in progress

have a common cause. If we are dealing with a complex change rather than a number of independent ones, one would expect the effects of change to start showing up simultaneously in all relevant subdomains. Another benefit of investigating the process of morphological change is that it may help explain the long time that morphological change often or perhaps typically takes.

In this chapter, I will be concentrating on internally motivated changes rather than clearly externally motivated ones. Further, I will focus on the theoretically most interesting changes, those affecting the properties which define the inflectional system as such, rather than those affecting single lexemes (e.g., change in inflectional class membership) or cases of local analogy. As this kind of diffusion has rather rarely been the subject of close scrutiny in the literature, it is necessary to discuss and document individual changes in some detail. Thus, the empirical data for the present study are restricted to the person-number inflection of verbs in a few languages, which are Icelandic, Norwegian and High German.

The chapter is organised as follows. In section 2, relevant models for the process of change in inflectional systems will be discussed briefly. In sections 3–5, the model emerging from that discussion is tested on empirical data, with the formulation of tentative ‘primary generalisations’ propelling the individual changes as a crucial component. In the 3rd section, the focus is on the development of the person-number inflection in Icelandic verbs, starting with the active, with the special development of the middle voice endings treated separately. In section 4, the person-number inflection of active verbs in Norwegian will be discussed. The 5th section is devoted to aspects of the person-number inflection of High German verbs relevant to a couple of primary generalisations, with individual person-number pairs treated in their own subsections. As sections 3 and 4 are based mostly on my own investigation of the primary sources, the depth of the empirical analysis can be greater than in the section on German, where I rely on less detailed information from secondary sources.

2. Process models: Primary generalisations and lexical diffusion

The model of inflection that I am assuming is of the Word and Paradigm general type, not based on morphemes but on inflectional words or forms and their interrelations within an inflectional paradigm. Within such an approach, a fundamental concept is that of inflectional exponents, and exponence for a morphosyntactic property, which means anything in an inflectional form that indicates the presence of that property, whether it is expressed in the ending or by stem modification. On the diachronic side, I take Wurzel’s (1984) brand of Natural Morphology as my point of departure.

One crucial aspect of historical morphology as I see it is the storage of inflected forms which has been discussed at length by Bybee (1985) (and other work by her and her associates). However, I think it is fundamental to allow for quite extensive

on-line production of inflectional forms. Irregular forms are stored by necessity. Other frequent forms may be stored by convenience, depending presumably on their degree of autonomy. It is clear, however, that many of the less frequent forms must be constructed on-line, if only to allow for the generation of paradigms of single lexemes that have so many inflected forms that speakers can impossibly have heard them before, when the need arises to construct or analyse them. I assume that such rarer forms are generated by rules that attach unit endings directly to a stem, which may be common to all forms of the lexeme or shared by members of a subparadigm.

A process model that has been popular in historical phonology in recent decades (e.g., Labov 1994; Lass 1984) is that of lexical diffusion. By this is meant that sound change affects single lexemes at a time, so that some lexemes can change faster than others. Applied to change in inflectional morphology of the type that I am assuming, lexical diffusion would mean that change differentiates between inflectional forms, so that some change faster than others. The importance of the question of which inflectional forms are stored should be immediately obvious. It must be stressed that lexical diffusion is just a skeleton which must be fleshed out with the factors that determine the differential rate of change in individual lexemes. For sound change, the S-curve commonly used in epidemiology has been applied. The S-curve has a lag phase with slow speed, a log phase where the change explodes, and a final phase where the last remains of the old are gradually levelled out (the 'levelling-out phase').

I have suggested (Ottósson 1989) to combine lexical diffusion with the model of primary generalisation, which has been used in phonology (e.g., Coseriu 1974), but also in morphology, in particular by Henning Andersen (1980: 15f):

'... from the very beginning of a morphological ... development ... , significant numbers of speakers in inferring their grammars formulate as a primary generalization about the observed speech data what eventually appears as the outcome of the development. ... At any point during the development, speakers have to supplement this primary generalization with adaptive rules and lexical exception features in order to conform to contemporary norms.'

Obviously, the concept of primary generalisation is quite a powerful one, and it would be desirable to restrict its power in a principled way. Thus, one should in individual cases consider the possibility that a quite local generalisation creates the preconditions for a wide-scope generalisation only at a later stage, in a snowballing fashion. One way of determining the scope of the active generalisations is by extracting information about causal units along the lines I mentioned right at the outset. I will return to such basic considerations at various places in the following discussion of changes in real time.

On the basis of morphological changes that I have studied in detail, I have articulated a model where the effects of innovative primary generalisations are slowed down by more specific factors for individual subdomains, as well as by the lexical strength of individual inflectional forms. In addition to shedding some light on the ultimate

linguistic causes of change in inflectional morphology, the model helps explain the often slow rate of morphological change, which may have as a side-effect the emergence of new functionally useful distributional patterns which were not motivated in the initial stages of the change. In other words, out of the apparent chaos within a change in progress, some useful subregularities may be created.

3. Person-number inflection in Icelandic

3.1 Endings of the 1st singular in the active in Icelandic

We will start with the active verb endings in the first singular in Icelandic, which have been studied in some detail by Sigurðsson (1980, 1981), whose results have been supplemented in Ottósson (1989, 1992: 172–179). The point of departure must be the period of the oldest manuscripts before 1300. Some of the most important paradigms for the Old Norse finite verb are given in Table 1 below, which show indicative and subjunctive forms. Forms of the imperative, which are only found in the 2nd person sg. and pl. as well as the 1st pl., have been omitted as they add little to the argument. The innovative forms have been put in bold to the right of the corresponding old form. Omitted from the table are the preterite-present verbs, few in number but textually frequent. As an aid to the reader unfamiliar with Old Norse morphology, a possible way of separating the principal inflectional exponents is indicated by a dash.

The weak *ō*-verbs are the productive verb class, readily accepting new members. Here we see a change in the past indicative 1st sg., which makes its form identical to that of the 3rd sg. A change to the same effect is also seen in the 1st sg. of the subjunctive, in the present as well as in the past tense. The same kind of change in the same three places in the paradigm is also seen in the textually most frequent verb class of weak *ija*-verbs. By contrast, the strong verbs show change only in the subjunctive, as the 1st sg. is already identical in form to the 3rd sg.

As can be seen, there are different patterns of person distinction in the individual subparadigms for the singular before the changes under discussion. The subjunctive has a three-way distinction in the present as well as the past, and so does the past indicative of the weak verbs. The present indicative has a two-way distinction, with the 1st singular distinct against a common form for the 2nd and 3rd person. The past indicative of strong verbs also has a two-way distinction, but here it is the 2nd singular which stands out against the 1st and 3rd person.

Looking at the changes in Table 1, one may formulate a naive common denominator for the changes: the 1st singular adopts the 3rd singular form where this has the effect that a three-way person distinction is reduced to a two-way distinction. As for the primary generalisation that the language learner makes at the outset of these changes, I cannot see any entirely satisfactory or compelling formulation. A possible formulation is the following.

Table 1. The Old Norse (Icelandic) active verb in indicative and subjunctive.

Order of exponents: Stem – (Tense) – (Mood) – Person-Number (a portmanteau morph)

Weak *ō*-verbs, ex. *kalla* ‘call’

		Present		Past	
Indicative	SG. 1	kalla		kalla-ðá	> kalla-ði
		kalla-r		kalla-ði-r	
		kalla-r		kalla-ði	
	PL. 1	kǫll-um		kǫllu-ðu-m	
		kall-ið		kǫllu-ðu-ð	
		kall-a		kǫllu-ðu	
Subjunctive	SG. 1	kall-a	> kall-i	kalla-ð-a	> kalla-ði
		kall-i-r		kalla-ð-i-r	
		kall-i		kalla-ð-i	
	PL. 1	kall-i-m		kalla-ð-i-m	
		kall-i-ð		kalla-ð-i-ð	
		kall-i		kalla-ð-i	

Weak *ija*-verbs, ex. *minna* ‘remind’

		Present		Past	
Indicative	SG. 1	minni		minn-ta	> minn-ti
		minni-r		minn-ti-r	
		minni-r		minn-ti	
	PL. 1	minn-um		minn-tu-m	
		minn-ið		minn-tu-ð	
		minn-a		minn-tu	
Subjunctive	SG. 1	minn-a	> minn-i	minn-t-a	> minn-t-i
		minn-i-r		minn-t-i-r	
		minn-i		minn-t-i	
	PL. 1	minn-i-m		minn-t-i-m	
		minn-i-ð		minn-t-i-ð	
		minn-i		minn-t-i	

Strong verbs, ex. *brjóta* ‘break’

		Present		Past	
Indicative	SG. 1	brýt		braut	
		brýt-r		braut-st	
		brýt-r		braut	
	PL. 1	brjót-um		brut-u-m	
		brjót-ið		brut-u-ð	
		brjót-a		brut-u	
Subjunctive	SG. 1	brjót-a	> brjót-i	bryt-a	> bryt-i
		brjót-i-r		bryt-i-r	
		brjót-i		bryt-i	
	PL. 1	brjót-i-m		bryt-i-m	
		brjót-i-ð		bryt-i-ð	
		brjót-i		bryt-i	

- (1) *Primary generalisation for Icelandic person-number inflection in the active*
There should be only a two-way person distinction in the singular.

This formulation seems rather peculiar at first sight, however. First of all, such local merger of forms threatens the existence of the category distinctions involved (e.g., 1st and 3rd person), simply because it leaves fewer morphological environments (e.g., the plural forms) to support the distinction in the overall system. No tendency to abolish person distinctions across the board can be seen in the history of Icelandic, however. A further bothersome factor is that when such local merger takes place, one would expect it more readily in the marked environment, the plural rather than the singular in this case. Against this one may point out that not only is there more extensive allomorphy in the person exponents in the singular, but the singular subparadigms also show a number of competing distinction patterns, whereas the plural distinguishes all three persons consistently. These factors make the singular exponents more complex and harder to learn in that respect. If one may speculate that the tendency to simplify the morphology became stronger in this period, this would make the singular person endings vulnerable.

A conceivable additional factor involved in the primary generalisation may be that the 1st person exponent appeared rather too different from the exponent for the other persons. In all the categories which changed, the subjunctive as well as the weak past indicative, the 1st singular form had an *a* instead of the *i*-vowel of the 2nd and 3rd person. In the subjunctive, actually, the *i* must be seen as the main exponent of the subjunctive itself. Here one should remember that Old Norse had a general rule which disallowed two vowels after each other in endings, so that a hypothetical *i+a* in the 1st singular of the subjunctive would yield *a* (in the same way as the *ija*-stem *hirði* 'shepherd' yields *hirðar* when the nom. pl. suffix *-ar* is added). It is not clear, however, to what extent the Old Norse speaker analysed a subjunctive form such as 1st sg. *brjóta* as containing an underlying but inaudible *i* preceding the *-a*. The answer to that question is in principle empirical in nature in that it depends on the determination of the extent to which speakers operate with such invisible elements in morphology. If we allow such an analysis, the person endings would be 1st sg. *-a*, 2nd sg. *-r* and 3rd sg. *-Ø*, suffixed to a subjunctive stem ending in *-i*. I doubt that such abstract analyses usually play any major role in morphological change, and will say no more about this alternative. I think it was more important that a surface analysis of the 1st sg. exponent shows it to differ strikingly from all the other subjunctive endings. In the past indicative of weak verbs, it is more unclear what to make of the contrast between *a* in the 1st sg. and the *i* in the rest of the singular, as the plural has another vowel, *u*, in all persons. One may be tempted to analyse the *i* in the singular as a partial exponent for number as such, making *-ði* the exponent of past indicative singular and *-ðu* the exponent of the past indicative plural (in the weak verbs). There is reason to assume what might perhaps (Ottósson 1992: 78f) be called 'quasi-exponence' for number in the Old Norse verb, located systematically before the rest of the person-number

Table 2. Percentage of new forms in the active (total number of examples in parentheses)

	<i>ō</i> -verbs	other weak	pret.-pres.	strong
A. Present subjunctive				
Stjórn 1 in AM 226 fol. c1350–60	78% (9)	67% (9)	82% (11)	88% (17)
AM 343 a 4to c1450–75		0% (2)	33% (3)	100% (1)
Reykjahólabók c1530–40	50% (2)	83% (6)	93% (30)	100% (14)
B. Past indicative of weak verbs				
Stjórn 1 in AM 226 fol. c1350–60	31% (13)	13% (31)	50% (4)	
AM 343 a 4to c1450–75	17% (18)	31% (48)	4% (23)	
Reykjahólabók c1530–40	50% (12)	22% (59)	38% (13)	
Brynjólfur Sveinsson epistolary 1652–75	100% (11)	52% (29)	77% (13)	
Árni Magnússon travels 1797–1801	100% (45)	82% (182)	80% (83)	
C. Past subjunctive				
Stjórn 1 in AM 226 fol. c1350–60		57% (7)	28% (7)	67% (3)
AM 343 a 4to c1450–75		50% (4)	24% (21)	
Reykjahólabók c1530–40		55% (9)	53% (38)	89% (11)
Brynjólfur Sveinsson epistolary 1652–75	100% (4)	86% (7)	83% (29)	100% (12)
Árni Magnússon travels 1797–1801	100%	94%(18)	87% (88)	100% (10)

exponents, and most marked in the form of different ablaut stages in the past indicative of strong verbs (e.g., *braut-* vs. *brut-*).

The effect of the primary generalisation for Icelandic in (1) is that the 1st singular adopts 3rd singular form where this reduces a three-way person distinction to a two-way distinction. Thus *the present indicative is excepted* in Old Icelandic, as it already has a two-way distinction. As pointed out in section 4 below, this is in contrast to Old Norwegian, where the primary generalisation may alternatively be that the 1st person has the same form as the 3rd person, because also the present indicative is affected, leading to loss of person distinction in the singular, e.g., *kallar – kallar – kallar*.

A conceivable alternative scenario for this change involves two stages: First, the distinction pattern of the past indicative of strong verbs is generalised to weak verbs, and then there is generalisation from the past indicative of weak verbs to the subjunctive. No such stages are visible in the data, though, thus supporting a wider-scope primary generalisation – however it should be formulated.

The period of change turns out to be from around 1300 until around 1900. I have summarised the progress of the change in Table 2. It must be added that new forms are more frequent than expected in 14th century because of Norwegian influence on the scribal norm, which ended around 1400. This has been extensively supported in Ottósson (1992: 172–179). The change in the 1st sg. goes through the fastest in the present subjunctive (in spite of the functional contrast between the old subjunctive *minna* and indicative *minni*). Thus, the texts from after the 16th century are omitted from the table for that category, as they show exclusively new forms (see A). In the past ind. and subj., the productive verb class, the *ō*-verbs, changes first, so that the 17th- and 18th-century

texts show only new forms (see B and C). This is not surprising if one assumes that the forms of an inflectional class with a great number of members which are often rather infrequent individually are more generally produced and analysed by general rules than what is the case in classes with rather few members, each of which is rather frequent textually. After the 17th century, we see that the percentage of new forms is quite high, and actually old forms are found only from a dozen or fewer of the most common verbs.

3.2 1st sg. of the middle voice in Icelandic

Having discussed changes in the active verb in Icelandic, we go on to discuss the changes in the 1st singular of the morphologically defined category of middle voice, which is characterised by the suffix *-st*,¹ originally from the reflexive clitic *-sk* (a form preserved into the 13th century). The details of the individual changes found are somewhat complicated, as discussed in detail in Ottósson (1992). The main point concerns the deviations found in the 1st sg. of the middle voice from the systematicity of the verbal inflection as a whole, as captured by what Wurzel (1984) calls the System-Defining Structural Properties (SDSPs) of the verbal inflection. We can take as our point of departure the stage when original 1st sg. endings in *-umk* had given way to others in *-umst*, around 1300. This stage is illustrated in Table 3 below, with forms more recent than this stage put in bold to the right of the corresponding forms. A complete paradigm of indicative and subjunctive forms is given for weak *ō*-verbs, whereas only the singular sub-paradigms of weak *ija*-verbs and of strong verbs are shown here.

The 1st singular forms in *-um-st* deviated most radically from the SDSPs of the verbal inflection in the following ways. First, the primary exponent for the subjunctive, *a*, does not appear, leading to systematic non-distinction of indicative and subjunctive (although differences in the stem distinguish the moods in some cases). Second and in a way even more radically, the 1st sg. in the indicative of strong verbs has a stem form otherwise restricted to the plural of the indicative. In the present indicative, the 1st sg. does not show *i*-umlaut, so that *brjótumst* has a different vowel than the 2nd and 3rd sing. *brýtst*. Even more strikingly, the past indicative has in the 1st sg. a different ablaut stage than the other singular forms, e.g. *brutumst* as opposed to *brautst* in the 3rd person (and 2nd person). In both of these cases, the 1st sg. thus has the same vowel as the plural, cf. Table 1. It is rather striking that no tendency to rectify these deviations by the simple local operation of generalising the vowel of the other singular forms to

1. This suffix is rather rarely written with *-st* from the time the variant *-sk* starts disappearing (13th century until around 1300) and until the late 15th century, as a number of orthographic variants including *-z*, *-zt*, and *-zst* predominate for a long period. I have argued at length (Ottósson 1992: 107–116, 121–125, 263–272) that these variants express /st/, but the last word has not been said on this controversial issue.

Table 3. Changes in 1st singular of the middle voice in Icelandic

Weak <i>ō</i> -verbs, ex. <i>kallast</i> 'call oneself, be called'				
		Present		Past
Indicative	sg. 1	köll-um-st	> kalla-st	köllu-ð-um-st
	2	kalla-st		kalla-ði-st
	3	kalla-st		kalla-ði-st
	PL. 1	köll-um-st		köllu-ðu-m-st
	2	kall-i-st		köllu-ðu-st
	3	kall-a-st		köllu-ðu-st
Subjunctive	sg. 1	köll-um-st	> kall-i-st	köllu-ð-um-st
	2	kall-i-st		kalla-ð-i-st
	3	kall-i-st		kalla-ð-i-st
	PL. 1	kall-i-m-st		kalla-ð-i-m-st
	2	kall-i-st		kalla-ð-i-st
	3	kall-i-st		kalla-ð-i-st
Weak <i>i</i> ja-verbs, ex. <i>minnast</i> 'remember'				
		Present		Past
Indicative	sg. 1	minn-um-st	> minni-st	minn-t-um-st
	2	minni-st		minn-ti-st
	3	minni-st		minn-ti-st
Subjunctive	sg. 1	minn-um-st	> minn-i-st	minn-t-um-st
	2	minn-i-st		minn-t-i-st
	3	minn-i-st		minn-t-i-st
Strong verbs, ex. <i>brjótast</i> 'break in'				
		Present		Past
Indicative	sg. 1	brjót-um-st	> brýt-st	brut-um-st
	2	brýt-st		braut-st
	3	brýt-st		braut-st
Subjunctive	sg. 1	brjót-um-st	> brjót-i-st	bryt-um-st
	2	brjót-i-st		bryt-i-st
	3	brjót-i-st		bryt-i-st

the 1st person, can be seen until about the time when the general change affecting all the 1st sg. middle voice starts. One may venture the suggestion that this is due to an inherent preference for concrete changes, involving the extension of the domain of a whole inflectional form, over more abstract changes involving the generalisation of relational exponents such as a vowel alternation.

As an underlying primary generalisation for all of the changes in the middle voice, the following may be suggested.

- (2) *Primary generalisation for Icelandic person-number inflection in the middle voice*
The first person has the same form as the third person.

It may be noted that this is the same generalisation as in Old Norwegian for the active forms, cf. section 4 below. This generalisation is followed through in the Old Icelandic

middle voice also where it leads to the elimination of the person distinction, namely in the present indicative.

There is no tendency to get rid of these last-mentioned deviations and others seen in the middle voice, until after the changes in the active (discussed in 3.1) have started. When the middle voice endings start changing, however, in the late 15th century, it is exactly the most deviant forms that are targeted first. In other words, new forms break through first in the strong verbs, most strongly in the past tense (past *brutumst* > *brautst*, pres. *brjótumst* > *brýtst*). Table 4 below, with percentages of new forms broken down into categories, is just a tiny but quite representative extract from the results of extensive excerption of texts as fully documented in Ottósson 1992. The generalisations that I am about to state are based on the full account in that work, rather than on the illustrative data offered in the table. The period of change is from the late 15th century to the mid-18th century. The new middle forms in the 14th century, just like those in the active, are a Norwegianism restricted to the written language, according to the extensive argumentation in Ottósson (1992). Although the change as a whole takes somewhat longer, in most of the relevant forms it seems to be carried through in about a century or less. After 1550, old forms are largely concentrated in the most common inflectional category, namely present indicative. Soon after that, old forms are restricted to a few of the most common verbs, which happen to be *ija*-verbs, and in the first half of the 18th century there is a single verb form of the old type still holding out. Thus, whereas the log phase of the change seems to take a century at most, the levelling-out phase, characterised by what may be termed lexical erosion, lasts for two centuries.

Table 4. Percentage of new forms in the middle voice (total number of examples in parentheses)

	<i>ō</i> -verbs	<i>ija</i> -verbs	other weak	strong
Stjórn 1 in AM 226 fol. c1350–60	89% (9)	83% (6)	0% (1)	
AM 343 a 4to c1450–75	0% (2)	0% (24)	0% (3)	100% (1)
Reykjahólabók c1530–40	45% (11)	50% (22)	63% (8)	100% (1)
Brynjólfur Sveinsson epistolary 1652–75	100% (7)	93% (61)	100% (3)	100% (13)

4. Person-number inflection in Middle Norwegian

Returning to the active verb, its person-number inflection in Norwegian started diverging from Icelandic in its development from the common Old Norse (Norwegian-Icelandic) language stage. In this section, I discuss the development in Middle Norwegian, in the traditional sense of the period from around 1370 to the early or mid-16th century. This development is discussed and documented in some detail in Ottosson (2003), cf. Trosterud (2001). The paradigms in Table 5 below show the indicative forms of the productive verb class, the weak *ō*-verbs, and of the strong verbs for contrast, at

the beginning of the period, and to the right of the >, the same forms at the end of the period. The subjunctive is left out of consideration because of uncertainty in interpreting the relatively few attested examples.

Table 5. Indicative forms in Norwegian ca. 1370 and ca. 1500 (new forms in italics)

Weak <i>ō</i> -verbs				
	Present		Past	
SG. 1	<i>kallar</i>	> kallar	kallaði	> kallaði
2	kallar	> kallar	kallaði(r)	> kallaði
3	kallar	> kallar	kallaði	> kallaði
PL. 1	kollum	> <i>kalla</i>	kallaðum	> <i>kallaði</i>
2	kallir	> <i>kalla</i>	kallaður	> <i>kallaði</i>
3	kalla	> kalla	kallaðu	> <i>kallaði</i>
Strong verbs				
	Present		Past	
SG. 1	<i>teker</i>	> teker	tók	> tók
2	teker	> teker	tókt	> tókt
3	teker	> teker	tók	> tók
PL. 1	tokum	> <i>taka</i>	tókum	> <i>tóku</i>
2	takir	> <i>taka</i>	tókur	> <i>tóku</i>
3	taka	> taka	tóku	> tóku

Looking at the state of affairs holding at the beginning of the Middle Norwegian period, we see the effects of a change similar to that discussed in section 3.1, but taking place already in Old Norwegian. The change in the active is also more radical in Norwegian than in Icelandic, in that all persons of the singular merge in the present, like in the Icelandic middle voice forms discussed in 3.2. This fact can be seen by comparing the italicised forms to the left of the arrows here with the paradigms in Table 1 above. Another Old Norwegian change which does not happen in Icelandic concerns the 2nd plural, where final *-ð* is replaced by *-r* mostly in the period ca. 1270–1325. This change does not affect the local distinction patterns, however, as the 2nd person remains distinct in form from the other persons of the plural throughout the Old Norwegian period. As the changes in Old Norwegian are not our primary concern here, I refer to Ottosson (2003) for further details.

For the further development of the person-number inflection in the Middle Norwegian period, I suggest a primary generalisation in the late 14th century to the following effect.

- (3) *Primary generalisation for person-number inflection in Middle Norwegian*
There is no person inflection

This generalisation, leading to person inflection being abandoned across the board, is put into effect essentially in the course of the 15th century, somewhat earlier in the singular than in the plural. A striking exception to that generalisation is the 2nd

singular past tense of strong verbs, e.g., *tókt*, which seem to keep their *t*-ending almost intact well into the 16th century, essentially until Norwegian is supplanted by Danish in writing. This *t*-ending is unique not only among the indicative endings but also among the subjunctive endings (cf. Table 1 above) in crucial aspects of its sound shape. Whereas the unstressed vowels have shown a tendency to merge in various ways in Norwegian dialects, and final *-r* and *-m* tended to be dropped, a postconsonantal final *-t* is generally not subject to being dropped. Thus, while maintaining that the change is morphological in nature (as argued at some length in Ottosson 2003), one may assume that phonological factors affected the rate of change. Another relevant factor is the relative frequency of the attested resistant forms, belonging to some of the most common verbs in the language. I think, however, that yet another factor needs to be invoked, especially in view of the marginal survival of these forms long after they could find a place in the over-all inflectional system.

Some conservative dialects, at least the one of Voss in the Hordaland district of Western Norway, have been reported to preserve old 2nd singular forms in the strong past indicative as well as the present indicative of preterite-presents even until the 19th century. Aasen (1864 § 234) thus reports from the mid-19th century that a few places, especially in Voss, one can find a few such remnant forms, all of them very rare. He mentions the strong forms *du tok* 'you (sg.) took', *du fort* 'you (sg.) went', *du saagt* 'you (sg.) saw' and the preterite-presents *du kant* 'you (sg.) can', *du skalt* 'you (sg.) shall', *du veist* 'you (sg.) know'. Vidsteen (1884: 35) could not find such forms in Voss a generation later, however (cf. also Venås 1974: 362f). Some other scholars (Ross 1895; Indrebø 1951: 256; Beito 1986: 277f) have reported forms of this type from the late 19th century until the mid-20th century from the same general area. All of these most recently attested forms, more of them from preterite-presents than from strong verbs, have a 2nd person pronoun immediately following or clearly cliticised: *veistu* 'do you (sg.) know', *veist du* 'do you (sg.) know', *vilt du* 'do you (sg.) want to', *lögustu* 'did you (sg.) lie'. One may reasonably assume that the relations between these forms and cliticised 2nd person pronouns were in fact crucial to their survival.²

I would like to claim that number inflection in the verb is generally retained at least until the 16th century, when the use of Norwegian in writing stops. This would mean that apart from the special case of the *-t* in the 2nd sg. strong past, number inflection doesn't start to disappear until the person inflection is gone. This fits well with the tenacity of number inflection in the dialects. Even in the 19th century, number distinction was common in the verb in parts of Norway (Aasen 1864: § 205, 217, 219, 222, 233–234, 322). Although the distinction has been receding, it was still reasonably vibrant in a number of dialects in West-Central Norway after the mid-20th century (Venås 1967: 347f, 352–358 w. ref., 1974: 363).

2. Vidsteen (1884: 35) actually reports forms from other verbs in the Voss dialect and neighboring dialects in the early 1880s which must show a similar special development when a 2nd

A somewhat bothersome exception to the generalisation that person inflection disappeared before number inflection is that the past tense of weak verbs shows merger not only of person, but also of number already from late 14th century on. The relevant forms are the italicised *kallaði – kallaði – kallaði* in the right-hand bottom of the *ō*-verb paradigm in Table 5. This may be an expression of the universal tendency to minimise morphological differentiation in the marked category. Further very detailed research, also of the closely related development in Swedish, is needed to determine whether this neat picture can be maintained.

5. Person-number inflection in (High) German: Morphosyntactic sensitivity (largely) eliminated, two-way person distinction extended

5.1 Overview and the Old High German situation

Going on to look at changes in the person-number inflection in German, it must be stressed that I have not excerpted the German sources myself, and depend on results from others. The handbooks and monographs do not provide the kind of detail I am interested in, and there are scarcely any special studies that do so either. Because of this, I don't have the kind of detailed information on the German changes as for the Nordic languages. Nevertheless, comparison with the German changes turns out to be rather interesting. One may see some corroboration for the tentative primary generalisation supposedly propelling a two-way person distinction in Icelandic. Further, German provides evidence for a different kind of primary generalisation than what we have seen in the Nordic languages, namely the elimination of what we may call morphosyntactic sensitivity, that is, different exponents for a particular morphological category depending on the identity of other inflectional categories instantiated in the individual inflected form.

Table 6 below provides a point of reference for the High German changes in the form of two crucial paradigms for the Old High German finite verb, with subsequent changes indicated. One of the paradigms represents strong verbs and the other the productive inflectional class of the weak verbs. As for Icelandic, imperative forms of the finite verb have been omitted. Innovative forms are in bold, and those from after the Old High German period appear in separate columns to the right of the OHG forms. Less important innovations are in parentheses. Most of the innovations have only been shown in the strong paradigm, not only those specific to the strong verbs, but also those where the morphological context is essentially the same in weak verbs as in strong ones. The domain of the individual innovations will be clearly indicated in the subsequent discussion.

person sg. pronoun follows. In his amateur transcription the forms are *sert du / sjért du* 'do you see', *hart du* 'do you have', *slært du* 'do you hit', *fært du* 'do you get', *naort du* 'do you reach'.

Table 6. Changes in person-number inflection in High German

Strong verbs, ex. <i>niman</i> 'take'					
		Present		Past	
Ind.	SG. 1	nimu	nime	nam	(name)
		2 nimis(t)		nâmi	namest
		3 nimit		nam	(name)
	PL. 1	nëmumês > nëmêm/n nemen		nâmum	nâmun
		2 nëmet		nâmut	
		3 nëment	nemen	nâmun	
Subj.	SG. 1	nëme		nâmi	
		2 nëmês(t)		nâmis(t)	
		3 nëme		nâmi	
	PL. 1	nëmêm	nëmên	nâmîm	nâmîn
		2 nëmêt		nâmît	
		3 nëmên		nâmîn	
Weak <i>ō</i> -verbs ('Class II'), ex. <i>lobôn</i> 'praise'					
		Present		Past	
Ind.	SG. 1	lobôm, -ôn	lobe	lobôta	
		2 lobôs(t)		lobôtôs(t)	
		3 lobôt		lobôta	
	PL. 1	lobôm, -ôn		lobôtum, -un	
		2 lobôt		lobôtut	
		3 lobônt		lobôtun	
Subj.	SG. 1	lobo		lobôti	
		2 lobôs(t)		lobôtîs(t)	
		3 lobo		lobôti	
	PL. 1	lobôm, -ôn		lobôtîm, -în	
		2 lobôt		lobôtît	
		3 lobôn		lobôtîn	

When discussing the changes in German, it is necessary to keep in mind some important sound changes which interfere with these changes. The most important one is the merger of unstressed vowels into schwa, occurring in the transition from Old High German to Middle High German in the eleventh century. Also important are the effects of umlaut, as well as the change *-m* > *-n*, to be discussed below.

The individual changes, or sub-changes, that I will discuss in the following subsections, can be claimed to be propelled by the following two primary generalisations.

(4) *Primary generalisation 1 for person-number inflection in High German*

The person-number forms are morphosyntactically insensitive, i.e., the same for all subparadigms regardless of tense and mood

The effects of this generalisation in the history of German are that the primary exponents, the suffixes, for person and number step by step stopped being sensitive to another inflectional category. In other words, the sound shape of the suffix e.g., the

3rd plural, no longer depended on the other inflectional categories, tense and mood, but was uniform throughout.

The elimination of morphosyntactic sensitivity has concrete effects in the form of innovations in a number of subdomains, as follows.

1. 1st sg. *nimu* vs. *lobôn* > *nime* : *lobe* in pres. ind. on the model of other subparadigms
2. 2nd sg. *-st* is extended into the strong past and vowel alternation eliminated: *nâmi* > *namest*
3. 1st pl. pres. ind. gets same ending as other subparadigms: *nëmumês* > *nëmêm*
4. 3rd pl. pres. ind. gets same ending as other subparadigms: *nëment* > *nemen*

Complicating the picture is the fact that these more specific changes start at very different times, as we shall see. Moreover, *sensitivity to another inflectional category is actually retained* in some cases:

1. 3rd sg. present indicative *-t* remains specific to that subparadigm
2. 1st/3rd sg. strong past ind. zero ending remains distinct from the past ind. ending of weak verbs and from the corresponding forms in all other subparadigms (except preterite-presents). With regard to the last exception it may be noted that Early New High German often has *-e* in the strong past, but such forms were generally short-lived, although one has survived in *wurde*, see, e.g., Moser (1909 § 179).

We will see that this primary generalisation interacts in an interesting way with the following one.

- (5) *Primary generalisation 2 for person-number inflection in High German*
There is (at most) a two-way person distinction (in the plural)

A point of departure for this generalisation may be seen in the fact that a two-way distinction is found in the singular at the earliest stage of Old High German, except in the present indicative. This generalisation seems to have played a certain role, in conjunction with the first generalisation, in the 1st and 3rd plural, and it is the sole propeller of a change in the 2nd plural. Thus we get a welcome indirect support for the a priori perhaps somewhat suspect primary generalisation suggested for Icelandic in 3.1.

In sections 5.2–5.6, I give a bit more detail about the individual cases instantiating the two generalisations. I will go through the subparadigms more or less according to the usual order of persons and numbers, summing up in the final subsection 5.7. I will give tables for each change, summarising the chronological development by listing the commonly occurring variants in each of four periods (to the extent that all are needed for individual changes), with the innovative forms marked in boldface. The periods are essentially a unification of the older periodisation where the boundary between Middle High German and New High German is drawn around 1500 and the more recent periodisation where Early New High German starts around 1350, making the Middle High

German period much shorter (Paul et al. 1998: 10). Thus the periods are: 1. Old High German, c750-1050 (some have preferred c1100 as the end-point), 2. Middle High German, c1050-1350, 3. The transition period between Middle High German and Early New High German, c1350-1500, and 4. Early New High German more strictly speaking, c1500-1650. In order to see the grammatical distribution clearly enough, as well as the interaction of individual changes, it is necessary to specify to some extent the geographical spreading of innovative forms. The main dialect bifurcation is that between Upper German and what I have chosen to call 'Central' German rather than the more common 'Middle' German, which is easily confused with periodisation. The main dialect groups of Upper German are Alemannic in the west and Bavarian in the east, as well as East Franconian in the north. Central German consists of the West Central German dialects of Rhenish Franconian in the south (with South Rhenish Franconian as a transition to Upper German) and Middle Franconian in the north, and of various East Central German dialects. It is an important question, how well the spoken language and especially dialectal features are reflected in the written documents. This is especially pertinent after 1500, when standard written norms become more powerful, which would make it necessary to compare features of written texts with the dialect features documented for the last two centuries.

5.2 1st singular

In the 1st singular of the present indicative, primary generalisation 1 may be seen to have played an active role in the Middle High German period, based in part on morphological patterns which were not present in Old High German. The most basic facts of the development are summarised in Table 7 below.

Table 7. Endings with *-n* (<*-m*) and without it in 1st singular

	PRES. IND.
Old High German c750-1050	nimu vs. lobôm, -ôn (NW dial. nemen, loben)
Middle High German c1050-1350	nime : lobe (W dial. nemen, loben)
Transition period c1350-1550	nime : lobe (NW dial. nemen, loben, SW dial. neme, loben)

In the oldest stages of OHG, strong verbs and weak *ja*- and *ija*-verbs ended in *-u*, whereas weak *ô*- and *ê*-verbs ended in *-ôm*, *-êm*, cf. Table 6 above. *-m* changed to *-n* in the course of the 9th century. The bifurcation began being modified in two ways in the Old High German period. First, starting not later than the 10th century, Rhenish and Middle Franconian (later also East Franconian) showed a tendency to generalise *-n* to all inflectional classes (Schatz 1927: 318; Franck 1971: 251; Braune & Reiffenstein 2004: 260). Apparently a little later, towards the end of the OHG period, we see the opposite tendency, dropping the *-n* in Alemannic and not least in Bavarian (Schatz 1927: 317f; Schatz 1907: 168; Förster 1966: 89-91; Braune & Reiffenstein 2004: 260). It is the latter tendency which soon becomes markedly stronger than the first one.

In Middle High German, *-e* is the common ending for all verb classes. In Central German, especially Middle Franconian, as well as in the Alemannic variety of Upper German, *-en* shows up in all classes of weak verbs as well as in strong verbs (Weinhold 1883: 387f, 426f; Weinhold 1863: 334, 364; Paul et al. 1998: 240; Michels 1979: 217; cf. Weinhold 1867: 289). In the transition period to Early New High German, the geographical distribution does not show much change at first, but the grammatical distribution emerges clearer, in part due to more systematic research (Ebert et al. 1993: 239; Dammers et al. 1988: 170–174; Besch 1967: 299–301). In West Central German, especially Riparian (around Cologne), *-en* is predominant in all inflectional classes throughout the period. In Alemannic, the *-en* variant is not quite as common and tends to be more restricted to weak verbs. The situation is generally more complex and unclear in Alemannic, though, with the *-en* variant mostly attested in Swabian and especially East High Alemannic and not becoming common until the 15th century but surviving to various degrees into the 16th century or even longer.

What might seem as simple levelling between inflectional classes in this case will on closer inspection reveal itself as involving the elimination of morphosyntactic sensitivity. At the oldest Old High German stage, the endings of the 1st singular were very varied across morphosyntactic categories, as can be seen in Table 6 above. The situation at that stage and later stages is summarised in Table 8 below. In addition to the morphosyntactic sensitivity, there is widespread allomorphy between strong verbs and \bar{o} -verbs, not only in the pres. ind., but also in the past ind. (\emptyset vs. *-a*) and the pres. subj. (*-e* vs. \emptyset). In the present subjunctive, though, the \bar{o} -verbs have an Upper German variant in *-ôe* (Braune & Reiffenstein 2004: 265), where *-e* effects uniform exponence in both inflectional classes under discussion. Otherwise, only the past subjunctive has the same ending in strong verbs and weak verbs.

Table 8. 1st singular across morphosyntactic categories

	PRES. IND.	PRES. SUBJ.	PAST IND.	PAST SUBJ.
Old High German c750–1050	nimu - lobôn	nëme - lobo	nam - lobôta	nâmi - lobôti
Middle High German c1050–1350	nime - lobe(n)	nëme - lobe	nam - lobete	nâme - lobete

The merger of unstressed vowels in the 11th century created preconditions for the extermination of morphosyntactic sensitivity in this category. After that change, the only category exhibiting allomorphy was the present indicative. It is natural to assume that of the two levelling processes already underway, the one which brought the pres. ind. into line with the other categories gained momentum on account of that very fact. One marked exception is West Central German, where the opposite generalisation had reached its most advanced stage. The other marked exception is Alemannic, where the reason was different, namely that the unstressed vowels did not merge to the same extent as in other dialects. In particular, the weak verbs kept the final *-i* in the past subjunctive (Paul et al. 1998: 88, 253; Weinhold 1883: 436; 1863: 374; Michels 1979: 223). Thus, the preconditions for primary generalisation 1 were not met to the same extent in Alemannic as in other dialects. Although the *n*-dropping seems to have started later

than the generalisation of *-n*, it broke through in most of the area in relatively short time. Thus it was the primary generalisation involving elimination of morphosyntactic sensitivity which decided between two strategies for eliminating inflectional class allomorphy in the local domain of present indicative.

5.3 2nd singular

In the 2nd sg., the past indicative of strong verbs had at the earliest stage an ending which was different not only from that of weak verbs in that category, but also from the subjunctive and the present indicative, all of which had the same ending in common. This morphosyntactic sensitivity was eliminated by extending the common ending into the strong past indicative in Middle High German and the transition period to New High German, as summarised in Table 9.

Table 9. Levelling in 2nd singular past indicative of strong verbs

	PRES. IND.	PRES. SUBJ.	PAST IND.	PAST SUBJ.
Old High German c750–1050	nimis(t)	nëmes(t)	nâmi /næmi/	nâmis(t)
Middle High German c1050–1350	nimest	nëmest	næme / næmest	næmest
Transition period c1350–1500	nimest	nemest	nämest > namest	nämest
Early New High German c1500–1650	nimest	nemest	namest	nämest

A precursor to this change was the change *-s* > *-st* which started already in the OHG period, but took a long time to reach completion. It emerged first in East and Rhenish Franconian in the 9th century, then spread into Alemannic and Bavarian in the 10th century and was largely completed there before the MHG period (Braune & Reiffenstein 2004: 261; Weinhold 1883: 388f, 427; Brinkmann 1965: 154–156). In MHG, the Central German dialects still show vacillation between old and new forms (Weinhold 1883: 388f; Brinkmann 1965: 155), but in the transition period, the old variant in *-s* becomes extinct in the course of the 15th century everywhere but in Middle Franconian (Dammers et al. 1988: 175–179, 185–187). The new ending is commonly assumed to have arisen through false segmentation of forms with the enclitic personal pronoun *thu*, *du*, and partly through analogy with present ind. forms like *kanst* ‘(you sg.) can’ of the preterite-presents, which would explain why the ending is first introduced in the pres. ind. (Braune & Reiffenstein 2004: 261; Brinkmann 1965: 154f). This change did not affect the systematic properties of the verb inflection, in that the distinction patterns remained unchanged.

The exception from the *-s(t)* ending was the 2nd sg. strong past indicative with the ending *-i*: *nâmi* in Old High German. It should be noted that this form is assumed to have had *i*-umlaut caused by the unstressed *i*: /næmi/, although this wasn’t shown in writing at that stage. In addition to the deviant ending, this form constituted a marked deviance from the System-Defining Structural Properties for the verb system, in that the 2nd sg. had the ablaut stage otherwise found in the plural of the indicative, see Table 6.

Let us get a little bit closer view of the chronological development of the relevant forms than what appears in Table 9, before turning to the morphological interpretation. In Middle High German, the ending *-est* appears in the 2nd sg. of the strong past indicative from the 12th century on, first in Central German, then in Upper German. This variant spreads in the 13th and especially the 14th century (Michels 1979: 218; Moser 1909: 204; Weinhold 1883: 399f). At the beginning of the transition period (2nd half of the 14th century), the new ending is already predominant, and the old forms essentially disappear in Central German in the course of the 15th century, although they survive to some extent in Upper German (Dammers, Hoffmann & Solms 1988: 181). It should be mentioned that Upper German sometimes shows the variant *-t* rather than *-(e)st* in the forms in question (e.g., *spræcht* for *spræche* ‘(you sg.) spoke’), especially in the 14th and 15th centuries (Dammers, Hoffmann & Solms 1988: 181–185; Michels 1979: 218) – a point to which I will return presently. The last of the changes which affected the 2nd sg. was readjustment of the vocalism. What was involved was not only the elimination of the umlaut which connected the form with the subjunctive, but the adoption of the same vowel as in the 1st and 3rd persons of the indicative. Thus, the ablaut stage became that of the singular in cases where the numbers differed.³ The levelling of the vocalism happens in the transition period to Early New High German. The levelled form first shows up in second half of the 14th century, and the change reaches completion throughout the High German area in the course of the 15th century (Dammers, Hoffmann & Solms 1988: 283f; Moser 1909: 200; cf. Ebert et al. 1993: 247).

Turning to the morphological interpretation now, we start at the earliest Middle High German stage. There, one may assume that the umlaut had acquired an important symbolising function as a result of the reduction of unstressed vowels (cf. Paul et al. 1998: 63). This in turn must have strengthened the perceived phonological similarity between the 2nd sg. indicative and the singular of the corresponding subjunctive, with which the former shared the umlaut, at the expense of the perceived similarity to plural forms in the indicative, which did not have umlaut. The singular forms of a strong verb such as *niman* were of the type 1st sg. /nam/, 2nd sg. /næme/, 3rd sg. /nam/, whereas the subjunctive forms were 1st sg. /næme/, 2nd sg. /næmest/, 3rd sg. /næme/. Thus, the indicative form /næme/ was indistinguishable from subjunctive forms in the 1st and 3rd sg. There may be some empirical confirmation that this non-distinction was bothersome. It has been pointed out by Förster (1966: 164) that in Bavarian glosses from the 10th and 12th centuries, the 2nd person pronoun has in a few cases been cliticised in the form of *-du* to 2nd sg. indicative forms: *zipitrugidu*, *ziupitrugidu* translating *imposuisti*

3. Paul et al. (1998: §240) assume that at the stage where umlaut disappeared, the ablaut stage of the plural is maintained, and Rückert (1878: 257–259) reports some such forms alongside forms with the singular ablaut stage. At any rate, such forms with plural vocalism seem to be the exception.

‘you (sg.) imposed’, *lugidu* translating *mentitus es* ‘you (sg.) lied’. Such cliticisation is otherwise very rare in texts from this period. These considerations support the assumed exceptionality of the type of form which is at our centre of attention.

To remedy this situation, if one were to extend the *-es(t)* ending to the strong past indicative by simply suffixing it to the inherited form, one would get a form identical to the corresponding subjunctive form. Such non-distinction of indicative and subjunctive went against the System-Defining Structural Properties of the Old High German verb inflection. In MHG, the status of the opposition was less clear, as sound change had led to more extensive non-distinction of the indicative and the subjunctive (Paul et al. 1998: 240–242, 252f). The weak verbs showed such non-distinction throughout, and the strong verbs did so in many forms of the present, i.a. 1st and 2nd plural in the pres. ind. In the past tense of the strong verbs, on the other hand, the distinction was largely retained by the effects of umlaut and in part ablaut. Whatever the status of this distinction, we do get a form shared by the indicative and the subjunctive in the 2nd sg., whether by simple extension of the subjunctive form (as in the 1st pl., see 5.4 below) or by suffixation of the old form. The above-mentioned Upper German alternative ending *-t*, purportedly borrowed from the preterite-presents (Michels 1979:218), does maintain the distinction, but at the most significant cost of increased morpho-syntactic sensitivity. An alternative way of generalising the *-(e)st* ending would have been to attach it to the 3rd singular form /*nam*/, thus ensuring the same root vocalism in all singular forms. However, this is not what happened, at least not at the outset. It was only at a somewhat later stage that the umlaut was eliminated from the innovative form, as we have seen.

5.4 1st plural

In the 1st plural, the pres. ind. had a different ending than the other subparadigms. Already in the Old High German period we see changes which address this problem. In this case, we see an interesting interaction of changes which turns up to shed light not only on the first but also the second primary generalisation suggested here.

At the most conservative attested stage, there were two types of endings, a longer one in the pres. ind.: *-Vmês*, and a shorter one in the other subparadigms: *-Vm*. Already at the end of the 8th century, the longer ending started spreading into the other subparadigms (into the pres. subj. in some texts, into the past tense forms in others), and eventually became predominant in all subparadigms in certain texts. Before this spread was completed in all dialects, however, it was in a way reversed, in that a shorter variant was generalised across the board. This variant was no longer *-Vm* but almost always *-Vn*, showing the effects of a sound change which started at the beginning of the 9th century. That change is assumed to have affected final *-m* generally, but it is in effect restricted to inflectional endings, as stem-final *-m* is excepted (Braune & Reiffenstein 2004: 120). A very rough summary of this complicated process is presented in Table 10 below.

Table 10. Generalisation of *-n* (< *-m*) to present indicative of the 1st plural

	PRES. IND.	PRES. SUBJ.	PAST IND.	PAST SUBJ.
Old High German c750–1050	nēmumês > nēmên	nēmê/n	nânum/n	nâmîm/n
Middle High German c1050–1350	nëmen	nëmen	nâmen	nâmen

Although some details of the development are not clear due to scarcity of sources, it is clear that the changes under discussion proceeded at different paces in individual dialects of Old High German (Braune & Reiffenstein 2004: 261–263; Schatz 1927: 319–328; Schatz 1907: 162–165, 168f, 172). Although *-mês* does not seem to have started to spread appreciably later in Upper German, the spread went on much longer there, especially in Bavarian, than in the Franconian dialects, and likewise the reverse spread of *-n* was delayed in Upper German. Thus, in the East Franconian Tatian from c825, *-mês* is already predominant in all subparadigms, alongside some examples of *-n*, but the South Rhenish Franconian Otfred from c865 has almost universally *-n*. In Alemannic, the transition from *-mês* to *-n* happened mostly in the 10th century, and Notker from around 1000 seems to have completed the change (cf. Birkmann 1987: 133). In Bavarian, *-mês* is common in all subparadigms in the 10th century, although *-n* can be seen to be spreading as well, and Förster (1966: 69–72, 106) has examples of *-mês* in pres. ind. and subj. in Bavarian glosses from the 12th and 13th c. (A further change in the 1st plural, the Alemannic generalisation of *-nt*, is later, and will be discussed in 5.5 below.)

The two ways of achieving uniform exponence of the 1st plural are quite different in one respect. The generalisation of *-Vmês* involved creating new inflectional forms, in that a part of the ending had to be abstracted, let's say *-ês* for concreteness, and tacked onto an inflectional form where a different vowel preceded the *m*. Thus, past subjunctive *nâmîm* would be replaced by *nâmîmês*, on the basis of pres. ind. *nēmumês*. This rather abstract operation was probably facilitated by the fluctuation existing from early on in the quality of the vowel preceding *-mês* in the present indicative: *-umês*, *-amês*, *-emês* (Braune & Reiffenstein 2004: 262).

The second change, the generalisation of *-n*, was much more concrete in its mechanisms. The present indicative simply borrowed a 'prefabricated' form from the subjunctive, as shown especially by the length of the *ê* in *nēmên*. A conceivable alternative would have been to simply trim the final *-ês* off, yielding *-ôm* in the *ô*-verbs, *-êm* in the *ê*-verbs and leaving the variants *-am*, *-em* and *-um* in the (*i*)*ja*-verbs and strong verbs. As the change *-m* > *-n* was still underway when the short endings started to get generalised, the trimmed forms might have fed into that change. That would have made the process more complex, however. Extending the form of the subjunctive into the indicative, however, had the drawback of contravening the systematic distinction between the indicative and the subjunctive (cf. the discussion in 5.3). On the other hand, a factor facilitating the direct borrowing of the subjunctive form was the identity in vowel quality between indicative and subjunctive which already existed in some subparadigms, providing a 'bridge' between the modal

categories. In the weak \bar{o} -verbs the 1st pl. indicative had the vowel \hat{o} in common with the subjunctive (see Table 6), and the same was true of the \hat{e} in the \bar{e} -verbs.

A side-effect of the change $-m > -n$ was that a three-way person distinction in the plural became two-way in all subparadigms except the pres. ind. The 3rd plural of the past tense and subjunctive ended in $-n$ from the earliest stage, and the preceding vowel was the same in all plural forms in these categories. Thus, this change had the immediate morphological effect that there remained only a two-way distinction between persons in the plural in the past tense and the subjunctive. This can be easily seen by consulting Table 6 above, cf. also Table 11 below. Thus, a bona fide sound change tipped the scales in favour of one of the two competing strategies for achieving morphosyntactic sensitivity, as the shortening variant provided the extra bonus of complying with the second primary generalisation favoring two-way person distinctions.

Table 11. Regular sound change merging 1st PL. with 3rd PL. outside PRES. IND. (here: PAST IND.)

	PL. 1st	2nd	3rd
Old High German c750–1050	nāmum > nāmum	nāmut	nāmum
Middle High German c1050–1350	nāmum	nāmut	nāmum

I would like to suggest that it was actually this accidental morphological effect of regular sound change which determined the peculiar reversal of the development. This suggestion gets some empirical support from the extreme scarcity of forms in $-m$ outside the oldest texts. Detailed scrutiny of the attested examples within the context of the phonological and morphological system of the individual sources is needed to determine the viability of such an approach, however.

5.5 2nd plural

The relevant change in the 2nd pl. is mostly restricted to the southwestern dialects, Alemannic. There, the old ending of the 3rd pl. in the pres. ind., $-nt$, is generalised to the 2nd pl., as illustrated in Table 12. As opposed to the other changes, primary generalisation 1 is not involved in triggering the change initially, as the initial motivation can only lie in the second primary generalisation, preferring a two-way person distinction.

Table 12. Three-way person distinction reduced to two-way in the plural in Alemannic

	PL. 1st	2nd	3rd
Old High German c750–1050	nēmames > nēmên	nēmet > nēment	nēment
Middle High German c1050–1350	nēmen	nēment	nēment
Transition period c1350–1500	nemen, nement	nement	nement

In Old High German, this ending turns up early (from the end of the 8th century on) in Alemannic, mostly in pres. ind. In the later Alemannic Notker from c1000, the ending *-nt* occurs just as regularly in the subjunctive and in the past tense. There are also some examples of *-nt* in the 2nd pl. in the southernmost varieties of Franconian, but only sporadic examples in Bavarian (Braune & Reiffenstein 2004: 263f; Schatz 1927: 322f; cf. Förster 1966: 65, 105f). In Middle High German, the situation seems to be similar in some respects, although the handbooks are not optimally clear on that count. Here we find *-nt* in the 2nd pl. at first mostly in the pres. ind., then also in the subjunctive and the past tense, most commonly in Alemannic, but also to some extent in South Rhenish Franconian (Michels 1979: 217; Weinhold 1883: 390–394, 400f, 428, 431, 435f; Weinhold 1863; Paul et al. 1998: 240). (A less common alternative to *-ent* in the same dialects is *-en*, probably from forms of the 3rd pl., see Weinhold 1883: 391; Michels 1979: 217). Already at the Middle High German stage, one may sometimes find also *-nt* in the 1st pl., although this seems mostly to occur in the next period. In the transition period, the further spread of *-nt* (sometimes *-en*) into the 1st pl. also is clearly marked in Alemannic, whereas West Central German, mostly Rhenish Franconian, restricts *-nt* more to the 2nd pl. (Ebert et al. 1993: 249; Dammers et al. 1988: 191–202, 206–210; Besch 1967: 310–313). In this period, the *-nt* variant also has a strong position in the past tense in Alemannic, more so in strong verbs than weak. The further development of these forms is marked by merger of the plural forms in Alemannic dialects and the suppression of such forms in the written language.

It is natural to see the initial extension of the 3rd person ending *-nt* into the 2nd person in Old High German as a reflex of the primary generalisation aiming at two-way rather than three-way person distinctions locally. It should be noted that this change seems to get underway before the change *-m > -n* gains momentum. That change made the two-way distinction possible along other lines, as discussed in 5.6. The subsequent step in the morphological development of the 2nd plural, which has generalised the new ending *-nt* to the subjunctive and the past in Notker around 1000, can only be seen as a reflex of the first primary generalisation, tending towards morphosyntactic insensitivity. It must be noted that at that stage, the 1st plural ending had already become *-n*, so that this extension does not lead to a three-way distinction outside the pres. ind. In these other subparadigms, the distribution of the two variants just ends up being different from that in the pres. ind., with 1st pl. *-n*, 2nd pl. *-nt* and 3rd pl. *-n*, against 1st *-n*, 2nd *-nt* and 3rd *-nt* in the pres. ind. It only remains to add that the resulting complex situation may have been inherently unstable, judging by the rather early tendency to merge all persons in the plural.

5.6 3rd plural

In the 3rd plural, the subjunctive and the past tense ended in *-n*, whereas the pres. ind. ended in *-nt* at the earliest stage. This morphosyntactic sensitivity is abolished at a rather late stage, by extending the ending *-n* into the pres. ind.

Table 13. *-n* generalised to PRES. IND. of the 3rd PL.

	PRES. IND.	PRES. SUBJ.	PAST IND.	PAST SUBJ.
Old High German c750–1050	nëment	nëmên	nâmun	nâmîn
Middle High German c1050–1350	nëment / nëmen	nëmen	nâmen	nâmen
Transition period c1350–1500	nemen / nement	nemen	namen	nâmen
Early New High German c1500–1650	nemen	nemen	namen	nâmen

In Old High German, *-n* is rare in the pres. ind., mostly found in Franconian (Braune and Reiffenstein 2004: 264; Schatz 1927: 323; Franck 1971: 254f; Förster 1966: 39–41, 45). Conversely, *-nt* shows some tendency to extend into the pres. subj. in Bavarian (Förster 1966: 43–45, 52; but cf. Schatz 1907: 165). In Middle High German, *-en* gains ground rather early in Central German, but is rare in Upper German before the 14th century (Weinhold 1883: 391f, 429; Michels 1979: 217; Paul et al. 1998: 240). The opposite extension, of *-nt* into the subjunctive and the past (Weinhold 1883: 393, 400f, 430, 436 w. ref.) seems to be essentially Alemannic, and connected to the generalisation of *-nt* to the 2nd person discussed in 5.5. At the beginning of the transition period, the new ending is already predominant in East Central German, and spreads in Bavarian especially from the 15th century on. The new ending spreads rather more slowly in West Central German, and Alemannic shows the same opposite development as earlier, generalisation of *-nt*, leading eventually to merger of all person forms in the plural, as mentioned in the previous section. To the extent that the old distinction between indicative *-nt* and subjunctive *-n* in the 3rd plural is maintained in the 15th century, this happens more often in strong verbs than in weak verbs, and the old ending is finally abandoned in the course of the 16th century (Ebert et al. 1993: 248–250; Besch 1967: 310–313).

Note the side-effect of a three-way person distinction becoming two-way in the pres. ind. (see Table 14), as had happened already in Old High German in the past ind. as well as the subjunctive as a result of the sound change *-m > -n*. It seems plausible that this factor played a role in choosing between the two alternative ways of achieving a uniform ending for the 3rd plural, as the levelling only gained momentum little by little after the two-way distinction was essentially in place elsewhere.

Table 14. PRES. IND. reduces three-way person distinction to two-way in the plural

	PL. 1st	2nd	3rd
Old High German c750–1050	nëmên	nëmet	nëment
Middle High German c1050–1350	nëmen	nëmet	nëment / nëmen
Transition period c1350–1500	nemen	nemet	nemen / nement
Early New High German c1500–1650	nemen	nemet	nemen

5.7 The German changes in retrospect

In looking at the German changes, it was possible to find some indirect support for the tentative formulation of the primary generalisation for the person-number inflection in Old Icelandic in terms of a two-way distinction (5.4 and 5.5). Another interesting observation was the way that the results of sound change changed the course of a morphologically motivated change already underway (5.2 and 5.4). Some interesting observations also emerge on the question of the scope of a primary generalisation. The difference we have seen in the actualisation time for the individual changes triggered by primary generalisation 1 in German, and indeed its partial non-actualisation, leads one to believe that if there indeed was such a primary generalisation, then that generalisation must have become active in stages. I do not find it plausible that adaptive rules or something of that kind could have kept the 3rd sing. pres. ind. forms in *-t*, like *nimit* or *nimmt*, as a categorical exception to the present day. Another interesting aspect that we have seen is that the levelling may go in either of two directions. This does not only hold for inflectional classes, but also for morphosyntactically defined subparadigms. In particular, the maximally unmarked and most frequent present indicative may on its own be about as strong as the other subparadigms combined, as we have seen in the tug of war between these two groups of subparadigms, especially in 5.4, but also to some degree in 5.5 and 5.6. This is somewhat problematic for Wurzel's (1984) fundamental view that the System-Defining Structural Properties are always clear-cut. Somewhat similar situations may arise in instances where a single morphosyntactic category has several category terms, as is common in case systems, but also occurs, e.g., in tense systems with at least three tenses. In such situations, one might in general expect the (maximally) unmarked category term to exert stronger influence on other members of the paradigm than type frequency would predict. An even more basic question concerns the relative influence of type and token frequency in determining the course of change. Further speculation on this subject would lead too far in this context.

6. Conclusions

Although this investigation has left many questions open, I hope to have shed some light on various important aspects of the process of systemic inflectional change. Without repeating too much of what was just said about German, some of the main conclusions may be summarised as follows.

1. Concrete local steps seem to be preferred to constructing new forms (e.g., in the extension of subjunctive forms to the indicative in the 1st plural in German (5.4) and the middle voice in Icelandic (3.2)).
2. Change may be carried through first in the productive inflectional class of the verb, as within the active verb inflection in Icelandic, section 3.1.

3. Change may break through first where there are additional factors favouring it, as in the Icelandic middle voice in section 3.2. This aspect is most properly identified with the lag phase in the S-curve model of lexical diffusion.
4. Merger may happen much earlier in morphologically marked contexts, if the interpretation of the course of events in Middle Norwegian presented in section 4 holds up to scrutiny.
5. Change may happen most reluctantly in the most unmarked subparadigm, pres. ind., as in the active verbs in Icelandic, section 3.1.
6. Old forms may survive for a long time in a small number of very frequent verbs, e.g., active and middle verb forms in Icelandic, sections 3.1–3.2. Actually, in both of these cases, the levelling-out phase was almost as long as the rest of the change or even longer, and lasted for a couple of centuries. For this final phase, individual lexemes are clearly very important, but it might be more appropriate to speak not of lexical diffusion but lexical erosion in that final phase.
7. Change affecting the same inflectional subsystem in closely related languages like Norwegian and Icelandic may have different scope in the individual languages (3.1. and 4).
8. The fact that change may go in opposite directions (as in different dialects of German in sections 5.2 and 5.4) to achieve identity of forms in a certain subdomain may be taken to indicate that the resulting uniformity is more important or basic than extending the domain of one of the forms.

These tentative generalisations will obviously have to be tested on more extensive data and refined. Furthermore, it will be interesting to see whether generalisations such as these apply to different degrees to different types of change. For instance, one might guess that the simplification of the person inflection in the singular of Icelandic active verbs (3.1) could be actualised as a unified and coordinated change, starting around the same time in different subparadigms, for the reason that it was simpler than the changes in German discussed here. The unifying factor for these latter changes, the elimination of morphosyntactic sensitivity, may be inherently more abstract than the one for the Icelandic, making it less natural for the speakers to make the relevant wide-scope generalisation.

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Left Branch Extraction of nominal modifiers in old Scandinavian

Christer Platzack
Lund University

Old Scandinavian differs from modern Scandinavian in allowing Left Branch Extractions of nominal modifiers. In this chapter I argue that this difference is related to a difference in noun phrase structure between old Scandinavian and modern Scandinavian: old Scandinavian is a language where modifiers like adjectives, quantifiers and numerals are adjoined to NP, whereas in modern Scandinavian such modifiers are heads, taking the noun or its extended projection as its complement. The change from old Scandinavian to modern Scandinavian is seen as the result of a grammaticalization that follows van Gelderen's (2004) economy principle 'Be a head rather than a phrase'.

1. Introduction

Left Branch Extraction (LBE, Ross 1967) of nominal modifiers is permitted in old Scandinavian but not in modern Scandinavian, as illustrated by the Icelandic examples in (1) and (2):

- (1) a. *góðan eigum vér konung.* (Old Icelandic (Hkr¹))
 good.ACC have.1st PL we king.ACC
 'We have a good king.'
- b. *Hversu marga munu vér menn þurfa?* (Old Icelandic (Nj.))
 how many will we men need
 'How many men will we need?'
- (2) a. **Góðan eigum við konung.* (Modern Icelandic)
 good.ACC have.1st PL we king.ACC

1. *Heimskringla* (Hkr.) is a collection of Norwegian kings' sagas, written by Snorri Sturluson (1179–1241). The oldest preserved manuscripts are from the early 14th century. Examples are taken from Finnur Jónsson's text edition *Noregs konunga sögur af Snorri Sturluson I–IV* (Copenhagen 1893–1901).

- b. **Hversu marga munum við þurfa menn?* (Modern Icelandic)
 how many will.1st PL we need men

As we will see below, the same contrast can be illustrated with Swedish examples. In this chapter I will argue that the difference between (1) and (2) is due to a difference in noun phrase structure: in old Scandinavian, pre-nominal modifiers are usually XPs, adjoined to NP or merged as specifiers to extended projections of NP, whereas in modern Scandinavian they are heads. The change from old Scandinavian to modern Scandinavian is seen as the result of a grammaticalization that follows van Gelderen's (2004) economy principle, the Head Preference Principle, given in (3):

- (3) *Head Preference Principle*
 Be a Head rather than a Phrase (if possible)

My chapter is organized in the following way. In section 2, I will present more cases of LBE of nominal modifiers from old Icelandic and old Swedish, both fronting to first position in main clauses, and cases with Stylistic Fronting in embedded clauses. This section will also give an overview of the types of nominal modifiers that may strand the noun phrase, and a short discussion of the function of this type of fronting. Section 3 discusses the proposed structural difference between old Scandinavian and modern Scandinavian noun phrases in detail, showing how the difference between (1) and (2) follows. Section 4 addresses the fact that either the modifier alone or the full DP is fronted, seemingly making the grammar less economical. In section 5 the old Icelandic noun phrase is compared to the modern Icelandic noun phrase, with the purpose of giving independent support to the hypothesis that Scandinavian has shifted from one type of NP to another. The theoretical question whether an account in terms of different noun phrase structure is available or not in a universal approach like the Minimalist framework is raised in section 6, and section 7 contains a summary and a conclusion.

2. LBE of nominal modifiers

2.1 Fronting in main clauses

LBE of pre-nominal modifiers is found not only in old Scandinavian but in many other languages as well, but there are also many languages where it is not permitted. Examples with LBE of adjectives from Greek and Serbo-Croatian are presented in (4), whereas (5) illustrates that the corresponding examples in English and Bulgarian are ungrammatical:

- (4) a. *To kokkino idha forema.* (Modern Greek, Androutsopoulou 1997)
 the red saw.1st SG. dress
 'It is the red dress I saw.'

- b. *Crveno je on kupio auto.* (Serbo-Croatian, Bošković 2005)
 red is bought.3rd SG car
 'He bought a red car.'
- (5) a. **Red I bought a car.*
 b. **Novata prodade Petko kola.* (Bulgarian, Bošković 2005)
 new.the sold Petko car

Not only adjectival modifiers, but also other DP-internal strings like quantifiers, pronominal modifiers, numerals and *wh*-phrases may appear displaced from the rest of the DP. This is illustrated with the old Icelandic examples given in (6)–(9), taken from Ringdal (1918):

- (6) **Quantifiers**
- a. *mörg vann hann þrekvirki* (Hkr.)
 many did he feats
 'He did many feats.'
- b. *öll váru börn Ólafs konungs frið sýnum* (Har.)
 all were children Olaf's king's fair of-face
 'All the children of king Olaf had a fair face.'
- (7) **Pronouns**
- þóttisk engan hafa skaða gørt Danakonungi* (Fsk.)
 thought.3rd SG no have harm done Danish-king
 'It was thought that no harm had been done to the Danish king.'
- (8) **Numerals**
- ef þrír eru tignir menn, þá . . .* (Fsk.)
 if three are noble men then . . .
 'If there are three noble men, then . . .'
- (9) **Wh-words**
- Hversu margar vildir þú kýr eiga?* (Hkr.)
 how many want you cowshave
 'How many cows do you want to have?'

Similar types of extractions are found in modern Greek. The following examples are taken from Mathieu & Sitaridou (2002).

- (10) a. *Poles ixē elpides.*
 many had.3rd SG hopes
 'He had many hopes.'
- b. *Afto ida to forema.*
 this saw.1st SG the dress
 'I saw this dress.'
- c. *Kamia den thelo na akuso dikeologia.*
 no not want.1st SG prt listen.1st SG excuse
 'I want to hear no excuse.'

- d. *Tinos eferes to vivlio?*
 whose bring.2nd sg the book
 ‘Whose book did you bring?’
- e. *Posa eferes vivlia?* (Androutsopoulou 1997)
 how-many brought.2nd sg books
 ‘How many books did you bring?’

Left branch extraction of nominal modifiers is also found in old Swedish. So far I have not been able to find an example where an adjectival modifier is extracted, but there are cases with fronted numerals (11a), fronted pronominal modifiers (11b), and a degree adverb (11c). The example (11a) is found in a runic inscription on a grave stone from Ugglum church-yard (Västergötland), (11b) in a paraphrase of the Pentateuch, probably from around 1300, and (11c) in the old Swedish legendary chronicle about Charlemagne.²

- (11) a. *þrir liggia mænn undir þæmma stene gunnarr sihvatr hallstenn*
 three lie menn under this stone Gunnarr Sihvatr Hallstenn
 ‘Three men lie under this stone: Gunnarr, Sihvatr, Hallstenn.’
 (Sveriges runinskrifter 5: 156)
- b. *Enghin var madhir grymare* (MB 1 B)³
 no was man more-cruel
 ‘No man was more cruel’
- c. *sua war iak girugh til at dräpa hann*
 so was I eager to to kill him
 ‘So eager was I to kill him . . .’

We will now turn to Stylistic Fronting, showing that the same types of split NPs are found in embedded clauses.

2.2 Stylistic fronting

Fronting to first position in main clauses is not the only type of fronting found in old Scandinavian: like modern Icelandic and Faroese, old Scandinavian has Stylistic

2. The old Swedish legendary chronicle of Charlemagne is published by G.E. Klemming in *Prosadikter från Sveriges medeltid*. Svenska fornskriftsällskapets samlingar 28, 249–289. Stockholm 1887–1889.

3. Paraphrase of the Pentateuch. Original around 1330, ms. (MB 1 B) from 1526. SFSS 60, ed. O. Thorell. Interestingly, in the ms MB I A, which is older than MB I B but considered to represent a younger version of the text, there is no extraction:

(i) *engin man war grymare*
 no man was more-cruel

Fronting in embedded clauses that lack a subject in front of the finite verb. This is illustrated in (12), where the fronted element is underlined. See Maling (1980/1990), Holmberg (2000) and Delsing (2001). The modern Icelandic examples in (12) are taken from Maling (1980/90), her (52a) and (35a), respectively:

- (12) a. *Þetta er maðurinn sem smásöguna skrifaði.*
 this is man-the that short-story-the.ACC wrote
 b. *Fundurinn sem fram hafði farið í Óslo var skemmtilegur.*
 meeting-the that on had gone in Olso was fun

Whereas main clause fronting almost always seems to involve full phrases,⁴ Stylistic Fronting has been assumed to target both heads (12b) and phrases (12a). According to Holmberg (2000), this is possible since the fronted element ‘functions as an expletive in its derived position, satisfying the phonological half of the EPP, formally an uninterpretable feature [P] in T’, with the background assumption that the phrase-head distinction is not visible to PF. However, if Holmberg is right, it is a peculiar coincidence that Stylistic Fronting of nominal modifiers (see (13) and (14) below) is lost apparently at the same time as LBE of nominal modifiers in main clauses. In the absence of compelling counterevidence, I will take this observation to support the hypothesis that both types of fronting presuppose a specific internal structure in the DP that is splitted, see section 3 below.

Nominal modifiers at the left branch may be stylistically fronted both in old Icelandic and in old Swedish. An old Icelandic example is presented in (13):

- (13) *spurði þá að ef nokkurir væru þeir menn á þinginu* (Ólafs saga Helga)⁵
 asked then about if any were thesemen at meeting-the
 ‘He asked then if any of these men were at the meeting.’

4. There are seemingly several exceptions to this rule in old Icelandic, as Faarlund (2004: 235–236) has noticed. The following three examples are from his book.

- (i) *væta var á mikil um daginn* (Hkr)
 wet was on great in day-the
 ‘It was very wet during the day.’
 (ii) *sjá má ek þik* (Laxd.)
 see can I you
 ‘I can see you.’
 (iii) *ok af hefir þú mik ráðit brekvísi við þik.* (Laxd.)
 and off have you me advised importunity with you
 ‘And you have taught me not to be importunate with you.’

Especially the last case with a fronted preposition is compelling. To be able to analyse cases like these as instances of phrasal movement, it is necessary to assume remnant movement.

5. Netútgáfan, <http://www.snerpa.is/net/index.html>

I have not found any old Icelandic example where an adjectival modifier is stylistically fronted. Such examples are found in old Swedish, however, see (14a,b) below; (15) illustrates the case where a possessive has been stylistically fronted:

- (14) a. *tholkit trä som grönt hawir löfwit oc faghirt* (Bo,⁶ Delsing, p.c.)⁷
 such tree that green has leaf-the and beautiful
 ‘such a tree that has a green and beautiful leaf’
- b. *hans sum rättär war giptar madher* (ÖgL,⁸ Delsing 2001)
 he that true was best man
- (15) *sum lansins äru lagh* (ÖgL⁹)
 as land-the.GEN are laws
 ‘as are laws of the land’

2.3 What is the function of DP-split?

According to Nygaard (1906: 355), LBE of adjectives is used when the fronted AP is in focus.¹⁰ This is also claimed for modern Greek, see e.g., Androutsopoulou (1997). However, Androutsopoulou also notes that ‘A'-movement of DP-internal strings is not limited to focus movement’, referring to cases with *wh*-movement like (10d,e). Furthermore, as Maling (1980/1990: 76) notices for modern Icelandic, ‘[e]mphasis or focus on fronted constituent [is] not necessarily present’ in case of Stylistic Fronting. From a grammatical point of view, it is not necessary to distinguish the focus cases from the non-focus ones: we will assume that some edge-feature (see Chomsky to appear) on C (or T in case of Stylistic Fronting) is responsible for both instances of \bar{A} -movement, and that the crucial factor is that the DP that is split has a particular internal structure, which we will discuss more closely in the next section.

6. *The Considerations of Bonaventura*. Translation from Latin. Original from the end of the 14th century, ms. from ca. 1420. SFSS 15, ed. G.E. Klemming.

7. Note that the adjective *grönt* ‘green’ is indefinite, whereas the noun *löfwit* ‘leaf-the’ is definite.

8. The provincial law of Östergötland. Original from the 1280s, ms from the middle of the 14th century. SSGL II.

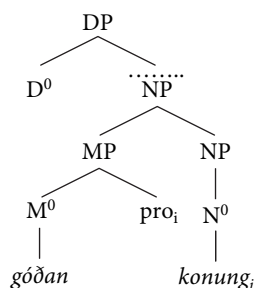
9. The provincial law of Östergötland. Original from the 1280s, ms from the middle of the 14th century. SSGL II.

10. Nygaard (1906: 355): ‘Ligeledes kan et attributivt adj. sættes først for at udhæves, og det subst., som det hører til, stilles efter verbet.’ [Similarly, an attributive adjective is placed in first position to get focus, and the noun it modifies is placed after the verb.]

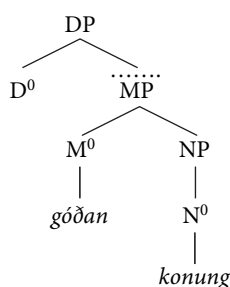
3. Structurally different noun phrases

Inspired by the account of LBE of adjectives in Bošković (2005), I will claim that the difference between old Icelandic (1) and modern Icelandic (2) indicates a difference in noun phrase organization. To be more concrete, I will claim the following (partial) structures for the object in (1a)/(2a); M stands for ‘modifier’ and is specified as adjective, quantifier, numeral, etc:

(16) a. The NP-over-MP type



b. The MP-over-NP type



In the case of (1a)/(2a), M is specified as A[djective]. Notice that the adjective takes an empty pronoun coreferent with *konung* ‘king’ as its complement in (16a), whereas the adjective in (16b) has *konung* ‘king’ as its complement. Languages where LBE of nominal modifiers is permitted take MP as the left adjunct of NP,¹¹ whereas languages where LBE of nominal modifiers is banned have M⁰ taking NP as its complement, as was suggested for A⁰ by Abney (1987). It should be obvious that LBE of nominal modifiers, i.e., a word order like *Red he bought [red car]*, is a possible outcome of (16a) but not of (16b): in (16a), but not in (16b), fronting of MP will strand the noun. Since in (16b) extraction of the MP would front both the modifier and the noun, such extraction would not result in LBE of nominal modifiers, unless there is remnant movement of MP which has been vacated by the noun. I see no independent reason to assume such an analysis.

It could be argued that the extracted adjective in (1a), *góðan eigum vér [góðan konung]*, has moved as a head, not as a phrase, especially in the light of the data presented in footnote 4. If the extraction only concerns the head, (1a) could be derived from (16b). However, examples like (1b) indicate that LBE of modifiers is not head movement, since in this case both the *wh*-word and the quantifier has been moved. The same conclusion can be drawn from the Greek example in (4a), where

11. Alternatively, the modifier is the specifier of a head in the extended projection of N⁰, similar to Cinque (1994).

an adjective is fronted together with the definite article. Since it might be argued that article spreading of the Greek type makes these cases different from adjectival LBE (Wood p.c.), the following Serbo-Croatian example, illustrating what Bošković calls ‘extraordinary LBE’, is an even better indication that LBE of modifiers is not head movement:

- (17) *U izuzetno veliku on ude sobu.* (Bošković 2005, example (87))
 in extremely big he entered room
 ‘He entered the extremely big room.’

The fronted part, consisting of a preposition, an adverb and an adjective, cannot be interpreted as a head. According to Bošković, the preposition is cliticized to AP, within which the adverb modifies the adjective; hence (17) is a case of LBE of AP. See the discussion around example (90) in Bošković’s paper.¹²

It should be noticed that an analysis like the one proposed here opens up for the possibility that there are languages with both types of modifiers, hence lexically determined variation is not excluded. This could explain, for instance, the fact that modern Icelandic allows LBE of at least some quantifiers; thus the modern Icelandic counterpart of (6b), here repeated as (18), is well-formed:

- (18) *öllum váru börn Ólafs konungs frið sýnum* (Hkr.)
 all were children Olaf’s king’s fair of-face
 ‘All the children of king Olaf were fair of face.’

According to Sigurðsson (2006: 203), Jóhannes Gísli Jónsson (p.c.) and Eiríkur Rögnvaldsson (p.c.), this word order is possible in modern Icelandic in a formal or literary register. It is not restricted to *allur* ‘all’ but is also found with the quantifiers *flestir* ‘most’, *margin* ‘many’, *sumir* ‘some’ and possibly some other quantifiers as well.

A similar phenomenon, discussed by Mathieu & Sitaridou (2002), is the fact that in modern Greek only the genitive *wh*-elements *tinós* and *pianu* can be split from their DP, but not the rest of the *píos* ‘who/which’ paradigm. In classical Greek, split *wh*-constructions are widespread. Hence (19a) is well-formed, whereas (19b) is out in modern Greek; both examples are taken from Mathieu & Sitaridou (2002):

- (19) a. *Pianu eferes to vivlio?*
 whose brought.2nd the book
 ‘Whose book did you bring?’
 b. **Pia exi dinami?*
 which have.3rd sg. power
 ‘Which power does it have?’

12. As Delsing (p.c.) points out, this might be pure PF-movement with no correlation in narrow syntax.

- c. *Pia dinami exi?*
 which power have.3rd sg

Without offering a formal analysis, we could assume that the split DPs in (18) and (19a) are of the type illustrated in (16a), whereas it might be fruitful to investigate the possibility to analyze the *wh*-DP in (19b,c) as instances of (16b). This analysis seems to be compatible to the one suggested by Mathieu & Sitaridou (2002) for modern Greek, according to which the *wh*-elements (except the genitive ones) have changed categorical status from adjectives to determiners. More plausible, though, is the analysis suggested by Delsing (1998) of similar phenomena, based on remnant movement.

Summarizing, it seems safe to conclude that LBE of nominal modifiers does not involve head movement. Hence, (16a) but not (16b) is a potential source.

According to Bošković (2005), (16a/b) also differ with respect to DP: he assumes a DP in (16b), but not in (16a), referring to an observation by Uriagereka (1988) that LBE of adjectives is possible only in languages that do not have overt articles. As Uriagereka points out, all the modern Romance languages have developed an article, and they all lack LBE of adjectives, whereas Latin, which has LBE of adjectives, has no article. As Bošković shows, this observation holds for Slavic as well, since all Slavic languages lacking an article have LBE of adjectives, whereas Bulgarian and Macedonian, which have overt articles, cannot split their DPs. However, the generalization must be doubted on the basis of Greek, since Greek, which has articles, also has LBE of adjectives, as (4a,b) show. Greek allows for multiple occurrences of the definite article, and also when both the adjective and the noun have articles, LBE of adjectives is well-formed. There are also occasional old Icelandic examples where something is extracted out of a definite DP, hence LBE of nominal modifiers seems to be possible also in languages with articles.

- (20) a. *to kokkino idha to forema* (Androutsopoulou 1997)
 the red saw.1st sg the dress
 b. *Þá spurði konungr hverr sá væri inn mikli maðr* (Eg.)
 then asked king who this was the mighty man
 ‘Then the king asked who this mighty man was.’

See also Progovac (1998) and Pereltsvaig (2006) who both argue for the presence of DP also in Slavic languages lacking articles. For these reasons, (16a) differs from the corresponding tree in Bošković (2005) in having DP at the top.¹³

13. Bošković does not discuss the internal structure of AP (my MP), hence *pro* in the complement of A⁰/M⁰ in (16a) is a further deviation from his analysis.

4. Grammatical and functional analyses of modifier fronting

As pointed out by Butler & Mathieu (2005), split-DP constructions are interesting from a Minimalist point of view, since it is not clear why there are two options: fronting of the modifier, or pied-piping of the whole DP. Assuming that fronting of the modifier is triggered by EPP in C (or T), it is expected that economy should rule out pied-piping, since modifier fronting would be enough to satisfy EPP. Restricting themselves to cases where a *wh*-element is fronted, Butler & Mathieu (2005) try to solve this puzzle by assuming that the visibility requirement in the C domain has a functional role, typing the clause (i.e., determining its Force).

The solution presented by Butler & Mathieu (2005) is not general enough to handle the cases of split-DP constructions that are discussed in this chapter, especially since they involve both main clauses and embedded clauses (the cases with Stylistic Fronting). If Holmberg (2000) is right in suggesting that Stylistic Fronting is triggered by an EPP feature on I^0/T^0 which attracts the closest element with a phonological matrix, no clause typing could be involved. The economy puzzle still remains, since either fronting of the modifier or of the full DP may be triggered. We will here present a technical solution, based on an hypothesis of equi-distance suggested in Pesetsky & Torrego (2001). For the modifier to be able to escape its DP, it must presumably move to the edge of DP. Hence, at the moment of extracting MP from DP, the structure is the following one, where X is interpreted either as T (Stylistic Fronting), or as C (main clause fronting):

$$(21) \quad [_{XP} X^{EPP} [\dots [_{DP} MP_i D^0 [\dots t_i NP]]]]$$

According to Pesetsky & Torrego (2001: 362), closeness is defined in the following way:

$$(22) \quad \textit{Closeness}$$

Y is closer to K than X if K c-commands Y and Y c-commands X.

With this metric of closeness, DP and its MP specifier both count as the constituent closest to X. Consequently, X can in principle choose whether to attract just MP, or to pied-pipe the whole DP. Hence, assuming the Closeness definition of Pesetsky & Torrego (2001), the puzzle noticed by Butler & Mathieu (2005) can be solved. That the fronted element is focused has no consequence for syntax. Notice also that it is not obvious that a stylistically fronted element is focused.

5. DP in old and modern Scandinavian

5.1 Introduction

The purpose of this section is to show that the old Scandinavian noun phrase is of the NP-over-MP type illustrated in (16a), whereas the modern Scandinavian noun

phrase is of the MP-over-NP type in (16b). Given this analysis, the existence of Left branch extraction of adjectives and other nominal modifiers in old Scandinavian can be explained in the same way as in the Slavic languages. I will consider three sets of facts. Firstly, we will see that DP-internal word order differences between old and modern Scandinavian support the hypothesis that old Scandinavian DPs are of the NP-over-MP type and modern Scandinavian DPs of the MP-over-NP type. Secondly, I will claim that the fact that only adjectives in their indefinite form are extracted follows from the structure in (16a). Finally, I will claim that the co-occurrence in old Icelandic of determiners that cannot co-occur in modern Icelandic also supports the structural distinction in (16).

5.2 DP internal word order

Consider first some DP internal word order differences between old Icelandic and modern Icelandic that seem to support the hypothesis that there has been a change from the NP-over-MP type of noun phrases to the MP-over-NP type.

In modern Icelandic, an attributive adjective or quantifier always precedes the head noun, whereas in old Icelandic we find both pre- and postnominal adjectives and quantifiers:

- (23) a. **Mod. Icel.** *rikr maður* ^{??}*maður ríkr* *tvö langskip* ^{??}*langskip tvö*¹⁴
 b. **Old Icel.** *ríkr maðr* *maðr ríkr* *tvau langskip* *langskip tvau*
 wealthy man man wealthy two war-ships war-ships two

The modern Icelandic order follows immediately from the MP-over-NP structure: A⁰ takes NP as its complement, and hence the adjective immediately precedes the noun. Notice that this analysis is supported by an adjacency condition: nothing may intervene between the adjective and the noun, hence no movement seems to be involved (see Sigurðsson 2006).

Consider next the old Icelandic situation, where both a prenominal and a postnominal adjective is possible. In earlier research there are conflicting opinions as to whether or not there is free variation between the two orders (Falk & Torp 1900: 309) or whether one of the orders is marked. Nygaard (1906: 363) claims that the order A-N is used when the adjective is highlighted, whereas Faarlund (2004: 68 f.), who assumes the order N-A to be derived by movement of N to the head of a Reference Phrase in the left part of the noun phrase, takes the opposite position. Disregarding for the moment the function of the different orders, it is obvious that both are easily derived from the NP-over-MP structure. When the adjective precedes the noun, we have the structure

14. According to Halldór Sigurðsson (p.c.), the word order with the adjective following the noun is archaic and stylistically marked, and is impossible to use in ordinary speech.

in (16a), whereas when the noun precedes the adjective, MP is in the complement of N; this analysis is supported by the fact that an adjectival modifier to a noun with a PP complement must precede the noun.

- (24) a. *spakasti húsbóndi í bæ*
 wisest master of the house in town
 b. **húsbóndi í bæ spakasti*
 c. **húsbóndi spakasti í bæ*

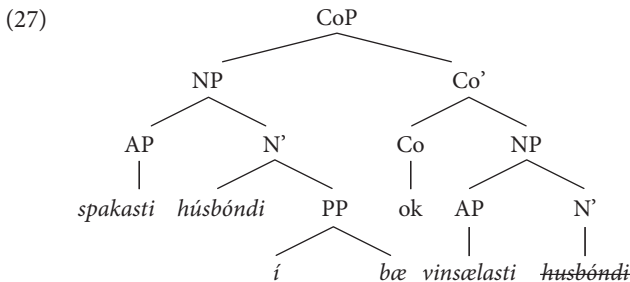
The only case when the adjective may occur to the right of a noun-modifying PP complement is when it is conjoined with an adjective in front of the noun, as shown in (25):

- (25) *spakasti húsbóndi í bæ og vinsælasti*
 wisest master of the house in town and most-liked

This word order is possible in old Icelandic when the noun is modified by two adjectives, but not in modern Icelandic:

- (26) *vittr maðr ok hógværr* (Gunnl.¹⁵, Faarlund 2004: 72)
 wise man and meek of mind

A possible analysis of (25), using Kayne's (1994: 36) hypothesis that the conjunct is the head in a conjunct phrase, is outlined in (27):



It is obvious that the NP-over-MP analysis is compatible with the word order in (25). However, it is less clear why this word order should be blocked in the MP-over-NP analysis; recall that the word order in (26) is ungrammatical in modern Icelandic. The obvious way to derive something like (25) on an MP-over-NP analysis would be to conjoin two APs, as in (28):

- (28) [_{DP} D⁰ ... [_{CoP} [_{AP} A⁰ NP] Co⁰ [_{AP} A⁰ NP]]]

15. *Gunnlaugs saga ormstungu*, ed. by Finnur Jónsson. Copenhagen 1916. The oldest manuscript is from about 1300.

There is no obvious problem with this analysis, hence I have no explanation for the fact that (24) is ungrammatical in modern Icelandic.

When a noun is modified by two conjoined adjectives in old Icelandic, it is usually the case that both follow the noun, as in (29a). This word order is compatible with the NP-over-MP analysis, as shown in (29b):

- (29) a. *maðr göfgastr ok ríkastr í Noregi* (Hkr, Faarlund 2004: 72)
 man noblest and most-powerful in Norway
 b. $[_{NP} N^0 [_{CoP} [_{AP} A] Co^0 [_{AP} A]]]$

The word order in (29a) is not derivable on the MP-over-NP analysis, which is in line with the fact that this word order is not possible in modern Icelandic.

5.3 Definite adjectives

Whereas the adjective in a noun phrase with the word order demonstrative/possessive > adjective > noun must be in its definite form in modern Scandinavian, this was not the case in old Scandinavian. As Faarlund (2004: 86) shows, the indefinite form of the adjective is occasionally found in old Icelandic after demonstratives (30a), where the definite form is the only option today¹⁶ and with respect to old Swedish, Delsing (1994) reports many cases with an indefinite form of the adjective after possessive pronouns where a definite form is obligatory today, see (30b).

- (30) a. *þeir sá þann helgan mann* (Norwegian book of Homilies)
 they saw that holy man
 'They saw that holy man.'
 b. *hans sannan þiuf* (ÄVgL¹⁷)
 his true thief

In both examples the adjective agrees with the noun in gender, number and case. The absence of a definite form, which should be *helga* in (30a) and *sanna* in (30b), is compatible with the NP-over-MP analysis but not with the MP-over-NP analysis. In the later case, M like D is an extended projection of N and cannot escape showing agreement for definiteness if there is a definiteness chain including D and N. In the NP-over-MP case, the modifier must be the head of an MP-projection adjoined to NP, and thus not in the same chain of heads as D and N; consequently, it does not need to agree in definiteness with D and N. Note that this analysis predicts that extraction of the adjective should only be possible with indefinite adjectives, a prediction that is corroborated by the examples found.

A note of caution might be added, though. As Naert (1969) has shown, modern Icelandic differs from the other Scandinavian languages in accepting all four combinations

16. This type is also found in old Swedish, see (14a).

17. Old provincial law of Västergötland, original from ca 1225.

of definite/indefinite adjective + definite/indefinite noun when there is no possessor or determiner. This is exemplified in (31):

- | | | | |
|------|----|-----------------------|--|
| (31) | a. | <i>góður maður</i> | indefinite adjective + indefinite noun |
| | b. | <i>góði maður</i> | definite adjective + indefinite noun |
| | c. | <i>góði maðurinn</i> | definite adjective + definite noun |
| | d. | <i>góður maðurinn</i> | indefinite adjective + definite noun |
| | | good man | |

Naert points out that each combination has its specific meaning. (31a) is used when a new referent is introduced in the situation, (31b) when a person is addressed, (31c) when a referent already introduced in the situation is referred to, and (31d) when the man is known but not his property of being good. Whether or not this division of labour was present already in old Icelandic is unknown to me. However, cases like (31b,d) indicate a particular independence of the adjective vis-à-vis the noun, which seems compatible with NP-over-MP in (16a) but not with MP-over-NP in (16b). Note, finally, that the absence of a possessor or a determiner in these cases makes the status of the definiteness feature on the invisible D^0 undetermined.

5.4 Competing for the same position

The definite determiner *hinn* ‘the, that’, which can be used only when the noun phrase contains an adjective, has its place in D^0 in modern Icelandic, see Sigurðsson (in press) among others. Since also the possessive pronoun has its place in D^0 , when it is in front of the noun, we get a conflict in modern Icelandic, resulting in ungrammatical examples like (32):

- | | | |
|------|---|-------------------|
| (32) | * <i>Allar þínar hinar þrjár frægu greiningar . . .</i> | (Sigurðsson 2006) |
| | all your the three famous analyses | |

In old Icelandic, where both the possessive pronoun and the determiner are heads of phrases adjoined to NP, there is no reason to expect that they cannot occur together. As a matter of fact, they do occur together, as seen in (33):

- | | | |
|------|----------------------------|------------------------|
| (33) | <i>minn hinn góði vinr</i> | (Falk & Torp 1900:311) |
| | my the good friend | |

Thus, the behavior of determiners and possessive pronouns supports the analysis proposed that old Icelandic is a NP-over-MP type language, whereas modern Icelandic is an MP-over-NP type language.

5.5 Summary

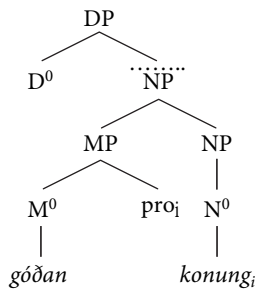
Summing up, old Icelandic noun phrases have several properties that may be derived from an NP-over-MP analysis, and modern Icelandic noun phrases have several

properties that follow from an MP-over-NP analysis. This is what we should expect, given the possibility of Split-DPs in old Icelandic but not in modern Icelandic, since Split-DP is only compatible with the NP-over-MP analysis.

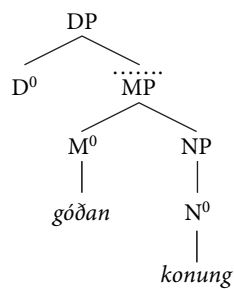
6. The feasibility of the proposed account

In this chapter I have suggested that the possibility to extract modifying adjectives in old Scandinavian and its absence in modern Scandinavian is due to a parametric difference within the noun phrase, such that old Scandinavian noun phrases have the structure in (34a), modern Scandinavian noun phrases the one in (34b). Compare (16a,b) above. The main difference between these two structures is that MP is adjoined to NP in (34a), whereas M^0 takes NP as its complement in (34b). The question we have to ask at this point is whether or not a parameter of the proposed kind is plausible or even desirable within a universal theory like the minimalist framework.

(34) a. The NP-over-MP-type



b. The MP-over-NP-type



Consider the assumption that MP is adjoined to NP in (34a), but not in (34b). It should be noted that in both structures, the adjective takes an NP complement referring to a king: in (34a), the complement is an invisible pronoun, which gets its reference from the NP *konung*, whereas in (34b) the complement is the NP *konung* itself. Hence, in both cases a head-complement relation is established between the elements ‘good’ and ‘king’. Notice also that in terms of Kayne (1994), NP does not c-command MP in either structure: in (34b) this straightforwardly follows from the standard definition of c-command, whereas in (34a) it follows from Kayne’s restriction of c-command to categories (Kayne 1994: 16):

(35) X c-commands Y iff X and Y are categories and X excludes Y and every category that dominates X dominates Y.

Note that in (34a), there is a segment of NP that does not dominate MP, preventing c-command.

There remains one structural difference between (34a) and (34b): M^0 in (34b) is a link in the chain of heads beginning with N^0 and ending with D^0 , whereas this is not the case in (34a). This difference may be seen as an instance of grammaticalization from (36a) to (36b), where YP in the string (36a) has been reanalyzed as a head in (36b):

- (36) a. $[_{ZP} \dots Z^0 [_{XP} [_{YP} Y^0 \dots] X^0 [_{XP} \dots X^0 \dots]]]$
 b. $[_{ZP} \dots Z^0 [_{YP} [_{YP} Y^0 [_{XP} \dots X^0 \dots]]]]]$

This restructuring is closely related to one of the three types of grammaticalization discussed in Roberts & Roussou (2003: 199, example (21)). Hence, the NP-over-MP structure and the MP-over-NP structure are more similar than they seem to be at the outset. As a matter of fact, a change from NP-over-MP to MP-over-NP would also be in line with the economy principle stated in van Gelderen (2004: 61):

- (37) *Head Preference Principle*
 Be a Head rather than a Phrase (if possible)

We may conclude that a parametric difference of the type proposed is feasible, especially since the two structures seem to be related by the process of grammaticalization.

7. Summary and conclusion

Old Scandinavian differs from modern Scandinavian in allowing Left Branch Extractions of nominal modifiers. In this chapter I have argued that this difference is related to a difference between old Scandinavian and modern Scandinavian with respect to how the noun phrase is structured: old Scandinavian is a language of the NP-over-MP type, where the nominal modifier is adjoined to NP, whereas modern Scandinavian is of the MP-over-NP type, where the nominal modifier is a head, taking the noun as its complement (Abney 1987). As briefly mentioned in section 6, the MP-over-NP type can be seen as the result of a grammaticalization of the NP-over-MP type.

Two investigations are mandatory to corroborate the hypothesis presented here. Firstly, we need a careful study of the modern Scandinavian noun phrase using Abney's (1987) MP-over-NP analysis: my approach depends on this being a possible analysis of the Scandinavian noun phrase. Secondly, we need a fine-grained and careful description of the Scandinavian noun phrase covering the time from the oldest sources around 1200 to the end of the Middle Ages, when the change from an NP-over-MP type to an MP-over-NP type should be completed. It should be noted that timing the change of NP structure to Mediaeval Scandinavian is presently no more than an educated guess. The fact that only a small number of cases with LBE of nominal modifiers are known might indicate that the change took place before the earliest written records, i.e., prior to the 12th century.

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On incorporation in Athapaskan languages

Aspects of language change

Keren Rice
University of Toronto

I trace the development of incorporability of nouns in Athapaskan languages, addressing two types of developments. In one case, languages differ in their ability to incorporate agentive subjects. I relate this to different constraints on where syntactic subjects appear, proposing that historically the position of subjects was discourse based. Synchronically in some languages only the position of intransitive subjects is based on discourse factors and transitive subjects appear in a syntactically-determined position. This ‘syntacticization’ of the position of transitive subjects renders all such subjects unincorporable, while subjects are potentially incorporable when their position is discourse determined. In a second case, incorporation disappears. The reason for this, I argue, involves a change in triggers for inflectional agreement. With a broadening of agreement triggers, incorporation came to be in competition with agreement, and, in the case of noun incorporation, agreement was retained.

1. Introduction

The research tradition on languages of the Athapaskan family is overtly comparative, making the language family an excellent one for studying internal aspects of language change. While the research has for a long time focused on issues of phonology, lexicon, and morphology, in recent years attention has also turned to the complexities of morphosyntax. The current article, on the historical changes in noun incorporation in three languages of the family, forms part of this program. This study is part of the research that I am involved in with Leslie Saxon, where we are concerned with phrase structure in general, with a focus on both morphological and syntactic aspects. In particular, I trace the historical development of incorporability of nouns of different grammatical and thematic relations, addressing two types of developments. In one case, languages differ largely in their ability to incorporate subjects, and particularly agentive subjects. I relate the differences between these languages to the

different constraints on where syntactic subjects appear in the languages, proposing that historically the position of subjects was determined based on discourse factors (see Thompson 1989, 1996 for important work on discourse factors). Synchronically in some languages only the position of intransitive subjects is based on these factors and transitive subjects appear in a syntactically-determined position. This hypothesis, if correct, provides support for the claim of Givón (1976, 1979) and others that discourse structure can be a source of syntactic structure. This ‘syntacticization’ of the position of transitive subjects renders all such subjects unincorporable, while such subjects are potentially incorporable when the position of subjects is discourse determined.

The second type of change in incorporation in the family is very different –incorporation simply disappears. The reason for this, I hypothesize, is completely unrelated, namely a fundamental change in triggers for inflectional agreement. With a broadening of agreement triggers, incorporation came to be in competition with agreement, and, in the case of noun incorporation, agreement was retained.

The Athapaskan family spans a vast geographic area in North America, from the north of the continent to the southwest to the Pacific coast of northern California and southern Oregon. Many Athapaskan languages have as part of the verb word morphemes called incorporates in the Athapaskan literature. Incorporation is discussed in the literature in Axelrod (1990) and Cook & Wilhelm (1998) as well as in the grammars of various languages. To illustrate incorporation, examples of verbs with incorporates from Ahtna, an Athapaskan language of Alaska, United States, are provided in (1). The independent form is given as well as the incorporate, and the incorporate is bolded in its verb. A few remarks on the data are in order. I do not employ the usual three-line presentation of data here, as these forms are meant solely to introduce the reader to incorporation. Hyphens separate morphemes. The verb stem is the last element of the verb. Examples are from Kari’s (1990) dictionary, an extraordinarily rich data source.

(1)	Ahtna			
	independent noun		incorporate	
	<i>'aas</i>	‘snowshoes’ 80	<i>na-'aas-te-tiis</i>	‘He is walking around on snowshoes.’ (literally: He/she is handling snowshoes.) 321
	<i>xaet</i>	‘bundle’ 213	<i>ka-na-xaet-ghi-'aan</i>	He brought up a bundle (of fish).’ 73
	<i>ciise</i>	‘dipnet’ 117	<i>ta-ciisi-ghi-'aan</i>	‘He dipped a dipnet in the water.’ 73–74
	<i>-tl'aa</i>	‘bottom of, posterior of rear’ 358	<i>ni-tl'a-di-ni-daaas</i>	‘Sit down, put your rear down!’ 358
	<i>saas</i>	‘knot’ 431	<i>ba-saas-z-'aan</i>	‘A knot is in it.’ 71

<i>laets</i>	'dirt, dust gravel' 275	<i>ka-laets-gha-l-dogh</i>	'Dust rose up.' 156
<i>saa</i>	'sun' 448	<i>ke-sa-ni-'aan</i>	'The sun is shining brightly on a place.' 448
<i>tsax-</i>	'cry' 374	<i>tu-tsax-d-a-l-yaat</i>	'He is walking around crying.' 374

Other northern Athapaskan languages also exhibit incorporation. A few examples are given in (2).

- (2) a. Dogrib (Northwest Territories, Canada; Saxon & Siemens 1996)
dè- 'land' 9 *dah-dè-go-e-ò* 'Land is boggy, swampy.' 9
- b. Sekani (British Columbia, Canada; Hargus 1985)
sa 'sun' *ha-sa-d-i-dlat* 'The sun is shining.' 167
- c. Tanacross (Alaska, United States; Holton 2000)
xetl 'sled' *na-xetl-t-ti:k* 'He would drive a sled.' 258

Travelling from the north to the south, the situation is rather different. The Apachean languages of the American southwest do not have productive incorporation, nor do the Pacific Coast languages of the states of California and Oregon. These languages have what can best be characterized as remnants of incorporation.

While incorporation is found in languages of the northern branch of the family, differences between the languages exist in what is incorporable in terms of both grammatical and thematic relations. These differences are summarized in (3), along with a preview of the conditions on incorporation in the different languages. Parentheses indicate marginality of incorporation of the particular relation.

- (3) Variation across the family: what is incorporable?
- a. Some Alaskan Athapaskan (e.g., Ahtna, Koyukon)
- grammatical relations: transitive subject, intransitive subject, direct object, oblique
 - thematic relations: agent, patient, instrument, manner, location, source, goal
 - conditions: (i) animates are not generally incorporable; (ii) inanimate agents are generally incorporated
- b. Some Canadian Athapaskan (e.g., Slave [slevi], Dogrib)
- grammatical relations: (transitive subject), intransitive subject, direct object, oblique
 - thematic relations: (agent), patient, instrument, location, manner, source, goal
 - conditions: (i) animates are not generally incorporable; (ii) agents are not generally incorporable

As discussed above, not only do languages differ in the conditions on incorporation, they also differ in whether incorporation is synchronically productive or is simply an

historical remnant. A language for which incorporation is not productive is summarized in (4).¹

- (4) Apachean (Navajo)
- grammatical relations: (intransitive subject, direct object, oblique)
 - thematic relations: (patient, manner, source, goal)
 - conditions: lexicalized

In this article, I address several questions about incorporation, focusing on three languages, Ahtna, Slave, and Navajo. First, what is incorporable in grammatical and semantic terms in different languages of the Athapaskan family? Second, why are there differences between what is incorporable in the different languages? More particularly, Ahtna and Slave differ in terms of incorporability of subjects, while Navajo essentially does not have incorporation. Are these differences arbitrary, or do they correlate with anything else in the languages? And third, what is the pathway of language change? I argue that possible reasons for change lie in both functional and formal considerations, with incorporation becoming increasingly more restricted over time.

The chapter is organized as follows. In section 2, I provide some background assumptions. Section 3 introduces incorporation in the Alaskan language Ahtna. Section 4 is concerned with incorporation in Slave, and section 5 compares these two languages. Section 6 deals with Navajo. Finally, section 7 concludes with discussion of the factors involved in language change.

2. Some background

Athapaskan languages are well known for their complex verb words. The verb is traditionally described as a template with a number of slots, and many Athapaskan languages are treated as having a slot labeled incorporate as part of the verb template, as illustrated in the verbs in (1).

The term ‘incorporation’ likely creates images in the mind of the reader, and it is worthwhile to spend a little time on some of the aspects of incorporation that are not examined in this article. Debate exists in the literature about whether incorporation is a morphological or a syntactic process; see, for a few references, Baker (1988, 1996), Mithun (1984), Rosen (1989), and Spencer (1995) for alternative views. I assume, without argument, a syntactic treatment of incorporation following Rice (2000) and Rice & Saxon (2005), although the essence of the claims made hold, I believe, whether incorporation is morphological or syntactic; see also Rice & Saxon (2005)

1. Pacific Coast languages, like Apachean languages, do not exhibit productive incorporation. Golla (1970: 147) remarks that there are prefixes that ‘appear to be nominal or locative fossil elements’. This suggests that Hupa may once have had incorporation; I leave this question for future research.

for discussion. I do not address the formal mechanism by which incorporation is accomplished, but leave this for further work.

While I assume that incorporation is syntactic, it must be kept in mind that incorporation in Athapaskan languages is not free in that it is not vigorously productive. It seems that incorporation is a property of a high style of language. In addition, a verb word with an incorporate may have a non-compositional or idiomatic reading, and incorporate-stem combinations are lexically listed in many cases. Under a syntactic analysis of incorporation, these are listed as syntactic idioms.

A key notion that is important to this work is that incorporates can serve as arguments. If incorporation is treated as a lexical process, then incorporates must be regarded as changing the argument structure of the verb; if it is treated as a syntactic process, then incorporates must be viewed as satisfying the argument structure of the verb. Closely related to the point that incorporates are arguments, I further assume, again following Rice & Saxon (2005), that pronominal affixes mark agreement rather than being arguments. This is an issue of controversy in the Athapaskan literature; see section 6 for brief discussion.

In the next sections of the chapter, I examine incorporation in Ahtna and Slave, two northern languages, focusing on the types of grammatical and thematic relations that are incorporable in each of the languages.

3. Incorporation in Ahtna

The language sections are organized as follows. The grammatical and thematic relations that are incorporable in the particular language are described, and other conditions that constrain incorporation in the language are discussed. In this section I examine the conditions under which incorporation is allowed in Ahtna. All Ahtna data is from Kari (1990). The dictionary includes for every noun whether it has an incorporated form or not, and numerous sentences. While it is possible that patterns exist that are not illustrated in the dictionary, it is remarkable in its consistency with respect to the patterns under investigation here.

Ahtna is, of the languages surveyed in this article, the least constrained in conditions on incorporation. In terms of grammatical relations, it allows incorporation of subjects, direct objects, and oblique objects. In terms of thematic relations, Ahtna allows incorporation of certain types of agents, patients, and a variety of oblique roles (e.g., location, instrument, manner). Of particular interest are the constraints on the incorporation of subjects.

3.1 Incorporation in transitive verbs

3.1.1 *The incorporation of patient objects of transitive verbs*

I begin with discussion of incorporation in transitive verbs, starting with patient objects of transitives. That patient objects of transitives are incorporable is not surprising

given the typology of incorporation – as Mithun (1984: 875) says in her work on incorporation, ‘If a language incorporates N’s of only one semantic case, they will be patients of transitive V’s – whether the language is basically of the ergative, accusative, or agent/patient type.’ Incorporates of this type are illustrated in (5). In the examples here and to follow, the incorporate is shown on the first line of each data set. The second line is an example of a verb with that incorporate; the incorporate is bolded. Rough morpheme-by-morpheme translations are provided on the third line, and a free translation on the final line. The following abbreviations are used: s subject, DO direct object, OO oblique object SG singular, PL plural, 1 first person, 2 second person, 3 third person. Rather minimal morpheme-by-morpheme glosses of the verbs are given here, reflecting that the focus of attention is on the relationship of the incorporate to the rest of the verb.

- (5) Incorporation of patient objects of transitive verbs
- a. *-la* ‘hand’ 270
i-tšé’ la-t-’aas
 3.OO-at **hand**-middle-handle default object
 ‘He is waving at him (handles hand at him).’ 270
- b. *ggaat* ‘snare for small game’ 190
ké-ggaat-ngi-laa
 preverb-**snare**-aspect-handle plural objects
 ‘He set a snare under the ground.’ 190
- c. *’aas* ‘snowshoe’ 80
ti-’aas-ni-’aan
 out-**snowshoe**-aspect-handle default
 ‘He went out on snowshoes.’ [he/she handled snowshoes out] 80
- d. *xat* ‘sled’ 321
ni-xat-ni-taan
 terminative-**sled**-aspect-handle elongated object
 ‘He stopped the sled.’ 321

In a discussion of patient object incorporates in Koyukon, a language of Alaska, Axelrod (1990: 193) points to their discourse function, stating that ‘with objects of transitive verbs and subjects of neuter intransitive verbs, incorporation provides the lexicalized expression of a typical activity.’ Ahtna appears to be similar to Koyukon in this use.

3.1.2 *The incorporation of subjects of transitive verbs*

Subjects of transitive verbs can also be incorporated in Ahtna. This is surprising, as it has been noted that subjects are not generally incorporable (e.g., Baker 1988). It is worthwhile to quote Axelrod’s discussion of the semantics of these subject incorporates in Koyukon at some length. Axelrod addresses the types of subjects that are incorporated in Koyukon, saying that this incorporation ‘allows a noun to function in

an atypical semantic relationship with the verb stem' (Axelrod 1990: 184). She continues as follows:

Nouns which can incorporate into a subject role typically filled by an agent noun are those inanimates which Chafe (1970: 109) has described as [+potent], that is, those which "have a force of their own which enables them to 'perform' certain actions." A noun of this type "has, or is conceived to have, its own internal power." (Axelrod 1990: 184)

Incorporated agents thus are typically inanimate. Axelrod further remarks of the incorporation of agents:

Incorporation, then, allows a noun which ranks low in the scale of naturalness as an agent of a transitive verb to function as the non-agentive subject of that verb. That is, where the semantic characteristics of a noun make it otherwise ineligible for agent status with a particular verb, it can be incorporated and function as a 'nonintentional' causer. The incorporate position then, denotes [-control] for the incorporated subject. (Axelrod 1990: 187)

The incorporated 'agents' then are semantically non-controlling causers. I refer to them as agents, understanding that they do not have the properties of control and intentionality generally associated with agents.

The Ahtna examples in (6) are of the type described by Axelrod for Koyukon, with inanimate non-controlling incorporated subjects. Literal translations, showing that the incorporate is indeed a subject, are given in square brackets following the translation.

- (6) Incorporation of 'agentive' subjects of intransitive verbs
- a. *ta* 'water'
ke-ta-yi-ni-ł-ghet
 against-water-3.DO-aspect-causative-move quickly
 'He floated against it.' [water floated him against it] 218
 - b. *tsagh* 'crying'
ne-tsagh-i-ghi-ł-ghet
 terminative-cry-3.DO-aspect-causative-move quickly
 'He burst out crying.' [crying made him move quickly] 218
 - c. *niget* 'fear'
ti-niget-yi-ni-ł-taen
 out-fear-3.DO-aspect-causative-SG animate lies
 'He went out being scared.' [fear caused him to go out] 329
 - d. *ko* 'vomit'
ti-ko-si-ni-ł-taen
 out-vomit-1.SG.DO-aspect-causative-SG animate lies
 'I went out to vomit.' [vomit caused me to go out] 329

- e. *naat* 'sleep' 289
ka-naat-s-te-t-taen
 up and out-sleep-1.SG.DO-inceptive-causative-handle animate
 'I am starting to fall asleep.' [sleep starts to carry me up and out] 289

While in general incorporated agentive subjects of transitive verbs are inanimate and noncontrolling, as discussed by Axelrod for Koyukon, one example is found in the Ahtna dictionary of an animate and apparently controlling subject as an incorporate. This subject is the word for 'dog', and it is the only example I found in the dictionary of this type.

- (7) Incorporation of agentive subject of transitive verb
ti- 'dog'
ti-y-az-ʔat
dog-3.DO-aspect-bite
 'A dog bit him/her [once].' 79, 280

Axelrod implies that incorporation of non-prototypical agentive subjects is mandatory in Koyukon. While incorporation of these subjects is common in Ahtna, examples are included in the dictionary where the subject is not incorporated. Some examples are given in (8). Evidence that the nouns are not incorporated is from two sources. First, in some of the examples the nouns precede a morpheme of the shape *d-*, often translated as 'thus.' Incorporates would follow this morpheme. Second, Kari writes these as separate words, with the noun separated from the verb with a space. Again, literal translations are given in square brackets where necessary.

- (8) Failure of incorporation of 'agentive' subjects of transitive verbs: Ahtna
- a. *saat* handicapped, injured, crippled (n)
saat *d-y-i-sen*
injury thus-3DO-perfective-affect
 'He got injured.' [an injury affected him] 456
- b. *sezel* 'steambath' 455
sezel *s-i-siit*
steambath 1.SG.DO-perfective-cause to become warm
 'The steambath warmed me up.' 455
- c. *naat* 'sleep'
naat *s-t-ni-t-tsaex*
sleep 1.SG.DO-qualifier-aspect-causative-open
 'I yawned.' [sleep opened my mouth] 401
- d. *tсен* 'starvation, famine'
tсен *d-y-i-laak*
starvation thus-3.DO-perfective-affect
 'He is starving.' [starvation struck him] 390
- e. *nehzuun* 'snowblindness'
nehzuun *d-y-i-laak*
snowblindness thus-3.DO-perfective-affect
 'He became snowblind.' [snowblindness affected him] 467

Thus, while inanimate noncontrolling agents of the type described by Axelrod (1990) in Koyukon are often incorporated in Ahtna, they are not necessarily so.

To summarize, with transitive verbs, both objects and subjects are incorporable. The incorporation of patients, be they objects or subjects, is not a surprise given the generalization cited earlier from Mithun, but the incorporation of agentive subjects is unusual cross-linguistically. As Axelrod (1990) points out, such incorporates are, overall, limited to inanimate non-controlling nouns that occur with verbs that would normally be expected to have animate subjects.

3.2 Incorporation in intransitive verbs

3.2.1 *The incorporation of patient subjects of intransitive verbs*

Turning to intransitive verbs, patient subjects of intransitive verbs can be incorporated. This is not surprising, given Mithun's observation about patient objects of transitive verbs being the most likely to be incorporated: these subjects of intransitive verbs are also patients. Some examples are provided in (9).

(9) Incorporation of patient subject of intransitive verb

- a. *ʔet* 'smoke' 278
ka-ʔet-ghi-ʔa
 out-**smoke**-aspect-extend
 'Smoke is going up.' [smoke extends out] 278
- b. *saas* 'knot'
b-a-saas-z-ʔan
 3.00-in-**knot**-aspect-default object is located
 'A knot is in it.' 71
- c. *tsula* 'tongue, flame, bolt of lightening' 397
ni-tsula-ni-ʔa
 to a point-**tongue**-aspect-extend
 'Flames extend to a point.' 76

3.2.2 *The incorporation of 'agentive' subjects of intransitive verbs*

Just as Ahtna allows a kind of non-controlling agentive subject to be incorporated with transitive verbs, it similarly allows such subjects to be incorporated with intransitive verbs. As Axelrod (1990: 187) points out in her discussion of Koyukon 'intransitives may . . . have lexical or semantic constraints against having an inanimate subject. . . . incorporation allows the inanimate to function as nonagentive subject.' These then are parallel to the incorporated subjects of transitives. Examples are given in (10).

(10) Incorporation of 'agentive' subject of intransitive verb

- a. *dlo* 'laughter'
u-yi-dlo-nes-d-yaa
 3.00-into-**laughter**-aspect-voice/valence-SG go
 'He got the giggles.' [laughter went into him] 423

- b. *xay* 'winter'
ts'i-na-xay'-i-d-yaa
 out-again-**winter**-aspect-voice/valence-SG go
 'Winter came back out again.' 424
- c. *tsula* 'tongue'
de-zaa *ts'a-na-tsula-l-tses*
 reflexive-mouth adverb-iterative-**tongue**-voice/valence-move flexible
 object
 'His tongue goes in and out of his mouth.' 397

While the typical agentive subject incorporate of an intransitive verb is inanimate and non-controlling, as with the transitive verbs, the noun 'dog' can also appear as an incorporate. The one example that I have found in the dictionary is given in (11).

- (11) Incorporation of agentive subject of intransitive verb
ʔi- 'dog'
ka-na-ʔi-de-l-ghos
 out-iterative-**dog**-qualifier-voice/valence-howl
 'The dogs are howling now and then.' 207

3.2.3 *The incorporation of nouns of other thematic roles*

The examples so far illustrate incorporation of agent and patient thematic roles. A number of other semantic relations are incorporable; examples are presented in (12).

- (12) Incorporation of oblique (location, instrument), intransitive with agentive subject
- a. *yes* 'snow on ground'
ʔu-yes-'s-di-ni-daet'
 around-**snow**-1.PL.S-qualifier-qualifier-PL go
 'We were wading in snow.' 145
- b. *ʔi* 'dog'
ti-ʔi-ni-ya
 out-**dog**-aspect-go
 'He went out hunting with dogs.' 48
- c. *xat* 'sled'
sta-na-xat-'s-de-l-yaas
 off, away, lost iterative **sled**-1.PL.S-qualifier-voice/valence-go
 'We hunt with sleds.' 212

Incorporation of oblique (instrumental), transitive with agent subject

- d. *ʔi* 'dog'
ni-ʔi-'ni-t-taen
 terminative-**dog**-unspecified. DO-aspect-causative-animate go
 'He cornered something with dogs.'

- e. *bes* ‘skin, toboggan, skin sled for dragging loads’ 107
tsuugi ce’ *ʔu-bes-di-ni-ʔ-daetʔ*
 marten tail around-sled-qualifier-aspect-causative-move PL
 ‘He dragged around the marten tails.’ [he moved marten tails with a sled]

Incorporation of manner

- f. *koʔdogh* ‘he is making a potlatch speech’ 156
ʔu-hdogh-d-a-l-yaatʔ
 around-potlatch speech-qualifier-progressive-voice/valence-SG go
 ‘He is walking around while making a potlatch speech.’ 424
- g. *duut* ‘chattering sound, call of sandhill crane’ 158
ʔu-duut-d-a-l-detʔ
 around-chatter-qualifier-progressive-voice/valence-PL go
 ‘They (flock of geese, cranes) are going about honking, chattering.’ 145

3.3 Summary: noun incorporation in Ahtna

To summarize, subjects, objects, and obliques are incorporable in Ahtna; similarly patients, locations, instruments, sources, goals, and manners are incorporable, as are certain types of agents, largely what Axelrod identifies as non-controlling and non-intentional. With one exception, the word ‘dog’, these incorporates are inanimate. This distribution is not surprising – as Mithun (1984: 863 says) ‘Since the primary purpose of NI is to background an argument, and since speakers are usually more interested in human beings (and perhaps animals) than in inanimate objects, animate N’s are often not incorporated at all.’ Thus Ahtna incorporates relatively freely, with some constraints. The ability to incorporate agents is surprising cross-linguistically, but these incorporates are inanimate, and are not high in terms of agentivity.

4. Incorporation in Slave

Slave, spoken in parts of the Northwest Territories, Yukon, British Columbia, and Alberta, Canada, is similar to Ahtna with respect to incorporation in some ways, with incorporation of many grammatical and semantic relations. It differs from Ahtna as follows. While in Ahtna, inanimate agentive subjects are often incorporated, this is not so in Slave. Instead, inanimate agent incorporates are unusual, with any type of agentive subject, prototypical or not, hardly being possible as an incorporate.

4.1 The incorporation of patient objects of transitive verbs

As in Ahtna, patient objects of transitive verbs are incorporable in Slave. Some examples are given in (13). The data is from Rice (1989). Abbreviations and glosses are as in Ahtna.

- (13) Incorporation of patient object of transitive verb
- a. *xu* 'tooth'
léh-xu-de-kà
together-**tooth**-qualifier-grind
'S/he grinds his/her teeth.' 650, 658
 - b. *kò* 'gun case'
k'í-yá-kò-g-í-le
around-distributive-**gun case**-3.PL.S-qualifier-handle PL
'They are each carrying a gun case.' 651
 - c. *ndéh* 'land'
naxe-ghá-ndéh-nì-ò
1.PL.OO-to-**land**-perfective-handle default object
'He gave land, freedom of access to land to us.' 653

4.2 The incorporation of patient subjects of intransitive verbs

Also as in Ahtna, patient subjects of intransitive verbs are incorporable in Slave.

- (14) Incorporation of patient subject of intransitive verb
- a. *kó* 'fire'
go-yí-kó-d-a-wé
area-into-**fire**-qualifier-aspect-occur
'A fire starts in it.' 652
 - b. *too* 'night'
too-go-d-í-tl'e
night-area-qualifier-qualifier-be dark
'It (night) is dark.' 655
 - c. *dlu* 'cold'
se-yí-dlu-d-a-wé
3.OO-in-**cold**-qualifier-aspect-happen
'I am shivering.' [cold happens in me] 655
 - d. *tse* 'tear, crying'
be-yíí tse-de-ò
3.OO-into-**cry**-qualifier-default object be located
'He is just about in tears, distraught.' [tears are located inside him] 656
 - e. *ta* 'water'
rá-ta-de-lì
down-**water**-qualifier-water flow
'Water flows down.' 653

4.3 The incorporation of non-patient subjects

While Ahtna allows incorporation of certain types of agentive subjects, such incorporation is very highly restricted in Slave. In the example in (15), an agentive subject of an intransitive verb is shown. This is a place name.

- (15) Incorporation of ‘agentive’ subject of intransitive verb
xeniḥ ‘raft’
tá-ra-h-xeniḥ-e-’ó
 to shore-back-epenthetic-raft-epenthetic-go by boat customarily
 ‘The rafts came ashore (customarily).’ (place name) 664

The only other example in Rice (1989) of an incorporated ‘agentive’ noun is given in (16).

- (16) Incorporation of ‘agentive’ subject of intransitive verb
tsi ‘snow’
kè-tsi-i-tlah
 around-snow-aspect-go on land
 ‘The snow drifted.’ 653

Similarly, incorporated agentive subjects of transitive verbs are possible, but infrequent. The example in (17) is an idiomatic expression with a subject incorporate.

- (17) Incorporation of ‘agentive’ subject of transitive verb
be ‘sleep’
be-se-we-h-xee
 sleep-1.SG.DO-qualifier-causative-kill SG. object
 ‘I am sleepy.’ [sleep overcomes me] 663

4.4 The incorporation of nouns of other thematic roles

Finally, as in Ahtna, various oblique semantic relations are incorporable in Slave.

- (18) Incorporation of oblique (location, instrument) object of intransitive verb with agent subject
- a. *ke* ‘foot’
kè-ke-e-h-dzoh
 around-foot-aspect-1.SG.S-slide
 ‘I skated, slid on feet.’ 665
 - b. *’ize* ‘slush snow’
ká-’ize-d-a-mì
 through-slush snow-qualifier-aspect-swim
 ‘He walked (swimming) through slush snow.’ 653

Incorporation of oblique (instrument) object of transitive verb with agent subject

- c. *xee* ‘pack’
tse na-xee-ye-’á
 wood back-pack-3.DO-handle default o
 ‘S/he is packing wood back.’ [handling wood by means of pack] 664

Incorporation of manner

- d. *dlo* 'laugh'
k'ina-dlo-de-da
 around-laugh-qualifier-SG go
 'S/he goes around laughing.'

4.5 Summary: Noun incorporation in Slave

In Slave, subject, objects, and obliques are incorporable; patients, instruments, locations, sources and goals are incorporable; agent-type incorporates occur only rarely.

5. Ahtna and Slave compared

5.1 Introduction

Ahtna and Slave share several properties in terms of incorporation. With respect to grammatical relations, direct object and oblique relations are incorporable in both languages, while with respect to thematic relations, patient and oblique relations are incorporable in both. Moreover, a semantic condition exists on incorporation in both languages that, with the exception of the word for 'dog', incorporates are inanimate.

Differences between Ahtna and Slave also exist, all of which have to do with the incorporability of subjects. While agentive subjects, in the sense used here, are simply not incorporable in Slave (with the exception of 'dog'), be they subjects of transitives or intransitives, these subjects, when inanimate, are potentially incorporable in Ahtna. Thus, there is a general animacy restriction on incorporates that holds of both languages, and then a restriction specific to agents that holds in Slave only. These restrictions are summarized in (19).

(19) Restrictions on the incorporation of subjects

	Ahtna	Slave
animacy restriction on incorporates?	yes	yes
agentivity restriction on incorporates?	no	yes, highly restricted

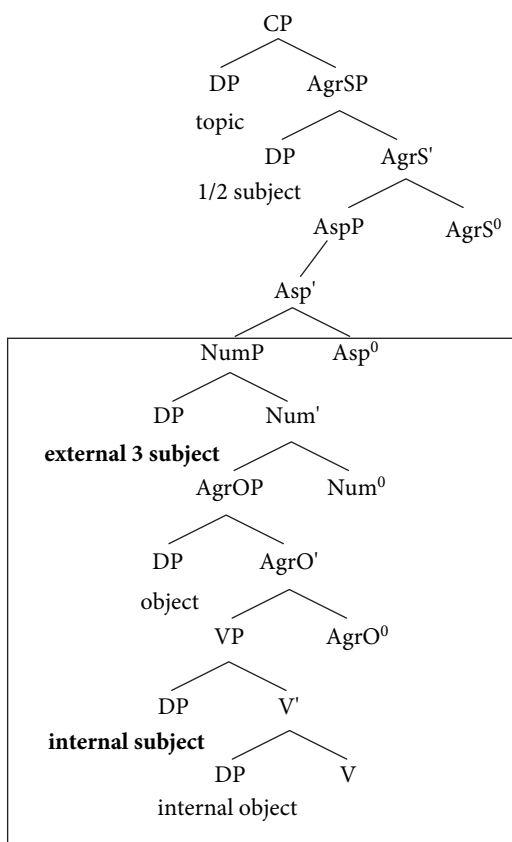
In the following discussion I address two questions. The first concerns whether this difference between the two languages is idiosyncratic to incorporates or reflects more general properties of the languages, and the second concerns the direction of change.

5.2 The positions of subjects

In work on grammatical relations in Athapaskan languages, Rice & Saxon (2005), building on earlier work, propose that more than one position is available to subject

and object arguments. Of concern is the claim that third person subjects can occupy two different syntactic positions. These positions are shown in the tree in (20), labeled 'internal' and 'external,' from Rice & Saxon (2005: 701). Note that first and second person subjects occur in another position which is not of concern. The items in the DPs in this structure are nouns and noun phrases; pronominal agreement morphemes are part of the verb and not in these positions.

(20)



Rice & Saxon (2005) propose that the external subjects are prototypical subjects, being typically topical, thematic, and definite, as well as high on the animacy scale (humans, animates, agents), while the internal subjects typically do not have these properties. Both of the languages under discussion allow third person subjects in each of these two positions. Nevertheless, differences exist between the languages as to the properties associated with the elements each of these subject position.

Rice & Saxon (2005) present evidence for these subject positions from several sources, including word order, the form of object pronouns, the nature of idiomatic expressions, and, the topic of the present work, the ability of subjects to incorporate.

It is worthwhile to examine briefly their arguments for the two subject positions. I begin with Ahtna, and survey the arguments for two positions.

5.2.1 *Subject positions in Ahtna*

Rice & Saxon adduce arguments for internal subject position based on claims about cross-linguistic properties of subjects. Marantz (1984: 27) notes that idioms in which the subject of a transitive verb contributes to the idiomatic meaning are rare cross-linguistically. He assumes that the domain of the idiom is the VP; since proto-typical subjects are outside of the VP, they will not incorporate. However, Ahtna, and other Athapaskan languages, have subject idioms. Morpheme-by-morpheme breakdowns are not included in the following examples, and the glosses of the verb reflect the ordering of elements in English rather than Ahtna.

- (21) *c'eyuuni sizkat*
ghost 3.s slapped 1.SG.DO
'I have a birthmark.' [a ghost slapped me] 232

Rice & Saxon conclude that, under Marantz's assumption that only VP-internal arguments enter into idiom constructions, these idioms have VP-internal subjects.

A second argument for internal subjects comes from the topic of this chapter, incorporation. As we have seen, subject nouns are incorporable. Incorporated subjects are rare cross-linguistically. Baker (1988), under the assumption that subjects are VP-external and that an incorporated noun must be lexically governed by the incorporating verb, predicts that subject incorporation should not occur. If the subjects are internal to the verb phrase, their potential to incorporate can be accounted for.

Evidence from subject idioms and incorporates suggests that subjects can occur in the internal subject position in (20). Evidence from variation in word order reinforces this claim. In Ahtna, both subject-locative-verb (22a) and locative-subject-verb (22b) word orders are possible. Note that 'Poss' abbreviates 'Possessor.'

- (22) a. *tsèn uyidah ninighel*
bone 3.POSS-throat 3.s stopped moving
'A bone got stuck in his throat.' 217
b. *baàne t'luut ni'unezc'et'*
outside rope 3.s stretch
'A rope is stretched outside.' 125

Rice & Saxon suggest that the subject in an example like (22b) must be internal since it is preceded by an adverb which is internal to the verb phrase.

Based on the evidence presented so far, it appears that all subjects might be considered to be internal. Rice and Saxon cite further evidence, coming largely from anaphora, for an external subject position as well. The following argument is based on sentences with two third person arguments, one a subject. I begin with a discussion of intransitives. In intransitive forms with third person subjects and third person oblique objects, the

oblique can have two different forms. On the one hand, it can be of the form *y-* (or *i-*), as in (23). The third person objects in question are bolded, and glossed as *y-* or *b-*.

- (23) *i'et* *hghiya'*
 y.OO-with 3.s spoke
 'She/he spoke with him/her.' 90

Alternatively, it can have the form *b-* (or *u-*).

- (24) a. *lbaats'i* *uk'e* *daz'aan*
 round object b.OO-on 3.s is located
 'A round object is on it.' 99
 b. *ts'en* *uyidah* *ninighel*
 bone b.OO-in 3.s got stuck
 'A bone got stuck in his throat.' 219

Rice and Saxon argue that the oblique object form *y-*, identified as a disjoint anaphor by Saxon (1984, 1986), has limited distribution, occurring only when there is an external subject. Another form, *b-*, occurs in other contexts to mark a third person oblique object.

Based on the form of oblique objects in intransitives, Rice & Saxon (2005) investigate the semantic properties associated with internal and external subjects, and propose that the position in which a subject occurs is dependent on semantic properties of that subject: 'external subjects tend to be discourse topics, animate, or agentive, while internal subjects tend to be nontopical, inanimate, or nonagentive' (709). Appealing to the oblique forms, Rice & Saxon (2005) delineate the semantic content of the subject positions. They show that in Ahtna intransitives, *y-* is used as oblique object when the subject is human and agentive, as in (25); such subjects are external subjects. Again glosses of the verb are holistic rather than reflecting internal morphology.

- (25) *ya* *atnaa*
 y.OO-at 3.s work
 'She/he is working on it.' 288

y- is also found with agentive, nonhuman animate subjects.

- (26) *tikaani* *yuka* *tezniic*
 wolf y.OO-for 3.s reached
 'A wolf reached for [scared] him/her.' 307

Animate agentive subjects thus occur in the external subject position.

With human nonagentive subjects, either *y-* (27a) or *b-* (27b) is possible as oblique object form.

- (27) a. *y-* as oblique object
ic'aatse' *zdaa*
 y.OO-opposite 3.s sit
 'She/he stays opposite from him/her.' 122

- b. *b-* as oblique object
u'iidze' zdaa
 b.oo-hidden by 3.s sit
 'She/he stays hidden by it.' 92

Finally, inanimate subjects, agentive or not, always have *b-* as oblique object, as in (28).

- (28) a. *niget uyughatkay*
 fear 3.s leapt into b.oo
 'Fear leapt into him/her.' [she/he got nervous] 237
- b. *nildoxetah del uts'inghes*
 sometimes blood 3.s drip from b.oo
 'Sometimes blood drips from it.' 216

Based on the types of evidence summarized above, Rice and Saxon propose that subjects in Ahtna are permitted either within the verb phrase or outside of it, with factors such as agentivity and animacy being important in determining exactly which position is selected in a given situation. They provide the following statement about the distribution of subjects in Ahtna. I use the word 'external' where they use '[Spec, NumP]':

- (29) Ahtna: Animate agentive subjects must occur in external subject position while inanimate subjects must occur in the VP-internal subject position. Animate nonagentive subjects may occur in either position. (Rice & Saxon 2005: 711)

Factors like animacy and agentivity relate to discourse topicality, and I will call the external subjects topical and the internal subjects non-topical in later discussion.

The argument for two subject positions based on object form as presented so far relies on oblique objects. Just as both *y-* and *b-* are possible oblique objects in Ahtna, they are possible direct objects, as seen in the examples in (30) where the direct object is *y-* in (30a) and *b-* in (30b). These are bolded.

- (30) a. *ina**ʔ**aen*
 3.s look at y.DO
 'S/he is looking at him/her (*y*).'
 86
- b. *biina**ʔ**aen*
 3.s look at b.DO
 'It (moose - *y*) is looking at him (*b*).'
 96

Kari (1990) notes that the subject is topical in examples like (30a), while the subject is non-topical and the object topical in examples such as (30b). Rice and Saxon (2005) propose that the subject is external in (30a), and thus *y-* is chosen as direct object, while the subject is internal in (30b) (marked by *y-*), and the expected *b-* is found as direct object. With respect to objects then, be they direct or indirect, the presence of *y-* indicates that the subject is external, or topical, while the presence of *b-* indicates that the subject is internal, or non-topical.

Before examining the relationship between subject position and incorporability, I survey the content of the subject positions in Slave.

5.2.2 *Subject positions in Slave*

In overall characteristics, Slave is much like Ahtna. The types of evidence presented for Ahtna for two subject positions also hold of Slave. First, subject idioms occur in Slave, as in (31). Again verb glosses are holistic in nature.

- (31) *mbeh sedhéhxǰ*
 sleep 3.s overcame 1.SG.DO
 'I am sleepy.' [sleep killed me] 932

Second, subject incorporation is possible (although only rarely with non-patient subjects, see section 3). In (32), the noun *tsi* 'snow' is incorporated.

- (32) *kě-tsi-etłah*
 snow moved around
 'Snow drifted.' (Howard 1990: 519)

Third, subjects can both precede (33) and follow (34) locatives.

- (33) *tehmǰ dechǰ chine weǰ*
 pack tree at base 3.s is located
 'The pack is at the foot of the tree.' 281
- (34) *tl'u kè yú ráyefa*
 rope on clothes 3.s dry
 'The clothes are drying on the line.' 706

In addition, oblique objects with intransitive verbs can have either the form *y-* (35a) or the form *b-* (35b), as in Ahtna.

- (35) a. *y-* as oblique object
yetsǰ rádi
 y.OO-to 3.s help
 'She/he helps him/her.' 1008
- b. *b-* as oblique object
tsǰ bekè yǰǰ
 dirt b.OO-on 3.s is many
 'There was lots of dirt on it.' 1008

The distribution of *y-* and *b-* as oblique objects in intransitive clauses in Slave differs slightly from that in Ahtna. As in Ahtna, animate agentive subjects occur with *y-* as oblique object, as in (35a). Also as in Ahtna, animate nonagentive subjects occur with either *y-* (36a) or *b-* (36b).

- (36) a. *yeghǰ ʼeteredǰ*
 y.OO-for 3.s have pity
 'She/he is sorry for him/her.' 270

- b. *Mary betšə'óné 'adéhshá*
 b.OO-than 3.s is bigger
 'Mary is bigger than him/her.' 1008

With inanimate agentive subjects, *b-* (here in an alternative phonological form, *m-*) occurs.

- (37) *thik'í megohthe déhkě*
 gun b.OO-against 3.s shot
 'The gun shot him/her/it.' 290

When the subject is inanimate and non-agentive, only *b-* is possible as an oblique object in an intransitive clause, as in (35b) above.

Rice & Saxon (2005: 713) summarize the conditions on the positions of subjects in Slave, noting that the position of the subject depends on factors including humanness, animacy, and agentivity. Similar to Ahtna, human agentive subjects are obligatorily external, while inanimate non-agentive subjects must occur in the VP-internal subject position. Again, we can think of the external subject position as housing topical subjects, and the internal subject position as housing non-topical subjects. Just what determines topicality differs slightly between the languages.

At this point I have presented both intransitive and transitive examples of object pronouns in Ahtna, and only intransitive cases in Slave. Based on what we have seen so far, the languages are virtually identical: animate agents are topical and occur with *y-* as oblique object, inanimate subjects are non-topical and occur with *b-* as oblique object, and animate non-agents vary in topicality, and occur with either *y-* or *b-*.

Based on Ahtna intransitives and transitives and Slave intransitives, Ahtna and Slave share factors that control the position of a subject – agentivity and animacy, or, more broadly speaking, topicality.

Before returning to the subject of incorporation and incorporability of subjects, it is necessary to examine the position of third person subjects in transitive clauses in Slave. Here a fundamental difference exists between Ahtna and Slave. While discourse factors determine the placement of transitive subjects as well as intransitive subjects in Ahtna, in Slave transitive subjects are not contrastive in position – all are external. Thus, their position is syntactically rather than discourse determined.

Assuming that the claim that the appearance of *y-* determines the position of the subject in Slave, as outlined above, is correct, transitive subjects in Slave must be analyzed as external to the verb phrase, be they animate or inanimate, agentive or non-agentive, topical or non-topical. Alongside sentences like (38) with an animate subject are sentences such as (39), with an inanimate subject.

- (38) *John náyenyih't'u*
 3.s hit y.DO
 'John hit him/her/it.'

- (39) 'idi *layatla*
 lightning 3.s split y.DO
 'Lightning split it.' 1009

Transitive sentences with third person arguments and *b-* as the direct object are generally absent from the corpus; only *y-* is possible. (Note that there are examples in Howard (1990) of the transitive 'affect' with either *y-* or *b-* as direct object when the subject is third person, but not of any other verbs.)

Based on the anaphora test, with transitive verbs in Slave, subjects, be they animate or not, occur outside the verb phrase. This is a major difference between Ahtna and Slave: in Ahtna the position of a subject is based on its discourse topicality, while in Slave this is true when the verb is intransitive, but when the verb is transitive only a single position for a subject, external position, is available.

5.3 Subject positions and the incorporation of subjects

With this background, I return to the incorporability of subjects and, more specifically, of agentive subjects, as this is where the primary difference between the languages lies. Since animate subjects are not readily incorporable, I set them aside, assuming a constraint along the lines of that stated in (40) on animate subjects.

- (40) Animate subjects are not incorporable.

Rice & Saxon (2005: 766) anticipate the position that I elaborate in the following discussion:

Interestingly, factors of noun incorporation bear on the claim that transitive subjects invariably raise out of the VP to [Spec, NumP] [external subject position K.R.] in Slave and Dogrib. Recall from section 1.1.2 that many Athapaskan languages allow incorporation of nouns and that subjects can be incorporated. In Koyukon, Ahtna, and Dogrib, we have seen examples of transitive subjects incorporated. We suggested on independent grounds that transitive subjects in Koyukon and Ahtna can remain in a VP-internal position – the only sort of position from which a subject can be incorporated following the assumptions about incorporation that we take from Baker (1988). If transitive subjects must raise in Slave and Dogrib, then the incorporation of transitive subjects in these languages is not expected unless statements about the ordering of grammatical operations can be specified.

In the following discussion, I develop this position, addressing intransitives first.

5.3.1 *The incorporation of subjects: intransitive verbs*

Subject nouns are incorporable in both Ahtna and Slave if they are inanimate and non-agentive. Subject nouns with these properties must occur in the internal subject

position, as discussed above. Assuming, after Rice & Saxon (2005) and others, that only subjects that are internal to a verb phrase are incorporable, this finding is not surprising.

In Ahtna not only do inanimate patient subjects occur in the internal subject position, but inanimate subjects in general appear in this position based on the anaphora test introduced in section 5.2. These, as we have seen, are incorporable in Ahtna. In Slave, as in Ahtna, inanimate agentive subjects of intransitives are VP-internal by the anaphora test. The low degree of incorporability of agentive subjects in Slave suggests that this language has a constraint in addition to the animacy constraint in (40), namely that agentive subjects are not generally incorporable, summarized in (41).

- (41) Agentive subjects are not incorporable. (Slave only)

With intransitives then, neither language allows animate incorporates, and Slave further blocks agentive subjects from incorporating, while Ahtna allows these to incorporate. In intransitives, incorporation is sensitive to a single condition, expressed as either the position of the subject or topicality, in Ahtna. Since syntactic position is closely related to topicality (e.g., Thompson 1989, 1996; Rice & Saxon 2005), one can conclude that, broadly speaking non-topical subjects are incorporable. In Slave, on the other hand, in addition to position another constraint is found: only non-agentive internal subjects are incorporable.

5.3.2 *The incorporation of subjects: transitive verbs*

With transitive as well as intransitive verbs, animate subjects are not truly incorporable, and again I set these aside. In this section then, I consider the restrictions on the incorporation of inanimate subjects in transitive clauses.

In Ahtna, incorporation of transitive subjects is parallel to incorporation of intransitive subjects: inanimate subjects, agentive or not, are incorporable. This follows from the syntactic and semantic restrictions outlined in section 5.2.1: inanimate agentive subjects, like all inanimate subjects in Ahtna, are internal to the verb phrase and are thus incorporable.

In Slave, unlike in Ahtna, transitive subjects are not incorporable no matter what their properties. As discussed in section 5.2.1, in Ahtna, restrictions on the distribution of subjects with transitive verbs are akin to those on the position of subjects with intransitives. However, as seen in section 5.2.2, in Slave conditions on the distribution of transitive subjects are different from those with intransitives: transitive subjects are VP-external. Assuming that only internal arguments are incorporable, one would not expect transitive subjects to be possible incorporates since they occur external to the verb phrase. The failure of transitive subjects to incorporate appears to relate then to their external position.

Given the constraint outlined for Slave above, that agents are not incorporable, one might suggest an alternative account of the failure of transitive subjects to incorporate: if they are all agentive, then incorporation might be blocked on semantic rather than

structural grounds. It is true that transitive subjects are generally agentive in Slave and in Athapaskan languages more generally, as discussed by Rice & Saxon (2005). Verbs with non-agentive subjects that are transitive in English are frequently intransitive, with oblique objects, in Slave. These include verbs such as ‘look at’ and ‘love’. However, there are transitive verbs with what I understand to be non-agentive subjects. Based on Howard’s 1990 dictionary of South Slave, there are a number of verbs that have non-agentive subjects, yet are transitive, with direct objects. These include the following. These are perfective forms with a third person direct object, here in the form *zh-*. The first item has two alternative forms; the distinction between these is not relevant to the discussion here.

- (42) *azheh’í / azhíh’í* ‘S/he had, used work with it.’ (Howard 1990: 50)
zhaa’í ‘S/he saw caught a glimpse of him/her/it.’ 58
etuzhení’í’ine ‘S/he pitied, had compassion for him/her/it.’ 63
zhedíjhchá ‘S/he respected, magnified, considered important, held in high esteem him/her/it.’ 64
zhenídhí ‘S/he wanted him/her/it, thought it.’ 142
nazheníddhí ‘S/he wanted him/her/it again.’ 144
názhu’íli ‘S/he expected him/her/it.’ 321
nazhedáatthè ‘S/he heard him/her/it again.’ 491

In addition, verbs that are generally translated as ‘affect’ are transitive. A few examples of one such verb are given below. (43a, b) have inanimate subjects, while (43c) has a human subject. The direct object has the form *zh/y-* no matter what the subject is.

- (43) a. *tu* ‘ayí’lá
 water 3.s affect 3.DO
 ‘S/he has diarrhea.’ (literally: water affects him/her)
 b. *dehkoh* ‘azhí’lá
 cold 3.s affect 3.DO
 ‘A cold affected him/her.’ Howard 317
 c. *dechí húle ndéhé gots’ę déhtłah* ‘ayí’lá
 tree none exist land area.to 3.s went 3.s affect 3.DO
 ‘He made him go into the desert.’ (Mark 1:12; Rice 1303)

These examples have external subjects by the anaphora test: the direct object has the form *y-* (or its alternative form *zh-*) rather than *b-*. (Howard (1990) includes several examples of the verb ‘affect’ shown in (43) with *b-* as direct object; see Rice and Saxon (2005).)

By the anaphora test, then, transitive subjects are identified as external in Slave whatever their semantic characteristics. Thus both a semantic criterion – topicality (as defined primarily by animacy and agentivity) and a structural criterion – subject position – are required to delineate possibilities of incorporability in Slave: internal inanimate non-agentive arguments are incorporable. Intransitives reveal that agentivity remains an important factor, since these subjects can be internal by the anaphora

test, and yet they fail to incorporate, while transitives demonstrate the importance of subject position.

5.4 Summary

In Ahtna and Slave, animate subjects are not generally incorporable whether they are internal subjects or not. Also in both languages non-agentive subjects are incorporable. This latter fact is directly related to the position of these subjects: non-agentive subjects are VP-internal. In Ahtna internal subjects are incorporable, while in Slave only non-agentive internal subjects are truly incorporable, with this language having a constraint on agentivity. Thus both syntactic and semantic factors play a role in determining incorporability. The differences between the languages in terms of subject incorporation are summarized in (43).

(43)

	animacy restriction?	agency restriction?	positional restriction?
Ahtna	yes	no	yes
Slave	yes	yes	yes

It is helpful to examine the languages in a slightly different way, comparing the patterning of incorporates with the position of subjects. The tables in (44) and (45) summarize agentivity and animacy restrictions for subjects of transitive and intransitive verbs. The tables on the left show restrictions on incorporability of subjects; those on the right summarize the positions of subjects. The following abbreviations are used: 'tran' = transitive, 'intran' = intransitive, 'ext' = external, 'int' = internal, 'var' = variable. The 'animate' row is darkened because it does not play a role in the system under discussion.

(44) Ahtna

incorporate	agentive		non-agentive		subject	agentive		non-agentive	
	tran	intran	tran	intr		tran	intran	tran	intran
animate	no	no	no	no	ext	ext	var	var	
inanimate	yes	yes	yes	yes	int	int	int	int	

(45) Slave

incorporate	agentive		non-agentive		subject	agentive		non-agentive	
	tran	intran	tran	intr		tran	intran	tran	intran
animate	no	no	no	no	ext	ext	var	var	
inanimate	no	no	no	yes	ext	int	ext	int	

Both languages restrict animate subjects from incorporating regardless of their position. The Ahtna restrictions on incorporation of inanimate subjects and syntactic positions

of subjects are directly related – such subjects are internal by the anaphora test, and topicality and position are isomorphic. In Slave, focusing on the incorporability of inanimate subjects, a relationship between agentivity and incorporability exists: agentive inanimates are not incorporable regardless of position while non-agentive inanimates are. Position remains important – only internal subjects are incorporable – but in addition a semantic constraint, agentivity, also plays an important role. Animacy aside, the languages differ in whether a single factor (which I express here as a structural position, although it could be topicality) alone or semantic (including discourse) factors in addition are required in determining the potential ability to incorporate inanimate subjects. However, with respect to the position of subjects, in Ahtna the position of subjects is determined on the basis of discourse factors, while in Slave this is true only with intransitives; with transitives subjects are external.

5.5 Directions of change

Having seen incorporation patterns in two languages, I now focus on pathways of change. It is necessary to attend to three aspects of change, clausal architecture, factors determining where a particular subject falls, and constraints on incorporability. In this section, I consider what Proto-Athapaskan might have been like with respect to these factors, and propose how Ahtna and Slave have developed from Proto-Athapaskan.

5.5.1 *Clausal architecture*

Rice & Saxon (2005) propose that Athapaskan languages generally have two positions available for third person subjects, one internal to the verb phrase and one external to the verb phrase. I assume that these two positions were available in Proto-Athapaskan. For the purposes of this work, the daughter languages under discussion here did not undergo any structural change.

5.5.2 *Constraints determining positions of subjects*

Recall that the major factors determining the position of a subject in Ahtna and Slave involve both a syntactic one – transitivity – and a semantic/discourse one – agentivity, broadly construed as topicality. In Ahtna, transitive and intransitive subjects pattern in parallel fashion, with topicality being the determinate of subject position based on the anaphora test. In Slave, on the other hand, transitive and intransitive subjects show distinctive patterning. In Slave intransitives oblique object marking can be seen as a reflection of topicality, but in transitives, direct object marking is not contrastive.

The following developments seem plausible. In Proto-Athapaskan, subjects could occupy either an internal or external position, with the position determined by their role in the discourse. Animate agentive arguments are likely to be discourse topics, and would be external. Inanimate agentive arguments are not likely to be topics, and thus would be internal subjects. With respect to factors controlling the position of a particular subject, Ahtna underwent no change from Proto-Athapaskan. In Slave, subjects

of transitives were reanalyzed such that they are all external, resulting in a split between the factors that determine subject position in intransitives – topicality – and in transitives – structure. Slave thus underwent a change towards the syntacticization of subjects in transitives.

This direction of change seems reasonable: the Proto-Athapaskan system and the Ahtna system are coherent in treating subjects in a uniform way, while Slave is innovative in its handling of subjects syntactically in transitives. This hypothesized direction of change is supported by claims of Givón (1976, 1979) and others about historical sources of some types of syntactic structures. Givón (1979: 208) proposes that discourse structures develop into syntactic structures. He looks in particular at topics (1976, 1979: 209–211), arguing that grammatical agreement arises from the reanalysis of a topic as a subject. While not identical to the change found in Slave, the development is similar in that subjects in discourse are commonly topics. The identification of external position in transitives as subject position rather than topic position is not an unexpected one, given the scenario proposed by Givón. It is also interesting to note that structurally, this change involves a positioning of transitive subjects in a higher position in Slave than they necessarily were in Proto-Athapaskan. This direction of movement from a lower position to a higher one is reminiscent of the direction of movement discussed in the literature on grammaticalization; see, for instance, van Gelderen (2004) for discussion. It remains to be seen if this direction is coincidental, as the position of a syntactic subject is not part of grammaticalization, or if the claim that elements move upwards in diachronic change should be generalized beyond grammaticalization.

5.5.3 *Incorporation*

We have seen the differences between Ahtna and Slave in terms of incorporation in earlier discussion. Briefly, neither allow incorporation of animates in any robust way. Both allow incorporation of internal arguments, and not of external arguments. Finally, Slave additionally bans incorporation of agents even if they are internal. I begin this section by examining the Slave constraint against incorporation of agents, arguing that it is innovative. I then look at whether incorporation was present in Proto-Athapaskan.

Internal evidence points to the agentivity constraint being innovative in Slave. Slave does allow incorporation of agentive subjects, albeit in a limited way. One of the Slave examples of an incorporated agent with an intransitive verb is a place name (see (15)), suggesting that incorporation of such subjects may have once been more productive in the language since place names often represent fossilized patterns. One might imagine that subject incorporation was, at an earlier stage, allowed in Slave if the subject was inanimate and internal to the verb phrase.

What about incorporation in Proto-Athapaskan? I assume without discussion that incorporation was possible at Proto-Athapaskan with non-subject arguments and with non-agentive subjects. The interesting question concerns whether the internal agentive subjects were incorporable in Proto-Athapaskan, as they are in Ahtna & Koyukon. As

discussed by Mithun (1984), Baker (1988), and others, incorporation of agentive subjects is uncommon cross-linguistically. Given this, it is unlikely that such subjects were incorporable in Proto-Athapaskan. Why might they come to be incorporable in languages such as Ahtna and Koyukon? These same subjects are also affected in Slave, where, through various means, they become unincorporable – either they are externalized, or they are subject to the agentivity constraint. There is clearly something unusual about internal agentive subjects. Their agentivity makes them strong candidates for the external subject position, but their low topicality disallows them in that position. This tension is resolved in Slave through both a syntactic constraint – transitive subjects are external – and a semantic constraint – agentive subjects are not incorporable. In Ahtna, the conflict is resolved in a different way – the subjects that are not ‘good’ external subjects because of their low topicality but are also not ‘good’ internal subjects because of their agentivity are subject to incorporation, incorporation which is, apparently, preferred to non-incorporation. This typologically unusual pattern, with incorporated agents, developed in order to deal with the problematic inanimate agentive subjects.

To summarize, Slave exhibits two changes. For one, a constraint specific to incorporation, militating against incorporation of agents, developed. Given that external subjects are often agentive, it is not surprising that failure to incorporate external arguments could be interpreted as failure to incorporate agents. For another, subjects of transitives were reanalyzed such that all are external. Again, given the close relationship between transitive subjects and agents, this change is not unexpected. The result of this latter change is a certain structural incoherence in the system, in that Slave subjects are treated differently depending upon whether they are subjects of intransitives (factors such as topicality enter in) or subjects of transitives (topicality is not a relevant factor).

The coherent and more conservative Ahtna system, with subject position determined by topicality, also underwent changes, with the non-topical agentive subjects likely becoming incorporable. These are not good candidates for internal subject position because of their agentivity, but they are also poor candidates for external subject position due to their lack of topicality. In Ahtna, as hypothesized for Proto-Athapaskan, their non-topicality prevents them from being external subjects, but their agentivity prevents them from being internal subjects. They are thus incorporated.

Similar factors – the formal factor of transitivity and the functional factor of, broadly speaking, topicality – are thus of importance in the development of incorporation in both Ahtna and Slave from Proto-Athapaskan.

I now turn to a study of Navajo, a language which exhibits very different properties.

6. On the absence of incorporation in Navajo

While linguists working on Athapaskan languages recognize an incorporate position in languages such as Ahtna and Slave, in Navajo no such position is identified. Navajo has limited incorporation, with no apparent productivity. Incorporates do not appear in

a special position, but are grouped as a subclass of adverbs. Examples of incorporates, all taken from the outstanding dictionary and grammar of Young & Morgan (1987), abbreviated YM, and from the analytic dictionary of Young, Morgan, and Midgette (1992), labeled YMM, are presented below, organized around semantic roles. YM has two parts, a grammar and a dictionary, with independent numbering. Page numbers in the grammar are followed by 'g', while those in the dictionary are plain numbers. The sources are remarkable, with detailed grammatical information and wide exemplification. The fact that examples of incorporates are scarce in these sources speaks to the general absence of incorporation as a productive process in the language.

First, there do not appear to be any examples of incorporated agents. A few examples of patient incorporates are found. Morpheme-by-morpheme glosses are given.

- (46) Incorporation of patients
- a. *-t'a'* 'wings' (YM 711)
t'a-i-di-t-ta'
 wing-?-qualifier-transitivizer-draft or move quickly
 'to flutter its wings (butterfly, hummingbird), beat its wings' (YM 711)
 - b. *'anaa'* 'war' 9YM 2 g
'ana-ha-z-li'i' 'war broke out' (YM 2 G)
 war-areal-aspect-become

I have found a single example of a manner incorporate.

- (47) *cha* 'weeping, crying' (YM 270)
cha-di-sh-waq'
 cry-qualifier-1.SG.S-whimper
 'I whine, whimper (as a puppy when cold, a child):' (YM 270)

Several examples of oblique incorporates (location, source, goal) are found in the dictionary.

- (48) Oblique incorporates
- a. *tezh* 'soil'
teh 'into the ground, into soil' (YM 516)
te-'di-l-ch'iif'
 soil-unspecified.DO-qualifier-voice/valence-lightning strike
 'Lightning hits the ground.' (YM 516)
 - b. *tezh* 'soil' (YM 51 g)
te-'a-sh-geed'
 dirt-unspecified.DO-1.SG.S-dig
 'I dig a pit/cellar.' (dig something into ground) (YM 51 g)
 - c. *ta-* 'water, combining form' (YM 55 g)
ta-na-s-gis
 water-reversative-1.SG.S-wash
 'I wash it (impermeable object as a dish, car):' (YM 55 g, 702)

- d. *tó* 'water' YM 706
tó-ʹ-di-i-sóół
 water-unspecified.DO-qualifier-qualifier-inflate
 'to form a water blister, to make a water blister' (YM 707)
- e. *yá* 'sky' (YM 56 g)
yá-á-hi-i-sh-chah
 into air-upward-seriative-qualifier-1.SG.S-jump
 'I jump into the air in an effort to reach something.' (YM 56 g)
- f. *za* 'mouth' (incorporated form; cf. *zée* 'mouth') (YM 45 g)
á-za-a-sh-t-ʹaah
 own-mouth-aspect-1.SG.S-voice/valence-handle default object
 'I place a singular round object (e.g., piece of candy) into my own mouth.'
 (YM 45 g)
- g. *dáákeh* 'field, cornfield' (YM 46 g)
dááke-e-l-yeed
 field-aspect-voice/valence-move rapidly
 'It gets into the field (as a burro that gets into the corn).' (YM 46 g)

While there are only a few examples of incorporation into verbs in the Navajo literature, it appears that incorporation was once found in the language. The primary evidence for this, in addition to examples such as those above, comes from the fact that nominalizations contain incorporates. Nominalizations, like place names, often preserve formerly productive structures in a language, and the presence of a reasonable number of nominalizations with incorporates suggests the former productivity of incorporation. Some examples of nominalizations with incorporates are given below.

- (49) a. *ʹe-ná-á-bish-í* 'pit for roasting corn' (YM 516)
ʹe 'ashes' (cf., *ʹeh* 'into ashes' *ʹeezh* 'ground, ashes') + *náábish* 'something is boiled, roasted, cooked' + *-í* 'the one, the place'
- b. *ʹe-es-ʹaan* 'bread' (YM 517)
ʹe 'ground, ashes' + *siʹá* 'it sits' + *í* 'the one'
- c. *ʹawos-tʹán-í* 'ball of the shoulder joint' (YM 137)
ʹawos 'shoulder' + *s-tʹán* 'classificatory round object' + *í* (YMM 25)
- d. *ʹʹé-honaaéí* 'the moon (the one that is carried or that moves at night)'
 (YMM 27, YM 726)
ʹʹé-á-níí 'it is midnight, midnight' (YM 726)
ʹʹéé 'night, night time'
- e. *ʹʹé-ii-gáh-í* 'evening primrose' (YM 726)
ʹʹéé 'night, night time' + *ʹiigááh* 'something becomes white' + *-í* 'the one'
- f. *tsi-naa-ʹeet* 'boat' (YM 5 g)
tsi(n) 'wood' + *naa-ʹeet* 'it floats around'
- g. *ga-t-bah-i* 'cottontail rabbit' (YM 5 g)
gah 'rabbit' + *t-bah* 'it is gray' + *í* nominalizer

Navajo is probably best characterized as a language without productive incorporation, but with lexicalized incorporates. Assuming that Navajo is innovative in its lack of incorporates, as suggested by the presence of incorporates in nominalizations, one might ask why incorporation has been essentially lost in Navajo.

The primary difference between Ahtna and Slave concerns the incorporability of transitive subjects. One might reasonably expect that the loss of incorporation in Navajo might have to do with restrictions that Navajo places on subjects. Rice & Saxon (2005) examine factors controlling subject position in Navajo and offer the following statement.

- (50) Animate subjects must occur in [Spec, NumP] while inanimate nonagentive subjects must occur in the VP-internal subject position. Inanimate agentive subjects occur in either position. (Rice & Saxon 2005: 715)

If Navajo paralleled Ahtna and Slave one might expect that inanimate subjects, especially nonagentive subjects, could be incorporated. Since subjects, and nouns in general, do not incorporate in Navajo, the absence of incorporation in this language does not appear to be related to constraints on the positions of subjects or on agent incorporation, as in Ahtna and Slave.

I pursue another path in asking why incorporation has all but disappeared in Navajo. The loss of incorporation appears to be related to syntactic factors, namely the distribution of object pronouns.

It is often noted that Navajo, and Apachean languages generally, differs from the northern languages in terms of the distribution of third person object inflection; see Rice & Saxon (2005) for recent discussion and full references. In general, in the northern languages, third person object inflection is in complementary distribution with an overt noun phrase, as illustrated for Ahtna in (51) and Slave in (52). In the (a) examples, a nominal object is present, and there is no pronominal direct object while in the (b) examples, there is no nominal object, and a pronominal direct object marker, *y-*, is found.

(51) Ahtna

- a. *c'eghaeze'* *naghi'aan*
egg 3.s laid
'It laid an egg.' (Kari 1990: 71; Rice & Saxon 2005: 721)
- b. *naydghi'aan*
3.s laid 3.DO
'It laid it.'

(52) Slave

- a. *seyaa* *'itsé* *whehké*
1.SG.POSS-son moose 3.s shot
'My son shot a moose.' (Rice 2003: 628)
- b. *seyaa* *yéhké*
1.SG.POSS-son 3.s shot 3.DO
'My son shot it.'

Parenthetically, a Slave example with both a direct object nominal and a pronominal is sometimes possible (e.g., *seyaa ʔtsé yéhké* ‘My son shot a moose’), but this has a number of special properties; see Rice (2003) for some discussion.

Navajo is different: object noun phrases must cooccur with object inflection. This is illustrated in (53), where the sentence is ungrammatical without the object inflection.

- (53) *ʔashkii ʔatʔééd yiníʔi*
 boy girl 3.s see 3.DO
 ‘The boy sees the girl.’ (YM 1987: 65; Rice & Saxon 2005: 721)
 **ʔashkii ʔatʔééd nʔiʔi*
 boy girl 3.s see

I will not look at inflection with *b-* but the situation is similar as with *y-*, as illustrated in the forms in (54). Because I am focusing on these morphemes, they are used as glosses for objects rather than ‘3.’

- (54) a. *ʔatʔééd Jáan yiztsʔqs*
 girl John 3.s kissed y.DO
 ‘The girl kissed John.’ (Perkins 1978: 102)
 b. *Jáan ʔatʔééd biztsʔqs*
 John girl 3.s kissed b.DO
 ‘The girl kissed John.’ (Perkins 1978: 102)

Rice & Saxon (2005) formalize this long-recognized distinction between Apachean and the northern languages, arguing that there is a fundamental difference between the groups in terms of conditions under which the presence of overt inflection, which they recognize as agreement, is triggered. Important for this work is the following. In Navajo, any nominal is an agreement trigger, while in Slave and Ahtna, only pronominals are agreement triggers. Rice (2003) speculates that in Proto-Athapaskan as well only pronominals triggered agreement. Thus, in the Apachean languages, in transitive sentences with a third person subject and a third person object, pronominal marking of the object is required, while in Ahtna and Slave, this marking is required only if the object is pronominal.

I will build an account of the loss of incorporation around the co-occurrence of nouns and pronominal inflection.

In Navajo in general, non-subject nominal arguments and inflection co-occur, as outlined above. This is the case with verbs, and also with postpositions and possessive constructions, as shown in the examples below.

- (55) Postpositions
nástáán tsé yikʔi chʔínimááz
 log rock y.OO-on 3s rolled
 ‘The log rolled over the rock.’ (YM 28 g)

- (56) Possessives
shínaai *shimá sání* *biyéél* *yá*
 1.SG.poss-older brother 1.SG.poss-grandmother b.poss-bundle y.OO-for
néinígí
 3.S carried back y.DO
 ‘My older brother carried my grandmother’s bundle back for her.’ (YM 9 g)

In compound forms of various types, on the other hand, inflection is not generally present. The first member of a compound often has a special form. Different types of compounds are illustrated in (57).

- (57) a. Noun + Noun (YM 5 g)
chéch’il ‘oak’
tsé ‘rock’ + *ch’il* ‘plant’²
łeets’aa ‘dish, earthenware’
łeezh ‘dirt, soil’ + *ts’aa* ‘basket’
tsékoooh ‘rock canyon’
tsé ‘rock’ + *koooh* ‘arroyo, canyon’
tsiiyéél ‘quiver (for arrows)’
tsii- ‘hair’ + *yéél* ‘burden, bundle (possessed form)’
- b. Noun + Postposition (YM 5 g)
łeeyi’ ‘subsoil, underground’
łee- ‘soil, dirt’ + *yi’* ‘within’
tséyi’ ‘canyon’
tsé ‘rock’ + *yi’* ‘within’
chéch’iltah ‘oak thicket’
chéch’il ‘oak’ + *tah* ‘among’
- c. Noun + Verb stem (YM 5 g)
tsii’ááł ‘pillow’
tsii ‘hair’ + *’ááł* ‘handle singular round object’
chézhin ‘lava, traprock’
tsé ‘rock’ + *zhin* ‘black’
tsét’ees ‘griddle’
tsé ‘stone’ + *t’ees* ‘roast, cook’

The compounds show that inflection does not occur within a word; it is found only in syntactic constructions.

The pattern in Navajo thus is as follows. First, inflection is required in syntactic constructions, as illustrated in examples such as (53), yielding constructions with both a nominal and a pronominal. Second, inflection is not, in general, found within a compound. Navajo thus can be thought of as having two constraints. On the one hand,

2. Sibilant harmony is found in this form, affecting the initial consonant of /tsé/ ‘rock.’

inflection is required; on the other hand, inflection is not allowed when a nominal argument is incorporated, as in a compound.³

These constraints cannot be satisfied simultaneously, with incorporation and inflection in competition. If inflection is present, then there cannot be an incorporated argument linked to that inflection, but inflection is required. One can imagine that this could be adjusted in different ways. First, the requirement that inflection is required could be relaxed so that it is not needed when there is an incorporate, as in compounds. Second, the requirement that incorporation and inflection not co-occur could be relaxed. And third, incorporation could be lost, yielding to the stronger requirement for the presence of inflection. This is the path followed by Navajo and other Apachean languages.

If direct objects are not incorporable in order to resolve conflicts with inflectional marking, one might expect that other grammatical relations will not be incorporable either. Recall Mithun's statement – 'If a language incorporates N's of only one semantic case, they will be patients of transitive V's – whether the language is basically of the ergative, accusative, or agent/patient type.' (Mithun 1984: 875). If patient arguments of transitive verbs cannot be incorporated, then one would expect, given this observation, that other incorporates would likewise become impossible.

Thus, the loss of incorporation in Navajo appears to be tied to the change in Navajo in the distribution of pronouns: inflection linked to an argument is not permitted when that argument is an incorporate, be it an incorporate with a verb stem, noun, or postposition as head. It is, on the other hand, required with a syntactic argument of the verb. Within the verb word, the syntactic constraint on obligatory inflection takes priority, yielding to the disappearance of incorporates in the verb complex.

7. Conclusion

I have proposed that there were two major pathways of language change in the Athapaskan family. The first concerns subjects. On the one hand, restrictions on the incorporability of subjects changed. Agentive subjects lost their ability to incorporate even when internal to the verb phrase in Slave. Along with this is a general shift in the position of subjects of transitive verbs to an external position, related to the loss of discourse linking of subjects. In Ahtna, inanimate agents became incorporable, perhaps because

3. Rice & Saxon (2005) treat the pronouns as inflection, while Jelinek & Willie (2000) and various other works propose that they are pronominal arguments. If they are treated as pronominal arguments, then the absence of incorporation in Navajo is completely understandable: there cannot be both a noun and a pronoun with the same function. I do not pursue this alternative here, as I am attempting to develop an analysis of the loss of incorporation in Navajo in the framework proposed by Rice and Saxon.

they did not satisfy requirements of syntactic subjects in either position. The second change concerns the development of obligatory pronominal inflection. This results in a different type of change, namely the loss of incorporation altogether through the inability to incorporate objects. The end result is that the languages look rather different but the changes are not surprising: given the close relationship between subjects and topics and agents, the Ahtna and Slave patterns can be understood, and the precursors for the Navajo-type change are also not out of the ordinary.

The changes in incorporability relate to syntactic developments in the languages, not surprisingly, given the status of incorporates as arguments. Formal and functional changes have worked in tandem to create, in the case of Ahtna and Slave, subtly different systems and, in the case of Navajo, a radically different system, all with syntactic changes and constraints on incorporability going hand in hand.

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Argument marking from Latin to Modern Romance languages

An illustration of ‘combined grammaticalisation processes’

Lene Schøsler
Copenhagen University

The aim of my chapter is to discuss the status of valency patterns. Valency patterns are normally considered as part of the lexicon and as such linked to the individual verb. However, the following observations suggest that valency patterns are not just features of individual verbs, but that they can be considered as part of the grammar: Valency patterns can be very informative on the content of the verbs adopting these patterns. This holds not only for clear cases like avalent patterns being adopted by meteorological verbs, but also for, e.g., the pattern subject – verb – indirect object, typical of verbs of transfer. Speakers’ interpretations of valency patterns of unknown verbs also show that speakers assign specific content to certain valency patterns. New verbs introduced into a language will adopt the patterns of related verbs of that language. Changes of valency patterns can be shown to have as result groupings of verbs having a similar content. Another result can be the exclusion from these groupings of verbs that do not belong to the same class. Changes may result in a transfer of information on, e.g., causality from an alternation between two lexical verbs to an alternation between two alternating patterns. The discussion on the nature of valency patterns is mainly based on synchronic and diachronic arguments from Classical Latin and Romance languages, especially French.

1. Introduction

The aim of this chapter is to propose that some changes can be considered as combined grammaticalisation processes. By using the term *combined*, I hypothesise that these changes are best understood and described in combination and not as isolated changes. My use of the term *grammaticalisation* is in accordance with the broad definition of grammaticalisation presented in Heltoft, Nørgård-Sørensen & Schøsler (2005).

More specifically, for the present topic, it corresponds to Elizabeth Traugott's term *secondary grammaticalization* and to Henning Andersen's term *regrammation*, the latter being defined as 'a change by which a grammatical expression through reanalysis is ascribed a different grammatical content. (Change within and among grammatical paradigms.)' (Andersen 2006). The complex of changes to be investigated concerns the way grammar enables speakers and listeners to identify arguments, i.e., valency bound elements. The period under investigation goes from Latin to modern Romance languages. My hypothesis is that arguments in Latin were first and foremost identified by means of the lexicon, i.e., selectional restrictions on predicates and arguments and secondarily by means of the nominal morphology.¹ This view has also been put forward by Pinkster (1990) and his arguments will be quoted in section 2. Compared to Latin, we find a large variety of grammaticalised devices used to identify the arguments in modern Romance languages, e.g., word order, use of prepositions, co-indexation,² specialised valency patterns, morphology, and – as in Latin – lexical selectional restrictions.³ The rather surprising proliferation of grammatical devices in Romance languages compared to Classical Latin is discussed in section 3, with a focus on the role of specialised valency patterns or *constructions*,⁴ as this phenomenon has not yet been included in the discussion of how arguments are identified in Latin and Romance languages. It is my claim that the reorganisations of the case system had an impact, among other things, on the organisation of valency patterns in such a way that special patterns became linked to special content. I will argue that different grammatical devices are collaborating to different degrees in the individual Romance languages. If my analysis is correct, it is interesting to investigate further the evolution of these devices. Methodologically, my main claim will be that we arrive at the best description of these reorganisations when we consider them to collaborate. This is essentially different from the traditional account of these changes (presented and refuted in Schøsler 1984), which tends to postulate a causal relation between only two devices, e.g., the disappearance of a morphological case system and the appearance of prepositional

1. Additionally, the subject is marked on the verb by means of the verbal flexion. The lexicon is, however, very important for the identification of arguments.

2. Pronominal co-indexation is found in many Romance varieties.

3. As lexical restrictions are a permanent feature of argument marking from Latin to Romance languages, this point will not be investigated further in this context. See however Schøsler (1984) for a presentation of lexical restrictions. Schøsler (1999) is a thorough discussion of the relevance of lexical features and verb typology for the identification of valency arguments, a short presentation is found in Schøsler (2000). Koch (1991) provides interesting cases of change of lexical restrictions in the Romance languages.

4. I will use the term *construction* in italics when the term is to be interpreted in accordance with Goldberg's position (1995), i.e., as a form-content pair.

arguments, or the disappearance of a morphological case system and the appearance of fixed word order in several languages. See further section 3.1.

My analysis is based on synchronic and diachronic analyses of Latin and Romance languages. Classical Latin is an interesting point of departure for a study of combined processes as it is a well described synchronic stage, and as its later diachronic stages are relatively well attested. Section 2 presents synchronic evidence on Classical Latin. Section 3 focuses on various important reorganisations specific for Romance languages and different from Classical Latin. Section 4 contains my conclusion.

2. Classical Latin

2.1 The declension system of Latin

In Pinkster (1990: 60) the assumption is put forward that in Latin, ‘the content of the sentence is determined on the basis of the lexical meaning(s) of the predicate and the arguments occurring with it’. The following example illustrates this assumption: *is illius laudare inquit formam virginis* (‘he begins to praise the beauty of that girl’, Plautus, *Rud*:51) and the comment is: ‘after all, *forma virginis* is unable to *laudare* a person.’ Examining his corpus, Pinkster finds (1990: 62) ‘that the marking of the syntactic and semantic function by means of a case is really necessary in less than 5–10% of instances.’ He thus concludes that the declension system ought to be assigned a considerably less important function than is normally assumed, and that the importance and the meanings of predicates and noun phrases should instead be considered (1990: 65).

Although I agree with Pinkster’s conclusion, I do not totally agree with Pinkster’s somewhat minimalistic view on how communication is maintained (confer the adjective ‘necessary’ in the quotation). In Latin, I believe that case also contributed to the identification of valency bound elements without being absolutely ‘necessary’. However, I accept Pinkster’s suggestion that it is not the main function of the morphology to identify arguments. In fact, in my study on the role of the declension system in Old French (1984), I arrived at a similar conclusion. What is, then, the function of the Latin declension system? I propose that an important function of the declension system is to indicate the limits of the noun phrase by means of concord, as Latin is a non-configurative language. It is in fact one of the typical – and for a modern reader – one of the most difficult features of Latin that the noun phrase can appear discontinuously through a sentence; see the following quotation from Cicero: *De inventione* 1–4, where the direct object of *video* (‘I see’), printed in bold, is split into two parts by the predicate and by a prepositional phrase:

non minimam video per disertissimos homines invectam partem incomodorum
 ‘not **the least** I see by the most eloquent men **inflicted part of misfortunes**’ I
 find that it is not **the least part of these misfortunes** that is caused by the most
 eloquent speakers.

After the disintegration of the case system in late Latin, we see that all the future Romance languages gradually adopt a topological delimitation of the noun phrase, which is a prerequisite for the existence of syntactically motivated word order rules. It has been proposed that the basic order of classical Latin was SOV, whereas most modern Romance languages have the order SVO. These generalisations have been much debated, and none of the languages are 'pure' examples of the types. According to Pinkster (1990) 188: 'any statement of the type 'Latin was an X-language' [is] unfounded.' At any rate, it is well known that Latin word order does not provide information about argument structure; according to Pinkster, individual stylistic or pragmatic factors seem to be determinant for Latin word order. I do not intend to go into details on the development of word order from Latin to the modern Romance languages, as I have done it elsewhere (see Schøsler 1984).

Prepositions governing valency bound arguments are relatively rare in Classical Latin and they are not included in Pinkster's study. See, however, Happ (1976: 198, 201 ff.) in favour of the introduction of the argument type: 'prepositional objects'. On the other hand, the introduction of prepositions is one of the well-known grammaticalisation processes in the replacement of Latin cases, but the actual development is not always easily understood. I shall study two very different cases in section 3.4.1–2.

Pinkster's attitude quoted at the start of this section (1990: 60) can be taken as an argument in favour of the non-existence of *constructions* in Latin – in the sense used in Goldberg (1995). As this topic has not previously been analysed for Latin, I shall devote the rest of this section to the status and the function of Latin valency patterns.

2.2 Valency patterns and constructions

In this section I want to consider in particular the *nature*⁵ and the *function* of valency patterns or *constructions*. First, I introduce the position defended by Goldberg (1995) and specify my own position; secondly, I discuss the question whether Goldberg's position holds for Classical Latin.

In previous articles,⁶ I have expressed the view that specialised valency patterns in French provide syntactic and semantic information about the arguments. By means of this information, the communication participants are able to identify the relevant articles syntactic and semantic roles of the nuclear predication of the sentence. This view is on many points in accordance with the analysis of the function of *constructions* proposed in Goldberg (1995). However, I do not agree with the assumption of Construction Grammar (CG) that constructions are the basic units of language (see, e.g., Goldberg 1995: 4; Croft 2001: 47–62). In contrast to these views, I have proposed, on the basis of evidence from Modern Romance languages, that constructions or valency patterns can be specialised or not, the latter being 'default-patterns' (see further section 3). The specialised patterns have a clear grammatical status as they provide syntactic and semantic information. In the case of default patterns, additional information is needed

5. For more information on the nature of valency patterns, see Schøsler (in press).

6. See Schøsler (1999), (2000), (2003).

before further interpretation of the construction is possible. In a similar way, Engelen (1975: 220 ff.) distinguishes between specialised and default patterns for German. Goldberg does not mention the possibility that *constructions* may have no specific content. However, she accepts that constructions may be ‘polysemous’, in the sense that their form is not clearly linked to one meaning – which is possibly simply another way of expressing the same thing. But, quite naturally, her focus is on constructions linked to a specific meaning, i.e., the *constructions* illustrated by the following five examples:

Pat sent Bill the letter (‘ditransitive’)
Pat pushed the piano into the room (‘caused motion’)
Pat hammered the metal flat (‘resultative’)
The boat sailed into the cave (‘intransitive motion’)
Sam shot at Fred (‘conative’).

Speakers extend *constructions* to verbs that are not normally used in this way, which shows that the *constructions* are models for innovative use, as illustrated by the following examples from Goldberg 1995: 3–4):

Pat faxed Bill the letter (‘ditransitive’)
Pat sneezed the napkin off the table (‘caused motion’)
She kissed him unconscious (‘resultative’)
The fly buzzed into the room (‘intransitive motion’)
Sam kicked at Bill (‘conative’).

Constructions are considered to encode as their central senses event types that are basic to human experience (Goldberg 1995: 39), such as: someone causing something, someone experiencing something, someone moving, something being in a state, someone possessing something, etc. The actual way of encoding *constructions* is language specific (see also Croft 2001: 60), but languages all have *constructions* in the sense defined above. In modern Romance languages, specialised patterns linked to specific meaning are found, which implies that Romance languages have *constructions*, as we shall see in section 3. My claim is that the proliferation of *constructions* is a specific Romance evolution related to the important reorganisations taking place in post Classical Latin, and that Classical Latin valency patterns in general⁷ are not *constructions* in Goldberg’s sense, i.e., they do not generally constitute form-meaning pairs (Goldberg 1995: 4). If a language does not have *constructions* in this sense, this is a strong argument against the claim that *constructions* are the basic units of language. But if I am right in considering that *constructions* are just one of many possible grammatical ways of encoding argument function, then the quasi-absence in Latin of *constructions* in Goldberg’s sense is not a methodological problem for my analysis.

It is, however, not easy to define exactly what constitutes a *construction*: is a *construction* to be considered as an abstraction derived from the lexical semantics of the verbs

7. Very few cases of specialised patterns, i.e., of *constructions* in Goldberg’s sense, do exist, see below.

having a special valency pattern or does a *construction* correspond to the pattern and its arguments having a specific, but necessarily abstract, meaning? This point is not made clear by CG. However, it appears from the literature that *constructions* should probably best be understood in an onomasiological way related to the meaning of the *frames*, rather than a semasiological one, derived from the verbs. But still, *constructions* are always defined in terms of prototypical and derived cases like the English ones quoted above. For my part, I propose the following working hypothesis for the identification of a *construction*, based on two criteria of which the first is very vague, but balanced by the two following specifications. We may talk about *constructions* when

1. a class of semantically related verbs have the same valency pattern;
2. provided that the construction is productive, so that new verbs fitting into the class adopt that pattern (example: *to fax*, adopting the pattern of *to write* and that of other verbs of transfer); or
3. if the pattern is no longer productive, the class may consolidate by ejecting verbs that do not properly belong to it (example: *aider* ‘to help’, excluded from the subject-indirect object pattern in French, see section 3.3.1).

2.3 Valency patterns in Classical Latin

Let us now turn to Latin. If we consider the most frequent types of valency patterns in Classical Latin, one-, two-, and three-place verbs followed by any of the five possible cases, we find the distribution shown in Table 1⁸. I consider these nine combinations as potential *constructions*.

Table 1. Valency patterns and case distribution in Classical Latin

Type of pattern	Type of argument ⁹		
	argument 1	argument 2	argument 3
one-place ¹⁰	nominative		
two-place ¹¹	nominative	accusative 88.3%	dative 7.6%

(Continued)

8. The presentation of the Classical Latin valency patterns is based on Pinkster (1990); table 1 reproduces his table 5.4. I interpret Pinkster’s table as a presentation of Latin quantitative valency patterns. Pinkster’s investigation is based on a corpus of Classical Latin, in total 250 pages of text including Caesar, Catullus, Cicero, Horace, Livy, Ovid, Seneca, and Tacitus; see Pinkster (1990: 263, note 3). Pinkster has counted active, finite sentences; prepositional phrases have been excluded. The arguments are labelled 1 (=subject), 2 and 3. For a discussion concerning the assignments of arguments in Functional Grammar, see Dik (1997: 275–280). The table is based on obligatory arguments.

9. Pinkster uses the term ‘argument’ corresponding to Tesnière’s term ‘actant’, numbered from 1 to 3.

10. One-place verbs are more commonly referred to as ‘monovalent’ or ‘intransitive’ verbs.

11. Two-place verbs are more commonly referred to as ‘di- or bivalent’ verbs or ‘transitive verbs’.

Table 1. Continued

Type of pattern	Type of argument ⁹		
	argument 1	argument 2	argument 3
three-place ¹²	nominative	ablative 3.6% genitive 0.5% Accusative	dative 70.3% ablative 26.6% genitive 1.7% accusative 1.4%

Examples illustrating Table 1 are:

Divalent verbs, argument 2 being in one of the following cases:

accusative: *flumen transire conantur* 'they try to cross the river'

dative: *mihi est domus* 'I have a house', *ego non parebo dolori meo* 'I will not obey my pain'

ablative: *proelio abstinebat* 'he refrained from battle', *id mea interest* 'it concerns me'

genitive: *huius diei semper meminero* 'I will always remember this day'.

Trivalent verbs, argument 3 being in one of the following cases:

accusative (double accusative): *Caesar Haeduos frumentum flagitat* 'Caesar demands wheat from the Haedui'

dative: *easdem copias praesidio navibus relinquit* 'he leaves the same troupes for protection of the ships', *Brutum classi Gallicisque navibus praeficit* 'He appoints Brutus as leader of the fleet and the Gallic ships'

ablative: *anulus aureus quo tu istum in contione donavisti* 'the gold ring with which you endowed him during the meeting'

genitive: *me ipse inertiae nequitiaeque condemno* 'I condemn myself for idleness and negligence'.

Case distribution of the nuclear predication presented in Table 1 is described in the following terms by Pinkster (1990) 43: 'If there is one constituent, it is marked by the nominative; if there are two constituents, the second constituent is marked by a case other than the nominative (as a rule the accusative); if there are three constituents, the nominative and the accusative are reserved for the first and second constituents (. . .) and the third constituent is marked by a case other than nominative and accusative.' The tendencies expressed in the quotation concern default-patterns: two-place verbs tend to combine a nominative argument (=subject) and an accusative argument, three-place-verbs combine a nominative, an accusative and a dative argument, regardless of the lexical meaning of the verb.

Can tendencies for choosing a special, non-default pattern be found? Let us consider some cases; firstly two-place verbs, secondly three-place-verbs. Two-place verbs

12. Three-place verbs are more commonly referred to as 'trivalent' verbs.

can be divided into three groups:¹³ the largest group is composed of verbs combined with only one case such as *laudare*, ‘to praise’, (followed by the accusative), or *favere*, ‘to favour’, (followed by the dative). A second group of verbs have case variation without any clear difference of meaning, like *potiri*, ‘to take possession of’, which combines with either the genitive or the ablative. A third group has different construction possibilities with semantic differences, like *metuere* meaning ‘to fear’ when followed by the accusative and ‘to worry’ when followed by the dative. Different analyses have been proposed in order to explain the difference of constructions; e.g., in terms of control, non-accusative instances being non-controlled, accusative instances being controlled. This is simply incorrect, according to Pinkster, who states that ‘there is no satisfactory synchronic explanation for the specific case governed by two-place verbs’.¹⁴

In the case of three-place verbs, we typically find verbs of transfer or communication with the second argument in the accusative and the third argument in the dative, like *dare* ‘to give’ and *adimere* ‘to take away’. However, we also find verbs of transfer with an accusative-ablative pattern: *afficere aliquem aliqua re* – ‘grace someone (accusative) with something (ablative)’. We even find cases where the accusative-dative pattern alternates with an ablative-accusative pattern, as in the case of the verb *donare*: *anulus aureus quo tu istum in contione donavisti* (‘the gold ring with which you endowed him during the meeting’, Cicero, *Ver.* 3.185, example 28 apud Pinkster, quoted above) and *Gabinii, cui regna omnia Syrorum . . . donaras* (‘G., to whom you had given all the kingdoms of the Syrians’, Cicero *dom.* 124, example 29 apud Pinkster). According to Pinkster, there is no clear motivation for cases that do not follow the default patterns, although semantic and pragmatic differences may be involved in individual cases. It appears, however, that *donare* originally had the accusative indicating the beneficiary and the ablative for the object given. Later, *donare* adopted the pattern of *dare* that tended to vanish.¹⁵ This adoption of the *dare*-pattern by *donare* probably implies that the accusative-dative pattern was later conceived a more appropriate way of expressing this type of transfer than the accusative-ablative pattern. In other words, the accusative-dative pattern later became reanalysed as a *construction* (see further section 3.4.1).

On the whole, I accept Pinkster’s conclusions concerning the absence of semantic motivation for valency patterns in Latin. Pinkster does not mention, however, that Classical Latin has a few genuine cases of specialisation, e.g., meteorological verbs, such as *pluit*, ‘it rains’, *ningit*, ‘it snows’, *grandinat*, ‘it hails’, all defective verbs and aivalent, i.e., without a referential subject. We also find specialised sub-patterns, such as verbs concerning jurisdiction, including *accuso*, ‘I accuse’, *condemno*, ‘I sentence’, *absolvo*,

13. Here, I follow Pinkster (1990: 49ff).

14. Pinkster (1990: 53).

15. I want to thank Michèle Fruyt for this information.

'I acquit', *arguo*, 'I prove', and impersonal verbs of feeling, such as *miseret*, 'feel pity', *paenitet*, 'be sorry', *piget*, 'dislike', *pudet*, 'feel shame', all governing the genitive (and the accusative of the person concerned). Another sub-group is composed of verbs of communication governing two accusatives, such as verbs meaning 'I teach' (*doceo*), 'I ask' (*rogo, oro, imploro, quaero*), 'I demand' (*flagito, posco*), etc.

In his table 5.4., adapted here as Table 1, Pinkster does not mention prepositional objects, an infrequent category introduced by Happ (1976: 198, 201 ff.). Happ includes some 50 verbs governing a prepositional object; examples are *abhorrere ab* 'to abhor', *certare cum* 'to fight', *cogitare de* 'consider', *cognoscere ex / in* 'to know', *spondere pro* 'to promise', *addere ad* 'to add', *contendere contra* 'to dispute', *animadvertere in* 'to reproach'. According to Happ, the choice of the preposition is motivated in the sense that the preposition preserves its usual meaning. If this is correct, the preposition cannot be considered as fully grammaticalised. In other words, prepositional valency patterns are compositionally structured – they are not form-content pairs or *constructions*. Grammaticalisation of prepositions in Romance languages is discussed below, in section 3.4.

I have chosen to use Pinkster's table as my point of reference to Latin. Instead, I could have referred to Happ (1976), who provides very useful and thorough discussion of Latin valency patterns. The reasons why I have preferred Pinkster's presentation are the following: Firstly, Happ's detailed analysis leads him to postulate different senses of a verb depending on different constituents or on the presence or absence of optional arguments with the result of much polysemy. An example is the verb 'to give' *dare*. Happ distinguishes two verb senses, *dare*¹ and *dare*², the first one being divalent and the second being trivalent (1976: 447), instead of just one verb *dare* with an optional third argument. This multiplication of verb senses derived from lexico-semantics in Happ (1976) would have made it impossible for me to determine the existence of *constructions*. Secondly, Happ includes in his description of valency patterns both adjuncts and prepositional arguments, in spite of the fact that he considers the prepositions not to be grammaticalised. Anyway, Happ subscribes explicitly to the opinion – to be expressed later by Pinkster (1990) – that in general, the form (here in the sense of Latin valency patterns) does not correspond to a specific content, except in a few specific cases (1976: 445): 'Auch wenn wir in vorliegenden 'Grundfragen' keine genaue 1:1-Entsprechung von Inhalt und Form annehmen, müssen wir zugeben, dass eine Reihe von Verben zugleich Konstruktions- und Bedeutungswechsel zeigen.'

2.4 Conclusion of section 2

In sum, in Classical Latin, verbs have default valency patterns: one-place verbs have a nominative argument, two-place verbs a nominative and an accusative argument, three-place verbs a nominative, an accusative and a dative argument. In general, these patterns are not paired with any specific content; the meaning comes from the lexical verb and its arguments, so it is hardly possible to consider these patterns as

constructions in Goldberg's sense, unless the form-content relation is interpreted in a very vague manner, implying, e.g., that one entity is related to another entity. Such an interpretation does not really provide us with new information on the construction considered. Let us consider as illustration the divalent verb *puto*, governing the accusative case. There is no way of understanding the specific meaning of a sentence containing the verb *puto* independently of the lexical meaning of the arguments. When followed by the accusative *vitem* ('vine'), it means 'to prune'; followed by *rem*, 'thing,' it means 'to consider', and followed by *rationem* ('account'), it means 'to do one's account'.¹⁶

There is no synchronic motivation in the cases where verbs do not follow the default patterns, except in the specialised cases mentioned above. Moreover, there is no tendency in Classical Latin to distinguish arguments according to their semantic type, e.g., to distinguish animated, individuated arguments from inanimated, not individuated arguments, a distinction which is important in Romance languages (see below section 3.4.1). In other words, *constructions*, in Goldberg's sense, are exceptional in Classical Latin.

3. From Classical Latin to Romance languages

3.1 Introduction

In the course of the gradual disintegration of the nominal case system in Late Latin, important changes took place. According to the traditional account of the evolution from Latin to the Romance languages, case was replaced by prepositions and by word order rules, the latter especially in French. In previous works, I have discussed the traditional positions, especially the latter, which can be shown to be incorrect, among other things because of chronological inconsistencies. As I see it, traditional accounts of these changes have, wrongly, linked two synchronic analyses in an alleged causal relation. The first analysis runs like this: the main function of the Latin declension system is to identify arguments. The second analysis is: word order is used to identify the arguments in, e.g., modern French. The causal link would be that the second device has caused the vanishing of the first.¹⁷

The account sketched out above is incorrect for factual reasons, but the line of thinking needs to be discussed further in order to reject it. The underlying assumption is that important functions in grammar, such as identification of arguments, depend on fragile

16. I wish to thank Johann Ramminger for having provided these examples.

17. As said in the Introduction, I consider these analyses to be incorrect, see Schøsler (1984). A balanced analysis of interacting factors is also found in Herman (1998).

markers that may deteriorate and vanish, leaving behind them a defective grammar in search of new markers. I do not agree with this view, on the contrary I find it more plausible to think that important functions are indicated by several supplementary devices and that these may gain or lose in importance during language change. My hypothesis concerning argument identification is that the Romance languages preserve, increase and innovate:

1. they preserve identification of arguments by means of *lexicon* and partially by means of *case*;¹⁸
2. they increase the use of specialised patterns or *constructions*, and they increase identification of arguments by grammaticalising and extending the use of prepositions;
3. they innovate by using co-indexation and by introducing word order rules.

These grammatical devices exist in all Romance languages and my claim is that they are best comprehended as combinations of grammaticalised devices for the identification of arguments. Their relative importance depends on language specific conditions that should be studied for each language, but which are impossible for me to investigate in this chapter. In the following subsections, I will go into detail concerning only two of these devices: specialised patterns and prepositions, for the following two reasons: firstly, the two are partly linked, as the introduction of prepositions is a modification of valency patterns, and secondly, because I have studied most of the other devices elsewhere.¹⁹

3.2 Valency patterns in Late Latin and Romance languages; introduction

In Classical Latin, the lexicon and the case system made it possible to identify and to distinguish the arguments, as shown in Table 1, but the progressive confusion of the different oblique forms and, in many areas of Romania, the confusion between the nominative and the oblique forms, led to a situation which is rather different from Table 1, with no formal distinction between the three arguments.²⁰ In Table 2, I propose an entirely hypothetical overview of valency patterns in Late Latin, combining the subject *filia* ('girl') with the uninflected word for 'cow' (*vacca*) and the proper name *Maria* in a genitive / dative form.

18. Case never completely disappeared as an argument marker in Romance languages, being still present, especially in the pronominal system. More information on lexical restrictions is referred to in note 3.

19. The only device that I have not yet studied is co-indexing.

20. As shown by Michela Cennamo (this volume) the blurring of active and passive forms contributes to the confusion of forms and functions in Late Latin.

Table 2. Hypothetical overview of valency patterns in Late Latin

Type of pattern	Type of argument			argument 3
	predicate	argument 1	argument 2	
one-place	'sleeps'	<i>filia</i>		
two-place	'sees'	<i>filia</i>	<i>vacca</i>	
three-place	'gives'	<i>filia</i>	<i>vacca</i>	<i>Mariae</i>

The hypothetical system proposed in Table 2, with only three patterns, may well have existed to some extent in Late Latin, after the fusion of cases, but in all Romance languages new and more complicated valency patterns are created. However, this point has not yet been thoroughly investigated by historical linguists. In section 3.3, I present the results of an investigation on the frequency of the different patterns in Modern French, comparable to the one presented in Table 1, confirming the hypothesis concerning proliferation of patterns in French as compared to Classical Latin. In the following sections, I shall study some of the processes of pattern change. I consider these as cases of reorganisation resulting in new default patterns and new specialised patterns.

Table 3a proposes the development of valency patterns and case distribution that could be expected for French if each Latin case was rendered by its modern equivalent. As the Modern French pronominal system distinguishes only nominative, accusative and dative, no corresponding form can be foreseen for the genitive and the ablative (marked in the table by a question mark). However, this table is purely hypothetical: in fact, we do not find the state of affairs presented in 3a, implying only four different plurivalent constructions. Instead, I find a much more complex situation, tentatively illustrated by Modern French in Table 3b, where different patterns are found with the Modern French verbs developing from their Latin origin or with unrelated synonyms if the verb has not survived. It is important to note that the argument 2 of two-place verbs presents a wide variety of correspondences to the Classical Latin forms. Moreover, if we consider the diachrony of French, valency patterns have undergone important variation, especially during the Middle Ages and until the normative period of Classical French (17th and 18th centuries). If we include the other Romance languages,²¹ we find a similar proliferation of patterns which distinguish Modern Romance languages from Classical Latin. In sum, there is no direct 'transfer' of patterns from Classical Latin. The question is, then, can any lines of development concerning valency patterns be identified?

21. Concerning Italian, see, e.g., Blumenthal & Rovere (1998); for Spanish (of Chile), see, e.g., Bascuñan (1999).

Table 3a. Hypothetical development of valency patterns and case distribution of arguments 2 and 3, illustrated by French²²

Type of pattern	Type of argument	
	argument 2	argument 3
two-place	Lat. ACC. ⇒ French ACC. Lat. DAT. ⇒ French DAT. Lat. ABL. ⇒ ? Lat. GEN. ⇒ ?	
three-place	Lat. ACC. ⇒ French ACC.	Lat. DAT. ⇒ French DAT. Lat. ABL. ⇒ ? Lat. GEN. ⇒ ? Lat. ACC. ⇒ French ACC.

Table 3b. Exemplified development of valency patterns and case distribution of arguments 2 and 3 illustrated by French

Type of pattern	Type of argument	
	argument 2	argument 3
two-place	Lat. ACC. ⇒ French ACC. <i>je le vois</i> ²³ Lat. DAT. ⇒ French DAT. <i>je lui obéis</i> Lat. DAT. ⇒ French ACC. <i>je le crois</i> Lat. ABL. ⇒ French PREP. <i>de, je profite de cela</i> Lat. GEN. ⇒ French ACC. <i>je ne l'oublierai jamais</i> Introduction of French prep. <i>à, je songe à cela</i>	

(Continued)

22. Argument 1 preserves the nominative case in the languages and / or constituents preserving a case distinction. For the sake of transparency, I preserve the terms 'accusative' and 'dative' for the corresponding forms in Modern French, as these cases still exist in the pronominal system, whereas the ablative and the genitive cases are no longer found. In Table 3b I have included verbs not directly derived from Latin in order to illustrate different lines of development.

23. Translation and Latin etymology of the French examples of Table 3b: *je le vois* 'I see him / it' <Latin *video*, *je songe à cela* 'I consider this' <Late Latin *somniare*, *je lui obéis* 'I obey him' <Latin *oboedio*, *je le crois* 'I believe him / it' <Latin *credo*, *je profite de cela* 'I profit from this', corresponding to Latin *frui*, *je ne l'oublierai jamais* 'I will never forget him / it' <Latin *obliviscor* (however, *obliviscor* + accusative was also possible in colloquial Latin); *je le lui donne* 'I give it to him' (the Latin verb *do* no longer exists in French, but has been replaced by *dono*); *je le prive du soleil* 'I deprive him of the sun' <Latin *privo*, *je l'accuse du meurtre* 'I accuse him of the murder' <Latin *accuso*, *je t'informe de cela* 'I inform you of that'.

Table 3b. Continued

Type of pattern	Type of argument	
	argument 2	argument 3
three-place	Lat. ACC. (<i>do</i>) ⇒ French ACC. <i>je le lui donne</i>	Lat. DAT. (<i>do</i>) ⇒ French DAT. <i>je le lui donne</i>
'	Lat. ACC. (<i>dono</i>) ⇒ French DAT. <i>je le lui donne</i>	Lat. ABL. ⇒ French PREP. <i>de : je le prive du soleil</i> Lat. GEN. ⇒ French PREP. <i>de :</i> <i>je l'accuse du meurtre</i> Lat. 'double accusative' replaced by French PREP. <i>de: je t'</i> <i>informe de cela</i>

My hypothesis is that after the Late Latin period, valency patterns have evolved in such a way that in several cases they constitute pairs of form and content, i.e., *constructions* in the sense used by CG. In other words, certain patterns and certain alternation patterns have specialised so that they convey specific meaning. Moreover, the introduction of prepositional object can be considered as grammaticalisation of specialised patterns. Examples of specialised patterns and alternations will be studied in the following sections. But I will first provide arguments for my hypothesis concerning the proliferation of patterns in French as compared to Classical Latin.

3.3 Valency patterns in Late Latin and Romance languages, specialised patterns and alternations

There exists no comparative account of valency patterns in Latin and in Romance languages. In order to provide comparable data, I have examined an electronic French newspaper corpus (*Le Monde*, from 2000). On the basis of a KWIC-concordance of 3000 sentences, I have identified 1416 sentences having a finite verb. These sentences have been analysed in order to match Table 1 (see the appendix for details). Pinkster's table does not explicitly distinguish types and tokens. His table is based on 11.303 examples, of which one half is monovalent and one third is divalent, whereas trivalent constructions are rare. In my investigation, I distinguish constructions, both types and tokens, and I will refer to tokens in the following. My table 4 differs, however, from that of Pinkster, as it includes obligatory as well as optional arguments. According to Table 1, 88.3% of all Latin divalent constructions follow the default pattern nominative + accusative, and 4 construction types are found. In Modern French, we find 12 different construction types, and of these, 66 % have the default pattern subject-verb-direct object corresponding to the Latin nominative + accusative-pattern, the other French

construction types being often, but not always, specific *constructions* according to CG terminology. According to Table 1, 70.3% of the Latin trivalent constructions follow the default pattern nominative + accusative + dative, and 4 different types are found. In Modern French, 56.3% follow the comparable pattern subject-verb-direct object-indirect object, and in total 17 trivalent patterns, specific *constructions*, are found. Finally, 15 specific alternating *constructions* are found. Thus, my investigation confirms my hypothesis concerning the proliferation of patterns in French compared to Classical Latin.

Table 4. Construction patterns in Modern French, *Le Monde* 2000

construction types	types (lemmas)	tokens
4 monovalent types	44	81 = 5.7 %
12 divalent construction types	325	975 = 68.9 %
17 trivalent construction types	164	339 = 23.9 %
15 alternating construction types	20	21 = 1.5 %
total	553	1416 = 100 %

3.3.1 *Different specialised patterns*

It was mentioned above, in section 2, that Classical Latin had at least one specialised valency pattern, that of meteorological verbs. The meteorological verbs also form a special, alevant, class in Romance languages. But other specialised patterns are found. In Schøsler (to appear), I have shown among other things that the pattern Subject Verb Indirect Object (for example *ceci plaît à Jean* ‘this pleases John’) has specialised as the expression of a relation between an experiencer (E) and an object (O) in such a way that O is the subject of the sentence and E the indirect object. Another clear form-content pair is Subject(hum) Verb Object Indirect Object(hum), illustrated by the following example *Jean offre / vole un livre à Pierre* (‘John offers / steals a book to / from Peter’). This pattern is found with verbs referring to transfer between humans, and corresponds to table 36 DT of Maurice Gross. So, in certain cases, it is manifest that the evolution of language has led to a specialisation of the valency pattern expressing a specific cognitive relation. In other cases, the specialisation appears in alternations; see next subsection (section 3.3.2). CG refers to alternations as *related constructions* (e.g., Goldberg 1995: 160–161). The cases of alternation to be discussed below imply action verbs and arguments that express the causer or the undergoer of an action. I consider this combination to be potentially ambiguous, and I consider the different alternation patterns as *construction possibilities* for the speaker to chose an unambiguous pattern. Additionally, these patterns enable the speaker to change focus, e.g., on the part (*Jean frappe son bras*) or on the whole (*Jean lui frappe le bras*), see next subsection. This type of effect has been studied in detail, especially for English. A thorough investigation of Modern French alternation is found in Eggermont (1994).

3.3.2 *Alternations of valency patterns*

A well-known case of valency alternation, existing in many languages,²⁴ is that of inalienable possession constructions. In Classical Latin we find no proper valency alternation, but free dative forms may be found, as illustrated in the following example:

- (1) *cornix cornici numquam ocellum effodit*
 ('a crow never puts out the eye of another crow', example quoted from König and Haspelmath 1998: 552)

Valency alternations indicating inalienable possession exist in all Romance languages, but with restrictions varying between the languages. Thus, they are found with verbs indicating an activity affecting a part of a human body (a restricted use found in French) or affecting a part of a whole (a less restricted use found in other Romance languages, especially in Portuguese):

- (2a) *il medico ha radiografato lo stomaco ai bambini* (Italian, lit. 'the doctor has X-rayed the stomach to the children', i.e., 'the children's stomachs')
- (2b) *le ensuciaron el coche* (Spanish, lit. 'to him they soiled the car', i.e., 'they soiled his car')
- (2c) *este barulho cansa-me a cabeça* (Portuguese, lit. 'this noise exhausts me the head', i.e., 'my head'; examples (2a)–(2c) quoted from König and Haspelmath 1998: 552)

The inalienable possession alternation links together two patterns of which one is trivalent (subject, object = the possessed part, and indirect object = the possessor), the other divalent (subject, object), e.g., *Jean lui frappe le bras – Jean frappe son bras* (lit. 'John him hits the arm' – 'John hits his arm'). Valency alternation patterns are found with semantically related verbs and distinguish them from other verbs; in the case of French, they establish a class of verbs expressing an aggressive or kind activity directed towards another person, in other Romance languages also directed towards another person's belongings. I recall that the structure of these alternations have the effect that a potentially ambiguous combination, i.e., of two humans interacting, appears as unambiguous, as the person who is manipulated takes the form of a dative (*ai bambini, le, me, lui*) or of a possessive (*son bras*). These alternations are productive and can thus be considered as *constructions* according to the definition proposed in section 2.2.

The alternation between two patterns of which one is trivalent and the other divalent, makes it interesting to consider more closely other cases of argument change in Latin and in Romance languages, i.e., argument augmentation and argument reduction.

24. See, e.g., Schøsler & Kirchmeier-Andersen (1998) for further investigation of valency alternations in Danish. Important studies on this construction in Romance and Germanic languages are Spanoghe (1995) and Lamiroy & Delbecque (1998). I refer to Schøsler (2002) for a diachronic analysis of the evolution of inalienable possession constructions in French.

3.3.3 *Argument augmentation and argument reduction*

Argument augmentation and argument reduction are marked in different ways in different languages (see Dixon & Aikhenvald 2000). In Classical Latin, we find lexical or morphological indications of argument change.

On the one hand, there are series of etymologically related pairs of verbs of which one indicates an intransitive situation or action and the other verb indicates a causative, transitive activity,²⁵ such as *sto* 'I am placed somewhere' and *sisto* 'I place somebody somewhere'; *miles stat* ('the soldier stands'), *militem sisto* ('I place the soldier'). Other examples are: *fugio*, 'I flee' *fugo* ('I cause somebody to flee'); *jaceo* ('I lie'), *jacio* ('I throw'); *occido* ('I die'), *occido* ('I kill'); *pendeo* ('I am hanging'), *pendo* ('I hang [something]').

On the other hand we find morphological argument reduction by means of the passive: *ramus frangitur* ('the branch breaks'), *ramum frango* ('I break the branch'), *domus uritur* ('the house is burning'), *domum uro* ('I burn the house'), *navem appello* ('I land the ship'), *navis appellitur* ('the ship lands'), *veho* ('I transport [something]'), *vehor* ('I travel').²⁶

In Romance languages we do not find series of etymologically related pairs such as *sto* - *sisto*, and the passive no longer exists as a morphological category. In fact, the equivalent of the Latin passive is rendered not by one, but by several different analytical constructions, among which auxiliaries plus past participle and several impersonal and reflexive constructions are the most frequent. These can be considered as different valency reducing constructions. Thus, in Romance languages, we have no longer a morphological indication of argument change. I consider analytical constructions to be transparent with regard to argument identification. This is, e.g., the case with variants of the intransitive auxiliary 'to be', for example in analytical 'passive'-equivalents, and in analytical construction with the main verb in the infinitive, e.g., *le général fait attaquer l'aile gauche*, see next paragraph, as the infinitive imposes specific constraints on the presence and on the position of the object (see Schøsler 1999).

Argument augmentation is indicated in at least the following two ways: either by means of auxiliaries, frequently by means of causative auxiliaries meaning 'to make', e.g., from Latin *facio*: *le général attaque l'aile gauche* - *le général fait attaquer l'aile gauche* ('the general attacks the left flank - the general orders the left flank to be attacked'), or

25. Among these pairs, *sisto*, however, is also found as intransitive. The verb 'to land': *appello*, can also be used as an intransitive verb: *navis appellit* ('the ship lands'), and *navem appello*, ('I land the ship'). Such pairs of verbs exist in Scandinavian and in Germanic languages; see Schøsler (in press); but in contrast to Latin these are pairs clearly marked by vowel alternation; compare the English pair *to lie* / *to lay*.

26. Latin uses different devices for modification of verbal lexical semantics, e.g., prefixes or infixes, see for example Haverling (2005). However, as these devices do not concern the identification of arguments, they are not included here.

by means of alternating valency patterns between a monovalent and a divalent pattern, e.g., the *Caused-Motion Construction* of CG of the type *la branche casse* ('the branch breaks', intransitive situation) and *Jean casse la branche* ('Jean breaks the branch', causative, transitive activity). This type can be considered as genuine *constructions* in the Romance languages.²⁷ In Modern French, argument alternation patterns are frequent; according to Boons et al. (1976: 90) some 400–500 verbs show the pattern illustrated above by the verb *casser*, and many other types are found. Unfortunately, there exists no general study of argument alternation in Romance languages.

The aim of this subsection was to show that Romance languages have developed specialised valency patterns or *constructions*. In particular it has been shown that Classical Latin had lexical and morphological ways of marking change of valency. In Romance languages valency changing is marked either analytically (e.g., by means of causative periphrases, analytical passive constructions, etc.) or by alternating (*related*²⁸) valency patterns. It has been argued that analytical constructions and alternations make potentially ambiguous combinations of verbs and arguments less ambiguous.

3.4 Specialised patterns with prepositional arguments

The introduction of prepositional arguments is a well-known innovation in all Romance languages. There are different cases to be considered. In the following section, I shall first focus on the use of the prepositions *ad* and *per* introducing the indirect and / or the direct object; secondly, I shall consider other cases of prepositional objects.

The use of prepositions, especially introducing the indirect object, is widespread in Romance languages. It has been discussed whether the different ways of using prepositions should be considered as inherited from Late Latin or whether it arose polygenetically. Concerning the choice of the preposition, for example, the latter interpretation seems most probable, due to essential differences among the languages.²⁹ What is common, and probably not polygenetic, is the introduction of prepositions in general. I consider the replacement of cases by means of prepositions as the result of complex grammaticalisation processes. It was never a general replacement; on the contrary, it is a replacement of specific case functions by specific prepositions. For example, in some cases, the Latin genitive argument corresponds to a French accusative (see Table 3b, the verb *obliviscor*), in other cases the Latin genitive argument corresponds to a French prepositional argument (see Table 3b note 23, the verb *accuso*).

27. In Latin, this alternation pattern was found with *sisto*, as mentioned above, and with *uertere* followed by the accusative for the object turned round and mediopassive when monovalent: *uertit*. I wish to thank Michèle Fruyt for having drawn my attention on these cases.

28. *Related Constructions* is the corresponding term used by CG.

29. There are for example important chronological differences between the introduction of *ad*-marking in different regions, and in Romanian it has disappeared early.

3.4.1 *The use of prepositions ad and per to introduce the indirect / direct object*

According to Detges (2001: 305 ff), three different situations should be distinguished:

1. the indirect object and the direct object are marked in different ways;
2. the indirect object and the direct object are marked by means of the same preposition (*ad*) through a process of (re)grammaticalisation;
3. the indirect object and the direct object are marked by means of the same preposition (*ad*) through an analogical process.

The first situation is found in those Romance languages which introduce the indirect object, but not the direct object, by means of *ad*, or which have only a prepositional direct object, not a prepositional indirect object. The first case concerns French, most Italian dialects (except in southern Italy), Occitan, Swiss Romance dialects (except Engadin). French examples are: *je vois Marie* ('I see Mary'), *je donne le livre à Marie* ('I give the book to Mary'). The latter case concerns Romanian, where the direct, human object is introduced by *pe*. Romanian examples are: *am vazut pe fratele meu* ('I have seen my brother'), *mi-am pierdut cuțitul* ('I have lost my knife'), *dă fân calului* ('give hay to the horse').³⁰ The second and the third situation are more complicated, as it is difficult to explain the relation between the marking of indirect and direct objects. We find either a parallel process of grammaticalisation (situation 2) or an analogical case substitution (situation 3). According to Detges, situation 2 is found in the Romance languages that still distinguish the indirect and the direct objects in spite of the use of the preposition *ad* in both functions; situation 3 is found in Spanish and in Engadin which hardly distinguish the direct (animate) and the indirect objects any more. Examples in Spanish are: *¿puedes ir a buscar a Fernando esta tarde?* ('can you fetch Fernando this evening?'), *¿puedes ir a buscar el libro esta tarde?* ('can you fetch the book this evening?'), *¿Le das el libro a mi hermana?* ('Will you give the book to my sister?').

The introduction of prepositions in situations 2 and 3 and the use of *pe* with the direct object in Romanian has spread according to the referential hierarchy³¹ reproduced below. The hierarchy implies that the preposition is first introduced before nouns referring to individual, definite humans and later to non-individual, non-human, indefinite entities. The Romance languages differ with respect to the spreading to non-humans. It is interesting to observe that this hierarchy does not seem to have had much importance for the structure of Classical Latin, whereas it has become relevant for all Romance languages, and not only with respect to this specific point of grammar.

Referential hierarchy: [+deix] > [+propr] > [+pers] > [+hum] > [+anim]
> [+discr] > [+concr]

30. The Romanian examples are quoted from Bourciez (1967: 590–592).

31. See Detges (2001: 292).

The conclusion to be drawn from this subsection is that the substitution of cases by prepositions is not ‘automatic’, but individually motivated; and that it leads to reorganisations of patterns according to principles (e.g., the ones expressed by the referential hierarchy) that were not relevant for Classical Latin.

3.4.2 *The introduction of other prepositions, illustrated by the case of the preposition de*

As appears from Table 1, the genitive and the ablative are infrequently governed by the Latin verb, in contrast to the accusative and the dative.³² Table 3b clearly shows that the genitive and the ablative do not correspond to one specific form, direct or prepositional, in Modern French. However, the ablative is often associated with the preposition *de*, and we find many verbs having the pattern subject-verb-prepositional object introduced by *de*. How was this pattern introduced? And is this pattern a form-content pair, i.e., a *construction*? I will investigate these questions mainly on the basis of French data.

According to a hypothesis proposed for Spanish by Pensado (1995),³³ the introduction of prepositional objects originated in the use of prepositions to indicate the theme of verbs of communication, and she finds that the Latin prepositions *ad*, *in*, *circa* and *de* alternated in this function, e.g., *Cic. hac de re . . . scribo* (‘I write [to you] about this’). In French, indication of the theme is most frequently introduced by *de*. In the following, I will study the valency patterns of some verbs of communication³⁴ in order to decide if Pensado’s hypothesis is relevant for French.

In Old French, we often find a free theme (i.e., not a valency bound argument indicating the theme) introduced by *de*, meaning ‘about’; see the examples (3a–c):

- (3a) *mf*, v. 6 *E jeo l'ai trové en escrit / De Tristram e de la reïne, / De lur amur ki tant fu fine* (‘I have found it written / about Tristan and the queen, / about their love that was so fine’).
- (3b) *eneas1*, v. 1224 *de lui comance a penser* (‘she starts thinking about him’)
- (3c) *gcoin3*, v. 394 *L' empeeris dont je recort* (lit. ‘the empress of whom I remember’)

However, not all of these free themes develop into prepositional objects. Let us consider more closely the verbs of communication. In Classical Latin, some of these verbs had a double accusative construction. This holds, e.g., for the verbs meaning ‘to demand’: *flagito*, *posco*, *oro*, *rogo*, mentioned in section 2. According to Happ (1976: 212–213), many verbs of communication are found with the preposition *de* followed by the

32. On the other hand, the ablative is very frequent as adjunct, e.g., indicating the source of a verb of movement.

33. Detges (2001: 308) discusses Pensado’s interesting hypothesis in detail, and presents different, highly relevant, arguments for not accepting it, arguments which I do not reproduce here.

34. The verbs are studied in the BFM, see references.

ablative, unconventionally considered by Happ as a prepositional object, indicating the theme. So, apparently already in Classical Latin, the theme can be introduced by *de*. Happ lists the following verbs of communication found with *de*: *certare* 'to fight', *cogitare* 'to consider', *conticescere* 'to cease speaking', *dicere* 'to speak', *disserere* 'to discuss', *existimare* 'to estimate', *extorquere* 'to extort', *loqui* 'to speak', *postulare* 'to ask', *referre* 'to repeat', *respondere* 'to promise', *sentire* 'to observe', *sumere* 'to assume'. Let us, for the sake of the argument, accept Pensado's hypothesis concerning the introduction of the theme by means of *de*. The use of the preposition *de* in French with verbs of communication could in fact be interpreted as a grammaticalised use of the preposition indicating the theme, as in examples (4) and (5), where we find the verb 'to tell' (*conter*), followed by a prepositional object (theme) introduced by *de* and an indirect object (the person to whom something is told) in the form of the dative of the pronoun (*lor*) or *a* + NP (*a sun fiz*):

- (4) *mf*, v. 488 *Milun ad a sun fiz cunté / De sa mere cum il l'ama* ('Milun had told to his son / about his mother whom he loved')
- (5) *dole*, v. 5648 *cel prodome dont on lor conte* (lit. 'this nobleman about whom someone told to them')

The same pattern is found with similar verbs, e.g., *dire*, *parler*, meaning 'to say':

- (6) *eracle*, v. 5091 *iceus vos lairons ore em pais si vos dirons d'Eracle humais* ('we will now leave these, and we will now tell you about Eracle')
- (7) *thebes1*, v. 4191 *Forment l'ama, ne s'en pot tere, a lui parla de cest afere* ('he loved her so much that he could not stay silent, he spoke to her about this matter')

However, this pattern has only survived in Modern French with the verb *parler*; the other verbs of communication no longer have a prepositional object indicating the theme of communication introduced by *de*, instead, they all express the theme as a direct object and the person addressed always has the form of a dative or *a* + NP. The latter pattern existed in Old and Middle French as a competing pattern with all the verbs of communication except *parler*; see examples (8)–(9):

- (8) *thebes1*, v. 812 *Au roi torne viaz arriere, conta lui la bataille fiere qu' il ot veü* ('he returns to the king, told him about the violent fight that he had seen')
- (9) *qjm*, p. 85 *Vroiment, fait elle en riant, vous me dites chouse qui ne se pourroit faire* ('She answered laughing, really, you tell me about a thing that could never happen')

Thus, the study of the patterns of verbs of communication in French does not support the hypothesis put forward by Pensado that the preposition *de* was systematically introduced in order to indicate the theme. Moreover, we have seen that *de* was already found in Classical Latin, so the introduction of *de* cannot be explained as an innovation in the Romance languages to indicate the theme.

According to Boons et al. (1976), which is the most comprehensive source of information on intransitive valency patterns in Modern French, the verbs followed by *de* do not form a clear semantic class, as appears from their Table 35 R. On the other hand, even the semantic class of giving and taking normally associated with the typical three-place constructions (*donner quelque chose à quelqu'un*) may be found with the preposition *de*, either indicating the object taken or given or the person to whom something is given or taken: *hériter quelque chose de quelqu'un* ('to inherit something from someone'), *pourvoir quelqu'un de quelque chose* ('to provide somebody with something'), *priver quelqu'un de quelque chose* ('to deprive somebody of something'). Finally, reflexive verbs, such as *commencer à / de* ('to begin'), may combine with *à* or *de* without any clear difference of meaning. We also find the preposition *de* with verbs of opposite meaning, e.g., the verbs 'to approach' and to 'go away from': *s'approcher de quelqu'un* – *s'éloigner de quelqu'un*. Cases as *s'approcher de quelqu'un* clearly show that the preposition *de* has lost its original lexical meaning of separation and has grammaticalised. In sum, if prepositions introducing prepositional objects sometimes seem to have preserved their original meaning, other cases show that they have grammaticalised to a point where the original difference of meaning is blurred.³⁵

In conclusion, like the prepositional objects introduced by *ad* or *per*, prepositional objects introduced by *de* are not 'automatic' substitutions of cases. We have seen that the principles behind the spreading of prepositional objects governed by *ad* or *per* were easily found in, e.g., Romanian and Spanish, as they correspond to a referential hierarchy – whereas this is not the case with the introduction of *de*. Consequently, the patterns with a prepositional object introduced by *de* cannot be considered as a form-content pair.

3.5 Conclusion of section 3

The preceding short study of reorganisation of the Classical Latin valency patterns leads to the conclusion that there is no direct transfer of valency patterns from Classical Latin to Modern Romance languages, as appears from the tables 1–3b. To judge from French evidence, several valency patterns seem to be competing for a long period (see Schøsler 2003 and Schøsler to appear). Not all cases show a clear line of development (see section 3.4.2); in other cases, however, patterns specialise to express specific types of relation among arguments, and classes of verbs of related content are found, i.e., *constructions* as defined in section 2.2. This is the case of *ad* or *per* marking a human argument in some Romance languages (section 3.4.1). Other cases of specialised patterns exist; in previous studies, I have identified different specialised patterns in French, such as two-place verbs governing the dative, which all combine with a human experiencer, a typical example being: *le chocolat lui nuit* ('chocolate is not good for him'). An important innovation in Romance languages is the development of pattern alternations (sections 3.3.1–3).

35. The preposition has undergone 'bleaching', according to the traditional grammaticalisation terminology.

The aim of section 3 has been to focus on the introduction of specialised patterns and the introduction of prepositional arguments as two illustrations of innovations in the Romance languages. These innovations are considered as devices that make it easier for speakers and listeners to understand the relation between the arguments. My claim that the different ways of indicating arguments constitute a combination of grammaticalised devices is based on the following argumentation:

1. they are the result of different grammaticalisation processes;
2. they exist to different degrees in all modern Romance languages;
3. none of these devices is the only way to identify the arguments; in most cases, several devices collaborate.

4. Conclusion

We have seen that Latin is a clear illustration of a type of language with argument identification achieved mainly by means of the lexicon, secondarily by the nominal morphology and cases on pronouns, or marked on the verb, whereas identification of arguments in the Romance languages is more diversified: we find that argument identification may be achieved by means of the lexicon, as in Latin, and the identification of the subject argument by means of the verbal flexion is still found in most Romance languages. The use of prepositions as identification of non subject arguments is widespread, explicit subjects are obligatory in French and frequent, although optional elsewhere. The use of clitical object pronouns, sometimes used for co-indexing, is frequent and is often considered as a step towards genuine agglutination (see, e.g., Bossong 1998: 770). Finally, the fixation of word order is another way of identifying arguments, most important for Modern French.³⁶ In sum, identification of arguments in Romance languages has developed into a complex matter with a large variety of organisational devices involving different levels of grammar; we find lexical, morphological, analytical, and topological marking; and marking by means of alternation of patterns. In some cases it is difficult to derive a specific meaning of a valency pattern, just as in Latin, but there exist a number of specialised patterns or specialised alternations. So, compared to Latin, where patterns can be considered as mainly formal organisations, as, e.g., conjugation classes and declension classes, and only exceptionally motivated in the sense that they are linked to a special content, for example in the case of meteorological verbs, Romance languages have developed several *constructions* and *alternating constructions*. The relative importance of all these devices for identification of arguments varies between the Romance languages and can only be determined individually for each language, and probably for each stage of the language.

I have tried to show that the reorganisations of valency marking are related to the breakdown of the case system. Traditionally, these changes are not considered as

36. See Lazard (1994: Chapter 1) on 'Les instruments de l'actance'.

related to this breakdown, whereas other changes, i.e., the introduction of prepositions and word order rules, have been linked to the breakdown by a relation of causality. I have tried to defend the position that it is useful to consider the changes as combined grammaticalised devices assuring the identification of arguments.

Text sources

BFM = Base de Français Médiéval de l'UMR 8503, electronic database compiled by Christiane Marquello-Nizia and her research group.

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Appendix

Table 1. Distribution of valency patterns, including optional arguments, based on 3000 sentences from *Le Monde* 2000, sorted by the programme Intex.³⁸

valency patterns	constructions	types (= number of lemmata)	tokens
monovalent patterns	1. SV <i>je démissionne</i>	32	59 = 72.8
	2. (il) V S	2	5 = 6.2 %
	3. SV <i>je reconnais</i>	7	9 = 11.1 %
	4. VX : soit X, reste X	3	8 = 9.9 %
	monovalent construction types	44	81 = 5.7% of the total
divalent patterns	1. SVO <i>je le vois</i>	256 types	644 = 66 %
	2. SVÀX <i>j'appelle à X, j'aboutis à X</i>	24 types	34 = 3.5 %
	3. SVDEX <i>je bénéficie de cela</i>	13 types	19 = 1.9 %
	4. SVLOC <i>j'échoue à tel endroit</i>	4 types	7 = 0.7 %
	5. SVAS <i>je suis telle</i>	9 types	244 = 25%
	6. SV <i>ainsi il agit ainsi</i>	2 types	3 = 0.3 %
	7. SVquantité	3 types	3 = 0.3%
	8. SVIO <i>il lui déplaît</i>	4 types	7 = 0.7%
	9. SVDIR <i>il entre dedans</i>	3 types	6 = 0.6 %
	10. SVSURX <i>je mise sur X</i>	5 types	5 = 0.5%
	11. SVCONTRE X <i>je proteste contre X</i>	<i>protester</i>	1 = 0.1%
	12. SVDANSX <i>je verse dans cela</i>	<i>verser</i>	2 = 0.2%
divalent construction types	325	975 = 68.9 of the total	

(Continued)

38. I wish to thank Xavier Lepetit for having extracted the KWIC-concordance of *Le Monde*, the 30th of December 2000, page 1–39, 69247 words.

Table 1. Continued

valency patterns	constructions	types (= number of lemmata)	tokens
trivalent patterns	1. SVOOI <i>je le lui affirme</i>	66 types	191 = 56.3%
	2. SVOAO <i>je le rend tel</i>	18 types	29 = 8.6%
	3. SVOÀX <i>je l'exhorte à cela</i>	31 types	47 = 13.9 %
	4. SVSURX <i>je joue ma partition sur x</i>	<i>jouer</i>	1 = 0.3%
	5. SVOIAS <i>je te parais ainsi</i>	<i>paraître</i>	2 = 0.6%
	6. SVOParX <i>je remplace ceci par cela</i>	<i>remplacer</i>	2 = 0.6%
	7. SVODEX <i>je t'accuse de cela</i>	21 types	37 = 10.9%
	8. SVOCOMMEX <i>je t'engage comme cuisinier</i>	<i>engager</i>	1 = 0.3%
	9. SVOLOC <i>je m'abrite là</i>	6 types	9 = 2.7%
	10. SVOSURX <i>je le calcule sur cela</i>	<i>calculer</i>	1 = 0.3%
	11. SOVDIR <i>je m'achemine là</i>	9 types	10 = 2.9%
	12. SOVENX- <i>je le partage / sépare en X</i>	2 types	2 = 0.6%
	13. SVOCONTREX - <i>je m'insurge contre X</i>	<i>insurger</i>	1 = 0.3%
	14. SV OI DE X <i>je lui en parle</i>	<i>parler</i>	2 = 0.6%
	15. SOIVDEX <i>ceci nous parvient de là</i>	<i>parvenir</i>	1 = 0.3%
	16. SVOAINSI <i>tout se passe ainsi</i>	2 types	2 = 0.6%
	17. SV DE X À Z <i>ceci passe de x à z</i>	<i>passer</i>	1 = 0.3%
	trivalent construction types	164	339 = 23.8% of the total
alternating constructions	1. SVO - SVOIO <i>je refuse ta demande - je te refuse la demande</i>	<i>refuser</i>	1 = 4.8%
	2. SV - SVENX <i>les projets abondent - X abonde en projets</i>	<i>abonder</i>	1 = 4.8%
	3. SVO - SVÀX <i>je guette O - je guette à X</i>	2 types	3 = 14.3%
	4. causatif : SV - SVO <i>les fonds transitent - je transite les fonds</i>	<i>transiter</i>	1 = 4.8%
	5. SVOAVECX - SPLURVO <i>je partage ceci avec toi - nous partageons ceci</i>	2 types	2 = 9.5%
	6. SVOAVECX - SOPLURV	3 types	3 = 14.3%

(Continued)

Table 1. Continued

valency patterns	constructions	types (= number of lemmata)	tokens
	7. SVO – SVDEX <i>nous débattons (de) cela</i>	<i>débattre</i>	1 = 4.8%
	8. réciproque SVX – (S,ET X) SE V SVO – X <i>étrangle Y – X</i> <i>et Y s'étranglent</i>	<i>étrangler</i>	1 = 4.8%
	9. SPLUR (SE) V <i>je multiplie X</i> <i>et Z – X et Z se multiplient</i>	<i>multiplier</i>	1 = 4.8%
	10. SVXparZ – ZVX <i>je remplace X</i> <i>par Z Z remplace X</i>	<i>remplacer</i>	1 = 4.8%
	11. SVX DE Z – SOPLURV <i>je rapproche X de Z – je les rapproche</i>	<i>rapprocher</i>	1 = 4.8%
	12. SVOAX – SOPLURV <i>j'oppose X à Z je les oppose /lie</i>	2 types	2 = 9.5%
	13. SVO – SVSURX <i>je travaille (sur) la collection</i>	<i>travailler</i>	1 = 4.8%
	14. SVX – SVPOUR X <i>je vote (pour) cela</i>	<i>voter</i>	1 = 4.8%
	15. SVDEX S=XV <i>regorgent</i> alternating construction types	<i>regorger</i> 20	1 = 4.8% 21 = 1.5% of the total
total		553	1416 = 100%

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