Historical Syntax and Linguistic Theory

EDITED BY
Paola Crisma and
Giuseppe Longobardi

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This volume is dedicated to Noam Chomsky on the occasion of his 80th birthday

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Foreword

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1

Change, relatedness, and inertia in historical syntax

PAOLA CRISMA AND GIUSEPPE LONGOBARDI

1.1 Introduction

Traditionally, historical linguistics is presented as the study of language change. Hence, a volume devoted to historical syntax is expected to deal with syntactic change: describing and possibly explaining it. In a sense, this is what the chapters of the present volume do: they address the problem from various angles, but mostly within the framework that we may term the 'abstract biolinguistic approach'. Such a framework, especially originating from Chomsky's and Lenneberg's insights in the 1960s, is conceptually founded on the logical problem of language acquisition and, since the 1980s, has conceived of grammatical variation, in particular syntactic variation, as constrained within a limited set of choices, or parametric values.

In this introductory chapter, however, we want to challenge the uncritical use of the very notion of *language change*. We will show that, once the 'abstract biolinguistic approach' is assumed as a background, the concept of language change becomes anything but obvious: we will therefore try to set forth and discuss the main problems connected with it, with the aim of giving a formal definition of historical linguistics and language change that may overcome these problems and, at the same time, ground historical syntax as a specific discipline within the language sciences.

1.2 E-language and I-language

A major feature of the biolinguistic approach in synchronic linguistics, relevant for our discussion, is its reliance on Chomsky's (1986) concept of I-language, i.e. the internalized, individual and intensional mental grammar

of each speaker, as opposed to what Chomsky terms E-language (external, extensional), language in its manifestations. A distinction of the sort is not new and goes back at least to Meillet (1903: 18): 'La langue n'existe donc que dans les centres nerveux—moteurs et sensitifs—de chaque individu [...] Immanente aux individus, la langue s'impose d'autre part à eux; et c'est par là qu'elle est une réalité non pas seulement physiologique et psychique, mais aussi, et avant tout, sociale.'

I-language, though certainly complex and composite, being the sum of at least various registers,[1] is something that can be delimited with exactitude. Following Chomsky (1981, 1986), I-languages can be regarded as states of a mental organ basically consisting of a vocabulary and a grammar, the latter articulated into two subcomponents: principles, which encode the universal properties of human languages, and parameters, which encode language variation.

On the other hand, delimiting and describing E-language is conceptually, though not practically, feasible only if E-language is intended as external but still individual, namely as the collection of utterances produced by a single speaker. But when E-language is intended as 'une réalité [...] sociale', hence as non-individual, it becomes a vague object, an ambiguous common-sense notion, hardly appropriate for scientific discussion.

Consider for example the notion of 'English'. What is English, in fact? The union of the linguistic intuitions of English speakers? Or rather their intersection? Or, extensionally, the sum of acts of speech uttered by English speakers, while speaking English? And in what span of time? A serious circularity problem is clearly unavoidable with all these definitions.

Synchronic linguistic theory, by formulating its basic problems in terms of I-language, can avoid the vagueness, circularity, and sociolinguistic riddles of the notion of E-language, and extend its domain of inquiry beyond the mere observation of data. In particular, I-language, in the mature or 'steady' state, along with the associated notions of 'primary corpus' and 'Language Acquisition Device' (LAD), is sufficient to formulate the logical problem of language acquisition: 'By means of what Language Acquisition Device is a highly deficient primary linguistic corpus successfully mapped to the rich and complex system of knowledge corresponding to an adult I-language?'. In some form or other, this has been the guiding question of synchronic linguistic theory at least since Chomsky (1964, 1965).

Diachronic linguistics over the past few decades has often tried to regard languages of the past as I-languages rather than E-languages, analysing them

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[1] If not of different grammars and vocabularies, in the case of multi-lingual speakers.

with the formal apparatus of principles and parameters (cf. in particular Lightfoot 2002*a*, 2006). However, this raises some immediate issues that have not always been adequately addressed.

The first objection that comes to mind has to do with the internal/external part of the distinction: the synchronic study of I-language crucially relies on native grammaticality judgements. But in the case of languages spoken (or rather, written[2]) hundreds of years ago, all there is available is a collection of linguistic productions, i.e. samples of E-language.

Notwithstanding this obvious difficulty, it is still possible to conceive of historical linguistics as concerned with I-languages, the latter reconstructed on the basis of production rather than on the basis of grammaticality judgements. This objective can be attained if the concepts of *grammatical* and *ungrammatical* are replaced by those of *attested* and *unattested*.

The former is not very problematic: a structure attested with reasonably robust[3] frequency can be considered grammatical and small portions of text may be sufficient to establish safely that a certain form or structure is attested.

The concept of unattested poses additional, but not insurmountable, difficulties. Note first that equating *unattested* with *ungrammatical* would obviously be incorrect (cf. Chomsky 1957): an unattested structure might be a marginal, but still grammatical, structure. Once this point is made clear, however, putting forth hypotheses on the core grammar of an I-language of the past remains perfectly possible, on the basis of the comparison between well-attested structures and structures which are unattested, therefore presumably ungrammatical or, at best, marginal. Much research in historical syntax of the past few decades is a testimony to the possibility of formulating convincing grammatical hypotheses about I-languages of which written texts are the only manifestation.

However, the concept of unattested also poses a serious quantitative problem. A given form or structure can be reckoned as unattested only if a congruous amount of text has been examined, containing a statistically significant number of contexts where the given syntactic structure might have occurred. This difficulty, anyway, is being made increasingly easy to overcome by the availability of various electronic resources. For syntactic studies, English enjoys a particularly favourable situation (cf. Pintzuk 2003:

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[2] Obviously, this poses the additional difficulty of addressing the problem of possible interference coming from the fact that often scribes copied texts written in a language/dialect different from their own or composed at a time prior to their copying. We will abstract away from this problem here.

[3] Isolated occurrences can, in principle, be regarded as performance errors.

515, n. 10), thanks to the various corpora with syntactic coding developed at the University of Pennsylvania and the University of York. Similar resources are available for other languages as well, notably the corpus of historical Portuguese developed at the University of Campinas, and that of Old French at the University of Ottawa. One may only hope that more and more languages will soon be provided with such technical tools, which may rapidly improve the historical study of syntax and also of other linguistic levels, founding all generalizations on more solid empirical grounds.

Treating ancient synchronic states as I-languages opens the way to describing their grammar as a system of (principles and) parameter values: within the parametric perspective, the classical problem of a discovery procedure for grammars from a finite sample of data (Chomsky 1957) can be profitably represented as a set of parameters of Universal Grammar, along with the potential triggers (in Clark and Roberts's 1993 sense) for each value of these parameters and, optimally, an effective setting strategy, such as, for example, a version of the Subset Principle (cf. Biberauer and Roberts, this volume). Then, in principle, one could check for the occurrence of such triggers in a corpus of data. Parameter theories thus constitute, along with the invaluable help of electronic corpora, a powerful device to 'guess' the grammatical structure of ancient languages, only attested by finite written samples.

1.3 Language change and historical relatedness

Once we establish that such empirical issues can be effectively addressed, we may accept that it is practically possible for historical linguistics to take the much better defined I-language notion rather than E-language as its primary object of investigation.

But at this point, it is the very concept of *language change* that becomes dubious and can no longer be regarded as defining the field of historical linguistics. In fact, on a par with other terminology currently used in diachronic works, such as 'language evolution', it seems to implicitly refer to E-language. This conceptual difficulty has often gone unnoticed even in studies explicitly assuming Chomsky's models of grammar as a background, such as, for example, many of the papers presented at the various *Diachronic Generative Syntax* conferences held over the past years. The core problem here is that, within an I-language, there seems to be no such a thing as change, at least in the relevant sense. Obviously, an individual linguistic competence undergoes radical changes until it attains a steady

state and, probably, minor changes occur later in life. But this certainly does not correspond to what is usually understood as change in historical linguistics.

However, the fact that *change* cannot be easily and primarily defined in terms of I-language does not necessarily imply that *historical linguistics* as a whole cannot be exclusively and securely grounded in the notion of I-language. It is simply sufficient to regard change as a derivative concept of the field and characterize historical linguistics as the comparison of at least *two* I-languages (sometimes remote in time and space) displaying some similarity that is not universal and is too robust to be deemed accidental. Since such similarity cannot be rooted in biological necessity (given non-universality) and calls for a causal explanation (as non-accidental), it will have to be attributed to a historical relation, a specific event (or set of events) of the past.

We can thus found historical explanations in linguistics on two notions:

(a) I-language (with the associated concepts of LAD and primary corpus, implied by the process of I-language acquisition);

(b) the notion of *historically significant relation* among I-languages (ultimately, the relation of non-universal and non-accidental similarity across I-languages).

The notion of I-language, which is well-established and widely accepted, has been discussed above. That of historically significant relation (henceforth H-relation) can be defined in terms of the concepts of I-language and of the acquisition process. Consider the following formulations:

(1)   An I-language L2 derives from an I-language L1 if and only if
      a. L2 is acquired on the basis of a primary corpus generated by L1

      or

      b. L2 derives from L3 and L3 derives from L1

(2)   Two linguistic objects X and Y (I-languages or subparts of them) are in an H-relation if and only if one derives from the other or there is a Z from which both derive

(1) and (2) provide a definition of H-relation adequate to cover at least the traditional notion of *genealogical relatedness*, grounding it in independently defined linguistic concepts proper of the abstract biolinguistic framework (I-language, UG) and two general concepts with salient epistemological priority (similarity, non-causality). In particular, it does not hinge

on the notion of E-language conceived as 'réalité sociale'. Rather, the opposite is true: on the grounds of (1) and (2) one can somehow justify our informal intuition that there exist non-individual E-languages in this sense, ultimately reconstructing them as extreme, exceptionally uniform cases of language families (genealogically related I-languages).

Analogously, historical linguistics is satisfactorily defined without recourse to language change and it is the latter that can be defined from the independent apparatus above. Note, in fact, that L_1 and L_2[4] in (1) need not be identical: actually in all non-trivial cases worth discussing they are not. This is what is normally called *language change*: in our terms, a process resulting in a set of formal differences between I-languages connected by (1a).

In this perspective, language change is thus a secondary notion, derivative with respect to that of relatedness. It is also worth noting that change seems to play a minor role in language transmission and this is what makes it deserve our attention. Transmission is observably largely conservative, characterized by a remarkable persistence of characters ('inertia' cf. Sections 1.4 and 1.5), which is clearly revealed by the macroscopic, epiphenomenal manifestations of relatedness: E-languages as social realities, language families, and linguistic areas. This persistence makes language change between two languages which are directly diachronically related (as in (1a)) virtually unnoticeable, but surprising and interesting, from an explanatory viewpoint, whenever it occurs: it is the implicit idea that inertia is the unmarked case that gives rise to what Clark and Roberts (1993) perspicuously called 'the logical problem of language change'.

Furthermore, just focusing on change imposes some other limitations on the scope of historical linguistics: given (1), language change and its causes are a local phenomenon, conceptually difficult to reduce to long-range patterns, as especially stressed by David Lightfoot (1979, 1999, 2002*b*). 'Inert' transmission is also local but can be iterated indefinitely. Thus, the study of relatedness and inertia, and not that of change, may allow linguistics to address issues of long-term persistence/explanation, so productive in some recent historical investigations (Braudel 1993; Diamond 1997; Cook 2003).

In sum, although diachronic linguistics often focuses on change, the persistence of characters in language transmission deserves attention in its own right and is necessary and sufficient to make the discipline a genuinely historical science, securely founded on the solid notion of I-language.

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[4] And L_3, or L_n, for that matter.

1.4 Inertia and the sources of language change

Another major issue concerning the notion of change is that, even under the derivative definition of the previous section, it is not clear empirically where its sources can be located.

In fact, since, in real-world cases, an I-language derives from more than one other I-language, and the latter need not be identical, at least an important amount of so-called change (non-identity of L_1 and L_2) could be rooted in the non-homogeneity of primary corpora, i.e. in the differences among the various L_1 generating them. It has been suggested, though, at least since Winteler (1876), that certain linguistic changes (at least some instances of regular sound change) occur in speech communities even under conditions of remarkable isolation and internal homogeneity. It is conceivable, then, that corpora heterogeneity is not the exclusive source of change and one of the most exciting tasks of the study of language acquisition is precisely that of ascertaining in which domains spontaneous change may take place and whether it is limited to the critical period of acquisition or may/must span over the so-called steady state of the I-language.

A proper formulation of the question asks whether change not obviously reducible to external causes can exist at all, overcoming the pervasive stabilizing force which has been termed *inertia* since Keenan's seminal works (1998, 2002, this volume). The crucial question is then: is language acquisition so deterministic that, in the idealized situation in which corpora heterogeneity were absent, no change would take place between two I-languages in the derivation sequence presented in (1)? And, if this is not the case, which general forces, in addition to corpora heterogeneity, may produce language change? And, can different linguistic levels be subject to different degrees of inertia?

1.5 Some tasks of historical syntax

With the adoption of the abstract biolinguistic approach and the parametric framework, it has become possible to formulate a number of historical concerns in syntax as questions about parametric variation and to identify distinct goals specific to the historical study of mental grammars (cf. Longobardi 2003 and some discussion in Roberts 2007*a*). Consider, for example, some of these objectives, which are pursued by the authors of this volume:

(3)   a. Description of changes as parameter resetting
      b. Explanation of syntactic changes
      c. Reconstruction on the basis of syntactic evidence

(3a) represented one of the main concerns of diachronic syntax over the past few decades. Given a parametric model and a derivational sequence of the type in (1), purely syntactic change can be reduced to discrete parameter resetting between two I-languages. As mentioned, David Lightfoot has stressed the fact that an inescapable corollary of the biolinguistic approach is the unavailability of explanations for change which are not based on 'local causes', namely on cues which are directly present in the primary corpora of speakers who end up developing an innovative I-language.

Note that, in this perspective, the phenomenon of 'drift', manifested in the frequently observed S-shaped distribution of attested changes over time spans, becomes virtually intractable. Thus, one of the main challenges of diachronic syntax with respect to (3a) is that of resolving the tension between these two conflicting aspects of 'syntactic change'. One way of addressing the problem is that of conceiving of 'drift' as the sum of a series of changes, each determined by 'local causes' (cf., among others, Westergaard, this volume). Another approach follows from the model of language change in real time advocated by Anthony Kroch and Susan Pintzuk (cf. Kroch 2000, Pintzuk 2003, and references cited), among others, and referred to as 'grammars-in-competition'. The problem has not yet received a definite answer. Both descriptive models have trouble in explaining the apparent teleology of such trends, and it remains debatable if such teleology is anything more than an illusion.

The debate about (3b) represents a decisive shift from description toward causal explanation. The task is particularly hard, since in most cases it is far from obvious that there can be found a reason why structures which were transmitted unchanged for centuries must at a certain point be abandoned or replaced. Still, a productive heuristic strategy is, precisely, that of assuming that grammars are normally inertial and every change must be caused by something: thus, for many authors, the problem, at least implicitly, revolves around the tension between inertia, in Keenan's sense, and possible external forces leading to syntactic change; but it remains an open issue whether there exists change not driven by external forces, for example due to chance or analogical generalization. Also, the coexistence of various registers within a single I-language can be considered a source of change: is it to be regarded as an external force (external with respect to a given grammatical system though not with respect to a single individual competence) or as an intrinsic element of instability in the architecture of every language?

A contribution to this debate may come from two distinct lines of research: a better understanding of the language acquisition process, and a collection of particular case studies of supposed change that can be attributed with some certainty to external or non-external forces.

If it turns out to be plausible that inertia plays a robust part in syntax transmission, then this may give us some hope of successfully dealing with aspects of the problem of (3c). Addressing this problem implies a further shift of perspective, whose importance has been suggested above: it is the persistence of characters through time, rather than change, that comes to be regarded as an object of inquiry.

Let us remark, first, that reconstruction of past events in order to explain the present is a classical task in historical sciences. However, traditional historical linguistics has mainly focused on non-syntactic evidence for pursuing this goal: it is an open question whether syntax may provide equally deep insights for the purposes of comparison and reconstruction.

Now, two types of reconstruction in linguistics must be distinguished: reconstruction of protolanguages and reconstruction of phylogenetic relationships among languages (I-languages and, by extension, E-languages, with their obvious rich implications).

Historical syntax is beginning to discuss the possibility of contributing to such goals: as for the first one, some debate has been produced in the literature recently, culminating in the contributions collected in a forthcoming volume edited by Ferraresi and Goldbach (2008), dedicated precisely to these issues. The main debate revolves around Lightfoot's scepticism about the possibility of unfolding the effects of all too often 'catastrophic' and unpredictable changes, as many syntactic changes seem to be (cf. Lightfoot 2006). Serious difficulties can, actually, be pointed out for this goal and Lightfoot's position is far from unmotivated. However, once again, the development of parametric models provides some new perspective for future research: the possibility of focusing on precise *comparanda* such as parameter values, which can easily enough be arranged into sharp correspondence sets, might improve the empirical basis preliminary to any insightful reconstruction procedure, i.e. comparative evidence (Roberts 1998). Furthermore, such mathematically discrete evidence could in principle be elaborated with phylogenetic programs able to hypothesize ancestral states, of the sort recently exploited in biological phylogenies. Presently these possibilities are just at their beginnings.

The perspective of syntactically based phylogenies is discussed in a programmatic article in a previous DiGS volume by Guardiano and Longobardi (2005), to the effect of exploring the taxonomic potential of parametric syntax. Developments of this approach suggest that syntax is likely to encode some detectable signal of phylogenetic (or at least historical) relatedness among languages (cf. Longobardi and Guardiano forthcoming), so that syntactic properties can be used to draw certain correct taxonomic

consequences. An essentially analogous approach is taken in this volume by Victor Manfredi's chapter.

Advances in this direction may in turn have consequences also for the other problems sketched in this introductory chapter: for example, they may naturally provide indirect evidence for the fundamental role of inertia and could eventually shed light on other specific constraints on parameter resetting. These developments, all broadly centred around the idea of inertia as a pervasive force driving syntactic transmission, may ultimately warrant the status of formal syntax not only as a prominent, though incomprehensibly underestimated (Roberts 2007*b*), discipline of the theoretical cognitive framework, but also as an indispensable component of a renovated linguistic historical paradigm.

1.6 An overview of the volume

1.6.1 *Theoretical issues in historical syntax*

This section provides an overview of some chapters that, while dealing with particular cases, address the core theoretical problems posed by the diachronic study of syntax, some of which have been discussed in the previous sections.

Edward Keenan's chapter introduces the theoretical concept probably most important for the study of diachronic linguistics, namely INERTIA, and shows its remarkable explanatory force with respect to the classical problem of the historical creation of English reflexive pronouns in the 1500s from an Old English system, which lacked them.

While many historical linguists subscribe to the view that syntax is in a state of equilibrium and does not change by itself (indeed, inertia), Chris Reintges's chapter takes an alternative stand, trying to derive syntactic change from the inherent dynamism and flexibility of an autonomous syntactic component, regarded as not necessarily inert.

Theresa Biberauer and Ian Roberts's chapter reconsiders the role of the Subset Principle in language acquisition and change, arguing that consideration of true formal optionality enables one to define grammars generating languages that are in inclusion relations. This in turn facilitates an explanation of diachronic changes where absence of sufficiently robust Primary Linguistic Data led acquirers to 'default' to 'smaller language'-generating grammars.

An apparent phenomenon of drift is treated in Marit Westergaard's chapter, arguing that the progressive loss of V2 in English and certain scalar differences in the same domain, minimally distinguishing *wh*-questions in

various present-day Norwegian dialects, both exemplify a number of dia-chronic micro-changes in progress. Within a cue-based approach to acquisi-tion and change, gradual diachronic development is considered to manifest many small I-language changes in succession.

1.6.2 *External and internal sources of morphosyntactic change*

The chapters grouped in this section discuss particular cases of change, trying to trace each case back to its causes or conditioning elements. Some works discuss actual cases of complex changes that can be reduced to largely external causes. In so doing, they offer empirical support to inertial theories *à la* Keenan. Other studies defend the alternative idea that language change is internally motivated by the very structure of language, but still subject to important constraints on its actuation.

One of these constraints is the concept of historical 'cycle'. According to Elly van Gelderen's chapter, well-known examples of linguistic cycles involve negation, agreement, complementizers, aspect, and articles: an element with full semantic features is reanalysed as a functional element, i.e. as having interpretable and later uninterpretable features. This cycle can be seen in structural terms through the Late Merge and the Head Preference Principles, or in terms of a reanalysis of features.

A particular case of cycle in the history of German is addressed in Agnes Jäger's chapter. The main negation markers throughout the history of German are the neg-particles *ni/ne* (Neg°), *ni(c)ht* (SpecNegP), and n-words. The ratio of these and their co-occurrence are shown to change diachronically due to phonetic weakening and reinforcement of the neg-particle and a profound change in the indefinite system.

Katrin Axel's chapter deals instead with a particular stage in the develop-ment of V2 in Old High German, i.e. the generalization of XP-movement in root clauses, which follows that of V-to-C movement. The loss of V1 declara-tives is ascribed to the rise of overt non-referential subject pronouns and of a structural expletive base generated in SpecC when there is no XP-movement.

Ana Maria Martins and Jairo Nunes's work discusses the emergence of hyper-raising constructions in Brazilian Portuguese (BP). Assuming a cue-based approach to language acquisition, it argues that the loss of Romance-type pro-drop in BP prompted a chain reaction that led to a reanalysis of finite Ts as optional Case-assigners/checkers and, therefore, to the incorpor-ation of hyper-raising structures into the grammar.

Juanito Avelar argues in his chapter that the emergence of *ter* 'have' in Brazilian Portuguese (BP) existential clauses, and not in European Portuguese (EP) ones, is crucially related to the loss, in BP, of null referential

subjects, and explains the change by establishing a derivational link between copular and possessive sentences, following a current hypothesis within the generative mainstream, which interprets possessive verbs as the result of the combination of a copular verb and an abstract preposition-like category. The interpretation of *ter* as existential is considered to be ultimately related to the radical alterations in BP inflectional paradigm which drastically reduce null subjects' licensing.

Jaume Mateu, in his chapter, discusses the fact that gradience has often been identified as an important factor of linguistic change. A lexical-syntactic explanation of Sorace's (2000, 2004) gradients in auxiliary selection with intransitive verbs is provided and shown to be predictive of the diachronic path of replacement of BE by HAVE in Old Catalan and Old Spanish.

Redouane Djamouri and Waltraud Paul argue that, in all periods of Chinese, prepositions are distinct from verbs. In contrast to Roberts and Roussou's (2003: 128–9) claim, prepositions resulting from V-to-P reanalysis do not retain the relational status of VPs, given that the external argument position has been pruned.

The chapter by Heidi Quinn presents evidence from the diachronic development of stative *have (got)* which suggests that, like grammaticalization, downward reanalysis may affect individual lexical items and involve a category change. In the case of *have*, the reanalysis from a functional (Pred) to a lexical head (V) was arguably triggered by analogy.

1.6.3 *Parameter resetting and reanalysis*

The contributions grouped in this section deal with clusters of phenomena reducing them to a single cause. This is done either by means of 'classical' analyses in terms of parameter resetting, reducing several manifestations to a single abstract difference, or resorting to explanations in terms of reanalysis of individual forms or categories.

According to Edith Aldridge's discussion, the functional morpheme *zhe* had three different uses in late archaic Chinese (5th–3rd c. BC). The author proposes a unified account for the use of *zhe* in these three different contexts, by tracing its historical source to the determiner *zhe*, selecting an NP and projecting a DP.

Griet Coupé and Ans van Kemenade's chapter compares the historical development of modal verbs in Dutch and English. Modals in present-day Dutch may be non-finite, and may appear under other auxiliaries in long verb clusters. This is an Early Modern Dutch innovation, resulting from a change in mood morphology combined with the rise of the IPP-effect.

In her contribution, Alice Davison examines the parametric variation instantiated by correlative clauses over a period of some thousands of years

in Indic languages. She explores the sequence of historical changes, which led from a paratactic correlative structure characterized by symmetric adjunction of main clauses in Vedic Sanskrit, to a hypotactic correlative structure characterized by asymmetric adjunction and syntactic subordination in Hindi/Urdu. She identifies the cause of this shift in the reanalysis of the CP structure of Vedic Sanskrit and she finds evidence of this change in the evolution of a complementizer form specialized for indicating subordination.

The chapter by Denis Delfitto and Paola Paradisi deals with some cases of prepositionless genitive in Romance and with their import for a general theory of Genitive assignment. Romance prepositionless genitives (so-called N + N compounds, Old French Juxtaposition Genitive, less known instances of Old Italian Juxtaposition Genitives, and Romance construct state) question the alleged complementarity between prepositional genitives and overt synthetic genitive morphology, according to which the loss of synthetic genitive morphology necessarily involves the recourse to the prepositional mode of genitive assignment.

Kleanthes K. Grohmann and Richard Ingham's chapter deals with a grammatical phenomenon in Late Middle English here identified as Postfinite Misagreement, in which a finite singular auxiliary form co-occurs with a plural subject in postfinite position. It is proposed that an expletive subject played a role in agreement which it has not retained in standard present-day English.

Victor Manfredi's contribution is a first experiment in classification of the Benue-Kwa language group by means of grammatical evidence. Niger-Congo's Kwa and Benue-Congo zones, jointly covering most of tropical Africa, run between isolating and agglutinative types. Historical phonology finds few innovations above the local cluster, but assuming the phase theory of generative syntax, a clear taxonomic division emerges based on the timing (early/VP vs late/TP) of PF-Spellout.

Eric Mathieu's article shows that, in addition to V2, Stylistic Fronting and Quirky subjects, Old French had the following Germanic properties: Object shift and Transitive Expletive Constructions. All these constructions were available because: (i) the Old French EPP was split; (ii) a special Topic position appeared above TP.

Finally, Akira Watanabe's chapter proposes that the shift in the classification of a certain set of features located in the D head is responsible for the loss of the indeterminate system, the changes in the relativization strategies, the loss of the weak-strong distinction in the adjectival inflection, and the supposed appearance of the definite article during the Early Middle English period.

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Part I
Theoretical issues in historical syntax

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Linguistic theory and the historical creation of English reflexives

EDWARD L. KEENAN

2.1 Introduction

English expressions like *himself* when functioning as complete objects of verbs must be referentially dependent on a local antecedent. Old English (OE, 750–1150) had no such expressions. We characterize their creation in terms of three forces of change—DECAY, INERTIA, and GENERALIZATION, and two universal bounding conditions—FULL INTERPRETATION and ANTI-SYN-ONYMY. We first present the forces and conditions, then the anaphora profiles of OE, Middle English (ME, 1150–1500) and Modern English (MdE, 1500 →), concluding with an historical perspective on Binding Theory.

2.2 Types of Change and their Bounding Conditions

2.2.1 *Decay*

Things wear out

DECAY, much emphasized by grammaticalization theorists (Traugott 2003; Heine 2003), is seen semantically, for example, in the 'bleaching' of nouns meaning *head* to become reflexives (Heine and Kuteva 2002), as in Basque and Berber, and in the weakening of the Latin demonstrative *ille/illi* to become Old French *li* 'the'. MdE *the* is derived from the OE demonstratives *se*, *sio*, *ðæt* (masc., fem., neut. sg.). A general phonological pattern of DECAY is vowel reduction in unstressed syllables in ME, often the last traces of case inflection when word-final. OE disyllabic *nama* 'name', *naman* 'names' with stress word-initial, derives disyllabic *name*, *namen* in Early ME, then mono-syllabic *name*, *names*. A widespread special case, which plays an important role here, is:

A short closed-class item ω procliticizes to a word W forming a phonological word. ω loses obligatory stress (if it had it) and often phonologically reduces.

FWP is well exemplified in the history of English by (1):

(1) on weg ⇒ away   on+wocen ⇒ awoke on+lofte ⇒ aloft

   on slep ⇒ asleep   on life ⇒ alive   ongegn ⇒ again

   bi cause ⇒ because   be sidan ⇒ beside   be geondan ⇒ beyond

   al(l) ane ⇒ (a)lone   all theigh ⇒ although all to gædere ⇒ altogether

   to dæg ⇒ to-daye ⇒ today to niht ⇒ tonight to morgen ⇒ to morwe ⇒ tomorrow

   on be ufan ⇒ onbufan ⇒ above   on be utan ⇒ onbutan ⇒ about

FWP predicts rightly that main stress in ω+W is that of W, despite now being non-initial contra the core Germanic pattern. Cliticized items continue to exist as independent words—a fact called *Split* in Heine and Reh (1984), *Divergence* in Hopper (1991). MdE retains *all, on, to,* and *by*: *All aboard!* vs *Everyone on board*; *beside her* vs *by her side*; *He sent me away* vs *on my way*. We even say *all alone*. The development *onweg* ⇒ *aweg* above is 'caught in the act' in Bede (*c*.890):

(2)   a. 7   heo   ealle afyrhte   *onweg* flugon   *Bede* 3: 202
         and they all   in-alarm   away   fled

      b. Ond æfter þon   he   hine   gereste medmicel fæc,...7
         and after that he   him   rested   short   time, and
         ongan *aweg* gan   *Bede* 4: 326
         began away   go
         'And after he rested for a short time,...and began to go away'

Similarly we find *on lofte* and *alofte* in *Patience* and *on lofte* and *olofte* in Chaucer, both *c*.1385.

2.2.2 *Inertia*

Things continue as they are unless acted upon by an outside force or DECAY

A major outside force in English was the Scandinavian presence in NE England from the eighth to the mid-eleventh century. Their 3rd pl. pronouns *ðai, ðaim,* and *ðayr* spread south, replacing the native *he/hy, hem,* and *here* by 1450 in London. Also the loss of case endings (Allen 1995: ch. 5) and the use of postpositive genitives in *-s*: *a friend of yours*, versus *your friend* (Mossé 1979: 59) spread from north to south. Another outside force was the massive French vocabulary borrowing from 1200 to 1400.

Here we explain (3) in terms of DECAY and INERTIA:

(3)   In MdE, single-word modifiers of Ns precede them: *a sleepy child*, *a living god*, *a flower pot*. But several beginning with *a*- follow: *no man alive*, **no alive man*; *a lion asleep*, **an asleep lion*, *every man aboard*, **every aboard man*, *the skies above*, **the above skies*

In OE and ME PP modifiers of Ns follow them; see (4). In OE, *alive*, *asleep*,... are PPs headed by *on* which procliticizes to the NP reducing to *a*- (DECAY). The PP retains its position and interpretation (INERTIA).

(4)   a. Ane   boc   be   cyrclicum   ðeawum
          A   book about ecclesiastical customs
                                          OE (from Fischer *et al.* 2000: 47)

      b. lordship over youre persone,   folk in sorwe,   recours to the juge
                                                          Chaucer *c.*1385

2.2.3 *Generalization (GEN)*

> The domains of structure-building operations extend

For example, plurals in -*s* start applying to Ns with no plural ending (*thaymself* ⇒ *thaymselves*) or replace older plurals (*Namen* ⇒ *Names*). (Probably French influence aided the spread of -*s* plurals.)

2.2.4 *Full Interpretation (FI)*

> The constituents of an expression are semantically interpreted.

Compositionality implies FI. So when *him* + *self* becomes a word it must be meaningful.

2.2.5 *Anti-Synonymy (AS)*

> Different words mean different things

AS derives the rarity of pure synonyms and the semantic or sociolinguistic differentiation of near synonyms: *pork*, *mutton*, *beef* refer to the cooked foodstuff, but their French sources refer also to the live animal. Clark (1993) and Carstairs-McCarthy (1998) cite psycholinguistic support for AS. It follows from INERTIA + GAINFUL LEARNING: *New words mean new things.* Learning to say something new is more useful than learning a new way to say something old. Note that GEN, FI, and AS are specifically linguistic, in distinction to DECAY and INERTIA.

2.3 The anaphora profile of Old English

The OE anaphoric system displays five salient properties.

First, local (and non-local) binding is done with the ordinary personal pronouns:

(5) a. wit   unc   wið   hron-fixas   werian
         we$_i$-1DU.NOM   us$_i$-1DU.DAT/ACC   against whale-tusks protect
         ðohton   *Beowulf* 540
         thought   *c.*750
         'we thought to protect ourselves from whale-tusks'

     b. ða   gegyrede heo   hy   mid hærenre tunecan
         then   dressed   she$_i$-NOM her$_i$-ACC with of-hair tunic
         ond...   *Mart* 190
         and...   *c.*875
         'then she dressed herself in a tunic of hair and...'

     c. þæt he   moste mid feo   hine   alysan,   *Bede* 4: 330
         that he$_i$-NOM must with money him$_i$-ACC ransom   *c.*890
         'that he must ransom himself with money'

     d. ðæt hie   sylf   hie   ðeowen   nemde *BlHom* 5.I.13
         that she$_i$-NOM self-NOM her$_i$-ACC handmaiden named   *c.*971
         'that she herself called herself handmaiden'

     e. Sibyrhtes   broðor   and swiðe mænig oðer...   cene
         [Sibyrht's   brother and very   many   others]$_i$... bravely
         hi   weredon   *Maldon* 282
         them$_i$-ACC defended   *c.*1000
         'Sibyrht's brother and very many others bravely defended themselves'

Second, Late OE frequently uses *pleonastic* pronouns—ones not required by the verb and not having a thematic (theta) role (Agent, Theme, etc). They are usually dative, sometimes accusative, never genitive or nominative. They always agree with the local subject in person, number, and gender; semantically heightening the involvement of its referent: e.g. the subject acted intentionally or was affected by the action. Their antecedents may also be quantified, non-definite nominals (cf. 6b, d). From 999 to 1067 in the *Saxon Chronicles*, fifty-seven of the fifty-eight locally bound dative pronouns are non-theta. Some passages, (6e), are peppered with them.

(6) a. for ðæm   hi   him   ondrædað ða   frecenesse ðe   hi
        because   they   them   fear   the danger   that they
        ne   gesioð   *CP* 433
        NEG   see   *c.*880
        'because they fear the danger they do not see'

   b. on   ðæm   magon   nigon   men   standende   him
      on   which   may   nine   men   standing   them
      gebiddan,   *Mart* 52
      pray   *c.*875
      'on which nine men may stand and pray'

   c. Ða   aðenede   se   biscop   hine   in   cruce   7   hine
      Then extended   the   bishop   him   in   cross   and him
      gebæð   *Bede* 4: 372
      prayed   *c.*890
      'Then the bishop extended himself in the form of a cross and prayed'

   d. geswicon   ða   ðære   fyrding.   &   færde   ælc   mann
      abandoned then the   expedition and went   every man
      him ham.   *ChronE*
      him home   1016
      'then every man abandoned the expedition and went home'

   e. ac   he   ne   wandode na   him   metes   to tylienne…
      but he   NEG   hesitated at-all him   provisions to provide…
      &   nam him   on   orfe   &   on   mannum…   &
      and took him   in   cattle and in   men   …   and
      gewende him   ða   east werd to   his feder. &   gewendon
      went   him   then eastward   to   his father, and went
      heom   ða   begen   east weard…
      them   then both   eastward   *ChronE* 1052
      'but he did not hesitate at all to provide provisions, and took in cattle and
      men, and went eastward to his father, and then they both went eastward'

Third, *self* in Old English is a free morpheme inflecting as an adjective for case, number, and gender, with weak and strong forms. In masculine singular strong, *self* = nominative, *selfne* = accusative, *selfum* = dative and *selfes* = genitive. $self_\alpha$ (α ranges over case) carries stress and counts for alliteration in poetry (Mitchell 1979: 44; Ogura 1989: 46). It modifies full, definite DPs (proper names, pronouns, or demonstratives) normally immediately following and agreeing with them. Usually $self_\alpha$ is strong. In the nominative only, it may occur in the predicate separated from its subject antecedent by adverbs, other pronouns, and very occasionally the verb.

Semantically *self*$_\alpha$ contrasts (= identifies from a set of alternatives) the referent of the DP it agrees with—its *antecedent*, which is always +theta, having a thematic role required by the verb. So *[pron$_\alpha$ + self$_\alpha$] when pron$_\alpha$ is non-theta.

The object that *self*$_\alpha$ contrasts is often an exalted personage, contrasted with ordinary folk: 'The noun modified [by *self*$_\alpha$, ELK] is, with few exceptions, an expression for the Deity (*God, Crist, Drihten*, etc.), a superhuman personage (*heahengel, deofol*, etc.), or a person of exalted rank (*cyning, eorl, David, Petrus*, etc.)' (Farr 1905: 19. See also Koenig & Siemund 1998). Contrast may be established in virtue of the antecedent of the pronoun being not the most local possible antecedent, (7). The examples in (8) illustrate *self*$_\alpha$ in different cases.

(7) ða   forborn   ð̱æs cyninges   heall...ond   his   sunu
     then   burnt-down   the king's   hall...and   his   son
     a wedde,   ond he sylf   ahreofode   *Mart* 74
     went-mad,   and he self   became-a-leper   *c.*875

(8) a. ðæt   ð̱e   hæ̱ðenan   selfe   hæfdon   his   wundor   on
        that   the   pagans   self-NOM.PL   held   his   miracles   in
        ðære   mæstan   are   *Mart* 2.150
        the   greatest   honour   *c.*875

     b. ond   he   geseah   ð̱one   hæ̱lend   sylfne   standan   on
        and   he   saw   the-ACC   Lord   self-ACC.M.SG   standing   in
        his   god   ðrymme   *Mart* 8
        his   divine   glory   *c.*875

     c. menn   ða   gearwiað   clæne   wununga   on   heora
        men   who   prepare a   clean   habitation   in   their
        heortum   C̱riste s̱ylfum   *BlHom* VI.73
        hearts for   Christ self-DAT.M.SG   *c.*971

The examples in (9) show [X$_\alpha$ + self$_\alpha$] occurring in *Inherently Contrastive Expressions* (ICEs): coordinations, exception phrases, and comparative DPs.

(9) a. ðæt   hi   ðonne   ne   mihtan   nawðer   ne   him
        that   they   then   NEG   be-good   neither   NEG   them-DAT
        sylfum,   ne   ðære   heorde   *BlHom*
        selves-DAT,   NEG   the-DAT   flock-DAT   *c.*971
        'they could not be of any service, neither for themselves nor for the flock'

     b. selð   Goðe   his   æhta,   &   hine   selfne   diobule   *CP*
        gives   god-DAT   his   goods   and   him   self   devil-DAT   *c.*880
        '(He) gives to God his goods and himself to the devil'

c. ða   afulode   he sona, swa ðæt nænig mon   ne
   then became-rotten he soon, so   that no   man   NEG
   meahte aræfnan ðone stenc   ne   furðor he sylfa *Mart*
   could   bear   the   stench NEG   more   he self   *c*.875
   'Then he soon became rotten, so that nobody could bear the stench
   more than himself'

d. suelce we   maran ðearfe hæbben ðæt hie   geðeon
   as-if   we   more   need   have   that they prosper
   ðonne   hie   selfe,   *CP*
   than   they selves-NOM.PL   *c*.880
   'as if we had more need for them to prosper than they have'

(10)   below from *Beowulf* shows *self* with main stress satisfying the alliteration
       requirement.

(10)   Hi hyne ða ætbæron   to brimes faroðe,   *Beowulf* 29–30
       Swæse gesiðas,   swa he selfa bæd   *c*.750
       'They then bore him   to the sea's edge
       (His) beloved followers, as he self bade'

And (11) shows nominative *self(e)* occurring adverbially, contrasting only
the subject:

(11)   a. ðæt hi   hit selfe   dydon   *CP* LV.427
          that they it   self-M.PL did   *c*.880
          'that they did it themselves'

       b. swa he   hyne   sylf   stafode, be
          as   he_i him_j-ACC self_i-NOM.M.SG   asked,   concerning
          hys sunu wifunge.   *ÆGen* 24.9
          his son's taking-a-wife   *c*.1000
          'as he himself had asked him, concerning...'

       c. ond he_i him_j sæde   sylf_i ðæt his   nama wære
          and he_i him_j told   self_i that his_i name was
          'spiritus fornicationis,'   *Mart* 22
          'spiritus fornicationis'   *c*.875
          'and he himself told him that...'

Nominative *sylf* in (11b) unambiguously contrasts the nominative *he* not the
accusative *hyne*, which would require *selfne*. By Farr's (1905) counts, about 15
per cent of nominative *self* (singular or plural) occur adverbially, the others
occurring adjacent to the subject DP.

Fourth, OE pron + *self* crucially does not force a local antecedent; cf. (7) above and (12) below:

(12) a. forðæm <u>nan</u> <u>mon</u> ne bitt oðerne ðæt he <u>hine</u> rære,
        because no   man NEG asks other   that he him   lifts,
        gif <u>he</u> <u>self</u> nat   ðæt he afeallen bið;   *CP*
        if   he self not-know that he fallen   is   *c.*880
        'because no man$_i$ asks another$_j$ to lift him$_i$ if he$_i$ himself does not know that he$_i$ has fallen'

   b. Ne sohte ic na <u>hine</u>, ac <u>he</u> <u>sylf</u> com
      NEG sought I not him,   but he   self   came
      to me   *ÆLS* III.1.445
      to me   *c.*1000
      'I did not seek him at all, he himself came to me'

   c.   Uðe   ic swiðor *Beowulf* 960
                                Wished   I   rather   *c.*750
      ðæt ðu <u>hine</u>   <u>selfne</u>   geseon moste...!
      that you him-ACC   self-ACC   see   might
      'How I wish that you could have seen him(self) (= Grendel)'

   d. for ðam ða <u>he</u> deð swa swa <u>hine</u> <u>selfne</u>
      therefore he does so   as   him   self
      gewyrð,   *ÆGenPref*
      pleases   *c.*1000
      'therefore he does just as it pleases him(self)'

Our examples also support that subject pronouns in OE cannot be referentially dependent on co-arguments and contrasting the subject pronoun with *self* does not change that.

Fifth, by AD 1000 (Mitchell 1985: 119–27) pronominal possessors are expressed by the genitive personal pronouns: *his*, *hire*, *hira*...When emphatic or contrastive they are augmented with the adjective *agen* (< *agan* 'to own, possess'). So the MdE possessive is established by 1000 and is maintained through MdE (INERTIA). The adjective *agen*, like *self*, may modify referentially autonomous DPs, (13a). Pron$_{gen}$ + *agen* may have a local subject antecedent, (13b), a local object one, (13c), or non-local ones, (13d).

(13) a. ...and seo sawl nis   na of <u>godes aȝenum</u> gecynde *ÆLS* 1.16
        ...and the soul NEG-is not of God's own   nature   *c.*1000

b. & <u>Laban</u> aras   on   niht... &   cyrde   to <u>hys</u>
   & Laban arose in (the) night and returned to his
   <u>aȝenum</u> hame   *ÆGen.*31.55
   own   home   *c.*1000

c. &   hie   <u>hine</u> ongyredon   <u>his aȝenum</u> hrægle
   and they   him   stripped   (of) his own   raiment
   &...   *Hom3* III.324
   and...   1025–50

d. ond ða   <u>he</u> ut   eode, ða   flugon hine <u>his aȝene</u>
   and when he   out   came, then fled   him   his own
   mæn...   *Mart* 52
   men   *c.*875
   'and when he came out, then his own men fled from him'

2.4 Anaphora innovations in Early Middle English (1150–1300)

Throughout ME the percentage of local bindings by pronouns remains what it was in OE, 82 per cent (see Table 2.1, below). Relevant changes in ME are the loss of free *self* and the third-person accusative pronouns (*hine*), and, crucially, the creation of pron$_{dat}$ + *self* forms by FWP, whose interpretation is contrastive, inherited from *self* (INERTIA). In more detail:

2.4.1 *Word loss*

By 1000 first- and second-person accusative pronouns are replaced by the dative pronouns. Third-person forms died out more slowly with sporadic instances into the 1300s in SE dialects (Kent). Also in my data from the ME period (sixty-four texts) free *self* as a definite DP contrastor as in (8) is gone by 1270, though it may have lingered in Western dialects.

2.4.2 *Word creation*

In Early ME dative pronouns formed new words by procliticizing to *self* (historically M.NOM.SG): *me+self*, *ðe+self*, *him+self*...I claim this is another instance of FWP:

(14) [prón$_{dat}$] + [sélf$_{nom}$]   ⇒   [pron+sélf]
    ± theta   FWP   ± theta

In the 1200s (14) just produces seven words (*it+self* arises mid-1300s, *one+self* only in the late 1500s). We take *him+self* as a canonical example. ± theta in (14) just means that the dative pronouns may but need not have a

theta role, a property inherited by the derived form. Further, while both source words present a case contrast, the derived form has none. Accusative (*selfne*), dative (*selfum*), etc. cease to exist in EME and do not host pronominal proclitics. *him + self*, like proper nouns (*Arður*), is unmarked for case, no longer contrasting with *he + self* or *his + self(es)*. (14) differs from our earlier cases of FWP only in that the input words, *him* and *self*, do not form a constituent prior to cliticization.

(14) is sometimes challenged, citing 1st and 2nd sg. forms *mi + self* and *ði + self*, which become common by 1250, rather than *me + self* and *ðe + self*, with the dative pronouns. *mi-* and *ði-* look like the possessive adjectives, suggesting that *self* is an N. Later usage supports this—'to thine own self be true' saith the Bard. However in 1200 these 1st and 2nd sg. forms are exceptional. 3rd person, sg. and pl., and 1st and 2nd pl. use the historical dative pronouns, not the possessive adjectives. And even in 1st and 2nd sg. the earliest attested forms, as in (19d) and (20c), are the dative *me* and *ðe*, and by far the most common form of the possessive adjectives in this period is *min(e)* and *ðin (e)*, never attested with a following *self*. So with Mustanoja (1960) and the OED I prefer to analyse *mi-* and *ði-* as the result of vowel reduction in a stressless open syllable. All the other dative pronouns are either closed syllables, disyllabic or diphthongs. But the *mi- ði-* forms did facilitate later analysing *self* as a noun, and we see that by 1350 the 1st and 2nd pl. forms are reanalysed on the possessive paradigm, though the historical datives continue to be used here (just as *me + self* is occasionally used after 1250, as in (20f)). We note:

(15) a. For I have saved <u>yowself</u> and your sonnes.   *PPl* 11049
          'for I have saved you and your sons'   1372–9

      b. Wher ȝee demen not anentis <u>ȝou self</u>   *WBible, James* II.4
          'whereas you do not judge according to your own judgement' *c.*1390

      c. He scheweth us by ensamples <u>usselve</u> to wisse.   *PPl* 4748 1372–9
          'he teaches us with examples to guide us'

      d. <u>We</u> commende not <u>vs silf</u> eftsoon to ȝou . . .   *Donet* 1443–9
          'we do not commend ourselves again to you'

Our account of the creation of *him + self* in (14) is compatible with the views of several scholars (Mitchell 1985: 196; Penning 1875) but not all (van Gelderen 2000: ch. 2). So first we support the plausibility of (14), then turn to properties of *him + self* expected from our principles.

First, non-theta *him* and adverbial *self*$_{nom}$ in OE often occurred adjacently. And their respective semantic functions—heighten subject involvement and contrast the subject's referent—are logically independent but compatible:

neither entails the other and they may hold simultaneously. Interpreting them as a unit just meant having to check the subject referent once. That they occur independently is precisely Farr's (1905) thesis.

(16) a. ðæt he...   &   in   mynster   eode,   þæt   he   him   seolf
          that he   and   in   monastery went   that   he   him   self
          ær   getimbrade   Bede 3.208
          before   built   c.890
          'That he...and entered a monastery that he himself had built for
          him(self)'

      b. ...þæra   sceaðena   ealdor,   þe   he   him   sylf
            the-GEN   robbers-GEN   leader,   that   he   him   self
            gegaderode   ÆO&N 1.108
            gathered   c.1000
          '...leader of the robbers that he himself had gathered to him(self)'

Secondly, there are other cases in ME of paradigmatic word sets built from non-constituents: Consider the *what(so)ever, who(so)ever, where(so)ever* series (Allen 1980a).

(17) a. Luue   ðine   nexte   al   swa   ðe   seluen,   hwat   manne
          Love   thy   neighbour just   as   thy   self,   what   man
          swo   he   aeure   bie!   V&V 1.67
          so   he   ever   be!   c.1200
          'Love thy neighbour as thyself, whatsoever man he be!'

      a'. ...hwen   se   ȝe   eauer   wulleð.   AncrWisse 8.6
             when   so   ye   ever   wish   1200–25
          '...whensoever ye wish'

      a''. ...oðer   hwa   se   hit   eauer   redeð,....   St.Marg 78.19
            ...or   who   so   it   ever   reads...   c.1225
          '...or whosoever reads it...'

      b. But   what-som-ever   woo they fele, they wole not pleyne
                                                    Chaucer c.1385
         But whatsoever   woe they feel, they will not complain
                                                    (from Allen 1980a: 212)

      b'. And   what as evere   that   ye   seie,   riht   as   ye   wole
          And   whatsoever   that   you   say,   just   as   you   will
          so   wol I   GowerCA i.1830
          so   will I   c.1390

Finally, forming a prosodic word across a major constituent boundary is well attested:

(18)   Greek: se + to   ⇒ sto 'to the, in the'
       Hebrew: bə + ha   ⇒ ba 'in the'
       Spanish: a + él   ⇒ al 'at the'
       French: de + le   ⇒ du 'of the'
       German: in + das   ⇒ ins 'in(to) the'
       Italian: a + il   ⇒ al 'at the'

We now account for certain properties of *him + self*.

First, MdE *himself* is stressed on *self*, expected by ɪɴᴇʀᴛɪᴀ if *him + self* is created by FWP, (14).

Second, *him + self* occurs in <u>all</u> positions—adverbial (19), appositional (20)—in which bare *self* occurred in Late OE (ɪɴᴇʀᴛɪᴀ). It is not blocked by *him* which was not required to have a theta role, hence not required to occur as an argument. <u>All</u> EME occurrences are contrastive.

(19)   a.   '<u>he</u> wass <u>himm-sellf</u> ðær hidd'   *Orm* H. 1090
            'he was himself hidden there'   *c.*1200

       b.   ðat <u>Crist</u> sade <u>himself</u> us to forbisne,   *V&V* 141
            'what Christ said himself to us as an example'   *c.*1200

       c.   and <u>heo</u> werð <u>hire solf</u> waschen of hire fule sunnen *Lay(A)* XVII.157
            'and she became herself washed of her foul sins'   *c.*1205

       d.   Arh <u>ich</u> was <u>meself</u> and . . .   *Wohunge* 277
            'Fearful I was myself and . . .'   *c.*1220t

       e.   And alle his feren twelf / <u>He</u> schal kniȝten <u>himself</u>   *Horn* 489
            'And all his twelve comrades he shall knight himself'   *c.*1225

(20)   a.   bute ðane mete ðat <u>hie hire self</u> et   *OEHom* 47
            'except the meat that she herself did eat'   *c.*1150–1200

       b.   . . . ða ða <u>he him solf</u> com alse he hefde bihaten   *Lamb* 153
            '. . . when then he himself came as he had promised'   *c.*1150–1200

       c.   &   <u>tu</u>   <u>ðe</u>   <u>sellf</u>   narrt   rihht   nohht
            and thou   thy   self   ɴᴇɢ-are   right   naught
            wurrð   *Orm* H. 5020
            worthy   *c.*1200
            'and thou thyself are not at all worthy'

       d.   ðeih   <u>ic</u>   <u>me selu</u>   none   ne   habbe   swa (swa)
            though   I   myself   none   ɴᴇɢ   have   as
            me   behofde;   *V&V* 53
            me   behooved   *c.*1200
            'though I myself have none as it behooved me'

   e. <u>ðe</u>   <u>orl</u>   <u>himseolf</u> ferde beforen al his genge, *Lay(A)* 10589
      the earl   himself went before all his company   *c.*1205
      and <u>Arður</u> <u>himseolf</u> arnde biuoren al his ferde.
      and Arthur himself ran   before   all his followers

   f. ðerof   shall <u>i</u> <u>meself</u> borw be.   *Havelok* 1667
      Thereby shall I myself rescued be   *c.*1270

The antecedents of appositional *him + self* are only subjects in my texts before 1300. This is expected by INERTIA since *self*$_{nom}$ in Old English only contrasted nominative DPs. By the 1400s, however, appositional *him + self* applies to non-subjects (GENERALIZATION).

    Third, *him + self* may occur as an argument, as *him* did (INERTIA). Since *him + self* is not marked for case as *he self, hine selfne,* ... were in OE, it may occur as a subject, (21a,b,c), as an object of a verb, (21d) or object of preposition (21e,f).

(21) a. Swa haueð <u>ðe ðouel</u>... onde   to monne....; ðeh
       So   hath   the devil... hatred to man...;   though
       <u>him solf</u> ðe betre nere.   *Lamb* XVI.153
       himself the   better NEG-were   *c.*1175
       'so the devil hates man, though he himself were no better'

    b. ðanne bie we turnd to him; and <u>he</u> to us alse <u>him self</u> seið
                                                   OEHom 61
       'than we shall be turned to him and he to us as himself saith'
                                                  *c.*1150–1200

    c. ...to Rymenild <u>he</u> ne   sente, / Ne <u>him self</u>
         to Rumenild he NEG sent,   nor him self
       ne   wente   *Horn*
       NEG went   *c.*1225
       'he did not send for R., nor did he go himself'

    d. ðe   tre[sur] ðat <u>godd</u> ʒef <u>him seolf</u> fore   *SWard*
       the treasure that God gave himself   for   *c.*1200

    e. Fiftene Salmes seggeð... ðe eareste fiue <u>for</u> ouseolf *AncrRiwle* 60
       Fifteen Psalms recite...: the first   five for yourself   *c.*1200

    f. Wið him ʒe wolden pleie / <u>Betwex ʒou selue</u> tweie   *Horn* 35
       With him ye will play / between yourselves two   *c.*1225

Keenan (2002, 2003) argues that subject *him + self* is not the result of an apposition to a pronoun later dropped. No scholar supports that ME is regularly Pro-Drop (expletives aside), and the occurrence of subject *him + self*

following complementizers, a position resistant to Topic Drop, continues into
the 1600s, (22a–e). Also *him + self* coordinates with full DP subjects, (22 f).

(22) a. a Pardonere . . . seide that <u>hymself</u> myghte assoilen hem alle *PPl* 68
    'a pardoner said that (he) himself might absolve them all'   *c.*1375

    b. And <u>he</u> shal venge yow after that <u>hymself</u> witnesseth,
                                         CT Melibee, 191
       'and he shall avenge you after (he) himself witnesses'   *c.*1390

    c. whyuche thynge <u>hym selfe</u> can not denye,   More, *Conf* 227
       'which thing (he) himself can not deny'   1532

    d. but <u>he</u> . . . protested . . . that <u>himselfe</u> was cleere and innocent.
                                        Drie Bobbes 37
       'but he protested that (he) himself was clear and innocent'   1607

    e. a certain man, . . . giving out that <u>himself</u> was some great one
                                          KJ *Acts* 8.9
       'a certain man, giving out that (he) himself was some great one'
                                                 1611

    f. So that <u>himself and al his host</u> / Were . . . almost Destruid, . . .
                                        Gower*CA* 1393
       'so that (he) himself and all his host were almost destroyed'

We have noted that the contrastive possessive construction with *agen* 'own'
was established by 1000, so by ANTISYNONYMY we do not expect *him + self* as
a possessor, which is correct. But we do expect it to occur in Inherently
Contrastive Expressions (ICEs), also correct, (23):

(23) a. he   nemnede   <u>hire cun</u> to   more. and   <u>hire su[l]f</u> to
      he   compared   her kin to (a) root   and   herself   to (a)
      gerde   and . . .   *OEHom* 34
      rod   and . . .   *c.*1150–1200

    b. Als ye wile be with me dere: / And helpes <u>me and yuself</u> baðe
                                            Havelok
       'so you will be gracious with me and help(-IMPER.PL) both me
       and yourself'   *c.*1270

    c. Luuie <u>we</u> god . . . and vre emcristene alse <u>us suelf</u>   *Lamb.*PM. 77
       'Let us love God . . . and our fellow Christians as ourselves'
                                                  *c.*1150–1200

    d. hwen <u>euchan</u> luueð godd mare ðen <u>him seoluen</u>. ant ðen alle
       ðe odre;   *SWarde*

'because each one loveth god more than himself and than all
the others'   c.1200

e. ðu...wakien i moni care, <u>nawt ane for ðe-self</u>...ah...for monie
oðre,   HMeid 421
'Thou must lie awake in many a care, not only for thyself but for
many others'   c.1225

f. Nat   ðah   na   mon   <u>bute ham seolfen</u>   hwet
Not-knows   though no   man   but them selves   what
ham   sticheð   ofte   HMeid 97
them   pains   often   c.1225
'though no man but themselves knows what often pains them'

ICEs are among the first and primary uses of *him + self*. The primary
communicative function of *self*-forms is contrast, not coreference or binding.

A last property that *him + self* inherits from its pronoun part is the
capacity to be anteceded by quantified DPs. $self_{nom}$ just contrasted definite
DPs in OE but bare pronouns, both plus and minus theta, could be anteceded
by quantified DPs in OE, cf. (13c), and that property is inherited, cf. (24).

(24) a. <u>Sume odre</u>...nimeð cloðes of religiun, and sone <u>hem seluen</u>
healdeð for hali   V&V 5
'Some others...take the clothes of religion and at once consider
themselves holy'   1200

b. <u>Mony clerke in þat clos</u>...besiet <u>hom</u> about noȝt...   St.Erk
'Many clerics in that cathedral precinct busied themselves
in vain...'   1390–1420

Summarizing: *him + self* in ME occurs in all argument positions except
that of possessor, and it occurs wherever non-argument *self* occurred in OE.
Further, many properties of the anaphora profile of MdE are inherited
(INERTIA) from ME:

(25) a. The adverbial and appositional uses of *him + self*
b. Occurrence of *him + self* with non-local antecedents in ICEs, cf. (23)
c. Non-occurrence of *him + self* as possessors.

The fact that adverbial uses of *him + self* predicate of the local subject is
shared by predicate modifiers quite generally in MdE: *Ed's father did it
voluntarily* does not assert that Ed acted voluntarily, only Ed's father. *Ed's
father slept in the park* only implies that Ed's father was in the park, not Ed.
And *Ed's father snores himself* only claims that Ed's father snores. However,
the ME anaphora system still differs strikingly from that of MdE:

(26)   a. ME allows *him+self* as a subject

      b. ME enforces less rigorously than MdE the locality requirement on
         bare object *him+self*

      c. Strikingly, local binding in ME is still largely (82 per cent) done
         with bare pronouns:

(27)   a. Ne mei <u>nan mon</u> habben al his wil. and blissien <u>him</u> mid ðisse
         worlde   *Lamb* 33
         'No man may have all his will and rejoice himself with this world'
                                                  1150–1200

      b. <u>Moni</u> halt <u>him</u> til an make,...   *HMeid* 35
         'Many keep them(selves) to one mate,...'   *c*.1225

      c. ðan restyd <u>he</u> <u>hym</u> from al erðly werkys   *HSynne* 831
         'then he rested him(self) from all earthly works'   1303

      d. ...I seigh no man hym greve   *CT Reeve's Tale c*.1390
         'I saw no man grieve him(self) (= become angry)'

So despite the creation of *him+self*, the binding theory of ME is that of OE.
This changes dramatically in the 1500s, as seen in Table 2.1:

TABLE 2.1 Local Antecedents

	Unmarked Objects			Objects-of-Preps						
	Pron	Self	%Self	Pron	Self	%Self	Nla	Dtic	-Arg	%-Arg
c.750–1154	537	110	17%	153	27	15%	114	24	138	35%
1154–1303	752	169	18%	168	107	39%	95	32	146	28%
1303–1400	938	212	18%	154	199	56%	123	63	194	27%
1400–95	941	213	18%	186	152	45%	48	15	94	20%
1495–1605	303	1402	82%	187	392	68%	471	197	632	22%
1605–97	159	1198	88%	202	463	70%	230	98	293	15%
1696–1777	4	388	99%	39	103	73%	126	90	124	17%

Unmarked Objects and *Objects-of-Preps* are ones with local antecedents.
Nla = argument *-self* forms lacking local antecedents.
Dtic = the number of deictic Nla's lacking antecedents.
-Arg = non-argument uses of *-self* forms, as in *The king himself did it, The king did it himself.*
%-Arg = the percentage of total *-self* forms that are non-arguments.

2.5 The 1500s: the exaptation of anaphors and pronominals

During the 1500s *him+self* rapidly takes over local binding—82 per cent by
1600. The anaphora profile of MdE is largely in place, though *him+self* still
occurs as a subject into the 1700s.

The initiating change was semantic DECAY: verbal object *him+self* ceases to be obligatorily contrastive. It satisfies FI (FULL INTERPRETATION) just by satisfying an argument requirement of the verb. In non-theta positions *him+self* stays contrastive on pain of violating FI. Subject occurrences of *him+self* are slower than objects to lose obligatory contrast. Plausibly this is because their antecedents could in principle contrast any of the DPs in the previous text.

The loss of contrastive interpretation threatens ANTI-SYNONYMY on a paradigm level. Locally bound *him* and *him+self, her* and *her+self,* etc. would be synonyms. ANTI-SYNONYMY is maintained by semantic differentiation: object *him+self* comes to require local antecedents and bare pronouns to reject them in favor of non-local or deictic interpretations (always possible). In the 1400s my data present 213 object–of-verb occurrences of *-self* forms. Just ten are non-locally bound. Of those only four are third person, and only two are bare, the other two occurring in ICEs. So requiring bare *him+self* to take local antecedents just codified a property largely present in practice. Further, ANTI-SYNONYMY forces the extinction of pleonastic usage, still abundant in the 1400s, (28). But this usage was never obligatory. Not using it preserved ANTI-SYNONYMY.

(28) a. . . . a man schal bere him ðus: *Donet* 1443–9
      b. . . . ye muste remembir you what ye ar . . .   *Malory* 1485

Thus, except *him+self* occurring as a subject, the anaphora profile of English in the 1600s was largely that of current English (*him+self* within ICEs can still have non-local antecedents: *No one* 'thought that *everyone but himself$_i$* would get an A*—Keenan 1988). Bare object pronouns were normally locally free, the pleonastics were gone, with a few exceptions which are often (not always) 1st and 2nd person where we usually do not need the Anaphor-Antecedent relation to establish the reference of the bindee: *I commend me to you, I fear me that . . .*; and modern relics: *Fare thee well, Now I lay me down to sleep, . . .*

Subject *him+self* disappears in the mid-1700s, due still, I claim, to ANTI-SYNONYMY: when subject *him+self* is non-contrastive it is synonymous with *he*; when it is contrastive it is synonymous with *he himself*, necessarily contrastive as *himself* there is non-theta.

2.6 A Perspective on Binding Theory

Clearly many historical changes contributed to the establishment of the MdE anaphora system, and we have not invoked Binding Theory (BT) to account for them. Indeed it is not until the 1600s that English even has BT anaphors (expressions that must be locally bound) and pronominals (expressions only

non-locally bindable). But might we not say that in EMdE a locality param-
eter was activated, with morphologically identifiable -*self* forms interpreted
as BT anaphors and pronouns without -*self* interpreted as pronominals?

A proper discussion of how parameter setting (Lightfoot 1991) is mani-
fested is well beyond the space that remains to us. But we can contribute to
this debate by looking more closely at the specific patterns of change we see
in the 1500s, when local binding went from 18 per cent -*self* forms to 82 per
cent. From the parameter-setting perspective consider how striking it would
be if, in the 1500s, about 80 per cent of authors used -*self* forms for local
binding essentially 100 per cent of the time and the other 20 per cent behaved
as their predecessors in the 1400s. Then we could say that the 80 per cent had
set the parameter to +local and identified -*self* forms as anaphors, the 20 per
cent having not yet set the parameter. But this is not the pattern we observe.
Table 2.2 summarizes our anaphora counts on an author-by-author basis
(omitting ones with small samples):

TABLE 2.2 Local Binding

	bare pronoun	*self*	% *self* forms
1495–1516 **Skelton**	57	99	63%
1532–51 **More**	38	272	88%
1534 **Berners**	61	62	50%
1580–2 **Sidney**	1	116	99%
1582 **Learned**	7	32	82%
1582 **Mulcaster**	0	86	100%
1588–92 **Marlowe**	27	78	74%
1590 **Edward III**	5	36	88%
1592 **Nashe**	6	27	82%
1597 **Chinon**	6	90	94%
1589–1605 **Shakespeare**	82	331	80%

Only three authors approach 100 per cent—Chinon, Mulcaster, Philippe
Sidney. Thomas More and *Edward III* (the play) are close at 88 per cent.
But Lord Berner's adventure story *Huon of Burdeux* is evenly split at 50–50,
and Skelton is little better. Marlowe only picks -*self* forms 75 per cent of the
time. And several, including Shakespeare, only express four out of five local
bindings with -*self* forms. Moreover Shakespeare, Chinon, *Edward III*, Mar-
lowe, Mulcaster, Sidney, and More often use *him* + *self* as subjects (not locally
anteceded). From the eleven Shakespeare plays studied we count 132 in-
stances. Most are 1st or 2nd person. In (29a,c) the -*self* form is in an ICE
(coordinate DP). (29f,h) are from a poem.

(29) a. The jealous o'erworn widow$_i$ and herself$_j$...   *Richard III* I.1
          Are mighty gossips in our monarchy
                              (i = Queen Elizabeth, j = Jane Shore)

      b. Murther, as hating what himself hath done,...   *King John* IV.3

      c. – Why no: for he hath made a solemn vow
          Never to lie and take his natural rest

                                            Henry VI Part 3. IV.3

          Till Warwick or himself be quite suppress'd

      d. His knights grow riotous, and himself upbraids us   *Lear* I.3
          On every trifle....

      e. Do not, as some ungracious pastors do,   *Hamlet* I.3
          Show me the steep and thorny way to heaven,
          Whiles, like a puffed and reckless libertine,
          Himself the primrose path of dalliance treads...

      f.   ...   if himself were slain,   *Venus and Adonis* 243/4
          He might be buried in a tomb so simple.

      g. No more can I be severed from your side   *Henry VI Part 1* IV.1
          Than can yourself yourself in twain divide

      h. Two glasses, where herself herself beheld   *Venus and Adonis* 1129

And lest the reader think this usage is peculiar to Shakespeare here are few later instances:

(30) a. ...that stone which...takes more room from others than it selfe
          fills   Hobbes 1.78
                                                        1651

      b. God hath denied me...;...himself hath shut me up in this iron
          cage   Bunyan I.194
                                                        1669

      c. One day his Imperial Majesty,...,desired that himself, and his
          Royal Consort,...might have the happiness...of dining with
          me   Swift 1.101
                                                        1726

In sum, our data do not support the presence of a locality parameter on *-self* forms in this period.

2.7 Conclusion

We have presented an exaptive account (Gould and Vrba 1982) of the creation and maintenance of English *-self* forms. They are cobbled together in the

1200s serving a contrast function. This role weakens in certain contexts in the 1500s and their selective advantage reduces to one of local binding. The case is similar to that of jaws in bony fish (Mallatt 1996), favoured originally by enabling the fish to force water over its gills increasing oxygen intake. Later, capturing and holding prey became significant. Such examples are striking in the biological domain, as evolutionary changes are slow. In human activities they are rapid and rampant.

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3

Spontaneous syntactic change

CHRIS H. REINTGES

3.1 Introduction

The question why and how languages change has preoccupied linguists for a long time. One of the earliest attempts to resolve this question was made by the Neogrammarians who, in mid/late eighteenth century, argued that sound changes applied with the same exceptionlessness as the laws of physics (see Lightfoot 2006, ch. 2 for an up-to-date review). No such regularity and thoroughgoingness was put forward for syntactic change, which was generally seen as indicative of the weakening of the language system through external forces. As Hermann Paul (1880: 251 §173) formulates it, 'there is in language no precaution at all against imperfections (*Übelstände*) that penetrate it, but only a reaction against those already present' (my translation from German).

Paul's statement sounds surprisingly modern in the context of *the logical problem of language change* (Clark and Roberts 1993; Roberts and Roussou 2003). The historical reality of grammar change challenges a principal idea of the Minimalist Program, according to which language is in some sense a perfect system (Chomsky 2000, 2001, 2005). If natural language does, indeed, approach optimal design, why would it be prone to change over time, sometimes with drastic consequences? Taking this line of thought a bit further, Longobardi (2001*a*) contends that:

A priori, in fact, the *ideally* restrictive theory of language change should probably claim that diachronic change does not exist (see also Lightfoot 1999). This is so because, if diachronic change exists, we are faced with a dilemma: either one must assume that at least some primitive change is unmotivated (i.e., largely beyond the scope of scientific inquiry), which is incompatible with the *ideal* theory; or one loses any understanding of why the previous synchronic stage was possible at all. Since it seems to be a fact that changes exist (and previous synchronic stages too, of course), the ideal (or perfectly minimalist) theory cannot be fully pursued (...). Thus, on

epistemological grounds, the null hypothesis could be that language is diachronically 'inert' up to the contrary evidence (idem, p. 277) [his emphasis].

To come to terms with the logical problem of language change, many historical linguists hold the view that the syntax—as the core component of grammar—is in a state of equilibrium and does not change by itself. Accordingly, syntactic change can only occur when forced by changes in the phonology, the morphology, and the lexicon, or by such external forces such as language contact. In other words, syntactic change always originates as an interface phenomenon (Lightfoot 1999; Keenan 2003, this volume; Longobardi 2001*a*, 2005; Gianollo, Guardiano, and Longobardi 2008).

This chapter presents an alternative version of diachronic minimalism, which explains the many facets of syntactic change from language design. The central hypothesis is that the locus of syntactic change is syntactic variation, to wit, the availability of a rich inventory of sentence patterns in a language to express the same content in somewhat different ways. Actual variation can be induced by syntax-external factors (e.g., changes in the morphology, language contact), as assumed by the proponents of the Inertia Theory, but, we claim, it can also arise spontaneously. If the syntax allows for variation, which provides the catalyst for change, we arrive at an understanding of the regularity and graduality that we encounter in syntactic change.

3.2 The Principles and Parameters approach to diachronic syntax

3.2.1 *Parameter resetting as a determinant of syntactic change*

Within the Principles and Parameters framework, language is construed of not so much as a system of construction-specific rules, but rather as a system of general principles that interact to form complex structures. To account for syntactic diversity across languages, these general principles are considered to allow for a limited space of variation, with a particular clustering of syntactic properties being reduced to a limited number of parameters, i.e. different instantiations of syntactic universals.

When extended to the domain of diachronic variation, differences in grammatical structure between successive historical stages are derived from the resetting of a parameter value. In approaching synchronic and diachronic variation from the same comparative angle, parametric linguistics removes, in fact, the rigorous methodological division between the synchronic and historical study of language that characterizes Saussurean structuralism (Guardiano and Longobardi 2005: 149 ff.). Yet, the Principles and Parameters paradigm provides different modes of explanation for synchronic and

diachronic variation. Thus, while synchronic diversity is derived from fixed parameter settings, historical changes in grammar are seen as the outcome of parameter *re*-setting. In other words, parameters are not fixed once and for all, but 'can change as a function of time' (Roberts and Roussou 2003: 11).[1]

If languages change over time as parameters come to be set differently, then syntactic change is a facet of the process of parameter setting that takes place in the transmission of grammars from one generation to the next. According to Lightfoot (1991, 1999, 2006), language learners construct the grammatical system that they acquire on the basis of the output of the adult's grammar (the primary linguistic data). Grammar change is initiated when a population of learners acquires a system that differs in at least one parameter value from the one internalized by the parent generation. Consequently, the final state of acquisition does not result in full convergence with the adult grammar.

For Lightfoot (2002*a*: 2, 2006: 110f.), historical change in grammar tends to be 'bumpy' in that it manifests itself by clusters of phenomena changing at the same time, due to the resetting of a single parameter. Even though the study of grammar change that can be interpreted as an abrupt shift is a productive way of integrating syntactic theory in historical analysis, the variation typical of recorded historical data shows this bumpiness effect only sporadically. Rather, diachronic variation shows the gradual type of change that comes along with diffusion, i.e. the spread of an innovative feature across time and through populations. Since diffusion gives rise to the identity between an innovating grammar and the acquirer's grammar, it represents the trivial case of language acquisition, which is accurate transmission (Hale 1998). We will argue that this gradual and regular pattern of syntactic change does not result from parameter resetting, but rather comes from syntactic variation.

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[1] As currently defined, the parameter space is too large for comparative and historical syntax to work. Even with thirty parameters, languages in the order of billions are generated, the vast majority of which never emerged in the past and will probably never do so in the future (Guardiano and Longobardi 2005: 155f.). To come to terms with the problem of exponential growth, Roberts and Roussou (2003) propose to reduce the number of parameter possibilities by incorporating the traditional concept of 'markedness' into parametric linguistics. Markedness creates 'basins of attraction' in the parameter space, which causes grammars to 'clump' around certain combines of options (see, in particular, their discussion on pp. 118, 235f.). A conceptually more attractive alternative is offered within Gianollo, Guardiano, and Longobardi's (2008) principles-and-schemata model, in which parameters are grouped together in five or few more abstract schemata, thereby effectively reducing the parameter space available.

3.2.2 *The role of morphological triggers*

In Roberts and Roussou's (2003: ch.1) system, the locus of parameter change is the morphological expression of parameters. The non-convergence with the target grammar is brought about by the ambiguity or the loss of a morphological cue, which they call *trigger*. A trigger is defined as a substring of an input text that expresses the relevant parameter and consists minimally of a morpheme and maximally of a sentence (Clark and Roberts 1993: 317f.). On the assumption that only marked values of parameters need to be expressed, parameter expression is reduced to the phonological realization of functional heads. Functional heads are spelled out when they are targeted by movement or when they are merged with inflectional morphemes (idem, 211). Parameter change may take place when independent morphological and phonological changes obscure the trigger. Provided that the learning device has a built-in preference for relatively simple representations, the language learner will then opt for simpler structures.

Based on the historical development of the English modal system, Lightfoot (2006) argues that structural shifts in grammar are linked to prior morphological changes, which generally involve the simplification of morphological properties. The loss of inflectional morphology on Old English modal verbs had consequences for their category membership, which in turn had repercussions for the computational operations. Having been stripped of agreement markings, modal verbs are reanalysed as auxiliaries, which are merged directly into the relevant inflectional node. As a result, V^o-to-I^o movement is no longer available (see, in particular, his discussion on pp. 102 ff.).

In relating parameter resetting to changes in the inflectional system, much work in diachronic minimalism subscribes to the commonly held view that a language's parameter setting hinges on functional categories, which are part of the lexical inventory. In reflecting lexical properties, the parameters associated with functional heads fall outside of the domain of syntactic computation proper. Parametric variation does therefore not expose substantial differences in their syntactic organization, but rather reduces to more superficial lexical differences (Borer 1984; Fukui 1986).

Attractive though this *raison d'être* may appear at first sight, the connection between parameters and morphological cues is controversial. A case in point is the null subject parameter, which, in its original formulation, which linked the presence of covert subject pronouns in one language to the amount of featural information in the verbal inflection: null subjects are licensed if agreement is specified beyond a certain threshold to recover the empty category's person, number (and if present) gender specification (e.g. Rizzi 1982; Jaeggli and Safir

1989). However, null subjects are also found in a language like Mandarin Chinese, which lacks subject-verb agreement altogether. As pointed out by Huang (1984), discourse factors like topic and focus prominence provide equally well the relevant licensing condition for null subject.

The correlation between verb movement and paradigm structure has been a pivotal issue in comparative syntax over the past decades. It generally seems to be the case that the more explicit the language's inflectional system is, the more likely it is for the language to have independent verb movement to the highest inflectional node (e.g. Roberts 1993; Thráinsson 2003). However, this implication works only in one direction, since verbs with impoverished agreement or no agreement at all may still be capable of undergoing independent V^o-to-I^o movement. It seems feasible to derive the cross-linguistic differences in the distribution of verbs from a syntactic parameter. Yet, it has thus far not been possible to connect such a parameter directly to specific morphological properties (see Bobaljik and Thráinsson 1998 for further discussion).

Moreover, if the syntactic differences between two successive *états de langue* are amenable to parameter resetting, one would not expect to find pathways or drifts in syntactic change, as parameter values manifest lexical properties of functional heads. Given that the lexicon is a repository of idiosyncrasy, regular syntactic change is atypical for a lexically or morphologically driven process, but rather is in accordance with the rule-governed behaviour of syntactic computation. It seems therefore more promising to explore an alternative theory where an autonomous syntax provides a natural home for syntactic variation and change.

3.3 The flexibility hypothesis of syntactic change

This section lays out the theoretical assumptions and main empirical predictions of the flexibility hypothesis of syntactic change, according to which the syntax is not inert, but rather dynamic and flexible and because of this liable to change over time. Since the syntax allows for variation, it can change *spontaneously*, *endogenously* without concomitant morphological and semantic changes. In as far as we succeed in showing that there is diachronic variation that arises spontaneously, we make a case for the autonomy of syntax.

3.3.1 *Syntactic variation as the locus of syntactic change*
If spontaneous syntactic change follows naturally from the autonomy of syntax, which property of the computational component makes it suitable to change? The key idea is that the source of syntactic change is syntactic

variation, where syntactic variation is defined as the coexistence of various sentence patterns (word orders) in one language to express the same basic proposition with subtle distinctions in meaning. In enhancing the expressive power of the language, syntactic variation is an integral part of the syntax and so is syntactic change.

Actual variation may be induced by interface pressures (e.g. phonological, morphological, and semantic changes) or external factors (diglossia, language contact), as widely assumed, or—and this is a new claim—arises spontaneously. If we are right in claiming that syntactic variation can arise spontaneously and that syntactic change follows from syntactic variation whatever the source of the variation is, we are in fact making the controversial claim that syntactic change can happen without outside factors playing any role.

Syntactic variation initiates syntactic change, as novel patterns emerge or existing patterns compete with and eventually replace one another. It is thus predicted that syntactic change is invariably preceded by periods of syntactic variation where this competition allows, even encourages the recession and loss of particular sentence constructions. In a sense, then, syntactic change is a by-product of competition and selection, which are made possible by syntactic variation.

Syntactic variation itself is restricted, because it is tied to syntactic processes such as movement, which involves the displacement of constituents to positions other than where they are interpreted. For Chomsky (2001), the property of displacement has '(at least) plausible motivation in terms of distinct semantic interpretations and perhaps processing. If so, displacement is only an apparent imperfection of natural language, as are the devices that implement it' (idem, p. 3). More recently, Chomsky (2005) regards it as 'a virtual conceptual necessity', with some version of transformational grammar being the null hypothesis (idem, p. 12). Thus, in indicating the scope and the information-structural properties of the displaced item, movement is a way to interface the components of grammar optimally, so it is not an imperfection after all.

Provided that movement operations and positions targeted by movement are constrained by general principles of grammar, such as locality, we arrive at an understanding of why syntactic change is restricted and not random, when it is induced by syntactic variation. Following Fukui (1993), we furthermore contend that syntactic variation is sanctioned, when the resulting structures are consistent with the parameter values that lie beneath the basic surface order of a given language.

Since syntactic operations MOVE and MERGE apply without altering the form and meaning of lexical items, we expect the gradual and regular type of
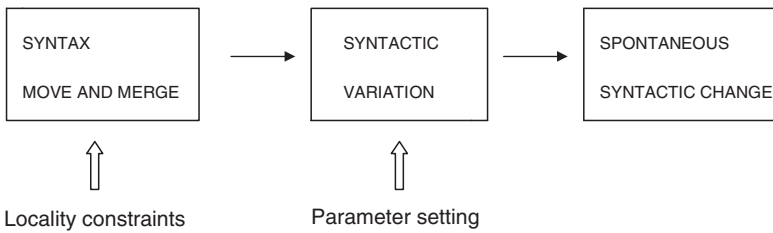
FIGURE 3.1 Syntactic variation as the locus of syntactic change

syntactic change that originates from syntactic variation to take place without concomitant morphological and semantic changes.

3.3.2 *The independence of syntactic change from morphological change*

If the regularities of syntactic change come from syntactic variation, we can derive the irregularities in syntactic change from the irregularities of morphological and lexical changes. This analysis predicts that morphologically driven syntactic changes are, by definition, unsystematic, unpredictable, and entirely idiosyncratic.

A particularly well-studied case for relationship between changes in the morphology and the consequences thereof in syntax is the loss of object-verb order in the transitional period from Old to Middle English. This syntactic change has been directly related to the collapse of the morphological case system in one line of research (Lightfoot 1999, 2006; van Kemenade 1987). A different stance is taken by Pintzuk (2002*a*, 2005), who shows that Old English has both verb-object and object-word orders occurring side by side. This pattern of variation is interpreted in terms of competition between head-initial and head-final structures in both the verbal and the inflectional domain. The change from OV to VO order can thus be seen as the loss of head-final structure. Pintzuk's findings are compatible with the view advocated here, namely that syntactic change is initiated by syntactic variation. The erosion of the morphological case system must therefore represent an unrelated historical development.

The broad type of change known as *grammaticalization* (i.e. the semantic bleaching and reanalysis of a lexical item as a functional element) seems to provide *prima facie* evidence for the directionality of change from morphology to syntax. However, it is not a trivial matter to decide whether grammaticalization is a historical process distinct from reanalysis (Campbell 2001). In Roberts and Roussou's (2003) analysis, changes in the distributional behaviour of a lexical item involve a shift from the MOVE to the MERGE option. For this reason, grammaticalization processes do not imply structural

change; what changes is the way in which features associated with functional heads are realized. The development of a lexical verb into an auxiliary would be triggered by changes in the scope of verb movement rather than by categorial reanalysis.

From the perspective of the present theory, the inaccessibility of a clausal domain for certain classes of verbs constitutes an entirely regular case of syntactic change that comes from variation. For instance, deictic verbs of motion like *come* and *go* may target different positions, depending on whether they are used as lexical verbs or aspectual auxiliaries (Jaeggli and Hyams 1993). If such verbs are frozen in place, they may undergo further phonological erosion and semantic bleaching, but, crucially, such morphological changes are linked to prior syntactic change. In brief, the directionality of change is from the syntax to the morphological and the semantic component.

3.4 Syntactic variation in Earlier Egyptian

A salient aspect of Ancient Egyptian language history is the typological shift from a head-initial VSO to an SVO language. This typological shift was accompanied by a change from a rigid to a flexible word-order language, with Coptic Egyptian, its latest descendant (AD 350–1200), being discourse-configurational (Reintges 2004: ch.10).

The typological differences between verb-initial and subject-initial languages have been derived from a single parameter of variation, viz. the active or inactive status of the 'Extended Projection Principle' (EPP). SVO languages have a positive setting for the EPP, which induces subject-raising to the specifier position of highest inflectional node, which we consider to be Tense. VSO languages, on the other hand, have a negative setting for the EPP. Since the T^{o}-node does not project a specifier, the subject must be licensed in a lower position (Alexiadou and Anagnostopoulou 1998; McCloskey 2001). From this perspective, the syntactic change from VSO to SVO order in Ancient Egyptian may be seen as a parameter switch from a negative to a positive setting of the EPP. On closer inspection, it appears, however, that the EPP feature is activated in Earlier Egyptian (2400–1650 BC), motivating non-canonical subject placement in VSO structures. We are therefore dealing with an instantiation of spontaneous syntactic change that originates from syntactic variation.

3.4.1 *Word-order variation with co-occurring morphological change*
To get an idea of the kind of evidence we are looking for, consider the contrast between two cases of word-order variation in Earlier Egyptian. The first case

involves word-order alternations that correlate with changes in the inflectional morphology of the finite verb. The language meets the syntactic profile of Greenberg's (1966) Universal 6, according to which 'All languages with dominant VSO order have SVO as an alternative or as the only alternative basic word order' (idem, p. 79). However, these are not 'simple alternatives', since verb-initial and subject-initial clauses differ systematically in aspectual meaning. As illustrated by example (1), the VSO clausal pattern is used for the description of actions, accomplishments or achievements, such as the acquisition of some knowledge (Rothstein 2004: 22ff.).[2]

(1) The eventive interpretation of VSO order

    j-rx   Pjpj pn   mwt = f

    AUG-learn$_{EVENT}$ Pepi DEM.M.SG mother = POSS.3 M.SG

    n(j) xm   Pjpj pn   mwt = f   ħd³-t

    NEG ignore$_{EVENT}$ Pepi DEM.M.SG mother = POSS.3 M.SG white-F.SG

    sʃp-t

    splendid-F.SG

    'This (King) Pepi (here) will recognize his mother. This (King) Pepi (here) will not ignore his mother, the splendid white crown (lit. the white one).'

                               (Pyramid Texts 910a/P)

By contrast, the corresponding SVO 'alternative' is used for the description of conditions or states that do not change over time, such as the possession of knowledge (Rothstein 2004: 14 ff.).

(2) The stative interpretation of the alternative basic SVO order

    n-ntt D³ħwt(j)-nxt pn   rx(-w)   rn   n(j)   wħʕ-w

    since Thoth-nakht DEM.M.SG learn-3M$_{STAT}$ name of.M.SG fowler-M.PL

    'Since this Thoth-nakht (name of the deceased) (here) knows (through learning) the name of the fowlers'   (Coffin Texts VI 220/B1Bo)

The event- and state-related reading of respectively VSO and SVO structures is registered by changes in the inflectional morphology. The finite verb in VSO clauses occurs in the Eventive and the finite verb in SVO clauses in the Stative verbal paradigm, which gives rise to minimal pairs like *j-rx* 'learn about' vs *rx-w* 'know through learning'. Reintges (2005) argues that subject-verb agreement in the traditional sense is only instantiated by the Stative paradigm. The pronominal suffixes on Eventive verb forms (*j-rx = f* 'he will

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[2] The standard abbreviations are used in the glosses (glosses are given in parentheses for morphemes that have no surface-segmental shape). In addition, the following notation is used: EMPH 'emphatic particle'; EVENT 'Eventive conjugation' (in subscript); FOC 'focus marker'; IMPERF 'imperfective aspect'; NMLZ 'nominalizing affix'; PROS 'prospective aspect'; STAT 'Stative conjugation'.

learn about') are enclitic subject pronouns that correspond to argument positions. In the Stative paradigm, the presence of agreement excludes independent tense, aspect, mood, and voice morphology. By contrast, the absence of agreement in the corresponding Eventive paradigm makes it compatible with the entire range of TAM markers and morphological passive patterns (Reintges 1997). Regardless of the details of syntactic analysis of the VSO-SVO contrast, what is relevant here is that we see word-order variation that is correlated with variation in other domains, viz. inflectional morphology and aspectual meaning.

3.4.2 *Word-order variation without morphological change*

The second case of word-order variation in Earlier Egyptian is not related to variation anywhere else. Such variation is found in verb-initial clauses where one VSO pattern may differ from another VSO pattern in terms of the precise position of the items. This section focuses on the availability of positions for the postverbal subject, which are [Spec,vP] and [Spec,TP].

3.4.2.1 *The vP-internal positioning of canonical subjects.* Earlier Egyptian displays the properties of a verb-raising language (Chung 2005). In the dominant VSO pattern, the finite verb may appear to the left of sentential adverbs and negation, suggesting that it has moved out of the verbal domain. As a result of verb movement, adverbial particles like the emphatic marker *js* occur postverbally in clause-second or clause-third position, as in the following example.

(3)   NEG > VERB > EMPH*js* > DP$_{SU}$

n(j)	jw-n	js	Wnjs	d³s = f
NEG	come$_{EVENT}$-PERF	EMPH	Unas	SELF = POSS.3M.SG

'(King) Unas did not come by himself.'   (Pyramid Texts 333b/W)

Against the background of Pollock's (1989) Split-INFL Hypothesis, it has become increasingly difficult to find clear cases where the postverbal subject in a VSO language can be shown to remain *in situ* within the verbal domain. This is so, because the decomposition of the former IP makes available a number of potential licensing positions for subjects. The postverbal subject DP may therefore be quite deeply embedded in the inflectional domain, without actually occupying the vP-internal subject position (McCloskey 1997: 216f.). Although the issue remains murky, standard tests for subject-positioning divulge the existence of at least one type of VSO order in Earlier Egyptian that is derived from verb-fronting alone.

The first argument for the location of DP subjects in the specifier position of νP is related to the distribution of clause-internal adverbs. In example (4), the finite verb ∫*zp* 'accept' raises to the left of the negation adverb *w* 'not', leaving behind the subject DP *Hemen* (a deity).

(4)   VERB > NEG*w* > DP$_{SU}$ > DP$_{DO}$
    ∫zp   w   Ħmn   zft∫t = f   hrw   n(j)   ħm
    accept$_{EVENT}$ NOT Hemen meat = POSS.3SG.M day of.SG.M majesty
    nb = j
    lord = POSS.1SG
    'Hemen will not accept his (offering) meat on the day of the Majesty of My Lord.'   (Moᶜalla Inscription nr. 8, III.5)

As shown by example (5), the same surface order is obtained when the emphatic particle *js* is selected. The immediately following subject *Khenū* (a proper name) must therefore be located in a lower syntactic position.

(5)   VERB > EMPH*js* > DP$_{SU}$ > DP$_{DO}$
    n(j)   d³d-n   js   Xnw   pn   r?   t∫?-w
    NEG say$_{EVENT}$-PERF EMPH Khenū DEM.M.SG spell wind-M.PL
    pw (. . .)
    DEM.M.SG
    'This Khenū (name of the deceased) (here) did not say this spell of the winds (. . .).'   (Coffin Texts VI 252d/Sq4C)

The lower subject position cannot be identified with a functional projection on top of the νP, since this projection serves as a target for pronominal object shift. The language has a productive rule of pronominal object-shifting, which forces direct and indirect object pronouns to move out of the νP to the left of DP subject (see Collins & Thráinsson 1996 for pronominal object shift in Icelandic). The sentence pair in (6a–b) exemplifies the contrast between the canonical VSO and the derived VOS order of pronominal object shift.

(6)   a.   VERB > DP$_{SU}$ > DP$_{DO}$ > DP$_{IO}$ (canonical VSO order)
        wd³-n   Nwn Tjtj n-Jtm
        order$_{EVENT}$-PERF Nūn Teti to-Atum
        '(The god) Nūn has commended (King) Teti to (the god) Atum.'
                          (Pyramid Texts 604a/T)

    b.   VERB > CL$_{DO}$ > DP$_{SU}$ > DP$_{IO}$ (derived VOS order)
        wd³-n   sw   Pg?   n-∫w
        order$_{EVENT}$-PERF him Open.one to-Shū

> 'The Open One (name of a deity) has commended him to (the god) Shū.'   (Pyramid Texts 604b/N)

When both objects are pronominal, the indirect object precedes the direct object in linear order.

(7) VERB > CL$_{IO}$ > CL$_{DO}$ > DP$_{SU}$ (clitic ordering)
      jr-n   n-f   sw   Rꜥ
      do$_{EVENT}$-PERF for-3M.SG   it   Re
      '(The god) Re has done it for him.'   (Coffin Texts VI 315j/B1Bo)

However, when used as contrastive topics, direct object pronouns may be exempt from object shift. Thus, consider the embedded clitic-left-dislocation structure in (8), which comprises two instances of the object clitic *wj* 'me', one following the complementizer *sk* 'while' and the emphatic particle *ʔ*, and another one following the main verb *ms-n = tˤn* 'you have delivered me'.

(8) Embedded left-dislocation structure
      sk   ʔ   wj   ms-n = tˤn   wj
      COMP   EMPH   me   deliver$_{EVENT}$-PERF = 2PL   me
      'While (concerning) me, indeed, you have given birth to me.'
                                             (Coffin Texts III 156c/B2Boᵃ)

Indirect object pronouns, too, may assume a contrastive focus reading. When this happens, they appear in the same position as their nominal counterpart, following the direct object DP.

(9) Non-shifted clause-final position of contrastively stressed dative
      pronouns
      jm   wn(-w) = k   ꜥ-w(j) = k   n-f
      NEG.IMP   open$_{EVENT}$-PROS = 2M.SG   arm-M.DU = POSS.2M.SG   for-3M.SG
      'Do not open your arms for him!'   (Pyramid Texts 1269b/P)

The distribution of pronominal objects is determined by operations of the syntax rather than by prosodic phrasing. One of these operations is pronominal object shift, which forces direct and indirect object pronouns to move out of the *v*P domain. Shifted pronominal objects must occupy a relatively low syntactic position, following the clause-internal negation *w*, as seen in example (10), and the emphatic particle *js*, as seen in example (11).

(10) VERB > NEG *w* > CL$_{DO}$ > DP$_{SU}$
       jwꜥ   w   sw   jwꜥ = f
       suceed$_{EVENT}$ NOT   him   heir = POSS.3M.SG
       'His heir shall not succeed him.'   (Moꜥalla Inscription nr. 8, III.7)

(11) VERB > EMPH*js* > CL$_{DO}$ > DP$_{SU}$

   n(j) jrr   js   sw   D³ḥwt(j)-nxt   pn
   NEG do.IMPERF$_{EVENT}$ EMPH   it   Thoth-nakht   DEM.M.SG

   sbj(-w)   jm-f
   rebel-PASS$_1$ in-3M.SG

   'This Thoth-nakht (here) will not do it, when one rebels against him.'
                                    (Coffin Texts VI 315k/B1Bo)

The shifted object pronoun occurs to the right of negation and focus particles, and as the subject DP must occur to the right of shifted pronouns, it must be lower in the tree than either of these two. If we assume that pronominal object shift targets a functional projection above the *v*P and below the NEGP and the EMPHP, we are left with the *v*P-internal subject position as the one clausal position in which nominal subjects can be licensed. Assuming Kayne's (1994) universal base hypothesis, according to which all languages have an initial SVO structure, the syntactic derivation of VSO structures with *v*P-internal subject involves a single operation, viz. V°-to-T° movement (e.g. Fukui & Speas 1986; Koopman and Sportiche 1991). The syntactic derivation of example (10) is represented in tree diagram (12). (FP is the functional projection that hosts shifted object pronouns.)

(12)

On this analysis, Earlier Egyptian might provide a potential counterexample to the 'subject-*in-situ* generalization', which predicts that no more than one DP argument can stay within the *v*P position (Alexiadou and Anagnosto-poulou 2001). The possibility of argument-crowding (i.e. the licensing of DP subjects and in/direct objects *in situ* in the verbal domain) cannot be related to the presence of rich agreement inflection, since there is no agreement morphology on Eventive verb forms to begin with.

3.4.2.2 *Externalization of non-canonical subjects to [Spec,TP].* Leftward raising of the verb to T° represents one route that VSO order can be arrived at, but not the only such route. Provided that adverbs have a fixed position, the appearance of the postverbal subject *Thoth-nakht* (a proper name) in front of the clause-internal negation *w* and the emphatic particle *js* clearly shows that it has moved out of the verbal domain.

(13)   VERB > DP$_{SU}$ > NEG *w* > EMPH*js* > DP$_{DO}$
        wnm   Dꜣḥwt(j)-nxt   w   js   ḥs-w
        eat$_{EVENT}$ Thoth-nakht   NOT   EMPH   faeces-M.PL
        swr   Dꜣḥwt(j)-nxt   w   js   n-sn   wzʃt
        drink$_{EVENT}$ Thoth-nakht   NOT   EMPH   for-3PL   urine
        'Thoth-nakht will surely not eat faeces. Thoth-nakht will surely not
        drink urine for them.'   (Coffin Texts VII 115:i-j/B4Bo)

The landing-site of the raised DP subject can be identified with the specifier position of TP for the following reasons. First, the inflectional subject position [Spec,TP] is high enough in the configurational structure to dom-inate both clause-internal adverbs and shifted object pronouns, as in example (13) above. Second, there is independent evidence from quantifier-raising and ECM constructions that the T°-node licenses an Ā-specifier. In Earlier Egyp-tian, universally quantified subjects are not licensed *in situ* in the *v*P-internal subject position, but undergo quantifier-raising in the narrow syntax. The original position of the raised quantifier *xt nb* 'every thing' in example (14) is marked by the stranded adjectival modifier *ḏꜣw-t* 'bad'. Further, notice that universal quantifiers assume a free choice interpretation in negative contexts.

(14)   Quantifier-raising
        xw = k   [xpr   xt   nb   r-f
        prevent$_{EVENT}$ = 2M.SG   happen$_{EVENT}$ thing.F.SG   every.M.SG   to-3M.SG
        dꜣw-t   dꜣt dꜣt]
        bad-F.SG   forever
        'You should prevent that anything bad happens to him ever!'
                                            (Pyramid Texts 1654c/N)

Reintges (2005: 70f.) observes that ECM constructions display the hallmarks of (clause-internal) topicalization. Thus, the ECM subject *rmt^ʃ-w nb-w* 'all people' in example (15) appears in front of the embedded verb *ʃm = sn* 'they walk'. The removal of the embedded subject from the canonical postverbal position requires the presence of a resumptive subject clitic (in our case, the third person plural pronoun = *sn* 'they').

(15)   The left-dislocated nature of ECM subjects

    njj   gm-n(= j)   [rmt^ʃ-w   nb-w   ʃm = sn

    NEG   find$_{\text{EVENT}}$-PERF = 1SG man-M.PL every-M.PL walk$_{\text{EVENT}}$ = 3PL

    m   wʔ-wt   n d³ʕ]

    on road-F.PL because.of storm

    'I did not find any people walking on the roads because of the storm.'

                                  (Urkunden I 182: 15–16)

The systematic absence of subordinating complementizers suggests that ECM complements never exceed the domain of a TP. To accommodate the left-dislocated status of ECM subjects, I adopt the simplest assumption that it is located in the specifier of TP.

A final piece of evidence for the placement of non-canonical subjects in [Spec,TP] comes from auxiliary verb constructions. Examples (16a-b) illustrate the pragmatically neutral order, where the subject DP follows both the auxiliary and the main verb. Since 'low' subjects are preceded by shifted object pronouns, we can safely assume that they are located in the thematic subject position [Spec,*v*P].

(16) a. AUX > VERB > DP$_{\text{SU}}$ > DP$_{\text{DO}}$ (canonical VSO order)

      jw   mʔ-n   ħm(= j)   md³ʔt = k   tn

      AUX see$_{\text{EVENT}}$-PERF majesty = POSS.1SG letter = POSS.2SG.M DEM.SG.F

      'My Majesty has seen this letter of yours.'   (Urkunden I 60: 16)

    b. AUX > VERB > CL$_{\text{DO}}$ > DP$_{\text{SU}}$ (VOS order of shifted pronouns)

      jw   gr   hʔb-n   w(j)   ħm = f

      AUX ptcl send$_{\text{EVENT}}$-PERF me   majesty = POSS.3M.SG

      m xmtw-nw zp   r   Jʔm

      in third   time to Yām

      'Now, His Majesty sent me a third time to (the land of) Yām.'

                                   (Urkunden I 125: 13)

When the DP subject functions as a contrastive topic or focus constituent, it appears in a higher syntactic position, following the auxiliary and preceding

the main verb. In this position, it binds either a resumptive pronoun, as in example (17a), or a variable, as in example (17b).

(17)   a. AUX > DP$_{SU}$ > VERB = RES.PRON
          jw   rwd³   d-n = f   r   t?
          AUX   strong.one   put$_{EVENT}$-PERF = 3M.SG to   earth
          'The strong one placed (himself) to earth.'
                                          (Lepsius, Denkmäler II 104b)

   b. AUX > DP$_{SU}$ > VERB > VBL
          jw   jnb-w = s   dm-n ___   pt
          AUX   wall-M.PL = POSS.3F.SG   scratch$_{EVENT}$-PERF   sky
          'Its (the temple's) walls scratched the sky.'   (Stela Louvre C3:6)

Assuming that the auxiliary verb resides in C° and the main verb in T°, the syntactic derivation of example (17b) will look like tree diagram (18).

(18)
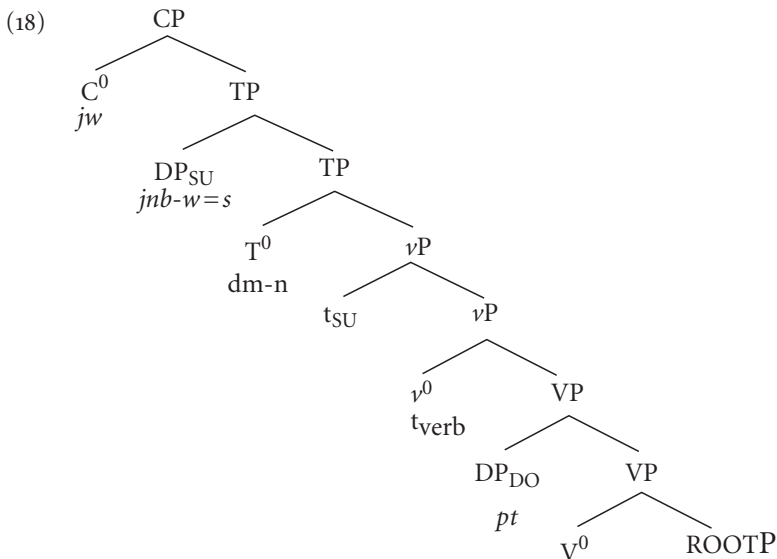
The availability of the [Spec,TP] position for non-canonical subjects (quantified DPs, sentence foci, contrastive topics) falls into place, if the EPP position is assigned a special interpretation *pace* Chomsky (2001: 33ff.). In other words, the T°-node constitutes a syncretic category, which encodes not only temporal deixis, but also focus and emphasis (whence the Ā-properties of its specifier).

3.4.2.3 *Some speculations about the transition from VSO to SVO word order.*   The fact that the word-order variation considered so far does not correlate with variation in the inflectional morphology and aspectual interpretation suggests that the variation is made available by the syntax itself without any involvement of outside factors. A similar case can be made for the variable placement of the finite verb in Eventive VSO structures (Reintges 1997, 2005).

   An interesting way to look at the shift from VSO to SVO would be in terms of extension, viz. the elimination of irregularities and exceptions in syntax by bringing a new analysis in line with the rest of the existing grammar. The T^o-node in Earlier Egyptian licenses an Ā-specifier, which is targeted as a landing-site for non-canonical subjects with a contrastive topic or focus role. In Later Egyptian, this position is reanalysed as an A-position, which hosts canonical subjects.

3.5 Concluding remarks

So far, historical syntax has not played a significant role in syntactic theorizing, as much recent work in this area 'has actually been guided by the aim of *describing* changes (e.g., parameter resetting), rather than by concerns of genuine *explanation*' (Longobardi 2001*a*: 275 [his emphasis]). This chapter explored a restrictive theory of diachronic change, according to which syntactic variation and change are an integral part of a flexible syntax, which operates independently of other grammatical components. If it is the case that variation is constrained by rules of grammar, then the study of syntactic change will give us more insight into the nature of these rules and the design of the human language faculty.

4

The return of the Subset Principle*

THERESA BIBERAUER AND IAN ROBERTS

4.1 Introduction

In the context of generative theory, it has been argued that aspects of language acquisition and/or constraints on learnability are a cause of change (cf. Lightfoot 1979, 1991). In particular, the abductive aspect of language acquisition has been thought to lead to reanalysis and associated parametric changes. In this context, it is desirable to attempt to relate principles of learnability to principles of change. To the extent this can be done, the general programme for understanding language change in terms of acquisition and learnability can be advanced. This chapter aims to make a contribution in this direction.

The particular principle we will be concerned with here is the Subset Principle (SP). Originally put forward by Berwick (1985), this principle can be informally stated as in (1) (cf. also Manzini and Wexler 1987):

(1)   The learner must guess the smallest possible language compatible with the input at each stage of the learning procedure (Clark and Roberts 1993: 304–5)

The conceptual interest of the SP lies in the fact that it arguably derives from a widely recognized fact about language acquisition: that children appear not to use negative evidence. In other words, information that certain parts of the input text are ill-formed is not available, or at least not made use of by acquirers. It follows that acquirers run the risk of falling

into 'superset traps': if a grammar which generates a language which is a superset of the target language is posited, no positive evidence can disconfirm this hypothesized system. Hence acquirers must always posit the grammar which generates the 'smallest language' consistent with the trigger experience; in this way positive evidence can be maximized in the process of convergence towards the target grammar in the sense that evidence of this type may be sufficient to cause the acquirer to revise hypotheses.[1] If the SP is relevant to language acquisition, then, to the extent that syntactic change is driven by acquisition, the SP may help account for change (a point also made by Clark and Roberts 1993: 305–7).

However, as has frequently been noted (cf. MacLaughlin 1995; LaFond 2001), there is a problem with the SP as formulated along the lines in (1). This is that many, perhaps all, of the parameters that have been independently proposed in the literature on comparative syntax seem to define intersection relations rather than inclusion ones.[2] Consider, for example, the parameter determining Object-Verb (OV) as opposed to Verb-Object (VO) order in transitive VPs, which, following tradition, we call the Head Parameter. Set to OV, it generates the grammatical strings in (2a,b) and not the ungrammatical one in (2c), and set to VO it generates the strings in (3b,c) and not the ungrammatical one in (3a):

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[1] A grammar G generates a language L which is smaller than another language L' generated by G' iff G' generates at least one grammatical string S_i which is not generated by G and G generates no grammatical string $S_{j \neq i}$ which is not generated by G'. Taking grammars to be defined as sets of values of parameters of UG, we can then say that a given parameter value v_i of parameter P_i is a subset value of P_i where P_i defines a grammar of type G as just defined and value v_j defines a grammar of type G', assuming (crucially) all other parameters are set to the same values in both G and G'.

Regarding the determination of subset and superset parameter values, clearly this cannot be done by inspection of the sets of strings generated by the different grammars defined by the different parameter values, since these will presumably always be infinite. This is an aspect of what we call the 'implementation problem' associated with the SP—see n. 2.

[2] The intersective nature of many parameters is an empirical problem stemming from comparative linguistics, and represents the main focus of this chapter. There is also a conceptual problem with the SP, which may have a psycholinguistic dimension: the 'implementation problem' mentioned in n. 1. The issue is how the learning device (whether a child or an algorithm) 'knows' which are the subset and superset values of a given parameter. Since this cannot be directly determined by inspection of the trigger experience, we must, as it were, 'build it in' to the learning process or the structure of parameters. One possibility is to assume that the learning device is equipped with an inherent system of default values for parameters which correspond to the subset values (cf. Manzini and Wexler 1987). Alternatively, the relevant notion of markedness may be more abstract, being a property of systems of parameters rather than of individual parameter settings: in this case, too, the learning device could be structured so as to inherently favour certain combinations of parameter values over others, and these could be combinations yielding subset grammars. Here the discussion of the SP in relation to 'shifted' parametric systems in Clark (1992) is relevant. Deciding amongst these and other imaginable options is well beyond the scope of this chapter; what seems clear, however, is that some further specification of the nature of UG and/or of the learning device is required (cf. Clark and Roberts 1993, Hale and Reiss 2003, and Fodor and Sakas 2005 for further discussion).

(2) a. John Sue loves.
   b. John walks.
   c. *John loves Sue.

(3) a. *John Sue loves.
   b. John walks.
   c. John loves Sue.

Clearly, the OV and VO grammar are in an intersection relation, as shown in (4):

(4)

John Sue loves
G1 (OV)

John walks

John loves Sue
G2 (VO)
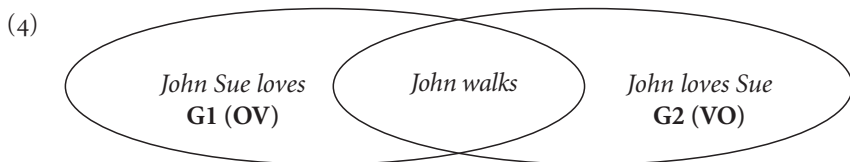
For this reason, the SP has been considered of limited value. In fact, if all parameters defined intersecting grammars, the SP would be of no real value. This chapter however argues that this is not the case, once the role of *true formal optionality* (i.e. syntactic 'free variation') is fully considered. We will show that there are parameter settings which give rise to grammars which generate languages which are in inclusion, rather than intersection, relations, and therefore the SP is relevant to both language acquisition and language change.

Our central idea is that, where the evidence for the grammar which generates the larger language is not sufficiently robust, acquirers 'default' to a grammar generating a smaller language. This, as noted, is ultimately a consequence of the absence of negative evidence in language acquisition. So here we see a case where the conditions of language acquisition lead directly to change, and hence the SP is relevant in both domains.

More specifically, we will show that the SP is relevant to two types of change. First, where a system which at one stage allows a piedpiping option alongside a 'stranding' option at a later stage allows only the stranding option. Second, the SP is relevant in the case of restriction of function (as introduced by Roberts and Roussou 2003), i.e. the narrowing of an operation to a subset of the contexts in which it formerly applied.

4.2 Theoretical preliminaries

We assume the Probe/Goal/Agree system of Chomsky (2000 and following). In terms of this system, heads are syntactically active as long as they bear one or more unvalued feature(s). To illustrate, consider (5) below:

(5) a. ... X_{PROBE} ... [YP ... Z_{GOAL} ...] ...

b.
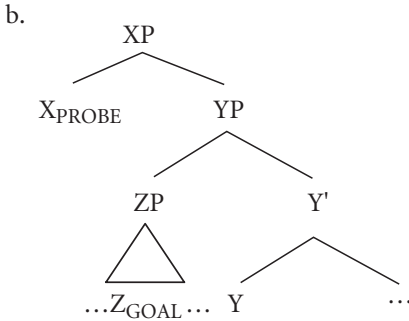
Here, a head X bearing an unvalued feature (or features) acts as a probe in search of a valued counterpart of its unvalued feature. This it finds on the goal, Z, which is located in its c-command domain and which, in turn, bears an unvalued feature of its own, which renders it active and thus visible to the probe. Agree takes place between the probe and goal, resulting in the unvalued features on both heads being valued. Feature valuation, which corresponds to the feature-checking of earlier versions of the theory (cf. Chomsky 1995), is therefore achieved without movement. For movement to occur, a probe must bear an additional movement-triggering feature, conventionally referred to as an EPP-feature. Following Richards and Biberauer (2005) and Biberauer and Richards (2006), we assume that Universal Grammar (UG) offers various parametric options in respect of the 'size' of the constituent that undergoes movement wherever X probes Z and also bears an EPP-feature (i.e. movement diacritic). These are given in (6):

(6) a. Z-movement only: $[_{XP}$ Z - X $[_{YP}$ ... $[_{ZP}$ ... (Z) ...]]]
     b. ZP-movement only: $[_{XP}$ ZP X $[_{YP}$ ... (ZP) ...]]
     c. Obligatory piedpiping: $[_{XP}$ $[_{YP}$ ... ZP ...] X (YP)]
     d. Optional piedpiping: $[_{XP}$ ZP X $[_{YP}$ ... (ZP) ...]] AND
                                $[_{XP}$ $[_{YP}$ ... ZP ...] X (YP)]

In the case where the probe X = T, the goal Z = a D-feature (or, more probably, the phi-features associated with an active DP) and Y = *v*, we therefore expect the following range of movement possibilities:

(7) a. D-movement only: $[_{TP}$ D - T $[_{vP}$ ... $[_{DP}$ ... (D) ...]]]
     b. DP-movement only: $[_{TP}$ DP T $[_{vP}$ ... (DP) ...]]

   c. Obligatory piedpiping: $[_{TP} [_{\nu P} \dots DP \dots] T (\nu P)]$

   d. Optional piedpiping: $[_{TP} DP\ T [_{\nu P} \dots (DP) \dots]]$ AND

                                       $[_{TP} [_{\nu P} \dots DP \dots] T (\nu P)]$

(7a) involves adjunction of the D-head of the DP-subject to the probing T-head, a movement operation that has been argued to take place in various VSO languages (cf. Baker and Hale 1990; Guilfoyle, Hung, and Travis 1992; and Travis 2006). As this mode of EPP-satisfaction plays no role in the specific contexts under consideration, we leave it aside here. (7b–d) are, however, directly relevant to our concerns.

   (7b) instantiates the mode of EPP-satisfaction standardly assumed for D-seeking T in Modern English (and many other languages), i.e. subject DP-raising to SpecTP. (7c) represents a mode of EPP-satisfaction that Richards and Biberauer (2005), and Biberauer and Richards (2006) argue differs minimally from those more standardly assumed: instead of a D-head (which could also be associated with finite V; cf. Alexiadou and Anagnosto-poulou 1998) or DP undergoing raising to SpecTP, it is also possible that either of these D-bearing categories may constitute the goal of Agree,[3] while a larger category properly containing this goal is targeted for movement. In other words, the authors exploit the distinction between two related proper-ties that a probe may have within Chomsky's Probe/Goal/Agree system, namely being a probe on the one hand and being associated with one or more EPP-features on the other: on this system, it does not follow that the category that a given head probes has to correspond to the category that ultimately undergoes movement under the influence of the probe's EPP-feature; as long as the moving category contains the goal, the computational system will 'not mind' (cf. also Biberauer and Roberts 2005, 2006). Against that background, it can be seen that (7c) differs from (7a,b) only in respect of the 'size' of the moved category: the goal here may again be either an active D or DP in the νP-domain, but the category that undergoes movement is νP, i.e. the category immediately containing the D(P)-goal. Richards and Biberauer (2005), and Biberauer and Richards (2006) propose that inflectionally rich German represents a language in which T Agrees with D-on-V (cf. Alexiadou and Anagnostopoulou's 1998 proposal for Greek) and then moves the entire

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[3] Biberauer and Roberts (2006) speculate on the factors that may potentially determine the nature of the category that counts as the goal for a given probe, suggesting that the distribution of the features being probed, as 'signalled' by morpholexical cues, may play a crucial role. Thus, if a probe seeks a complete set of phi-features, as is usually assumed for finite T, and these features are consistently present on a D-head in T's c-command domain, D may become the designated goal for phi-seeking T in that language. Similarly, if these features are spread across various DP-internal heads, the entire DP may count as the goal.

*v*P to SpecTP. Inflectionally more impoverished Dutch and Afrikaans, by contrast, are argued to be languages which target the subject DP, but then move the whole containing *v*P (cf. also Biberauer 2003; Jouitteau 2005 proposes that Breton is another language that employs *v*P-raising as a means of satisfying T's EPP-requirements, and cf. also Chomsky 2001: 38).

The important point about the piedpiping modes of EPP-satisfaction in the present context is that they, under currently poorly understood circumstances, appear to permit formal optionality not available to languages employing non-piedpiping modes of EPP-satisfaction (i.e. D- or DP-raising). In particular, there appear to be synchronically attested languages that allow EPP-satisfaction via *v*P-raising (i.e. piedpiping) to alternate with satisfaction via DP-raising (i.e. stranding), including modern spoken Afrikaans and various dialects of German and Dutch (cf. Biberauer 2003; Biberauer and Roberts 2005, 2006). The crucial consideration for our purposes is that a grammar which permits this optionality would correspond to (7d) above, i.e. to a grammar which generates both the strings generated by (7b) *and* those generated by (7c). (7d) therefore represents a superset language in relation to both (7b) and (7c). As such, we assume that it must be very robustly triggered by the Primary Linguistic Data (PLD) as a system of this kind is inherently disfavoured by the SP (cf. discussion in Section 4.1). Biberauer and Roberts (2005; henceforth: B&R) propose that earlier stages of English permitted piedpiping modes of EPP-satisfaction no longer available in Modern English (NE). According to B&R, various non-syntactic factors interacted with existing syntactic properties to cause the loss of the relevant piedpiping operations. In the next section, we show how the loss of these options can be understood as following from the operation of the SP, viewed as a guiding principle in language acquisition.

4.3 Case study I: word-order change in Middle English

According to B&R, Old and Middle English (OE and ME) represent stages of English that feature piedpiping modes of EPP-satisfaction in domains in which this is no longer possible. Specifically, B&R propose that OE differed from NE in that both T and *v* bore movement-triggering EPP-features. As such, they did not only, as in NE, act as probes for D-features (those associated with the subject and the direct object respectively), but they also brought about movement of categories containing these D-bearing goals.

Let us first consider OE. At this stage, both *v* and T were associated with EPP-features which could be satisfied either by movement of the goal alone (i.e. DP-movement) or by movement of the category immediately dominating the goal-DP (i.e. VP- or *v*P-movement). As regards the satisfaction of the

EPP-features on v and T, therefore, OE was an optional piedpiping language of the kind schematized in (6d) above, i.e. a superset language relative to one permitting only one or none of these modes of EPP-satisfaction.[4] In particular, it permitted the following EPP-satisfaction options in the vP- and TP-domain respectively (following B&R, we assume V-to-v raising in OE and ME):

(8)   a. VP-piedpiping: $[_{vP} [_{VP} \ldots \text{DP-OB}_{\text{Goal}} \ldots] \text{ V} + v_{\text{Probe}} (\text{VP})]$
      b. VP-'stranding': $[_{vP} \text{DP-OB}_{\text{Goal}} \text{ V} + v_{\text{Probe}} [_{VP} .. (\text{DP}) ..]]$

(9)   a. vP-piedpiping: $[_{TP} [_{vP} \text{DP-SU}_{\text{Goal}} \text{ VP V} + v] \text{ T}_{\text{Probe}} (v\text{P})]$
      b. vP-'stranding': $[_{TP} \text{DP-SU}_{\text{Goal}} \text{ T}_{\text{Probe}} [_{vP} (\text{DP}) \ldots]]$

Let us first consider the v-related movement operations represented in (8) above and illustrated in (10) below (goal underlined and moved category boldfaced in each case; lower, ultimately unpronounced copies indicated in brackets):

(10) Satisfaction of v's D(object)-oriented EPP-feature:
      a. VP-piedpiping:
         …þæt ic $[_{VP}$ **þas boc   to Engliscre spræce (V)**$]$ awende $+ v$ (VP)
         …that I   this book to English   tongue   translate
         '…that I translate this book into English'
                          (*AHTh, I,* pref, 6; van Kemenade 1987: 16)

      b. VP-piedpiping:
         swa þæt se   scinenda lig $[_{VP}$ **his locc   up(V)**$]$ ateah $+ v$ (VP)
         so   that the shining flame his locks up-   drew
         '…so that the shining flame drew his locks up'
                        (*ÆCHom* II, 39.1.295.241; Fischer *et al.* 2000: 189)

      c. VP-stranding (i.e. sole movement of the goal) in the vP-domain:
         Dunn hafað $[_{DP}$ **þas boc** $]$ gesald $+ v$ $[_{VP}$ his wife (V) (DP)$]$
         Dunn has   this title deed given   his wife
         'Dunn has given this title deed to his wife'
                                (ch1514(Rob9)1); Koopman 1994: 59)

      d. VP-stranding:
         ðe   he $[_{DP}$ **hine**$]$ ætbræd $+ v$ $[_{VP}$ fram flæsclicum lustum (V) (DP)$]$
         that he   himself withdrew   from fleshly   lusts
         '…because he had withdrawn himself from fleshly lusts'
                            (*AHTh*, I, 58; van Kemenade 1987: 34)

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[4] It is worth noting that a system consistently requiring a particular movement operation (e.g. a (6a), (b), or (c)-type system) and one consistently lacking this movement operation are not in a superset-subset relationship: a movement-requiring grammar will not generate more strings than a movement-lacking one; the two grammars will simply consistently deliver different output strings wherever the movement operation applies in the former, but not the latter. From the perspective of the SP, then, movement *per se* is not associated with any 'cost'.

In (10a), the goal probed by *v* is the direct object *þas boc*. In moving to Spec*v*P under the influence of *v*'s EPP-feature, this goal piedpipes the additional material contained in VP (i.e. *to Engliscre spræce (V)*), resulting in the lexical verb surfacing string-finally. In (10c), by contrast, the same goal (*þas boc*) moves independently of the remaining material in VP, giving the surface effect of 'leaking'/extraposition. Both structures converge because an XP containing the goal moves to the specifier of the probing *v*. (10b) is like (10a) in being the output of a derivation involving VP-piedpiping: in the context of the analysis proposed in B&R, in terms of which V consistently raises to *v*, it is clear that orders like (10b) must involve movement not only of the probed object-DP, but also of the particle; B&R propose that these elements raise together as another case of VP-piedpiping (cf. Elenbaas 2007 for further discussion). Particle-verb structures, alongside rigidly verb-final structures like that shown in (10a), therefore constitute a key indication of the availability of VP-piedpiping as a means of satisfying *v*'s EPP-feature. (10c,d), in turn, represent evidence that VP-stranding is also an option: here the object DP (*þas boc*) and the reflexively used personal pronoun constitute the goals probed by *v*, with only these elements undergoing raising under the influence of *v*'s EPP-feature; the remaining VP-internal material (the indirect object DP and the PP) are stranded when the object undergoes movement.

The T-related modes of EPP-satisfaction available in OE are illustrated in (11):

(11)   Satisfaction of T's D(subject)-oriented EPP-feature:

a.   *v*P-piedpiping:

þæt [*v*P **þæt folc**   **Gregorium**   **to papan**   **gecoran**]
that   the people Gregory   to pope   elected
hæfde (*v*P)
had
'. . . that the people had elected Gregory as pope'
(*AHG*, IX, 104; van Kemenade 1987: 34)

b.   *v*P-stranding:

þæt [DP **he**] mehte [*v*P (DP) his   feorh   generian]
that   he   could   his   property save
'so that he could save his property'
(*Orosius*, 48, 18; van Kemenade 1987: 59)

(11a) illustrates the structure that results when the subject goal of the T-probe piedpipes the *v*P within which it is contained. Note that this typically West Germanic SOVAux ordering also requires piedpiping satisfaction of *v*'s EPP-feature, i.e. although *Gregorium* is the goal of *v*, it must piedpipe the rest of

VP to deliver [$_{vP}$ [$_{VP}$ Gregorium to papan] gecoran + v] prior to the merger of the subject-DP. In (11b), only the subject goal, *he,* undergoes movement to SpecTP so that the remaining vP-internal material *his feorh generian* surfaces in post-T position.

B&R propose that VP-piedpiping as in (8a) and (10a,b) was lost as an option alongside VP-stranding (i.e. sole movement of the goal) in early ME. Biberauer and Roberts (2008) ascribe this to a number of factors, including:

1. the large incidence after the Norman invasion of French borrowings which, among other things, replaced particle verbs and thereby removed from the input *O-Part-V* orders of the type illustrated in (10b) (cf. Spasov 1966, who notes that particle verbs are vanishingly rare during the twelfth and thirteenth centuries; see also Fischer 1992: 386 and the discussion in Biberauer and Roberts 2008)

2. the relatively low incidence of compound tense-containing structures in OE and early ME (cf. Traugott 1972). This is relevant because the majority of OE and early ME main clauses were V2 structures in which the finite verb surfaced in clause-second position (cf. Fischer *et al.* 2000: 118ff for discussion of structures featuring personal pronouns). As such, these clauses, which are usually assumed to play a crucial role in the acquisition context (cf. Light-foot's 1991 'degree zero learnability' proposal), would have been ambiguous as to the nature of the operation that has taken place to satisfy v's EPP-feature: once the lexical verb has raised to clause-second position, it can no longer serve as a 'signpost' as to the size of the category that has undergone raising to Spec$v$P—cf. (12) where the *XP-Vf-Subj-Obj-PP* output string does not allow detection of whether the string has in fact been derived via VP-piedpiping as in (12a) or VP-stranding as in (12b):

(12) a. VP-piedpiping in an auxiliary-less V2 clause:
          [$_{CP}$ XP V + v + T + C [$_{TP}$ Subj (V + v + T) [$_{vP}$ Subj [$_{VP}$ Obj PP (V)] (V + v)]]](VP)

      b. VP-stranding in an auxiliary-less V2 clause:
          [$_{CP}$XP V + v + T + C [$_{TP}$ Subj (V + v + T) [$_{vP}$ Subj [$_{VP}$ Obj (V)] (V + v)]]] PP (V) (Obj)

3. the loss of dative case (cf. Allen 1995: 441, table 10.1) and the concomi-tant rise of indirect object-PPs. Given the general propensity for PPs rather than DPs to 'leak' in Germanic, the replacement of dative DPs with indirect object PPs gave rise to a general reduction in the occurrence of VP-piedpip-ing. This resulted in a rise in the number of argumental (as opposed to simply adjunct) PPs surfacing in 'leaking' configurations of the kind

illustrated in (10d) at the expense of the *IO-DO-V* orders which had formerly triggered the VP-piedpiping option in (8a). Thus structures like that in (13) featuring a dative-marked indirect object were replaced by structures like (14) in which the indirect object is realized as a PP:

(13) gif   se   sacerd   ne   mæg [$_{VP}$ **ðam   læwedum   mannum$_{IO}$**
      if   the   priest   not   can   the$_{DAT}$ lay$_{DAT}$ people$_{DAT}$
      larspel$_{DO}$]   secgan + v
      homily$_{ACC}$ say
      'if the priest cannot say a homily to the lay people'

> (*Ælfric's Homilies* II, 41.306.66; Koopman and van der
> Wurff 2000: 259)

(14) He   slewe   his   broder   Amon   that [$_{DP}$ **suche   desloyaltee**
      He   slew   his   brother   Amon   that   such   disloyalty
      and   vntrouth]   had   done   **to his   sister**
      and   untruth   had   done   to his   sister
      'He slew his brother, Amon, who had been so disloyal and untruthful towards his sister'

> (Caxton, *Knight of Tower* 87.15; Fischer *et al.* 2000: 169)

Biberauer and Roberts (2008) suggest that the lexical and morphological considerations in (i–iii) conspired to affect the PLD to which early ME children were exposed in such a way that the VP-piedpiping operation in (8a) became insufficiently robustly triggered. In other words, they propose that independent and contingent factors prompted the syntactic change that took place in early ME. To an extent, these factors are non-syntactic—consider, for example, borrowing from French (i.e. language contact) which lies behind the lexical change, and the loss of dative case which arguably has phonological origins. Since the SP inherently favours a grammar generating fewer strings (cf. Note 1), the drop in sufficiently unambiguous triggering evidence for VP-piedpiping led to the loss of (8a) as a means of satisfying v's EPP-feature. In respect of this parametric setting, early ME therefore became a subset language of the (6b)-type relative to OE which was a (6d)-type language.

Let us now consider the changes that affected T during ME. Following the SP-mediated reanalysis of the ways in which v's EPP-feature might be satisfied (i.e. the loss of VP-piedpiping just discussed), object movement became ever more restricted during the ME period, ultimately being lost for non-quantified objects (cf. Section 4.4). The restriction of object movement to only a specific subset of objects had an important consequence for the PLD ME children received regarding the manner in which T's EPP-requirements could

be satisfied. Recall that both exclusive movement of the goal (i.e. subject DP-raising) and piedpiping of the category containing the goal (i.e. *v*P-raising) were available options in OE. Once object movement became restricted, however, the PLD contained an increased number of structures in which *v*P-piedpiping as in (9a) was indistinguishable from *v*P-stranding as in (9b). Let us consider why this is so.

Wherever an object fails to undergo EPP-driven raising into the *v*P-domain, it remains VP-internal. In the context of the phase-based Probe/Goal/Agree system of Chomsky (2000 onwards) and, in particular, (the strict version of) the Phase Impenetrability Condition (PIC), material located in the VP-domain is subject to Spellout upon completion of the *v*P phase. B&R propose a radical interpretation of 'sending to Spellout' in terms of which elements that have been sent to Spellout are not available for further syntactic operations, including movement. Thus an object which has not undergone raising to Spec*v*P is sent to Spellout upon completion of the *v*P phase and will be spelled out in its VP-internal position (along with any other VP-material). In the context of the ME structures being considered here, this proposal has the specific consequence that unmoved objects will no longer be part of the *v*P which is available for raising to SpecTP. In other words, the loss of generalized object movement in later ME resulted in structures in which T's EPP-requirements were satisfied by *v*P-raising becoming harder to distinguish from those in which DP-raising satisfied these requirements. In many structures, including matrix and embedded clauses lacking an auxiliary, it would have become impossible to determine which raising operation had taken place as the output string in both cases will be *S-V-O*. Consider the embedded clause case illustrated in (15) (material sent to Spellout indicated in bold font):

(15) a. [$_{TP}$[Subj] T [$_{vP}$ (Subj) V + *v*] [$_{VP}$ **(V) Obj**]   - - DP-raising
      b. [$_{TP}$[$_{vP}$ Subj V + *v*] T] (*v*P) [$_{VP}$ **(V) Obj**]   - - *v*P-raising

In (15a), DP-raising results in an *S-V-O* string in which the finite verb is located in *v* within the unraised *v*P, while *v*P-raising in (15b) produces a surface-identical string in which the finite verb is once again located in *v*, but *v*P is located in the TP-domain. V2 matrix clauses likewise constitute ambiguous input for reasons similar to those outlined for (12) above. Clearly, then, the changes affecting the manner in which *v*'s EPP-feature could be satisfied had a knock-on effect in the TP-domain. This can be schematized as follows:

(16)   a.   Changes in the satisfaction of v's EPP-feature
       Reanalysis I:
       Early ME—loss of the VP-piedpiping mode of satisfaction
       $[_{vP} [_{VP} (V) O] V + v (VP)] \rightarrow [_{vP} O V + v [_{VP} (V) (O)]]$
       Later ME—restriction of the presence of EPP on v
       $[_{vP} O V + v [_{VP} (V) (O)]] \rightarrow [_{vP} O_{Neg} V + v [_{VP} (V) (O_{Neg})]]$
       Thus, for non-Neg O: $[_{vP} V + v [_{VP} (V) O]]$

   b.   Changes in the satisfaction of T's EPP-feature
       Reanalysis II:
       Late ME, around 1450 - loss of the vP-piedpiping mode of
       satisfaction
       $[_{TP} [_{vP} S V + v] T ([_{vP...} [_{VP} (V) O]])] \rightarrow [_{TP} S T [_{vP} (S) V + v$
       $[_{VP} (V) O]]]$

Reanalysis II created a 'canonical subject position' in SpecTP (cf. Biberauer 2006), with consequences for expletive distribution, raising-to-subject in passive and unaccusative contexts and so-called 'Stylistic Fronting' structures (cf. B&R, and Biberauer and Roberts 2006 for further discussion). In the present context, the notable point is that the T-related reanalysis, like its v-related counterpart, involved the loss of a piedpiping option that had, for independent reasons, become difficult to discern on the basis of the PLD. In both cases, therefore, the operation of the SP resulted in a grammar permitting both piedpiping and stranding being replaced by an innovative one generating a smaller language.

4.4 Case study II: 'restriction of function'

By 'restriction of function' we mean the case where a change operates so as to limit the set of contexts in which a movement operation applies. More specifically, restriction of function denotes cases where, at an earlier stage, a movement operation affects a relatively large class E of elements and, at a later stage, only a subset $D \subset E$. The SP is relevant to this kind of change at the stage where the movement process applies optionally to E – D (the part of E that is not in D). A grammar where a movement operation applies optionally in E – D is a superset both of the one requiring movement in the larger set of contexts E and of the requiring it only in the smaller set of environments D. Again, optionality gives rise to the superset grammar.[5]

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[5] Roberts and Roussou (2003: 162) use the term 'restriction of function' in a slightly different way, referring for example to the change in distribution of Ancient Greek indefinites, which in Modern Greek can only function as *wh*-words. The two notions are related if we think of the 'function' in question as the environments in which (first or second) Merge is possible.

Here we consider the case of object movement in ME. Recall that we stated in Section 4.3 that the following reanalysis took place in Early ME:

(17)   Reanalysis I
$$[_{vP} [_{VP} (V) O] V + v (VP)] \quad \rightarrow \quad [_{vP} O V + v [_{VP} (V) (O)]]$$

This change affected different types of objects differently. In fact, according to Kroch and Taylor (2000*b*); Pintzuk (2002*b*); Pintzuk and Taylor (2004, 2006), objects of different types underwent movement under slightly different conditions in OE too: specifically, it is proposed that three distinct operations targeting quantified negative, quantified non-negative, and non-quantified objects respectively were responsible for the OV-orderings in OE. B&R propose that there are only two distinct movement triggers at issue here: an optional EPP-feature which resulted in a moved object being interpreted as defocused (i.e. as old information, as is familiar from Germanic scrambling) and an obligatory EPP-feature which targeted negative objects.[6] The observed differences between different types of objects then follow from the fact that (a) negative objects always underwent movement in OE, whereas (b) non-negative non-quantified objects only underwent this movement where defocusing was required and had not already been achieved by other means, e.g. focusing another element by means of fronting, and (c) non-negative quantified objects underwent it whenever a specific interpretation of the quantified expression was required (cf. Diesing 1990). Assuming this to be correct, the idea is that (17) represents a change after which the various types of objects surfaced preverbally independently of other VP content, whereas they previously did so alongside the material in VP. After this change, movement of negative objects remained obligatory, as

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[6] A reviewer points out that B&R's proposals seem to make the wrong predictions for negative objects in OE and ME as negative objects are able to appear both preverbally and postverbally throughout, i.e. negative-object movement does not ever seem to have been obligatory. Worth noting, however, is that the examples cited to support the idea that negative-object movement was only ever optional all involve modals in verb-raising (VR) and verb-projection raising (VPR) structures (cf. Evers 1975; Haegeman and van Riemsdijk 1986). As discussed in Biberauer and Roberts (2006), there seems to be good evidence that the V(P)R structures in which modals appeared throughout OE and ME are biclausal. According to Biberauer and Roberts (*ibid.*), these structures are best analysed as involving a PRO subject and an infinitival T which attracts V to it. If this is correct, negative (and other) objects can in fact undergo fronting into the vP-domain as outlined in (17), but still surface in postverbal position: if the vP into which the object has raised subsequently undergoes raising to SpecTP, i.e. if the piedpiping mode of EPP-satisfaction is employed to satisfy infinitive T's EPP-requirements, the object will appear preverbally after V has raised to infinitival T; if only the subject-PRO raises to SpecTP, the object will remain in *v*P and will thus surface postverbally, despite its having undergone EPP-driven movement from its Merge position. As argued in Biberauer and Roberts (2006), the structural ambiguity in V(P)R structures is likely to have played a significant role in the loss of object-fronting, and that is also what we assume here.

we shall see below. Optional movement of the other object types also remained until *c.*1400 (van der Wurff 1997, 1999, and Foster and van der Wurff 1997). In terms of our theoretical assumptions, this means that the EPP-feature responsible for triggering movement of non-negative direct objects was optional after the reanalysis in (17). Chomsky (2001: 34) proposes that optional EPP-features must be associated with a semantic effect of some kind. Hence, a consequence of the movement of non-negative, non-quantified direct objects becoming optional was that it became associated with a specific discourse effect, namely defocusing; and the same was true for the optional movement of quantified non-negative direct objects, which necessarily received a specific reading. Around 1400, movement of non-negative, non-quantified direct objects was lost, while at least negatively quantified DPs continued to move.

Here are some examples of pre-1400 object shift of non-negative, non-quantified direct objects:

(18) a. þæt ic nule   **þe**   forsaken
          that I not-will you   forsake
             (*St Juliana* (Bod) 278; Koopman and van der Wurff 2000: 269)

      b. ðat we moten … swa **þis scorte lif** her laden
          that we may   … thus this short life here lead
             (*Vices and Virtues* 21.23; Koopman and van der Wurff 2000: 269)

      c. þet   heo   ne   schal **þene stude** neauer mare
          that   she   NEG   shall   the   abode   never   more
          changing bute for   need   ane
          change   but   for   need   alone
                   (CMANCRIW, I.46.52; Kroch and Taylor 2000*b*: 148)

Examples of this type are only found with defocusing after 1400 (see B&R), and are not found at all after approximately 1500. In later ME and ENE, i.e. in the later fifteenth and early sixteenth centuries, only negative direct objects shift (van der Wurff 1997, 1999; Kroch and Taylor 2000*b*; Moerenhout and van der Wurff 2000, 2005; Pintzuk 2002*b*; Ingham 2000, 2002, 2003):

(19) a. I may **no rest** haue a-mongys ȝow
          I may no   rest   have among   you
          (MKempe A 122, 19–20; Roberts 1997: 425)

      b. þei shuld   **no meyhir** haue
          they should no   mayor   have
          (Capgrave *Chronicles* 62.23; Koopman and van der Wurff 2000: 271)

As Moerenhout and van der Wurff (2000: 527) comment '...the pattern with an auxiliary (usually a modal) and a negative object is predominant' (cf. also n. 6). See Biberauer and Roberts (2006) for a speculation as to why object shift occurred in precisely these contexts at this period.

We can schematize the changes affecting object shift during ME as follows:

(20)   Pre-1400 ME:
      a.   ...O V...
      b.   ...V O...

(21)   Post-1400 ME:
      a.   ...O_{neg} V...
      b.   ...V O...

In (20), 'O' is intended to designate objects in general, although this glosses over the fact that different types of objects are in fact subject to distinct movement triggers, with movement of non-negative objects being optional, i.e. the consequence of an optional EPP-feature, as just pointed out, while negative objects moved obligatorily. In the later grammar (21) only negatively quantified objects could move. The instance of restriction of function in question concerns the precise nature of the category whose movement is triggered by the EPP-feature, as follows (where [+neg] means a negative determiner, i.e. a negative quantifier):

(22) $EPP_D \rightarrow EPP_{D[+neg]}$

It is clear that the set of negative D-elements is a subset of the set of D-elements; hence we have a paradigm case of restriction of function, as characterized at the beginning of this section. In other words, we can take the set of direct objects to correspond to E in the above discussion, and the set of negative direct objects to correspond to the subset $D \subset E$. Now, the earlier grammar, that of (20), was one where non-negative direct objects underwent optional movement. Thus we have an optional rule applying to E − D; as pointed out above, a grammar of this type is a superset both of the one requiring movement in the larger set of contexts E and of that requiring it only in the smaller set of environments D. Again, optionality gives rise to the superset grammar. So we see that the grammar in (21) would, in the absence of robust input data signalling the contrary, be favoured by the SP.[7]

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[7] A reviewer raises the question of why this particular subset of Ds should have been chosen, given the numerous conceivable subsets for the acquirer to choose from. Clearly relevant given the fact that our analysis is couched in Probe-Goal terms is the fact that 'natural' subsets of D would, for our purposes, need to be defined in terms of syntactic features. That [+neg], like [-specific] or

In the ME case, optional movement of non-negative objects for defocusing was disfavoured since it was hard to detect in certain rather common types of constructions. For example, in a V2 clause where the verb is in a simple tense (i.e. no auxiliary is present, with the result that the verb is second), it is impossible to tell what structural position the object occupies, since, moved or not, it is final in the string. Thus, a sentence like (23a) could have either the structure in (23b) or that in (23c):[8]

(23) a. In þus many maners touches þe ymage of dremes men
        In so   many ways   touches the image of dreams men

$\hspace{4cm}$ (CMROLLEP, 93.499; Trips 2002: 251)

   b. [$_{CP}$ XP V+v+T+C [$_{TP}$ S (V+v+T) [$_{vP}$ O (V+v) [$_{VP}$ (V) (O)]]]]

   c. [$_{CP}$ XP V+v+T+C [$_{TP}$ S (V+v+T) [$_{vP}$ (V+v) [$_{VP}$ (V) O]]]]

Verb-projection raising is another context where the surface order *S-Aux-V-O* is structurally ambiguous, as (24) shows (cf. also the discussion in n. 6):

(24) a. þat ȝe   mahen ane   pine   me here
        that you may   alone torture me here

$\hspace{4cm}$ (*St Juliana*; Fischer *et al.* 2000: 161)

   b. V$_R$ [$_{TP}$ PRO V+v+T [$_{vP}$ O (V+v) [$_{VP}$ (V) (O)]]]

   c. V$_R$ [$_{TP}$ PRO V+v+T [$_{vP}$ (V+v) [$_{VP}$ (V) O]]]

The ambiguity of cases like (23) and (24) meant that the cue for the optional EPP-feature was often obscured. We take it that it was therefore insufficiently robust to support the postulation of the superset grammar, since this is inherently disfavoured by the SP.[9]

[-referentially quantified], is a feature with genuine syntactic and not just semantic status is strongly suggested by the fact that syntactic operations in various languages specifically make reference to these —consider, for example, the fact that residual V2 in English is restricted to negative and quantified/ non-specific elements (*wh*-interrogatives and degree inversion), while there are numerous languages in which specific and non-specific objects differ in terms not only of their morphological marking, but also in terms of their positioning (e.g. their ability to scramble), Turkish being a well-known example (cf. Enç 1991). Precisely why negative rather than quantified DPs or DPs sharing another syntactically active feature constituted the relevant subset in the case under discussion here is not clear to us at this point, but we view the fact that it can be defined in terms of a feature which seems to be syntactically active in other contexts as suggestive of the plausibility of the type of approach we are pursuing here.

[8] Here XP could also be the subject; this does not affect our main point regarding the position of the object.

[9] A reviewer correctly notes that the precise trigger and hence also the precise timing of the object-related restriction of function is not at all clear. We have proposed that structural ambiguity was a contributing factor, but this factor would already have been in play in OE, raising the question why

4.5 Conclusion

This chapter has tried to show that, contrary to what is often thought given the intersective nature of many parameters, the SP does appear to be relevant as a causal factor in syntactic change. We have seen one general type of SP-related effect resulting in the elimination of formal options, namely the loss of movement options; see Biberauer and Roberts (2007) for consideration of a second general type, namely that affecting the realization of formatives. It is entirely possible that the SP has other effects in diachrony. For example, one issue that we have touched on here without developing is the characterization of the 'robustness' of the trigger experience necessary both to preserve and to cause a system to move to a superset grammar. Notice that the issue of preservation of superset systems relates to the Inertia Principle of Keenan (1998, 2002, this volume) and Longobardi (2001*a*). In fact, there may be a tension between the simplest understanding of the notion of inertia and the SP; until the question of robustness is fully clarified, we cannot really tell. The question of how systems can move from a relatively unmarked to a relatively marked state (i.e. from a subset to a superset grammar in the present case) is much more difficult; it is clear, though, that this must be driven above all by the nature of the PLD.

The conclusion that the SP is after all relevant to syntactic change is positive, since, as we saw in the introduction, the SP is based on a recognized fact about language acquisition: the fact that language acquirers do not have access to negative evidence. More generally, in showing how the SP plays a causal role in syntactic change, we see one small way in which the study of syntactic change and language acquisition may begin to converge.

restriction of function did not already take place much earlier in the history of English. Presumably, the much higher level of occurrence in OE of rigidly head-final structures played an important role in signalling to acquirers that they were dealing with a V-final language in which objects generally underwent movement, with the exceptions constituting a relatively clear class. The sharp decrease in such rigid head-final structures, brought about by the reanalysis in (17), would then have brought about a crucial change in the input data. Precisely what triggered the further changes that ultimately led to the restriction of function which we observe in the object domain we do not currently know. This important matter is one which we must leave for future research here as it clearly requires more detailed investigation of the OV orderings found in OE and ME (cf. also n. 6).

5

Many small catastrophes: gradualism in a microparametric perspective

MARIT WESTERGAARD

5.1 Introduction

In work by David Lightfoot (e.g. 1999, 2006), gradual historical development is often discussed in relation to the concept of catastrophes in language change. According to his cue-based model of acquisition and change, diachronic language development should not be gradual, but abrupt and 'catastrophic', reflecting a change in the I-language of different generations of speakers (internalized language, see Chomsky 1986). Nevertheless, we often see gradualism in historical data, i.e. in the E-language (externalized language) produced by various speakers/writers, sometimes spanning several hundred years. This means that many generations of children must have been exposed to optionality in the primary linguistic data (PLD), with differing input frequencies for a particular construction. A possible analysis of gradualism is grammar competition in the minds of speakers, as in e.g. Pintzuk (1991) or Kroch and Taylor (1997). In this chapter, I consider another explanation of this within an extension of Lightfoot's cue-based approach to acquisition and change. Discussing synchronic variation with respect to verb second (V2) word order in *wh*-questions in Norwegian dialects against the background of the loss of V2 in declaratives in the history of English, I argue that gradual development may represent several minor changes in the I-language of speakers, caused by the loss or development of various micro-cues. That is, what looks like gradualism is really the result of many 'small catastrophes'.

The chapter is organized as follows: In the next section I briefly outline Lightfoot's model of cue-based acquisition and change with respect to the loss of V2 in English. In Section 5.3 I show that mixed V2 systems are found

also in present-day V2 languages and provide some child data indicating that these mixed systems are acquired early. As a consequence, a model of microcues is developed within a Split-CP approach to clause structure. In Section 5.4 I investigate present-day microvariation in *wh*-questions in Norwegian dialects, and in Section 5.5 I argue that this reflects stages in a diachronic development from V2 to non-V2. Section 5.6 contains a brief summary and conclusion.

5.2 V2 in the history of English and cue-based acquisition and change

According to Lightfoot's theory of cue-based language acquisition and change, a cue is a piece of structure which is produced in children's I-language as a result of exposure to certain sentence types in the PLD. In Lightfoot (2006: 86) the cue for V2 syntax is formulated as (1), which is a piece of structure 'where a phrasal category occurs in the Specifier of a CP whose head is occupied by a verb.'

(1) $_{CP}[XP \; _C V \dots]$

For learnability reasons, Lightfoot argues that there must be a UG requirement that the verb is obligatorily in C in this syntactic configuration, as a child adopting (1) as an optional structure, and as a result producing V2 only sometimes, would need negative evidence (i.e. correction) to acquire the target grammar. And negative evidence is generally not available to children in the acquisition process. According to this argumentation, true language change should not be gradual, but, in Lightfoot's terminology, 'catastrophic', reflecting I-language differences between generations of individual speakers. That is, a speaker's I-language grammar is either V2 or non-V2, not a mixture of the two word orders.

In Lightfoot (1999) this cue-based approach is used to account for the loss of V2 in English, which is generally argued to have taken place some time during the Middle English (ME) period. But in the history of English both V2 and non-V2 word orders are attested simultaneously for an extended period of time. Basing his account on Kroch and Taylor (1997), Lightfoot (1999: 154ff) argues for the existence of two different dialects, a northern one which was consistently V2 due to influence from Scandinavian (with verb movement to C), and a southern dialect which was not V2 'in the usual sense'. Contact between the two dialects resulted in both word orders being attested in the E-language, which means that there was a situation of grammar competition between the southern and the northern dialects, i.e. between a

V2 and a non-V2 grammar. The expression of the cue in the PLD has then decreased in frequency and eventually fallen below a critical level for language acquisition, the result being that northern children ignored it and developed a grammar without V2, reflecting an abrupt change in the I-language from one generation to the next.

However, this cannot be the whole story, as the southern dialect also displayed variable V2. This is illustrated by the sentences in (2)-(4), all from the Old English (OE) period.

(2) Him **geaf** ða **se cync** twa hund   gildenra pænenga.
    him gave then the king two hundred golden   pennies
    'Then, the king gave him two hundred pence in gold.'

(3) Hiora untrymnesse **he sceal** ðrowian on his heortan.
    their weakness   he shall   atone   in his heart
    'He shall atone in his heart for their weakness.'

(Haeberli 2002: 88–90)

(4) ... þa   **wolde he** hiene selfne on ðæm gefeohte forspillan
    ... then   would he   himself   in the battle   destroy
    '... then he wished himself to be killed in the battle.'

(Bech 2001: 53)

It is well known that this word-order variation is linked to systematic linguistic factors such as different subject types, pronouns being preferred with non-V2 and full DPs with V2, as in (2) and (3). Furthermore, specific initial elements always required V2, e.g. the adverbs þa/þonne 'then', illustrated in (4). A common analysis of this (see e.g. van Kemenade 1987; Pintzuk 1991; Kroch and Taylor 1997) is that pronouns are clitics attached to a position above the verb (which moves to I), so that (3) is also an example of V2 (i.e. IP-V2). The elements þa/þonne are considered to be operators that attract the verb to a higher position (to C), and the verb may therefore appear in front of a clitic subject, as in (4). However, details aside, it seems clear that both surface orders appear in the E-language, subject to certain linguistically relevant factors. Thus, in Bech (2001) and Westergaard (2005a) it is argued that the variation seen in (2)–(3) is dependent on information structure, non-V2 being chosen when the subject is informationally given, while V2 is preferred when the subject conveys new information. In Section 5.4 I show that similar variation is attested in present-day Norwegian.

Under the assumption that the southern dialect also displays mixed V2, the development from V2 to non-V2 word order in English historical data seems almost perfectly gradual. Table 5.1 presents a selection of data from Bech

TABLE 5.1 The percentage of V2 in non-subject-initial declaratives across OE and ME, based on 5000 main clauses from 19 text samples (raw data from Bech 2001)

Early/Late OE (900–1150)	Early ME (1150–1350)	Late ME (1350–1480)
71.8% (805/1121)	53.5% (294/550)	31.1% (211/678)

(2001), focusing on the word order in non-subject-initial declaratives, i.e. (X) XVS and (X)XSV, as the former structure expresses the cue for V2 in the input to children and the latter constitutes conflicting evidence. Calculating relative percentages, one finds that approximately 70 per cent of the relevant contexts in the OE texts appear with V2, while the frequency decreases to approximately 50 per cent in early ME and 30 per cent in late ME.

The different percentages in Table 5.1 could simply represent different strengths of two systems, a V2 grammar and a non-V2 grammar in competition. In my view, one would then expect the variation between the two word orders to be random or only related to sociolinguistic or stylistic factors, which we have seen is not the case. Instead, it could therefore be argued that the three stages represent distinct V2 grammars, e.g. a default V2 grammar, a mixed grammar, and a default non-V2 grammar. In the remainder of the chapter I consider word-order variation in present-day Norwegian dialects, where similar stages can be identified, and I argue that different percentages in production do in fact reflect different I-language systems.

5.3 Other mixed V2 systems and cue-based acquisition in a Split-CP model

In this section I would like to point out that mixed V2 systems are not just a historical phenomenon. In fact, English has not completely lost V2, as present-day English has subject-auxiliary inversion in questions, often referred to as 'residual V2' (Rizzi 1996), as well as occasional inversion in declaratives, generally with informationally light verbs, mainly 'be' (see e.g. Birner 1995). Mixed V2 is also attested in typical present-day V2 languages. Focusing on a dialect of Norwegian (Tromsø), Westergaard (2007, 2008b) shows that there are some clause types that require V2, while others either require or permit non-V2. For example, while V2 is obligatory in (non-subject-initial) declaratives, illustrated in (5), a word order without verb movement is found in exclamatives and embedded questions; see (6). Furthermore, this dialect allows both V2 and non-V2 in matrix *wh*-questions, a fact which will be returned to below.

(5) Denne konserten **likte han** ikke./*Denne konserten han ikke likte.
    this   concert   liked he   not
    'This concert he didn't like.'

(6) Jeg lurer   på [hvilken musikk **han liker**]/[*hvilken musikk liker han].
    I   wonder on which   music   he   likes
    'I wonder which music he likes.'

The clause types which require V2 vs non-V2 vary across the family of V2 languages. For example, Danish is different from Norwegian in that it is V2 in certain exclamatives, and according to Biberauer (2002), embedded questions are V2 in modern spoken Afrikaans (MSA). And while standard English is V2 in questions but (generally) not in declaratives, many Norwegian dialects are the other way around, e.g. Nordmøre or Nordreisa (Åfarli 1986; Sollid 2003). This means that the word order for individual clause types must be learned from input (see Westergaard 2007, 2008b for further details).

This may be problematic within a model of cue-based acquisition, given the obligatory nature of the cue for V2 as formulated in (1). However, child data from the Tromsø dialect discussed in Westergaard (2003, 2007, 2008b) show that both word orders are attested early in a target-consistent way in all the different clause types, regardless of input frequencies. For example, children produce V2 in non-subject-initial declaratives and non-V2 in embedded questions, as illustrated in (7) and (8), despite very different input frequencies for these two clause types, non-subject-initial declaratives occurring as often as 13.6 per cent (286/2097) in typical child-directed speech and embedded questions only 1.6 per cent (34/2097); see Westergaard (2007, 2008b). Furthermore, there is no overgeneralization between clause types.

(7) så   **tegne**   æ   mamma. (Ina.02, age 1;10.4)
    then   draw-PRES   I   mommie
    'Then I draw mommie.'

(8) Ann   vet   ikke   kor   **han er**   henne. (Ann.09, age 2;2.19)
    Ann   know   not   where   he   is   LOC
    'Ann doesn't know where he is.'

In order to account for the early and error-free acquisition of word order, Westergaard (2007, 2008b) extends Lightfoot's theory of cues to a model of 'micro-cues' (see also Lightfoot and Westergaard 2007). This is based on a Split-CP model, originally developed in Westergaard and Vangsnes (2005). What is crucial about this model is that the ForceP of Rizzi (1997) is replaced by a number of different heads reflecting the illocutionary force of the

TABLE 5.2   Examples of cues for V2 in a Split-CP model

Language \ Cue	$_{IntP}[(wh)\ _{Int}°V..]$	$_{TopP}[XP\ _{Top}°V..]$	$_{ExclP}[XP\ _{Excl}°V..]$	$_{WhP}[(XP)\ _{Wh}°V..]$
Stand. Norwegian	+	+	−	−
Certain N dialects	−	+	−	−
Danish	+	+	+	−
Standard English	+	−	−	−
Afrikaans (MSA)	+	−	−	+

clause; e.g. the head Int(errogative) is present in *wh*-questions, while embedded questions are bare WhPs, declaratives Top(ic)Ps, and exclamatives ExclPs, etc. This means that each clause type differs from all others in the CP domain. Within this split-CP approach, there are several cues expressing V2 word order. For example, the cue for V2 in *wh*-questions is a structure where a *wh*-element is followed by a finite verb in the head position of the IntP, while the cue for V2 in declaratives is an XP followed by a verb in the TopP. Children speaking standard English will encounter the former in the PLD that they are exposed to, but not the latter, while children growing up in Nordmøre will have evidence for the latter and not the former. Table 5.2 provides examples of four of these micro-cues, for *wh*-questions, declaratives, exclamatives and embedded questions, distinguishing between five different V2 grammars.

According to this model, there is no 'global' cue for V2 syntax, but separate micro-cues for each clause type. This means that when children scan the PLD for cues, they only consider particular clause types. Given this selective search for cues, diachronic word-order changes should typically affect only one clause type at a time. This means that what we see in the history of English is in fact as expected, i.e. only one of the CP heads is affected by the change, Top° but not Int°. Another example of this is found in Belfast English, where V2 is being lost in imperatives while it stays unaffected in other clause types (Henry 1997).

In mixed V2 systems there may also be certain clause types that allow both word orders, depending on even finer micro-cues involving information structure or particular classes of categories. This corresponds to the situation in the history of English illustrated in (2)–(4) above, where both V2 and non-V2 existed simultaneously in declaratives. In Norwegian, this first and foremost concerns *wh*-questions, which are discussed in the next section.

5.4 Microvariation in *wh*-questions in present-day Norwegian dialects

5.4.1 *The Tromsø dialect*

In many Norwegian dialects there is no strict V2 requirement in *wh*-questions. Vangsnes (2005) identifies several microparameters for different *wh*-grammars across the country, dependent on the length of the *wh*-word (monosyllabic vs disyllabic) or its function (subject vs non-subject). It is also argued that the dialect variation represents a dia-chronic development from V2 to non-V2 (see also Westergaard 2005*b*). In this chapter I identify some further variation, using data from spon-taneous speech produced by several adults in an acquisition corpus.[1] This variation is based on the frequency of the two word orders with individual *wh*-elements as well as the information-structure patterns involved. This principled variation may reflect further micro-cues, and in the next section I argue that this provides evidence for many small steps in the diachronic process from V2 to non-V2.

   In the dialect spoken in Tromsø, there is a word-order distinction based on the length of the *wh*-word: While disyllabic *wh*-words and full *wh*-phrases require V2, there is apparent optionality between V2 and non-V2 with the monosyllabic question words *ka, kor,* and *kem* ('what', 'where', and 'who'), as illustrated in (9) and (10).[2] In certain other dialects, e.g. Nordmøre spoken in the western part of the country (see Åfarli 1986), any type of *wh*-question may appear with non-V2, as illustrated in (11) and (12).

(9) Ka   slags bøker **like du**?/*Ka slags bøker **du like**?   (Tromsø)
     which kind   books like   you/
     'What kind of books do you like?'

(10) Ka   **like du**?/Ka **du like**?
     what   like   you
     'What do you like?'

(11) Kåin   **du**   **lika** best?/Kåin **lika du** best?   (Nordmøre)
     who   you   like   best
     'Who do you like best?'

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[1] The corpus consists of 70 files of spontaneous speech from three children in conversation with their parents or an investigator. For further information on the corpus, see Anderssen (2006).

[2] These question words come from the Old Norse forms *hvat, hvar,* and *hveim.* The initial sound combination has developed into *kv-* in most (Western and Northern) Norwegian dialects, e.g. *kval* 'whale' (cf. *hval* /vaːl/ in Danish and Standard Eastern Norwegian (*bokmål*)). In function words the initial sound combination has then been reduced to *k-* in Northern Norwegian dialects.

(12) Kåles   bil   **du**   kjøpte?/Kåles bil **kjøpte du**?
      which   car   you   bought
      'Which car did you buy?'

<div align="right">(Åfarli 1986: 98, 100)</div>

In Westergaard (2003) a sample of spontaneous speech from one of the adults in the corpus (speaking the Tromsø dialect) was investigated. This revealed a more or less equal distribution of the two word orders in questions with monosyllabic *wh*-words, 45.3 per cent V2 vs 54.7 per cent non-V2. Furthermore, the variation displayed clear preference patterns for subject and verb types. While V2 mainly appeared with the verb *være* 'be' and full DP subjects (or the pronoun *det* 'it/that'), non-V2 was clearly preferred with any other verb and pronominal subjects, as illustrated in (13) and (14). My interpretation of this is that it is related to information structure, V2 being used with informationally new subjects (typically full DPs) and non-V2 with discourse-old subjects (typically pronouns). Note that this is not unlike the patterns found in the historical English data, cf. examples (2) and (3) above. The Tromsø dialect is also similar to OE in that certain initial elements require V2; cf. (4) and (9).

(13) kor   **er**   **skoan**   **hannes**   henne?   (INV, file Ole.17)
      where   are   shoe-DEF.PL   his   LOC
      'Where are his shoes?'

(14) kor   **du**   **har**   **henta**   de   der   pinnan   hen?
      where   you   have   picked.up   those   there   sticks   LOC
      'Where did you pick up those sticks?'

Syntactically, the word order of the Tromsø dialect may be analysed in the following way (see Westergaard 2005*b*): the monosyllabic *wh*-elements have been reanalysed as heads, according to the Head Preference principle of van Gelderen (2004*a*, this volume).[3] This means that they move into the head position of the IntP, preventing the verb from moving and making non-V2 word order possible. When V2 does appear, this is the result of movement to another CP projection, the lower TopP (see Rizzi 1997, 2001), which attracts informationally light elements (i.e. 'be' or pronominal subjects). Thus, an I-language change in the status of the monosyllabic *wh*-words in the Tromsø dialect is masked by verb movement (sometimes) applying to a lower CP head.

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[3] The principle is simply formulated as follows (van Gelderen 2004*a*: 11):

(i)   Head Preference or Spec to Head Principle: Be a head, rather than a phrase.

5.4.2 *Other adult speakers—four different V2 grammars*

In this section I investigate the production of all adults in the corpus, six parents and two investigators. All eight speakers live in Tromsø and speak a northern dialect. As we see in Table 5.3, there is great variation among the speakers with respect to the proportion of the two word orders, most speakers producing considerably less V2 than the one originally investigated in Westergaard (2003), approximately 2–30 per cent, and one speaker producing quite a bit more, almost 70 per cent.

I would argue that what we see here is not just different strengths of two major parameter settings, V2 or non-V2, but three separate grammars that are systematically different from each other, a default V2 grammar, a mixed grammar, and a default non-V2 grammar. What is crucial is that the difference between these grammars is not simply different proportions of V2: In the previous section we saw that there were clear patterns found in the Westergaard (2003) data for subject and verb types used with the two word orders, V2 being preferred when the verb is *være* 'be' and the subject a full DP or the (normally demonstrative) pronoun *det*, and non-V2 when the subject is a personal pronoun and the verb any other verb than 'be'. Table 5.4 provides the subject and verb choice in the two types of *wh*-question (V2 and non-V2) produced by this speaker (figures from Westergaard 2003), and the preferences clearly show that the two word orders appear in different contexts (figures in bold), indicating a mixed grammar. Table 5.5 provides the subject and verb combinations of one of the speakers producing a predominance of non-V2, the mother in files Ole.01–22. Here we see the same subject and verb preference for V2 as in the mixed grammar, but now all cells are filled for non-V2, showing that this word order may be used with any subject or verb. Note that the preferred subject and verb combination for V2 appears

TABLE 5.3 Percentages of V2 in questions with monosyllabic *wh*-words, adult speakers

Speakers	% V2
INV, Ole.13–22	45.3% (136/300)
INV, Ina.01–27	3.9% (34/873)
MOT, Ina.01–27	29.9% (147/491)
FAT, Ina.01–27	10% (22/219)
MOT, Ann.01.21	14.8% (114/771)
FAT, Ann.01.21	2.5% (3/118)
MOT, Ole.01–22	16.5% (26/158)
FAT, Ole.01–22	68.4% (67/98)

TABLE 5.4 Subjects and verbs in *wh*-questions in the mixed grammar, 45.3% V2

Subject/Verb Types	V2		Non-V2	
	være 'be'	Other V	*være* 'be'	Other V
Full DP/*det*	128	5	27	19
Pronoun	1	2	4	114

TABLE 5.5 Subject and verbs in *wh*-questions in the default non-V2 grammar, 16.5% V2

Subject/Verb Types	V2		Non-V2	
	være 'be'	Other V	*være* 'be'	Other V
Full DP/*det*	16	5	32	23
Pronoun	0	5	4	73

TABLE 5.6 Subject and verbs in *wh*-questions in the default V2 grammar, 68.4% V2

Subject/Verb Types	V2		Non-V2	
	være 'be'	Other V	*være* 'be'	Other V
Full DP/*det*	37	18	2	11
Pronoun	0	12	1	18

even more often with non-V2 (32 vs 16), indicating that non-V2 is the default word order in this grammar. Finally, Table 5.6 shows the preferences for the speaker producing a predominance of V2, the father in Ole.01–22, and here the subject and verb combinations for non-V2 are similar to that of the mixed grammar, but now V2 seems to be used with any combination, indicating that this is a default V2 grammar.

Having identified three different systems, we may now describe the syntactic difference between the grammars in the following way: As mentioned above, the mixed grammar has verb movement to the low Top° head in the CP domain, which ensures that there is V2 only when the subject is discourse-new. The default non-V2 grammar generally has no verb movement, except in remnant cases involving the verb 'be', which is similar to the situation in declaratives in present-day English. Finally, the default V2 grammar generally has verb movement to the Int° head, as in standard Norwegian.

There is also a further difference between the speakers in the corpus, which makes it possible to identify a fourth V2 grammar. Two of the speakers (Ann's parents) come from Kåfjord, an area north of Tromsø where there has been

TABLE 5.7 Four different V2 grammars in *wh*-questions in North Norwegian dialects

Grammar 1	Grammar 2	Grammar 3	Grammar 4
Predominantly V2 with short *wh* (approx. 70%)	Mixed grammar with short *wh* (approx. 45% V2)	Predominantly non-V2 with short *wh* (3–29% V2)	Predominantly non-V2 with short *wh*, spread to long *wh*
V2 w/all verbs and subjects, non-V2 w/given subjects	V2 w/*be* + new subjects, non-V2 w/given subjects	Non-V2 w/all verb and subject types, remnant cases of V2 with *be*	Non-V2 w/all verb and subject types, remnant cases of V2 with *be*
(Generally) verb movement to Int°	Verb movement to Top° w/short *wh*	(Generally) no verb movement w/short *wh*	(Generally) no verb movement w/short *wh*

extensive language contact with Finnish and Sami, both non-V2 languages. In the Norwegian dialects spoken in this area, non-V2 word order appears also with longer *wh*-elements, illustrated in (15), and this is argued by Sollid (2003) to be a result of this contact situation.

(15) koffer **du** **går** dit bort? (MOT, file Ann.02) (Kåfjord)
      why   you   walk   there away
      'Why are you walking over there?'

Based on these findings, the four different V2 grammars can be characterized as in Table 5.7. This illustrates that different frequencies in production may reflect separate I-language grammars with rule-governed variation.

5.4.3 *Further micro-cues*

A more detailed investigation of the adult data reveals further microvariation and indicates that the development has even more steps than the ones identified so far. This concerns the various types of *wh*-elements, first and foremost a difference between *ka* 'what' and the other two monosyllabic question words, as well as a possible difference between the disyllabic question words and the full *wh*-phrases.

Table 5.8 displays the percentages of non-V2 word order with the three monosyllabic question words, showing that there is a clear pattern that non-V2 is preferred more often with the question word *ka* 'what' than with the other two.

A closer investigation of the subject and verb types used by the speaker producing the default V2 grammar described in Table 5.6 above, the father in Ole.01–22, reveals that he has a mixed grammar for the question word *ka* 'what'

TABLE 5.8 Non-V2 word order produced by adult speakers in Norwegian corpus

Speaker\wh-word	ka 'what'	kor 'where'	kem 'who'
INV Ole.13–22	**68.1%** (124/182)	43.3% (29/67)	21.6% (11/51)
INV Ina.01–27	**98.5%** (589/598)	83.3% (66/79)	93.9% (184/196)
MOT Ina.01–27	**79.8%** (268/336)	49.2% (29/59)	49.0% (47/96)
FAT Ina.01–27	**93.9%** (155/165)	63.6% (14/22)	87.5% (28/32)
MOT Ann.01–21	**91.3%** (481/527)	82.4% (108/131)	60.2% (68/113)
FAT Ann.01–21	**98.9%** (87/88)	100% (17/17)	84.6% (11/13)
MOT Ole.01–22	**87.5%** (105/120)	57.1% (12/21)	88.2% (15/17)
FAT Ole.01–22	**48.1%** (25/52)	18.2% (6/33)	7.1% (1/14)

(48.1 per cent non-V2), and a default V2 grammar for the other two monosyllabic question words (18.2 per cent and 7.1 per cent respectively). Another speaker, the mother in Ina.01–23, seems to have a default non-V2 grammar with *ka* 'what', and a mixed grammar with the other two monosyllabic question words, approximately 80 per cent vs 50 per cent non-V2. For reasons of space, a detailed overview of this is not included here. This indicates that frequency distinctions *within* what I called the default V2 and non-V2 grammars above may be due to speakers having different grammars for *ka* and the other two monosyllabic question words. However, it should be noted that some of the variation in Table 5.8 cannot be explained in this way, e.g. the difference between 79.8 per cent and 98.9 per cent non-V2 with *ka*, both considered to be the result of a default non-V2 grammar. Thus, it is possible that at this micro-level one must still accept a certain degree of grammar competition.

In the production of one of the speakers from Kåfjord, there are indications that there is a distinction also at the other end of the scale: While this grammar allows non-V2 with longer *wh*-elements, there is a considerable difference between the monosyllabic and the disyllabic question words, and another distinction between the latter and the full *wh*-phrases (although numbers are relatively small). Thus, while this speaker clearly has a default non-V2 grammar with the monosyllabic question words, she has a default V2 grammar with the longer *wh*-elements, as illustrated in Table 5.9 (see also Westergaard 2005*b*).

TABLE 5.9 The percentage of non-V2 across questions with different *wh*-elements produced by MOT Ann.01–21, N=863

Wh-element	ka 'what'	kor/kem 'where/who'	korsen/korfor/katti 'how, why, when'	Full wh-phrases
% of non-V2	91.3% (481/527)	72.1% (176/244)	20% (9/45)	8.5% (4/47)

5.5 A diachronic scenario

In this section, the differences in frequency for the two word orders in the speakers' production will be argued to reflect the diachronic development from V2 to non-V2, in that it has affected the *wh*-elements in the order indicated in Table 5.9. The driving force is the Head Preference principle of van Gelderen (2004*a*) mentioned above, which has been used to account for many historical changes from phrase to head, e.g. relative *þat* 'that' in English. According to this principle, it is more economical to move as a head than as a phrase. Thus, elements which are heads as well as phrases (e.g. pronouns) should, if possible, not project a phrasal level, and should also preferably move into head positions. For this to be a true diachronic principle, I would argue that it has to reflect preferences for economy in the acquisition process. It has often been suggested that there are principles of economy at work in child language, e.g. economy of structure-building, see Clahsen, Eisenbeiss, and Vainikka (1994) or Clahsen, Eisenbeiss, and Penke (1996). Because of the Head Preference principle, there should be a historical drift towards head status of the *wh*-elements, and this should affect the least complex question words first.

The frequency data indicate that the diachronic change has started with the question word *ka* 'what'. This is not surprising according to Head Preference, as *ka* is arguably the least complex of all the *wh*-words, both phonologically and compositionally. While *ka* presumably consists of a *wh*-feature only, *kem* 'who' and *kor* 'where' have more complex structures, including person or place features. This means that *ka* has been affected first, and as a head it moves into the head position that the verb previously moved to (Int°) and prevents V2. This first change in the I-language grammar is replaced by verb movement which applies to another head in the CP-domain, the low Top°, which attracts the verb when the subject is informationally new.

The head status of *ka* may then spread to the more complex monosyllabic question words *kor* and *kem*. A factor contributing to this spread may be found in child-directed speech. In Table 5.8 we saw that *ka* is the *wh*-word most frequently used with non-V2. This is also by far the most frequent *wh*-word in the corpus, accounting for as much as 68.3 per cent (2068/3029) of all questions with monosyllabic *wh*-words, while *kor* 'where' is represented 14.2 per cent (429/3029) and *kem* 'who' 17.6 per cent (532/3029). This means that, as soon as the first step of the development has taken place, it affects a large proportion of adult production. And as this development spreads in the population, this results in a considerable statistical shift towards non-V2 in the input to children. Thus, Head Preference and frequencies in

child-directed speech are factors contributing to the development from a consistent V2 grammar (still present in the standard language) to a mixed V2 grammar (Grammar 2 in Table 5.7).

As shown in Section 5.4.1, the choice of the two word orders in the mixed grammar is dependent on patterns of information structure, and over time this may cause what has been called an 'information-structure drift' (Westergaard 2005*a*, *b*). This means that as the mixed grammar spreads, the word order which is linked to informationally given subjects should naturally increase, since subjects generally tend to be given information. In a sample of child-directed speech from the corpus investigated for subject shift constructions (Westergaard, 2008a), as much as 83.3 per cent of subjects are pronouns (35/42). A similar percentage is found in the corresponding environment in the child data, 89.7 per cent (191/213).[4] As it is non-V2 which is linked to discourse-old subjects (often pronouns), this leads to a natural development in the direction of this word order in the E-language in general. Information-structure drift thus contributes to a statistical shift in the frequency of the two word orders in the PLD, and ultimately to a development from the mixed V2 grammar (Grammar 2) to a default non-V2 grammar (Grammars 3 and 4).

In Grammar 3 there is still a distinction between monosyllabic and longer *wh*-elements, which must be a relatively stable situation as this is found in a number of Norwegian dialects. However, in certain dialects non-V2 also spreads to questions with disyllabic question words and then finally to full *wh*-phrases (Grammar 4). This may be linked to language contact, as in the Nordreisa/Kåfjord case (Sollid 2003), but as this change has also taken place in other dialect areas, there may be additional causes. One possible candidate is again lack of frequency in the input. A speech sample from three adults in the corpus, investigated in Westergaard (2007, 2008b), indicates that monosyllabic *wh*-words are much more frequent than longer *wh*-phrases in typical child-directed speech, accounting for 96.2 per cent (176/183). Even though the distinction between short and long *wh*-words may be a natural one (see below), so that children do not necessarily overgeneralize word order from one category to the other, the low frequency may nevertheless make this distinction vulnerable.

In terms of I-language changes, the disyllabic *wh*-elements may be considered to be heads in the new grammar, while this is not possible for full *wh*-phrases. This means that the final stage of the development must be

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[4] The corresponding figure for objects in environments for object shift in the same sample is 27.3% pronouns (3/11) in the adult data, and only 13.5% (35/259) in the child data.

caused by another small I-language catastrophe, viz. the complete loss of verb movement to the Int° head. However, these catastrophic changes in the internalized grammar of speakers will also be masked by verb movement still occasionally applying to the low Top° head, which then accounts for the survival of V2 in certain cases.

In this diachronic scenario in which apparent gradualism is considered to be the result of many small changes, there may be a variety of causes for these 'micro-catastrophes'. These causes may be interrelated and work in the same direction, eventually causing more major catastrophes, but there is nothing in the model that makes this necessary. That is, except for certain general preferences for economy in child language, such as Head Preference, there is not assumed to be any historical drift that spans several centuries, as each generation of children only has access to the immediately preceding stage. This means that change may in principle also be reversed.

Some support that this diachronic scenario is a plausible development can be found in other languages, where similar minor distinctions are syntactically relevant. For example, according to Poletto and Pollock (2004), certain Northern Italian dialects make a distinction between short and long *wh*-elements with respect to so-called doubling configurations, and it is argued that the short ones are *wh*-clitics. There also seems to be a distinction between the word corresponding to 'what' and all other *wh*-elements in several Romance languages, e.g. in French, where only the former requires Stylistic Inversion or Subject Clitic Inversion.

Similar evidence is also found in Germanic languages. In Bayer and Brandner (2008), it is shown that there is a gradient distinction between the simplest *wh*-words, some slightly more complex ones, and full *wh*-phrases with respect to the 'doubly filled COMP' phenomenon in some German dialects, the insertion of *daß* 'that' being more acceptable the more complex the *wh*-element is. As for the special status of 'what', Bayer (2004) shows that while the Bavarian dialect generally allows doubly filled COMPs, *wos* 'what' is different from all other *wh*-elements in that it is completely ungrammatical with *daß* 'that', and he suggests that 'what' is maximally underspecified and lacks features such as N, Case, etc.

Thus, grammars where there is a separate syntax for certain *wh*-elements compared to others are clearly possible, as these differences presumably refer to relevant and principled distinctions between clitic-like, weak and strong forms (Cardinaletti and Starke 1999). This predicts that these distinctions should be easily learnable by children. And this indeed seems to be the case. In Westergaard (2003), it is shown that the mixed word order found in questions with monosyllabic *wh*-elements in the Tromsø dialect is attested

early in child language. Moreover, the child data display the same subject and verb preferences as in adult speech, which suggests an early sensitivity to information structure. A further study of the corpus reveals that questions with the long *wh*-elements, although they appear somewhat later than the short ones, are generally produced only with target-consistent V2. Finally, the children also seem to be sensitive to the frequency differences between *ka* 'what' and the other monosyllabic *wh*-elements, producing considerably more non-V2 with this question word. Thus, children are clearly capable of acquiring several different V2 grammars, although the distinctions between them may be vulnerable to change due to factors such as Head Preference and frequency shifts in the input.

5.6 Summary and conclusion

In this study I have argued that V2 word order is the result of many micro-cues that involve different clause types or syntactically relevant categories such as subject and verb type or class of the initial element. This means that there are many V2 grammars and that word-order variation within the same language does not make it necessary to refer to grammar competition between two parameter settings. Child language data show that children easily acquire mixed V2 systems, and this is explained in a model where children make a selective search for word-order cues in different clause types, simultaneously distinguishing other relevant categories and subcategories such as clitic-like or strong *wh*-elements. Within this model of micro-cues, language change typically occurs in small steps, reflecting new settings of various microparameters. Investigating microvariation in *wh*-questions in a corpus of spontaneous speech in dialects of Norwegian, I have argued that the diachronic development from V2 to non-V2 has started with the least complex *wh*-element, *ka* 'what', in accordance with a general tendency for economy in child language (Head Preference). This has then spread to the other monosyllabic *wh*-words, then to the disyllabic ones, and finally to the full *wh*-phrases. As there are many steps in this development, there may also be a variety of causes, e.g. the frequency of the individual *wh*-elements in child-directed speech. This study shows that, by investigating microvariation in historical or present-day data, we may be able to identify what looks like gradualism as really a set of 'micro-catastrophes'.

Part II

External and internal sources of morphosyntactic change

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6

Feature economy in the Linguistic Cycle

ELLY VAN GELDEREN

6.1 Introduction

It has long been recognized that language change is cyclical, e.g. by Bopp (1816), von Humboldt (1822), and more recently Tauli (1958) and Hodge (1970). The most well-known case is that of the Negative Cycle, where in Old English the *ne* negative is reinforced by a negative DP *na wiht* 'no creature' which then takes over from *ne* in grammaticalized form, i.e. as *not*. Grammaticalization is a factor in the linguistic cycle, but not the only one. Language-external factors, such as prescriptivism, also play a role and can be seen as a 'chance' factor, as Lightfoot (1979: 405) puts it. In this chapter, however, I focus mainly on the internal changes by using Minimalist Economy Principles, mainly the Principle of Feature Economy. In my framework, most language change is determined by the interaction of the grammar-constructing principles of the learner and the language s/he encounters, not through a changing input, or cues.[1]

The outline is as follows. In Section 6.2, I provide some examples of a cycle. In Section 6.3, Minimalist Economy Principles are discussed and in Section 6.4, I show how these principles account for certain cases of grammaticalization. In Section 6.5, the Economy Principles are reformulated in terms of features.

6.2 The Linguistic Cycle: negation and agreement

As mentioned, Hodge (1970) chronicles some full cycles in the history of Egyptian going from a stage with little morphology to one with a great deal and then back again. Unidirectional grammaticalization followed by renewal is

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[1] This particular formulation is due to an anonymous referee.

TABLE 6.1 The English Negative Cycle

a.	no/ne		early Old English
b.	ne	(na wiht/not)	Old English, especially Southern
c.	(ne)	not	Middle English, especially Southern
d.	not		late Middle English
e.	n't	(no thing)	many varieties

of course the major aspect of this change. The existence of such cyclical change has also been denied, e.g. by Jespersen (1922: ch. 21) and more recently by Newmeyer (1998). Jespersen's claim is that languages always 'progress' towards more analytic stages and Newmeyer is sceptical about grammaticalization. In fact, the present situation where research into the cycle is concerned is not much better than in 1972, when Lakoff writes regarding cycles that:

there is no mechanism within the present theory of transformational grammar that would allow an explanation. But the historical syntactician should be aware that such things exist, and that it is the duty of his field to search for an explanation. (Lakoff 1971: 173–4)

In this section, I'll give a few instances of cyclical change before going into their explanation in Section 6.3. I'll first briefly present the basic facts for the already mentioned Negative Cycle in English and then go on to provide examples of partial cycles from Sami and Athabaskan. Then, I discuss typical effects of the subject-to-agreement cycle. I discuss the history of French but many such cycles are known.

In the history of English, the negative has gone through the stages of Table 6.1. This is a rough picture. See e.g. van Kemenade (2000) and Ingham (2005, 2006) for more in-depth work.

In the earliest English we have available, stage (a), there is either an initial adverb (*no, na, næfre*) or a head *n(e)*, as in (1) and (2), to indicate negation. This head can be a clitic on the verb as in (2):[2]

(1) Men **ne** cunnon secgan to soðe...hwa
　　 Man not could tell to truth...who
　　 'No man can tell for certain ... who'　　　　　　(*Beowulf* 50–2)

(2) **nis** þæt seldguma wæpnum geweorðad
　　 not-is that hall-man with-weapons adorned
　　 'That is not an (ordinary) hall-man, adorned with weapons'
　　　　　　　　　　　　　　　　　　　　　　　　(*Beowulf* 249–50)

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[2] The sentences that I have found using the *OED* will just be given with their year of appearance. For the other sentences, see the list of Primary Sources.

In late Old English, i.e. stage (b), it may be that the negative *ne* is weakened in some way and a negative nominal in argument position is used to strengthen the negative meaning, as (3) shows, with a tree as in (4). In earlier stages, the negative nominal would have been a positive *sum þing* 'a thing':

(3) **ne**   fand   þær   **nan**   þing   buton   ealde   weallas   &
     not   found   there   no   thing   except   old   walls   and
     wilde   wuda
     wild   woods
     'He found there nothing but old walls and wild woods'
                    (*Peterborough Chronicle*, addition to year 963, Thorpe 220)

(4)

```
           CP
          /  \
             C'
            /  \
          C    NegP
              /    \
        ne fand    Neg'
                  /    \
               Neg      VP
             ne fand   fand nan þing
```
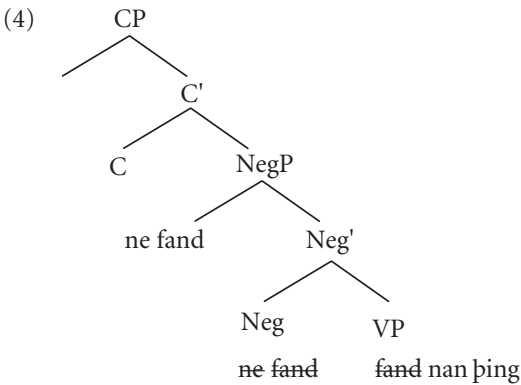
Stages (c) and (d) reanalyse the object argument *nan thing* as a negative adverbial *not* and stage (e) has *not* starting to contract with the auxiliary in late Middle English, just in the same way that *ne* did in Old English (4). This calls for reinforcement by a negative argument, as in *I didn't see nobody*, but is stopped in most varieties by prescriptive grammar. Instead, *never* is used to avoid this problem, i.e. is a renewal strategy (see e.g. Anderwald 2002).

Many Indo-European languages have witnessed a Negative Cycle. Jäger (2008; this volume) discusses the history of German. Cowgill (1960) shows that the Greek negative *ou* derives from a reconstructed *ne oiu kʷid* [not life anything] 'not ever/not on your life'. It first loses *ne* and becomes *oiukid*, and then further weakens to *oukí* and *ou(k)*. I'll now turn to lesser known languages. 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', we can use different branches of language families and stages of cycles. Regarding negation, there is evidence from Finnic and Sami, Athabaskan (see below), Eyak, Tlingit, Haida (van Gelderen 2008a), Salish (Déchaine and Wiltschko 2003), Iroquoian (Mithun 1994), Afro-Asiatic (Fischer 1982), and Chinese (Wu 2005).

Most Uralic languages, Finnish and Sami among them, have a negative auxiliary which indicates negation and may mark person, number, tense (past and present), and very infrequently mood. Tauli (1966: 172–8) and Payne (1985: 215ff.) provide very good overviews of negation in Uralic. Tauli provides examples of how the negative auxiliaries in these languages are tending towards becoming uninflected particles, based on the third-person singular form. For instance, (North) Estonian *ei* is invariant. None of these works focus on renewal. I will just look at Sami and Finnish and focus on the cyclical aspect of the changes.

Sami, a group of languages spoken in Northern Scandinavia, has an inflected negative, as in (5ab):

(5) a. **Ih**   guarkah   Southern Sami
        NEG-PRES-2SG   understand
        'You don't understand'

     b. **Idtjih**   guarkah   Southern Sami
        NEG-PAST-2SG   understand
        'You didn't understand' (from Bergsland 1994: 44)

These sentences show that the Negation is a head -*i*, moving to T and AGR, as in (6), and possibly to C (the latter movement not indicated in (6)):

(6)
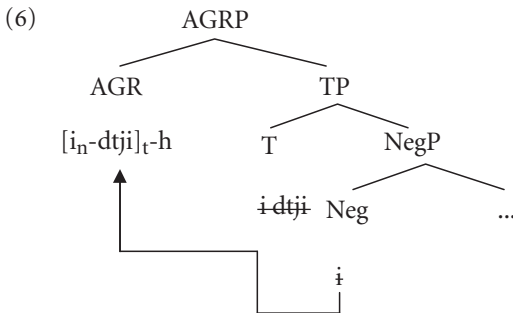
As is worked out in van Gelderen (2008a) in more detail, due to syncretism of the features, one might expect a reinforcement of the negative by another negative element in the Specifier of the NegP, and this is definitely true in Northern Sami, as (7) shows:

(7) In   leat   **goassege** dahkan   dan   Northern Sami
     NEG-1SG   be   never   do-PART   it-ACC
     'I have never done that' (Trosterud p.c.)

Athabaskan, an otherwise very uniform family, displays amazing variety where negation is concerned. Many languages of this family have a discon-

tinuous negation of one element outside the verbal domain or one (or two) inside or both. An example from the Alaskan Athabaskan language Ahtna is given in (8a) where *'ele'* derives from the verb 'not to be' (Leer 2000) and the negative suffix is probably an older incorporated form. Sentence (8b) from Bearlake shows just the negative auxiliary *yíle*, related to *'ele'*:

(8) a. **'ele'** k'est'aaze   Ahtna
        NEG   it-NEG-cut-NEG
        'He isn't cutting it' (Kari 1990: 123)

     b. bebí   nedá   **yíle**   Bearlake
        baby   3-heavy   NEG
        'The baby is light' (Rice 1989: 1101)

To see how very closely related languages differ, compare Lower Tanana (9), an Alaskan Athabaskan language, where for convenience all morphemes are marked,[3] and (10), from the neighbouring Upper Tanana:

(9)   ten**dh**ghaaghetlten**ęę**   Lower Tanana
      t + n + dh + gh + gh + es + ł + ten + ęę
      FUT QUA NEG QUA QUA 1SG CAUSE ice NEG
      'I won't freeze it solid' (from Kari 1993: 55)

(10) **k'aa** tinaktän   Upper Tanana
      NEG   I-freeze-it-solid
      'I won't freeze it solid' (from Kari 1993: 55)

In the more innovative Upper Tanana (10), the inner negative and suffix head are lost and the outside negative shows reinforcement through *k'a(a)*. The *k'a* could be a mix of an emphatic and verb similar to Ahtna *'ele'* according to Kari (1990). In this chapter, it is impossible to give all the details of negation in all these languages (see van Gelderen 2008a) but the evidence for a Negative Cycle is manifold:

(a) The variability of the negative that precedes the verbal complex indicates that it is of more recent origin, *e.g. k'aa* in (10) but *do(o)* in many Eastern and Southern Athabaskan languages.

(b) The loss of the suffix head (-*dh*-) is typical for the cycle. This occurs in Upper Tanana and is accompanied by the use of a new specifier *k'aa*.

I'll now turn to the Agreement Cycle. This involves an emphatic topic pronoun being reanalysed as a regular subject pronoun and then as a clitic

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[3] QUA stands for 'Qualifier'.

TABLE 6.2 Changes in French first and second person singular pronouns (from Harris 1978: 117 and Schwan 1925: 179–80)

	Old French Emphatic	Regular	>	Modern French Emphatic	Regular
Subject	je/tu	zero		moi/toi	je/tu
Oblique	moi/toi	me/te		moi/toi	me/te

and affix and then being lost. The history of French shows all the stages. Old French has a special set for emphatic and non-emphatic pronouns. Non-emphatic subjects are null pronouns and first- and second-person emphatic nominatives are *je* 'I' and *tu* 'you'. The Old French oblique emphatics are *moi* 'me' and *toi* 'you'. After the loss of pro-drop, the emphatic nominatives *je* and *tu* become the regular subject pronouns and *moi* and *toi* become the emphatic for both nominative and oblique. The two stages are represented in Table 6.2.

As is well-known, in modern colloquial French, the first- and second-person pronouns *je* and *tu* are clitic pronouns, not separable from the verb and in some varieties the third-person pronouns are as well. The emphatics, e.g. *moi* in (11) and *lui* in (12), are becoming obligatory:

(11)   **Moi,** j'ai pas vu ça.   Colloquial French
       'I,   I   haven't seen that'

(12)   et on voit que **lui** il n'apprécie   Colloquial French
       And one sees that him he not-appreciates
       pas tellement la politique
       not so   the politics
       'and it can be seen that he doesn't appreciate politics that way' (LTSN corpus, p. 15–466)

However, this usage is 'frowned on' by prescriptive grammarians and not taught in schools or used in formal writing.

Apart from the negative and agreement cycles, other cycles are frequent. I will just list them here briefly. Relative pronouns are often renewed as are other complementizers after having undergone grammaticalization. Some examples of this are given in Section 6.3. Aspectual distinctions undergo cyclical change from adverb to verbal affix to loss. Copulas and articles are also frequent parts of cycles (see e.g. Lyons 1999; van Gelderen 2007). The main ingredients to these cycles are:

(a) lexical elements that are base-generated early on are reanalysed as functional categories and merged later in the derivation;

(b) full phrases are reanalysed as heads. I'll now formulate a way to account for the cycles within a Minimalist framework.

6.3 Economy in Minimalism

As a syntactic approach, I assume a recent Minimalist framework, namely Chomsky (2004, 2006). A basic derivation selects items from a lexicon, merges these items, moves them (= Internal Merge), and has Agree. The latter is triggered by uninterpretable features on probes. There are two levels, namely SEM and PHON, that interact with the Conceptual-Intentional and Sensory-Motor Interfaces. Within early Minimalism, there are Economy Principles such as 'Last Resort', 'Least Effort', and also 'Merge as Late as Possible' (e.g. Chomsky 1995; Zwart 1996; and Collins 1997*a*). Economy Principles guide the language learner in constructing his or her internal grammar.

One of the problems with some economy principles is that derivations have to be compared for optimal economy and that this itself is not economical (see Reinhart 2006: 2–5). The Economy Principles I advocate here are general cognitive ones, in keeping with current thinking to keep innate principles special to language as small as possible: '[h]ow little can be attributed to UG while still accounting for the variety of I-languages attained, relying on third factor principles?' (Chomsky 2007: 4) I assume two preference principles (both from van Gelderen 2004*a*). In a later section, I will rephrase these in terms of Feature Economy:

(13) **Head Preference Principle (HPP):**
Be a head, rather than a phrase.

(14) **Late Merge Principle (LMP):**
Merge as late as possible.

In accordance with the HPP, a learner's internalized grammar analyses a pronoun as a head rather than a specifier, if given an ambiguous triggering experience. We have seen in the previous section that emphatic pronouns (XPs since they can be modified and coordinated) in the history of French become heads, after which they are renewed by other emphatic specifiers.

Another example of the HPP is the preference in many languages to use a complementizer head in a relative, rather than a relative pronoun in specifier position. For instance, many varieties of French use an invariable *que* 'that' in a head position, as in (15a), rather than a variable *qui/que* that would be in the specifier position and Persian *ke* 'that' has an indeclinable head, shown in (15b), identical to the complementizer:

(15) a. Les enfants **que** jouent là   Colloquial French
      the children who play   there
      'The children who are playing there'

    b. mardi **ke** didam   Persian
      man   that saw-1SG
      'The man that I saw'

In English, the same tendency is obvious in the use of relative *that* over *who/whom/whose/which*. In fact, there was an interesting change between Old and Middle English of the relative pronoun system where the relative in the specifier position was internalized as a head. In Old English, many kinds of relatives occur, for instance, relatives that are demonstratives with a complementizer *that/the*, as in (16a), or with just the demonstrative, as in (16b), or just the complementizer, as in (16c), or marked through a prepositional phrase, as in (16d):

(16) a. And Æðelnoð munuc, **se þe** wæs decanus æt Cristes cyrcan, wearð
      ...to biscope   (*Peterborough Chronicle*, year1020.6)
      'And monk Athenod, who (that) was dean at Christ's Church
      became...bishop'

    b. ðonne cymeð se man **se þæt** swiftoste hors hafað   (*Orosius*, 17.22)
      'Then comes the man who has the fastest horse'

    c. Ic geseah þa englas **þe** eower gymdon   (Aelfric, *Homilies I* 66.35)
      'I saw the angles who took care of you'

    d. þæt is seo lufe **embe þæt** he wite... (Alfred, *Soliloquiorum* 341: 32)
      'that is the love he knows'

By Middle English, the specifier options have disappeared, i.e. (16a,b,d), due to the HPP. Then, there is a renewal for external reasons and from external sources. This can be seen from the types of texts it first appears in, namely those influenced by French and Latin. This resulted in the *wh*-relative now used in formal/written English. The renewal first happens in letter-closings in the early part of the fifteenth century only in the use exemplified in (17), but is extended in the second part of that century:

(17) be the grace of **God, who** haue yow in kepyng
    'by the grace of God, who keeps you' (*Paston Letters* 410, Davis p. 655).

In Modern English, estimates are that the use of the *wh*-relative is very low in spoken but not in written English. English speakers prefer a *that*-complementizer over a *wh*-pronoun in relative clauses, by at least a 4 to 1 ratio

(e.g. Montgomery and Bailey 1991; van Gelderen 2004*a*, etc.), an indication of the existence of prescriptive rules favouring specifiers and hence the occurrence in formal styles.

As to language acquisition, relatives are also acquired according to the Economy Principles. For instance, children use a *wh*-relative very infrequently. Diessel (2004: 137) shows, on the basis of four children, that when these 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. This shows children avoid phrases completely (even the 6 instances of *who* are heads). The percentages are 56 per cent *that*, 42 per cent zero, and 2 per cent *who*. In the CHILDES- Kuczaj corpus, Abe, age 4–5 produces 82 per cent *that*, as in (18a), and 18 per cent *wh*-, as in (18b). There is, however, no evidence that the *wh* is not a head since *whom/to who* do not occur:

(18)   a. **a dragon that** was this little (Abe, 4;0.16)
       b. You know **the round part where** they dig (Abe 4; 1.5)

The second Economy Principle, the LMP, Late Merge, or Move over Merge can be formulated as follows, 'all else being equal, wait to merge'. For instance, it is suggested by Chomsky (1995: 348) that Late Merge accounts for the presence of expletive subjects over raising; the principle is used by Fox (2002) to account for Antecedent Contained Deletion and by Bhatt and Pancheva (2004) for the scope of degree clauses. Both Roberts and Roussou (2003) and van Gelderen (2004*a*) use it to account for grammaticalization. The former suggest a change from $F^\star_{move}$ to $F^\star_{merge}$ (which is parametric) and the latter suggests that, if a lexical item is not relevant to theta-theory, it can merge late.

Later Minimalism (e.g. Chomsky 2004) assumes that, due to the Inclusiveness Condition, movement cannot introduce new elements. Traces are therefore abandoned in favour of a copy and delete system and Move is replaced by Internal Merge (or remerge) and not seen as uneconomical. In this chapter, I show that there are real Late Merge effects in language change and acquisition and I will argue that the effects of the Late Merge Principle can be realized using the idea (present since Borer 1984) that cross-linguistic variation is in the lexicon and that syntax is inert. If so, all variation is in the lexicon and the difference between a preposition and a complementizer and between a verb and an auxiliary can be seen in terms of features. Feature loss, I argue in Section 6.5, can then be responsible for certain grammaticalizations. One could think of feature loss as happening in the numeration, as a 'Numeration Sloppiness', or in the lexicon. I will suggest the latter.

Examples of Late Merge in language history are extremely numerous. The English negative nominal object that is reanalysed as a negative adverb in

NegP in (3) above is one example. Below, I will give an example of a PP adverbial that is reanalysed as a sentence connective. Initially, sentences with an initial PP headed by *after* are main clauses and the PP can be seen to be topicalized since it is a VP-adverbial. This topicalization makes a connection to the previous sentence. Many of the Old English (written) records are more paratactic than Modern English, but these topicalizations allow a reanalysis of the VP adverbial as a sentence connective and of the clause they belong to as an embedded clause.

The preposition (and adverb) *after* has always been in the English language. As part of a preposition phrase, it functions as a VP-adverbial of time inside the VP, as in (19):

(19) Fand   þa   ðær   inn   æþelinga gedriht swefan   **æfter symble**
      found   then there in   noble   company sleeping after feast
      'He found therein a company of nobles sleeping after their feast'
                                                              (*Beowulf* 118–19)

The way the use of *after* as a complementizer developed is that first the PP headed by *after* was fronted, as in (20), and the object of the preposition became a 'bland' demonstrative, as in (21):

(20) a. Her Leo se æþela papa & se halga forþferde, & **æfter him** Stephanus
         feng to rice.
         'In this year, Leo the noble and holy pope died and after him,
         Stephen started to rule'   (*Chronicle A*, year 814 [816])

      b. & þær wearþ Heahmund biscep ofslægen, & fela godra monna; &
         æfter þissum gefeohte cuom micel sumorlida.
         'And there was Bishop H. killed and many good men, and after
         this fight came many summer troops'   (*Chronicle A*, year 871)

(21) a. Her forðferde Wulfstan diacon on Cilda mæssedæge
         7 **æfter þon** forðferde Gyric mæsse preost.
         'In this year died Wulfstan . . . and after that died Gyric the priest.'
                                                        (*Chronicle A*, year 963)

      b. [Æfter þysan] com Thomas to Cantwarebyri
         'After this, Thomas came to Canterbury'
                                                       (*Chronicle A*, year 1070)

After this fronting, the PP could be reanalysed as a clause linker and the clause to which it belonged as an embedded adverbial clause.

The gradual change towards higher base generation of the PP can be shown by comparing the parts of the *Anglo-Saxon Chronicle* done by different

TABLE 6.3 Percentages of PP fronting and of demonstrative objects (Dem) with *after* in *Chronicle A*

	before the year 892	after 893
Fronting	7/26 = 27%	12/22 = 55%
Dem	2/26 = 8%	17/22 = 77%

TABLE 6.4 Grammaticalization of *after*

a.	PP	P̶P̶	900 (Chronicle A) - present
b.	PP (*that*)		950 (Lindisfarne) - 1600 (*OED* 1587)
c.	P *that*		1220 (Lambeth) - 1600 (*OED* 1611)
d.	C		1360 (Wycliff) - present

scribes in different time periods. The percentages of fronting (which sets the stage for Late Merge) in two different stages, are given in Table 6.3; the numbers of nondescript prepositional objects is also given.[4]

There is a period where *after that* conjoins clauses, as in (22), but after 1360, *after* is a complementizer on its own, as in (23ab), reanalysed as a head:

(22) **After that** Raleigh had Intelligence that Cobham had accused him, he endeavour'd to have Intelligence from Cobham (*The Trial of Sir Walter Raleigh*, I 208)

(23) a. **Aftir** he hadde take þe hooli Goost (*c*.1360 Wyclif, from the *OED*)
　　 b. **After** thei han slayn them (1366 Mandeville, from the *OED*)

The stages from VP-adverbial, to topicalized adverbial, to reanalysed higher adverbial, to complementizer are represented in Table 6.4.

What is the status of the Economy Principles? I argue that they are part of the cognitive system and help learners construct a grammar. Similar to principles such as c-command, they remain active in the internalized grammar and therefore also aid speakers in constructing sentences. They aren't absolute: if there is evidence for a pronoun to be both a phrase and a head, the child/adult will analyse it initially as a head unless there is also evidence in the grammar (e.g. from coordination) that pronouns also function as full DPs. Preposition Stranding, for instance, can be seen as due to a 'Move as little as possible' Economy Principle, but it isn't absolute. Even in spoken English, there is an occasional preposition that has moved along. Some

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[4] The *Anglo Saxon Chronicle* describes the years from Julius Caesar's invasion to the years around and after the Norman Invasion of 1066. *Chronicle A* goes to 1070 and is written by one scribe 'Hand I' up to 892. After 892, there is a variety of hands.

estimate (Montgomery and Bailey 1991: 156) that in formal spoken English 14 per cent of prepositions are not stranded in relative clauses. The reason that the ultimate change is slow is that there are prescriptive factors that favour phrases over heads, e.g. prohibition against stranding prepositions, the rule of using relative *who/m* over the head *that*.

Having introduced two principles that account for internal change, I now show how part of the linguistic cycle is accounted for by them.

6.4 Grammaticalization as economy and the cycle as economy and renewal

Grammaticalization is a process whereby lexical items generally lose phonological weight and semantic specificity and gain grammatical functions. This can be seen in the case of relative *that* which in Old English is grammaticalized from a neuter demonstrative (see van Gelderen 2004*a* for more detail). As demonstratives, the relatives are originally in the specifier position but by Middle English, they are reanalysed as heads. Renewal comes from an external source through *who*.

So, the two principles just mentioned account for grammaticalization e.g. from specifier to head. How are they responsible for cyclical change? Let's see what happens when we combine the effects of the HPP and the LMP. In Fig. 6.1, a Spec(ifier) can be reanalysed as an X head (HPP) and the Specifier position can be filled by a phrase from a lower domain (LMP):

This scenario works perfectly for changes where a negative object such as Old English *na wiht* 'no creature' becomes a Spec (LMP) and subsequently a head *not* of a NegP (HPP).

A stage not yet accounted for is the shift to zero, as in the case of negative heads, e.g. Old English and Modern French *ne* and *n't* currently in many varieties of Modern English, the Modern English relative *that*, and Old English aspectual prefixes. The main reason for head deletion is that head movement of other heads, e.g. the auxiliary moving via the Neg(ative) head
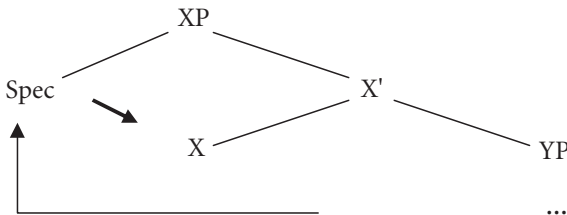
FIGURE 6.1 The linguistic cycle

to C, may lead to Feature Syncretism (where one word has two functions). Words such as *won't* and Old English *nis* 'not-is' tend to be reanalysed as expressing only one feature. See Faarlund (2008) who argues for a principle as given in (24), which I will refer to as Iconicity:

(24) **Null hypothesis of language acquisition**
      A string is a word with lexical content.

Faarlund explains that '[i]n 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 coherence) at a certain point':

(25) ///   > //   > /
      halli///hino > hall//inn > *hall/en   Stages of Norwegian
      stone this   stone the

These three principles are not sufficient to account for the entire cycle. For instance, there are a number of changes where a new element comes from outside of the sentence, for pragmatic reasons, e.g. a demonstrative *that* being incorporated into the CP to indicate subordination, as happened in the history of Germanic, and an emphatic topic pronoun becoming the subject (in Spec TP), as happened in the history of French. Therefore, I will argue that there is a principle that incorporates (innovative) topics and adverbials in the syntactic tree:

(26) **Specifier Incorporation (SIP)**
      When possible, be a specifier if you are a phrase.

In conclusion, I have discussed four Economy Principles that account for the different linguistic cycles. The linguistic cycle most extensively discussed is that of the preposition *after*, reanalysed in accordance with LMP and HPP. I will now show how these principles can be reformulated in terms of Feature Economy.

6.5 Feature Economy

In this section, I'll rephrase the Economy Principles in terms of Feature Economy. Since the Principle of Late Merge is quite theory-dependent and emphasizes the derivation rather than the lexicon, I will rephrase it and the HPP in terms of Feature Economy.

  Three kinds of features are seen as relevant, namely uninterpretable phi-features on the Probe, uninterpretable structural Case on the Goal, and EPP/OCC on the Probe (see Chomsky 2004: 116). Each language learner decides

on the basis of the language s/he hears which features to include. Using these features, a derivation proceeds as follows. Lexical items are selected (as a lexical array) from the lexicon to be accessed in the derivation. Merge then takes two items and puts them together, initially through External Merge (the vP shell).

After probes such as T and v are merged, these probes examine their c-command domains, and agree with the closest DP. This operation values these probes' unvalued phi-features, and in turn values the uninterpretable Case on the DP, as in the simplified (27). This valuation is indicated by 'strike through':[5]

(27)
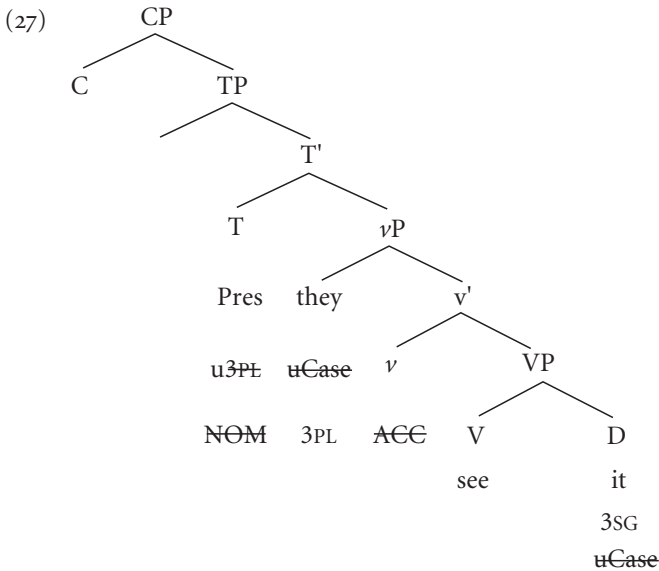
The EPP/OCC feature ensures Internal Merge to certain positions, but is not relevant to this chapter and hence, it is not indicated in (27). I am assuming the case on the probe is interpretable.

Having given some background on features, we can now proceed to reformulate the HPP, LMP, and Iconicity in terms of feature loss. I will start with the LMP and discuss the changes involving *after* as Feature Economy.

A preposition such as *after* has semantic features (e.g. [time, order, past]) and phonological ones (two syllables, etc), not accessible during the derivation, as well as formal features, accessible during the computation. In

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[5] u stands for 'uninterpretable'.

Chomsky (1995: 230–2), the formal features include categorial, Case, and phi-features. In later work, following Marantz (1997), lexical items are seen as not specified for category but as roots that are nominalized or verbalized through Merge. I assume that prepositions are probes and this means they have unvalued phi-features and value the Case of the DP in their domain:

(28)   PP
         /\
      P   DP
    after   UACC
    u-phi   3SG
    ACC
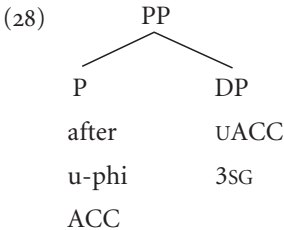
Thus, there is a formal uninterpretable and unvalued feature that makes prepositions into probes. This is the feature that is relevant for the derivation; other features are in fact a burden on the computational system. Language learners and users thus use (29) to eliminate [ACC] from the lexical item:

(29)   **Economy of Features**   (to be generalized)
        Minimize the interpretable features in the derivation.

With the interpretable feature removed, the structure will be as in (30), and the same for *like* and *for* (and a number of other prepositions). The uninterpretable, unvalued features of C will probe into the clause they c-command, and find a goal in the lower TP to value its phi-features. It is well known that CPs (as subjects) trigger third-person singular agreement on the verb. This is expected if the complementizer has phi-features (and these are overt in many languages). For more details, see van Gelderen (2008b):

(30)   CP
         /\
      C   TP
    after   3SG
    u-phi
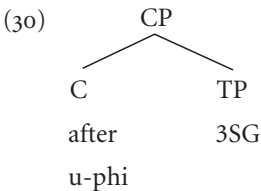
So far, (29) accounts for grammaticalizations of prepositions to complementizers, i.e. the LMP. Let's now add the HPP and Iconicity. The change in French (Section 6.2) from emphatic to pronoun to agreement marker can be seen as a change from an emphatic adjunct with semantic features (similar to full nouns) to uninterpretable phi-features on T probing for another element with interpretable features:

(31)   **Feature Economy (FE):**
  a. Adjunct > Spec   > Head > zero
  b. semantic > interpretable > uninterpretable

 The classical Negative Cycle in English (Section 6.2) is one where semantic negative features present in the negative DP are reanalysed, i.e. internalized by the language learner, as interpretable on the Specifier, and this is what the uninterpretable features on the Neg(ative) head check with. When the Specifier is reanalysed as a head, this means its features are uF, probing for other more semantic features. The other two instances of the Negative Cycle work similarly. Since an exact analysis of English relative pronouns in terms of features has not been made, I'll refrain from formulating the Relative Cycle (Section 6.3) in terms of features.

6.6 Conclusion

In this chapter, I have suggested that the grammaticalizations formerly seen as cases of Late Merge, e.g. in van Gelderen (2004*a*), and of Head Preference can be reformulated focusing on lexical rather than derivational characteristics. This results in a Feature Economy Principle that accounts readily for the grammaticalization from preposition to complementizer and from pronoun to agreement marker.

 Chomsky (2004, 2007) argues that we need to attribute as little as possible to UG and instead rely as much as possible on principles not specific to the faculty of language. Many Economy Principles, (31) included, fall into this latter category in that they reduce the computational burden.

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7

Sources of change in the German syntax of negation

AGNES JÄGER

7.1 Main syntactic patterns of negation

The main syntactic markers of negation in the history of German are the verbal clitic Neg° neg-particle *ni/ne*, the adverbial-like SpecNegP neg-particle *ni(c)ht,* and the n-words *nio/nie* 'never', *nioman/niemand* 'nobody', *ni(o)wiht/niht/nichts* 'nothing' etc.[1] Figure 7.1 shows the results of the investigation of a corpus from four Old High German (OHG) texts, viz. the OHG translations of Isidor (around 800) and Tatian (before 850), Otfrid's gospel book (863–871), and the Late OHG Psalter by Notker (before 1020), and three Middle High German (MHG) texts, viz. *Nibelungenlied* (1190–1200, ms. A in comparison with B and C), the *Prose Lancelot* (before 1250), and the sermons by Berthold von Regensburg (approx. 1275). Isidor and Tatian were analysed in their entirety. For the other texts, the first 100 negated clauses were included in the corpus.[2]

The size of the circles in the diagrams is proportional to the number of negated clauses containing the respective type of neg-marker, which is also given in total numbers in the lines below. Grey represents the Neg° neg-particle, black the SpecNegP neg-particle, and white the n-words. Overlaps indicate the extent of co-occurrence.

The Venn diagrams in Fig. 7.1 bring out perspicuously the main developments in the syntax of negation. In OHG, clauses were mostly negated by the Neg° neg-particle *ni* alone (in Late OHG *ne*) on the finite verb. On average 77

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[1] Apart from that, occasional negative complementizers (e. g. *nibu* 'unless'), disjunctions (e. g. *noh* 'nor'), and the special focus-indicating neg-particle *nalles* occur, which are not included in Fig. 7.1, so that the numbers for each text do not necessarily add up to the total numbers given. For a discussion of these rarer neg-markers see Jäger (2008).

[2] Isidor and Tatian contain 50 and 956 negated clauses, respectively. For a more detailed discussion of the corpus and methods see Jäger (2008).

Isidor (around 800)			Tatian (before 850)			Otfrid (863 - 871)			Notker (before 1020)		
Spec Neg	Neg°	n-word	SpecNeg	Neg°	n-word	SpecNeg	Neg°	n-word	SpecNeg	Neg°	n-word
0	46	2	0	873	63	8	93	6	4	88	12

Nibelungenlied (1190–1200)			Prose-Lancelot (before 1250)			Berthold von Regensburg (around 1275)		
Spec Neg	Neg°	n-word	SpecNeg	Neg°	n-word	SpecNeg	Neg°	n-word
49	26	43	56	44	43	57	7	52
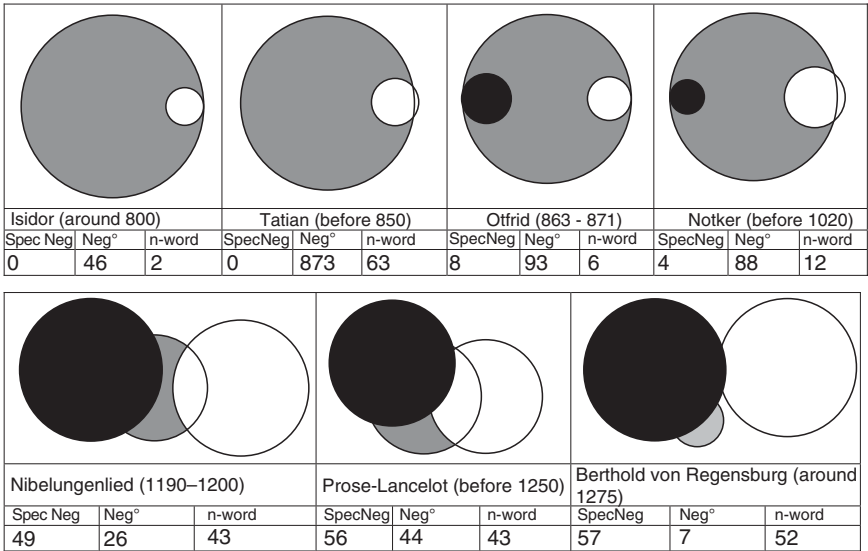
FIGURE 7.1 Proportion and co-occurrence of main types of neg-markers in OHG and MHG

per cent of all negated clauses in the OHG corpus contain this neg-particle as the only neg-marker,[3] with a slight decrease towards Late OHG. Very occasionally, an n-word is used, but virtually always co-occurring with Neg° on the finite verb. Beginning with Otfrid, a second neg-particle is grammaticalized from an adverbially used indefinite pronoun and occurs in a few negated clauses in addition to the Neg° neg-particle. In Otfrid, the morphologically non-negative indefinite pronoun *wiht* 'anything', adverbially 'at all', is used as a reinforcing second neg-particle in SpecNegP—a development that finds its continuation even today in some Upper German dialects using *it* (< *iht* < (*io*)*wiht*) as a neg-particle (see below). Notker, on the other hand, uses the original n-word *nieht* (< *ni*(*o*)*wiht*) 'nothing', adverbially 'in nothing'/'not at all' in this way. This formed the basis for the Modern Standard German neg-particle *nicht*. However, the Neg° neg-particle still has a clear monopoly in marking negation.

By the time of the MHG *Nibelungenlied*, the number of negated clauses containing Neg° *ne/en* has shrunk drastically so that this is already a minority pattern. In Berthold, Neg° hardly plays a role any more. Yet, there are still

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[3] Otherwise, the Neg° neg-particle co-occurs with other neg-markers such as n-words or occasionally a second neg-particle (cf. Fig. 7.1), or with the rarer neg-markers *noh* 'nor', *nalles* 'not', etc. not depicted here.

some rare cases where it even occurs as the only neg-marker in the clause - on average 4 per cent of the negated clauses in the MHG texts. Parallel to the decrease of Neg°, the SpecNegP neg-particle *niht* on the one hand, and n-words on the other hand, increase. Neg-marking a clause by means of either the SpecNegP neg-particle alone or by an n-word alone are the main syntactic patterns of negation in present-day German and were already the majority patterns in MHG with 36 per cent and 35 per cent on average, respectively, i.e. together making up over 70 per cent of negated clauses in the MHG texts. Interpreting the diagrams above as depicting a dynamic process, the area of Neg° is shrinking in the course of the history of German, while the new neg-particle *niht* as well as the n-words increase, and so to speak step out of the shadow of Neg°. In this chapter, I will argue that the main causes for the observed syntactic change lie in phonetic and lexical changes w.r.t. the neg-particle according to Jespersen's Cycle on the one hand, and in lexical changes in the feature make-up of individual indefinites leading to a change in the entire system of indefinites, on the other hand.

7.2 Development of the negative particle

7.2.1 *Change along Jespersen's Cycle*

As described by Jespersen (1917), the neg-particle in German and other languages develops in a cyclical fashion—a change that has since become known as Jespersen's Cycle. After a first stage in which the negative particle is a verbal clitic (cf. (1) and (2)) it is phonetically weakened (in German from a full vowel to schwa *ni > ne/en*) and reinforced by a second, verb-independent neg-particle that is grammaticalized from an indefinite or minimizer; cf. (3) and (4). The phonetic reduction of the original neg-particle continues until it disappears completely and the second particle is left as the only neg-particle at the third stage; cf. (5) and (6). This neg-particle may eventually be phonetically reduced to a clitic and undergo the cycle in turn—a development that has not yet taken place in German,[4] but can be observed in English *not/n't* or Haitian Creole *pas.*

Stage I: clitic neg-particle

(1) thaz thu irrímen **ni**   máht.   Ve (= verb-final)
     that you tell   NEG may
     'that you cannot tell'
     O I, 11, 52

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[4] Phonetic reduction of the neg-particle with no syntactic effect so far can be observed in Colloquial German [nɪçt] > [nɪç], and esp. in Saxon dialect [nɪ].

(2) sí   **ni** <u>mohta</u> inbéran   sin   V2
     she NEG could   do-without him
     'She could not do without him'
     O I, 8, 3

Stage II: clitic and free neg-particle

(3) daz   ich drîzic pfunt   **niht en**<u>naeme</u>   Ve
     that I   thirty pounds NEG   NEG-take
     'that I would not take thirty pounds'
     Bert I, 176 (p. 30)

(4) 'Ich   **en**<u>wil</u>   es **niht** erwinden,' sprach aber der
     I   NEG-want   it NEG   desist,   said   but   the
     chune   man.   V2
     brave   man.
     '"I will not desist," said the brave man'
     Nib III, 117, 1

Stage III: free neg-particle

(5) sit   wir ir   **niht** <u>erchennen</u>   Ve
     since we   them NEG   recognize
     'Since we don't recognize them'
     Nib (A) III, 84, 3

(6) Des   <u>ist</u> mir **niht** ze mvote   V2
     that is   me   NEG   to mind
     'That is not on my mind'
     Nib III, 61, 1

While all three stages are clearly evidenced in my historical data, one note-worthy result of the quantitative analysis is the fact that there is no evidence for a stable stage-II period in the corpus.[5] OHG is a stage-I language, with very occasional occurrences of the stage-II pattern in later OHG. In the MHG texts of *Nibelungenlied*, the *Prose Lancelot*, and Berthold, however, the use of *niht* alone is already far more frequent than that of the bipartitite neg-particle, in contrast to the usual characterizations of MHG. Most historical grammars and textbooks take the bipartite neg-particle to be the standard in

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[5] Additional investigation of the first 100 negated clauses from the Early MHG Wiener Genesis (1060–80) confirms this result and nicely shows the transition: It still resembles OHG in that Neg° is used far more frequently on its own than together with the SpecNegP neg-particle. The latter, however, increases in total number and occurs about as frequently on its own as together with Neg°, see Jäger (2008).

MHG, e.g. Wolf (2000: 1356): 'Im Mittelhochdeutschen ist die doppelte Negation *ne + niht* geradezu die Norm' ('In MHG, the double neg-particle *ne + niht* is really the norm'; cf. also Dal 1966: 164; Grewendorf 1990: 86; Schmidt 1993: 276; Paul 1998: 398f.). However, my corpus analysis reveals that only 13, 27 and 4 per cent of negated clauses contain *ne/en + niht* in the *Nibelungenlied, Prose Lancelot*, and Berthold, whereas the proportion of *niht* as the only marker of negation is at 35, 28, and 45 per cent, respectively. MHG is thus already a lot closer to Modern German w.r.t. the syntax of the neg-particle than has generally been assumed so far.

7.2.2 *Syntactic analysis*

Following Pollock (1989), neg-particles reside in a functional projection NegP above VP. Cross-linguistically, there is variation as to the phrase-structural status of neg-particles as the head and/or specifier of NegP (Ouhalla 1990; Haegeman 1995; Zanuttini 1997).[6] Modelling diachronic variation in analogy to cross-linguistic variation in line with Lass's (1997) Uniformity Principle, I assume the following syntactic structure for German (cf. Jäger 2005, 2008):

(7)   ... TP
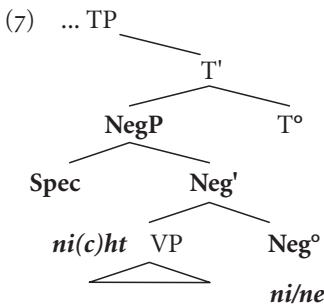
As a verbal clitic, *ni/ne* interacts in head chains, viz. verbal movement, and is thus the head Neg°, much like French *ne*. As the verb moves out of VP to any higher functional projection, it moves through Neg° according to the Head Movement Constraint and head-adjoins to *ni/ne* which moves along with it. Therefore, *ni/ne* is always bound as a proclitic to the finite verb, be it in V° or V1/V2 clauses, cf. (1)–(4).[7] Alternatively, one may assume that the complex of *ni/ne*+V is formed in the lexicon, and then checked in Neg°. At any rate, it is syntactically linked to the Neg° position.

[6] Other kinds of cross-linguistic variation that have been suggested include the selectional features of Neg° (selecting TP or VP; cf. Ouhalla 1990) and the number of NegPs (Zanuttini 1997).

[7] MHG *ne* may secondarily attach as an enclitic to an adverb or pronoun. However, this only occurs once it has moved along with the verb to second position, i.e. C°, and is generally rare. In my corpus, it only occurs in *Nibelungenlied*, e.g. *sin kvnde in baz descheiden niht der gvoten* 'She could not well conceal him from the good one' *Nib* (A) I, 14, 2.

Ni(c)ht on the other hand, does not interact with verb movement. It is in a fixed position in the topological Middle Field so that it occurs before the finite verb in Ve clauses (cf. 3, 5), but after it in V1/V2 clauses (cf. 4, 6) and generally before non-finite verb forms occupying the Right Sentence Frame (cf. 4). *Ni(c)ht* therefore occupies SpecNegP (cf. Büring 1994; Hauptmann 1994; Haegeman 1995 for Modern German). In line with the usual assumptions on the German INFL projection and the analyses by Büring (1994) and Hauptmann (1994) for Modern German, I assume a head-final NegP in German.[8] A head-initial NegP along the lines of Abraham (2003) would wrongly predict a consistently pre-VP placement of *ni/ne*+V even in Ve clauses. Further evidence for a head-final NegP comes from the attested word order of separable verbal particle (in V°)-*ni/ne*-Vfin:

(8)   daz   er   siê   fúrder/   <u>ána **ne**-sêhe</u>.
       that   he   her   further   at- NEG-look
       'that he would not look at her any more'
       N 9, 32 (11)

(9)
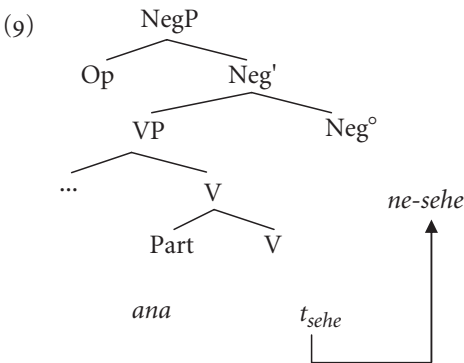
Crucially, SpecNegP *ni(c)ht* is placed left of VP which in turn may be emptied through scrambling (cf. Webelhuth 1990; Büring 1994). A position right of VP as suggested for Modern German in Grewendorf (1990) or at the right edge within VP as suggested for OHG/MHG in Abraham (2003) fails to predict the placement of *ni(c)ht* before VP-internal constituents such as PPs (cf. 6) or predicate nouns (cf. 10), and before non-finite verbs (cf. 4), as well as the finite verb in Ve clauses (cf. 3, 5).

(10)   daz   ist   **niht**   <u>gîtikeit</u>
       that   is   NEG   meanness
       'That is not meanness'
       Bert I, 256

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[8] Compare Haegeman's (1995) analysis of West Flemish with head-final Neg° hosting *en*.

My analysis further differs from the one by Abraham (2003) as well as that by Weiß (1998) for historical German, who both stipulate rather drastic spontaneous syntactic changes (e.g. from one to two NegPs and back to capture single vs. bipartite neg-particle, from VP-internal head-adjoined Neg° to an additional functional projection NegP etc.), in that I propose that the syntactic structure itself remains unchanged with a single functional projection NegP above VP and that only the lexical filling changes. This approach is based on the heuristic assumption of the Inertial Theory of syntactic change (Keenan 1998, 2002, this volume; Longobardi 2001*a*) according to which syntax does not change spontaneously and no syntactic change should be assumed unless it is absolutely necessary in view of the data. OHG, MHG, and Modern German are all neatly captured by the structure in (7) and no change in syntax proper need be invoked w.r.t. negation.[9]

Jespersen's Cycle in German and other languages can thus be reinterpreted as a change within the NegP from a stage where only Neg° was overt to stage II where an additional element was grammaticalized into the specifier of NegP so that both positions were filled until, at stage III, the head Neg° could remain non-overt and only the specifier was filled until it would finally be reanalysed as Neg° (cf. Rowlett 1998; Jäger 2005 and 2008; van Gelderen 2004*b* and this volume).

7.2.3 *Grammaticalization of the second neg-particle*

As discussed above, the German neg-particle *ni(c)ht* was beginning to be grammaticalized into the specifier of NegP in Late OHG. It originates in the OHG n-word *ni(o)wiht* (late OHG *nieht*) 'nothing' which could be used as a verbal argument but also clearly adverbially meaning 'not (at all)':

(11) Ih <u>nehábo</u>/ <u>niêht</u>   in geméitun sô uîlo   geuuêinot.
      I   NEG-have   not at all/NEG in vain   so   much   cried
      'I did not cry that much in vain'
      N 6, 11(= 20, 23f.)

This development resembles that of the equivalent n-word into the neg-particle in English (*nought/nawiht* > *not*), Dutch (*niet* > *niet*), Greek (*oudén* > *dén*), etc. The development in English has been explained in generative diachronic theory in terms of a change from movement towards Merge into SpecNegP (Roberts and Roussou 1999; van Kemenade 2000, van

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[9] For an analysis of English negation without a change in syntactic structure compare van Gelderen (2004*b*) in contrast to van Kemenade (2000). Lenerz (1984) and Axel (this volume) arrive at comparable results for other syntactic phenomena in the history of German, viz. subordinate clauses and verbal placement.

Gelderen 2004*b* and this volume: her principle 'Late Merge'). This analysis rests upon the assumption formulated in the Neg-Criterion by Haegeman and Zanuttini (1991) that n-words need to be in a Spec-head relation to a negative head, or in Minimalist terms need to locally check their neg-feature against that of the negative head. Thus the former object n-word meaning 'nothing' would move to SpecNegP for some period before learners lacking cues for this movement operation would reanalyse the item as being merged directly into that position. Applied to German on the basis of structure (7), the assumed development can be illustrated as in (12):

(12)
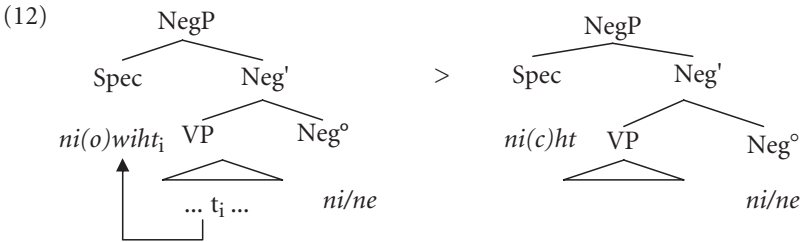
However, a number of issues arise from the Move-to-Merge analysis of the grammaticalization of SpecNegP. First, why was it exactly the n-word meaning 'nothing' that was grammaticalized? An obligatory movement to Spec-NegP for checking reasons would presumably hold for all n-words, not just for 'nothing'. One might expect that, for instance, the most frequent n-word would be grammaticalized. In my OHG corpus, this is *nioman* 'nobody' rather than *ni(o)wiht*.

Another problem for this analysis is the fact that, besides n-words, also negative polarity items (NPIs) were grammaticalized as SpecNegP. A well-known example is French *pas* (originally 'step'). Evidence from the history of German was already briefly mentioned above: Otfrid uses the original NPI-indefinite *wiht* 'anything'/'at all' as a reinforcer or second neg-particle:

(13) thaz ér mir hiar ni dérre,   ouh <u>uuíht</u>   mih ni gimérre.
      that he me here NEG let-wither also at all/NEG me NEG obstruct
      'that he won't let me wither here and not obstruct me at all'
      O I, 2, 30

Similarly, MHG *iht* (< *(io)wiht*), which is also still used as an argument indefinite 'anything' (cf. 14), occasionally occurs as a neg-particle, even as the only neg-marker in the clause (cf. 15):

(14) ob ich uff keynen uwern man <u>icht</u>   zu fordern
      if I   of   any   your   man anything to claim

han	oder	er	off	mich
have	or	he	of	me

'if I have anything to claim from one of your men or he from me'
Lanc 34, 165

(15) Wir sulen den iungen herren enphahen dester baz, / daz wir <u>iht</u>
     we shall the young lord receive all-the better that we NEG
     verdienen des snellen rechen haz.
     deserve the brave warrior's hatred
     'We shall receive the young lord all the better, so that we do not/in no
      way deserve the hatred of the brave warrior'
     Nib (A) III 105, 2

This pattern survived in some Upper German dialects such as certain Bavarian (Schmeller 1872), South-East Swabian (Grimm 1890) and North-East Swiss dialects: They use *it/et* (< *iht*) as a neg-particle instead of *nit/net*, a variant of *nicht* which is otherwise used in Upper German.

(16) Des ka <u>it</u> sei.   Swabian (Grimm 1890: 714)
     that can NEG be
     'That's not possible'

A movement requirement along the lines of the Neg-Criterion should obviously not hold for non-n-words such as the NPI-indefinite *iowiht/iht*. However, we find an exactly parallel grammaticalization development: It is first used as an argument, then also adverbially and eventually grammaticalized as a second neg-particle.

Finally, recent syntactic and semantic research has independently cast doubt on the underlying assumption of an obligatory movement of n-words to SpecNegP. Apart from the fact that not all n-words move to SpecNegP in overt syntax, even the assumption of an obligatory covert movement is problematic. Déprez (1999) shows that in Haitian Creole, *wh*-movement is subject to the ECP, yet the presumed movement of n-words into the specifier of *pas* in the case of NC (Negative Concord) constructions is not. Penka and Stechow (2001) argue for Modern German n-words that form part of idioms or are embedded under modals that these have to be *in situ* at LF to achieve the correct semantic interpretation. I will therefore assume that n-words are not inherently negative quantifiers, but possess a merely formal, uninterpretable neg-feature that can be checked non-locally under c-command by the operation Agree (Chomsky 1999; cf. also Zeijlstra 2004), see (20) below.

Without an obligatory movement of n-words to SpecNegP, the Merge-to-Move analysis of the grammaticalization of neg-particles no longer holds.

I therefore suggest an alternative analysis according to which the syntactic input configuration for the grammaticalization of the second neg-particle is the adjacency of the adverbially used n-word to SpecNegP. This also captures the intuition of Behaghel (1918) that the origin of the use of *ni(c)ht* as a neg-particle is the adverbially used DP *ni(o)wiht* 'not at all/in nothing/in no way'. Adverbial use of accusative DPs is common in OHG. In contrast to the VP-internal argumental *ni(o)wiht*, the adverbially used DP is in a VP-adjoined position so that a string-neutral reanalysis of VP-adjunct to SpecNegP is possible as illustrated in (17):

(17)
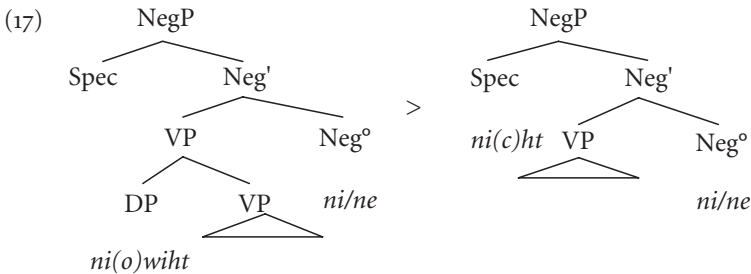
Another advantage of this analysis is that it explains why it was the n-word 'nothing' that was grammaticalized, and not for instance 'nobody': There are no instances of adverbial 'nobody'. Furthermore, it allows a unified account of the grammaticalization of neg-particles such as German *ni(c)ht* and English *not* and the entirely parallel development in the case of former NPIs such as German *iowiht > iht > it* that is also attested both in argumental ('anything') as well as adverbial use ('at all/in anything/in any way').

7.3 Indefinites in the scope of negation and Negative Concord

7.3.1 *Negative Concord in OHG and MHG*

OHG and MHG were Negative Concord (NC) languages: They allowed for constructions with several neg-markers in one clause that is interpreted as containing single semantic negation. In both OHG and MHG, NC basically only occurred in the form of Neg-Doubling (co-occurrence of the neg-particle and an n-word, cf. den Besten 1986) of the Neg° neg-particle and an n-word:

(18) (& precepit/ illis. ne cui dicerent.)
gibot	her/	in	tho	thaz	sie	**niheinagamo**
told	he	them	then	that	they	nobody

nisagatin   OHG
NEG-told
'Then he told them not to tell anybody'
T 130, 15f.

(19) Da   **en**wart   **nymand** konig, er   enwúrd   darzu
     There   NEG-became nobody   king,   he   NEG-was to-it
     erkorne.   MHG
     chosen
     'Nobody became king there, unless he was chosen'
     Lanc 10, 9

As argued above, the formal neg-feature of the n-word is checked under c-command by Neg°. The n-word may accordingly remain *in situ*:

(20)

checking under c-command (Agree)
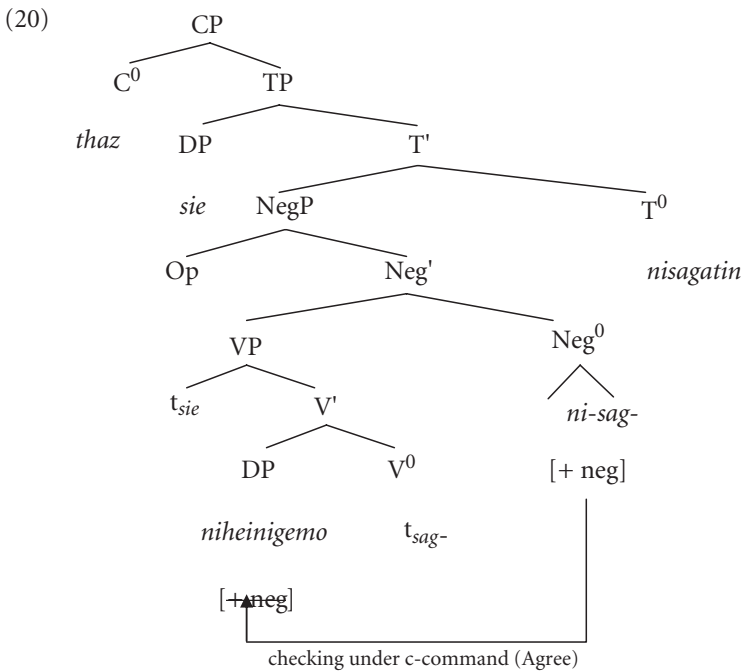
There are no or hardly any occurrences of NC of the type of Neg-Doubling between an n-word and the SpecNegP neg-particle *ni(c)ht*, or of so-called Neg-Spread i.e. the co-occurrence of several n-words. In other words, phrasal neg-markers generally do not co-occur, with one noteworthy exception: The MHG *dehein/kein* 'any/no' often also co-occurs with neg-markers other than Neg°; cf. (21), (22). This special role is, however, due to its particular diachronic development, as will be discussed below.

(21) wan   er   des **niht** enbern wil   von <u>dekeinem</u> menschen
     because he   that NEG   miss   wants   of   any/no   man
     'because he does not want to miss it of any man [i.e. he wants it from
     everybody]'
     Bert I, 24 (6)

(22) aber   sîn freude hât <u>niemer mêr</u> <u>kein</u>   ende
     but   his joy   has never more   any/no   end
     'but his joy will never have an end'
     Bert I, 14 (4)

While co-occurrence of several phrasal neg-markers is hardly or not at all
attested in OHG and MHG, this is the only type of NC in those Modern
German dialects that allow for NC, e.g. Bavarian:[10]

(23) Mia   hod <u>neamad</u> <u>nix</u>   **ned**   gschengt
     me   has nobody   nothing NEG   given
     'Nobody gave anything to me'

These dialects can therefore not simply be seen as having preserved the
original historical state as is sometimes implied. Instead, we find syntactic
change w.r.t. NC in German in two ways: While NC disappeared in the
Standard language, a new type of NC developed in some dialects. Again,
this is arguably linked to the development of the indefinites, in particular
dehein/kein, as will be discussed below.

7.3.2 *Competing patterns*

While OHG and MHG allowed NC, it was never obligatory in clauses with
indefinites in the scope of negation. However, there is a significant difference
between OHG and MHG concerning the main pattern competing with NC—
a change that is indicative of a change elsewhere in the system.

When an indefinite pronoun or adverb occurred in the scope of negation,
three basic syntactic patterns were possible both in OHG and MHG: Besides
marking negation on the indefinite as well as through the clitic neg-particle on
the verb, i.e. NC, negation could be marked by the Neg° neg-particle only,
using a type of indefinite other than an n-word (notably an NPI-indefinite), or
it could be marked on the indefinite only and the neg-particle was lacking.[11]

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[10] Example from Helmut Weiß, p.c.
[11] For a discussion of possible factors governing the choice of the different patterns, such as relative
order or adjacency of indefinite and Vfin, see Jäger (2005, 2008).

TABLE 7.1 Distribution of negation patterns I, II and III in OHG and MHG

		I (NC)	II (*ni/ne*+V, indef.)	III (V, n-word)
OHG	Isidor	18% (2)	82% (9)	0% (0)
	Tatian	87% (60)	9% (6)	4% (3)
	Otfrid	35% (6)	65% (11)	0% (0)
	Notker	85% (11)	8% (1)	8% (1)
	average	56%	41%	3%
MHG	*Nibelungenlied*	17% (8)	4% (2)	79% (37)
	Lancelot	37% (16)	2% (1)	61% (26)
	Berthold	9% (4)	0% (0)	91% (42)
	average	21%	2%	77%

(24) OHG/MHG syntactic patterns with indefinites in the scope of negation
  - pattern I: NC (Neg° on V + n-word)
  - pattern II: negation marked by neg-particle only (Neg° on V + (NPI-)indef.)
  - pattern III: negation marked by n-word only (n-word, no Neg° on V)

The frequency of these three different syntactic patterns in the OHG and MHG corpus is given in Table 7.1.

  NC was the majority pattern in OHG: On average 56 per cent of negated clauses including indefinites show NC.

(25) (neque patrem quis nouit nisi filius.)
    noh   then   fater **ni**uueiz   <u>nioman</u>   nibi   ther   sun
    nor   the   father NEG-knows   nobody   if-not   the   son
    'nor does anybody know the father but the son'
    T 104, 5

Use of an n-word only is hardly attested (only 3 per cent on average; compare also the diagrams in Fig. 7.1). The main pattern competing with NC with 41 per cent on average was to mark negation only through the neg-particle and not to use an n-word indefinite, e.g.:

(26) (In qua sententia nemo dubitet . . .)
    In dhesemu quhide **ni**   bluchisoe <u>eoman</u>,   ni   dhiz sii chiuuisso . . .
    in this   saying NEG doubt   anybody   NEG this be certainly
    'Nobody shall doubt that in this saying, it is certainly . . .'
    Is III, 6

In MHG, on the other hand, the main pattern competing with NC was the use of an n-word only, e.g.:

(27)   Und   sie   hatten   <u>nymant</u>   miteinander   gewunnen   dann
        And   they   had   nobody   with-each-other   won   than
        ein   junges   knebelin   kleyn
        a   young   boy   small
        'And they had no child with each other apart from a small boy'
        Lanc 10, 3

In fact, this pattern is already the majority pattern and amounts to an average of 77 per cent of all clauses with an indefinite pronoun or adverb in the scope of negation in the MHG corpus. NC has decreased to an average of 21 per cent, whereas neg-marking through Neg° only—the main competing pattern in OHG—is hardly found at all any more (only 2 per cent on average).

The optionality of NC can thus be traced back to different sources: In OHG, it is due to an optionality in the choice of the type of indefinite roughly comparable to the situation in English cf. (28) (with the difference that in the non-NC language of Modern Standard English, n-words do not co-occur with the neg-particle), whereas in Slavic languages, for instance, an n-word has to be used wherever it is licensed and thus NPIs are excluded (cf. Pereltsvaig 2004).

(28)   a.   I got <u>nothing</u> for my birthday   English
        b.   I didn't get <u>anything</u> for my birthday

The optionality of NC in MHG, by contrast, is due to the optional use of the Neg° neg-particle. This makes MHG similar to languages such as Colloquial French or West Flemish (cf. Haegeman 1995):

(29)   da   Valère   woarschijnlijk   <u>niemand</u>   (**en**)-kent   West Flemish
        that   Valère   probably   nobody   NEG-knows
        'that Valère probably does not know anybody'

The change in the source of the optionality of NC is linked to a change in the system of indefinites.

7.3.3 *Underlying changes in the lexicon: the system of indefinites*
With the help of the features [± affective][12] and [± negative], a third type of contexts can be distinguished with respect to polarity, besides negated, i.e. [+affective, +negative], and positive or [-affective, -negative] sentences, viz.

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[12] A term used since Klima (1964) to cover all NPI-licensing contexts, negated clauses as well as weak NPI contexts. Ladusaw (1979) identified affectivity with downward entailment, whereas Giannakidou (1998) argued that the weaker notion of non-veridicality is required to capture NPI-licensing.

so-called weak NPI or [+affective, -negative] contexts. Among the latter, there are conditionals, questions, the standard of comparison, clauses dependent on negated matrix clauses ('indirect negation'), clauses dependent on adversative matrix predicates such as 'deny', 'forbid', 'fear', 'refuse', etc., restrictive clauses on universal quantifiers, the context of lexical items meaning 'hardly', 'rarely', 'before', etc. This tripartition of contexts is reflected in the fact that many languages differentiate three corresponding types of indefinite pronouns and adverbs: 'normal' (or PPIs), NPIs, and n-words, compare English *something, anything, nothing*, etc. Other languages show underspecification w.r.t. one or the other feature thus comprising of only two sets of indefinites for different polarity.

The history of German has been little investigated in this respect so far. My data indicate that OHG also showed a largely intact three-set system of indefinites including 'normal' or PPI indefinites such as *sum* 'some' and the *etes*-series (*eteslih* 'some', *eteswaz* 'something', *eteswer* 'somebody', *eteswenne* 'some time', *etewar* 'somewhere'), NPI indefinites such as *dehein* 'any' and the *io*-series (*iowiht* 'anything', *ioman* 'anybody', *io* 'ever', *iowergin/iogiwar/ioner* 'anywhere'), and n-words such as *nehein* 'no' and the *ni(o)*-series (*niowiht* 'nothing', *nioman* 'nobody', *nio* 'never', *niowergin/nioner* 'nowhere'). As described above, there was a degree of optionality whether an NPI or an n-word was used in the scope of negation in OHG.

Crucial changes in the system of indefinites took place during and at the end of the MHG period.[13] Through the change of individual lexical items, the three-set system of indefinite pronouns and adverbs was virtually reduced to a two-set system based on the opposition of [± negative] and underspecification w.r.t. [± affective]. The category of NPI indefinites basically died out, the only 'survivor' being the Modern German indefinite NPI adverb *je* 'ever'. This change happened through the extinction or shift in type of individual lexemes - developments that can be observed in a number of languages.[14] Thus, the NPI *iowiht/iht* 'anything' became extinct in the standard language and the former corresponding PPI *eteswaz/etwas* 'something' came to be used in weak NPI contexts also. On the other hand, the former NPI *ieman*

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[13] For a more detailed discussion see Jäger (2008).

[14] As in German, such shifts are attested both towards 'more positive' and 'more negative' in other languages. Thus Classical Latin PPI *aliquis* turned into a weak NPI. Compare also Italian NPI *alcuno* and French *aucun* which already gives rise to a negative interpretation in isolation - the crucial criterion for n-word status. On the other hand, orignal n-words consisting of the neg-particle in the lengthened grade and a *wh*-element such as Russian *nekto*, *neki* etc. (cf. Vasmer 1955: 209f./217) or Lithuanian *nekūrs* 'a certain, some', and *nekàs* 'anything' (cf. Fraenkel 1962: 492) developed into NPIs or even 'normal' indefinites, see also Jäger (forthc.).

'anybody' was extended in distribution to positive contexts, replacing the former PPI *eteswer* 'somebody', and turning into a 'normal' indefinite.[15] Similarly, *iergen* 'anywhere' lost its restriction to NPI contexts and, in combination with *wh*-indefinites, formed new 'normal' indefinites such as *irgendwo* 'anywhere/somewhere', *irgendwie* 'anyhow/somehow', etc. While some NPI indefinites became 'more positive', the opposite development towards 'more negative' is also attested. In MHG, several NPIs showed this tendency, notably *ieman* 'anybody' and *iht* 'anything'. Recall that the latter still occurs as the neg-particle *it/et* in some Upper German dialects. In the standard language, however, only one former NPI has permanently turned into an n-word, viz. *dehein/kein* 'any' > 'no', replacing the former n-word *nehein* that only survived in a few dialects (cf. Jäger 2007).

What is at the basis of these kinds of shifts in distributional type is the enrichment with or loss of formal features that are only licensed in specific contexts.[16] As *dehein/kein* turns into an n-word, for instance, this lexical item is enriched with an uninterpretable formal neg-feature which needs to be checked against the interpretable neg-feature of (in Modern German non-overt) Neg° so that *kein* can only occur in the scope of negation in Modern German. The more formal features a lexical item possesses, the more limited is its range of distribution. The described changes in the system of indefinites can therefore be seen as a number of interrelated changes in the lexicon.

With the virtual loss of the category of NPI-indefinites, there ceased to be an optionality of the type of indefinite in the scope of negation: n-words became basically obligatory in negated contexts. Thus it became increasingly possible to identify negation just through the indefinite without an additional neg-particle in those cases. The reduction of the indefinite system therefore, in combination with the loss of the overt Neg° neg-particle according to Jespersen's Cycle,[17] contributed to the loss of NC in German—a natural development that started well before the influence of prescriptive grammars. As mentioned above, the ratio of NC constructions amongst all clauses containing an indefinite in the scope of negation already decreased by 35 per cent on average from OHG to MHG.

Interestingly, the change in the system of indefinites arguably also contributed to the later emergence of a new type of NC, viz. co-occurrence of several neg-XPs. The development of the former NPI *dehein/kein* plays a crucial role here. Recall that this indefinite is the only n-word that co-occurs

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[15] In Upper German dialects, by contrast, the NPI *ieman* died out and the former PPI *ete(s)wer* > Bavarian *ebba*/Swiss German *öpper* was extended into weak NPI contexts.

[16] An analysis in terms of underspecification theory is given in Jäger (2008, and forthcoming).

[17] For the typological link between a Neg° neg-particle and NC see Zeijlstra (2004).

to any notable extent with another neg-XP, i.e. in a Neg-Spread construction with another n-word or in a Neg-Doubling construction with the SpecNegP neg-particle *ni(c)ht* - types of NC that are virtually lacking from OHG and MHG, but represent the types of NC that are found in Modern German NC dialects such as Bavarian. The development can be reconstructed as depicted in (30):

(30)   *dehein/kein* + neg-XP

        NPI>n-word

                → n-word + neg-XP → generalized to other n-words

                                            Neg-Spread, Neg-Doubling incl.*nicht*
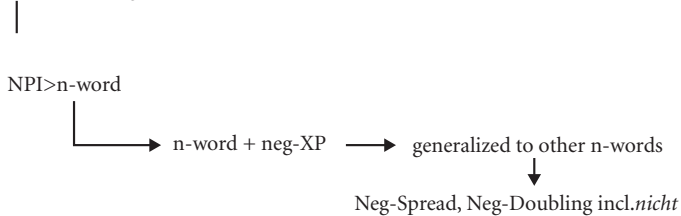
As an original NPI, OHG *dehein* 'any' could of course co-occur with other neg-markers. Beginning in MHG, it could be used as the only marker of negation in a clause, which would constitute evidence for the learner that it is an n-word. At the same time, it could still co-occur with other neg-XPs so that there was evidence for an n-word co-occurring with another neg-XP. The learner, economizing rules, would extend this pattern to other n-words, arriving at a Bavarian-type NC system. In the standard variety, however, *kein* was assimilated to other n-words in distribution: It is only licensed in negated clauses, but not together with another overt neg-marker.

7.4 Conclusion

The main development in the syntax of negation in German described at the beginning of this chapter, viz. the SpecNegP neg-particle *ni(c)ht* on the one hand and the n-words on the other hand stepping out of the shadow of Neg°, is the result of a combination of two processes: First, the change of the neg-particle through the phonetic reduction and reinforcement process of Jespersen's Cycle - a change in the lexical filling of NegP including the grammaticalization of the former n-word *ni(o)wiht > ni(c)ht* into SpecNegP starting from its adjacency to that position in its adverbial use, and second, a lexicon-based change in the system of indefinites. As NPI indefinites more or less die out, the choice of the type of indefinite becomes fixed: In clauses containing an indefinite in the scope of negation, negation is marked by the indefinite taking the form of an n-word; in the other negated clauses, negation is identified by *ni(c)ht*. Both the phonetic weakening and disappearence of the Neg° neg-particle as well as the change in the

system of indefinites lead to the loss of the original type of NC of Neg-Doubling between Neg° and an n-word. The lexical change in particular of *dehein/kein* from an NPI into an n-word in turn leads to the emergence of a new type of NC in some varieties of German, viz. co-occurrence of several negative XPs. Despite of these changes in the syntactic marking of negation, the actual syntactic structure remained intact.

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8

The consolidation of verb-second in Old High German: What role did subject pronouns play?

KATRIN AXEL

8.1 Introduction

In German, the verb-second constraint has a long history: It can be traced back as far as the Old High German (=OHG) period (*c.* the eighth to eleventh century AD). In particular, the phenomenon of verb movement to C⁰ was already very much generalized in OHG root clauses (Kiparsky 1995; Axel 2007). The generalization of XP-movement, by contrast, seems to have been less well established at that early stage. This is suggested by the fact that the earlier OHG texts show several types of verb-first declaratives which have become ungrammatical.[1] This syntactic change is the topic of this chapter.

As I will demonstrate, the phenomenon of verb-first declaratives is closely related to the occurrence of various types of null subjects. I will present evidence that in earlier OHG there existed not only empty quasi-arguments and correlatives, but also referential null subjects, a phenomenon that has been almost completely ignored in the previous literature. Two phenomena contributed to the further consolidation of verb-second: (i) the general rise of overt subject pronouns, and (ii) the innovation of the expletive *iz/ez* as a filler for the SpecC position in those cases where no XP has been fronted. I will argue that this so-called 'prefield *es*' originated from a reanalysis of the non-referential subject *es*.

In contrast to previous accounts, this proposal does not involve a radical reanalysis of the clausal category, nor does it posit a change in the syntactic distribution of (non-referential and referential) *pro*. This is more in line with

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[1] Moreover, we still find a certain amount of verb-third order in the 8th- and 9th-century texts, in particular in the context of personal pronouns (see Section 8.5.2) and of certain adverbial expressions (Tomaselli 1995; Axel 2007: ch. 4).

the 'Inertia Theory' (e.g. Keenan 1998, 2002, this volume; Longobardi 2001*a*), according to which syntactic change should not arise unless it is caused by external causes, by a change in the lexicon or in other grammatical subsystems (e.g. phonology, semantics), or unless it is the consequence of a further syntactic change. I will argue that the loss of verb-first constructions ultimately resulted from an independent syntactic change, namely from the rise of overt subject pronouns. How this syntactic change was triggered, however, is still an open question. According to the standard approach, it was a consequence of the decay of verbal inflection. Yet this hypothesis—though attractive from the perspective of 'Inertia Theory'—is not confirmed by the empirical facts.

8.2 Verb-first declaratives in earlier OHG

In OHG declarative clauses, verb-first order frequently occurs in the context of the constructions and predicate classes in (1).[2] Some illustrative examples are given in (2) to (5).[3]

(1) a. existential/presentational constructions
     b. unaccusative predicates
     c. passivized predicates
     d. impersonal predicates

(2) a. uuarun   thô   hirta   In   thero   lantskeffi.
        were   PARTICLE   shepherds   in   that   countryside
        'there were shepherds in that country'
        Et pastores erant In regione eadem.
        (T 85, 29)

     b. arougta   sih   tho   in | moises   inti   helias
        appeared-3SG   REFL   PARTICLE   them   Moses   and   Elijah
        mit   imo
        with   him
        'Moses appeared to them along with Elijah'
        et ecce apparuit illis | moises & helias cum eo
        (T 305, 21f.)

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[2] In addition, verb-first order occurred in declarative sentences with negated verbs and with *verba dicendi*. See Axel (2007: ch. 3) for arguments that these are rather different types of verb-first orders than that occurring with the predicate classes in (1) above.

[3] I investigated the major 8th- and 9th-century prose texts, i.e. Isidor (I), the Monsee Fragments (MF) (both from the late 8th century) and the OHG Tatian (T) (*c.*830), and the major late OHG prose works from the 11th century, i.e. Notker's *Consolatio Philosophiae* and Williram's paraphrase of

(3) Uuart$_i$ im   gnadic t$_i$ iħs
     became   them   merciful   Jesus
     'Jesus had mercy on them'
     Misert*us autem eorum iesus*
     (MF XIV, 26; Mt 20: 34)

(4) uuard   tho   giheilit   ther   kneht   in   thero   ziti.
     became   PARTICLE   healed   the   servant   in   that   time
     'The servant was healed at that very hour'
     & sanatus est puer in illa hora;
     (T 183, 7)

(5) a. uuas   tho   zit | nah   sehsta.
        was   PARTICLE   hour   near   sixth
        'It was about the sixth hour'
        hora erat | quasi sexta;
        (T 275, 29f.)

     b. lustida   sie
        desired-3SG   them-ACC.PL
        [christinheidi   chilaupnissa   chihoran]
        Christianity's   belief   hear
        'they wanted to hear the belief of Christianity'
        christi fidem delectantur audire
        (I 694f.)

All these types of constructions can no longer be realized with verb-first order today.[4] In the late OHG texts (Notker, Williram), they already occur only very sporadically. So the question arises as to what kind of change has taken place for verb-first order to have become ungrammatical in these constructions.

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the Song of Songs. All the examples cited above occur in the 8th- and 9th-century texts. They are cited from the editions given in the reference section. The Isidor examples are cited by line number, examples from the Monsee Fragments are cited by section and line number, and examples from Tatian by edition page and line number. The Latin source sentences are also given in a separate line at the bottom of each example. In the OHG Tatian translation (*St. Gallen Cod. 56*), there is a strong tendency for the OHG text and the Latin translation to be arranged on corresponding lines, a feature which is replicated in the edition by Masser (1994). In the examples cited here, line breaks are indicated by the symbol '|'. In the examples from the Monsee Fragments, unitalicized letters indicate material that is unreadable in the manuscript and has been reconstructed by Hench (1890). In some examples, underlining of the finite verb, boldface, bracketing or traces have been added. The modern English translations of the Isidor examples have been adopted from Robinson (1997).

[4] See Önnerfors (1997) for an overview of different types of verb-first declaratives in present-day German.

8.3 Verb-second and non-referential subject pronouns

It could be speculated that the verb-first constructions in early OHG are only verb-first at the surface and that they contain an empty category which has moved to SpecC.

Constructions with unaccusative predicates as in (3), existential/presentational constructions with unaccusatives as in (2a) and possibly also passive constructions as in (4) could be argued to contain an empty expletive *pro* which is coindexed with the overt nominative DP, which either occurs VP-internally or is 'extraposed'[5] behind the verbal complex as in (3).

Impersonal constructions as in (5a) can be taken to involve an empty quasi-argument, and impersonal constructions with extraposed (finite or infinitival) 'subject' clauses as in (5b) can be hypothesized to contain an empty correlative[6] which is coindexed with the extraposed subject clause.[7]

It could thus be hypothesized that the spread of surface verb-second order resulted from the rise of the overt quasi-argument or correlative pronoun in SpecC, cf. (6), which would be the third-person singular personal pronoun *es* in modern German (OHG *iz*; MHG *ëz*). A similar proposal is put forward in the early generative study by Haiman (1974).

(6) $[_{CP}pro_{(quasi/correlative)} [_C V_{fin}] \dots$
   $\rightarrow \rightarrow [CP \ iz_{(quasi/correlative)} [_C V_{fin}] \dots$

However, if empty quasi-arguments or empty correlatives could move to SpecC in OHG, why is this no longer possible in modern German? Even today the use of the overt quasi-argument *es* is still optional in the context of certain date and seasonal expressions consisting of a nominal or adjectival predicate and a copula verb. Yet the quasi-argument can only be omitted in the middle field, not in SpecC:

(7) a. weil   **es/*pro_quasi**   Weihnachten   ist
       because   it/*pro_quasi*   Christmas   is
       'because it is Christmas'

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[5] I use the term 'extraposed' in a purely descriptive sense to refer to material that occurs to the right of the verbal complex. I do not want to commit myself to a syntactic analysis of this phenomenon. It is not relevant here whether 'extraposed' material is base-generated to the left of the verb and undergoes rightward movement or whether it has been base-generated in its position after the verbal complex.

[6] Note that in the literature on present-day German, the term 'correlative' pronoun is used to refer to the (overt) pronoun *es*, which (obligatorily or facultatively) occurs with extraposed argument clauses.

[7] The word order in (5b) does not reveal whether the subject clause is extraposed or not. However, we know from independent contexts that subject and object clauses as well as relative and adverbial clauses are generally extraposed in OHG.

b. *(**Es**) ist   Weihnachten
it   is   Christmas
'it is Christmas'

This is a serious problem: It is hardly feasible to think of a syntactic change that could have had the effect of banning quasi-argumental *pro* and correlative *pro* (see Section 8.5.2) from moving to SpecC:

(8) $[_{CP}pro_{(quasi/correlative)} [_C V_{fin}]$
   ➜ ➜*$[_{CP}iz_{(quasi/correlative)} [_C V_{fin}] \ldots$

A further problem is that the rise of overt subject pronouns has not affected unaccusative constructions. These constructions have been argued to contain an expletive *pro* or *pro*-like element, but this expletive can never be realized overtly as *es*; cf. (9a). For example, Sternefeld (2006: 535) argues that in sentences where nominative DPs are merged in direct-object position there must be an empty category in SpecV c-commanding the finite verb so that the required checking configuration for subject-verb agreement and for the nominative case feature can be established; cf. (9a).[8] Like the empty quasi-argument *pro* in truly subjectless constructions, this expletive *pro* has a nominative case feature, but in contrast to the former it is not restricted to the third-person singular, but it must also be able to bear a plural feature (e.g. in (9a) the associate noun phrase is in the plural). The corresponding main clauses cannot be realized with verb-first order. Instead, an expletive, the so-called prefield *es*, has to be merged in SpecC; cf. (9b). This element also shows up in existential constructions and in thetic clauses; cf. (10).

(9) a. dass sich$_j$ $[_{VP}$Ø /***es** $[_{V'} [_{VP}$ Wunder t$_j$ ereignet] haben]]
      that REFL   miracles happened have
      'that miracles have happened'

   b. *(**Es**) haben sich Wunder ereignet.
      it   have REFL miracles happened
      'miracles have happened'

(10) *(**Es**) spielen die Wiener Philharmoniker
      it   play-PL the Vienna philharmonics-PL
      'The Vienna Philharmonic Orchestra is playing'

Sternefeld (2006: 592) therefore concludes that there must be a general ban on moving invisible material to SpecC (see also Cardinaletti 1990*a*).

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[8] Note that Sternefeld proposes a minimal sentence structure for German with only a CP and a VP and no IP.

8.4 A radical change in sentence structure?

It is clear that the development of prefield *es* is very important for the consolidation of verb-second. As was demonstrated above, verb-first order frequently occurred in sentences with unaccusative predicates, with passivized predicates and with existential/presentational constructions. Many of these sentences could be regarded as the precursors of our modern German *es*-verb-second clauses.

In contrast to, for example, English *there*, the prefield *es* is not a subject expletive: It is restricted to the SpecC position and does not give rise to a definiteness effect (cf. (10) above). It has been argued to be merely a placeholder merged in SpecC in order to fulfil the verb-second requirement in those cases where XP-fronting fails to occur.[9]

According to standard assumptions, the rise of the prefield *iz/ez* took place in the Middle High German period (e.g. Brugmann 1917: 34ff.; Lenerz 1985; Abraham 1993). For instance, the *Nibelungenlied* contains quite a few examples:

(11) **ez** wuohs in Burgonden ein vil edel magedīn.
     it grew in Burgundy a very noble maid
     'there grew up in Burgundy a noble maid'
     (*Nibelungenlied* I, 2)

As will be demonstrated below, the rise of the 'prefield' *es* has been considered as a reflex of a profound change in the sentence structure in the generative literature.

8.4.1 *Change from an IP- to a CP-verb-second grammar?*

Abraham (1993) proposes that OHG has an IP-verb-second grammar and argues that the rise of the prefield *es* 'indicates an important structural reanalysis from OHG to MHG [Middle High German; K.A.]: the rise of a structural topic position [Spec,CP]' (p. 135). This scenario involves a 'radical change in the categorical status of the clause' (p. 117). In this scenario Old High German was still mainly an IP-language with SpecI serving as a topic position. From MHG times onwards 'CP was historically extended [...] to replace partly (but, possibly never totally) what used to be the exclusive IP structure' (p. 140).

Abraham's main empirical argument for this structural distinction between OHG and Middle High German grammar is that hypotaxis

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[9] See, however, Cardinaletti (1990*a*) for a different proposal.

was only poorly developed in OHG. This assumption is not fully correct: In OHG there already existed the complementizer *thaz* and, arguably, a zero complementizer (cf. Lenerz 1984; Axel 2007), as well as relative particles (e.g. Janko 2002). Crucially there is also indisputable evidence that argument-realizing *thaz*-clauses were already syntactically embedded: We find phenomena such as *wh*-extraction out of *thaz*-clauses already in the late eighth-century texts (Axel and Kiziak 2007). So the evidence from OHG is in line with Kiparsky's (1995) hypothesis that the introduction of the CP was most likely a Pan-Germanic phenomenon. Note that Kiparsky argues that CP is not universal. In Proto-Indo-European it was still absent, but in Proto-Germanic the CP had already evolved. So in this scenario the rise of the CP must have antedated the rise of prefield *iz/es* by centuries.

Furthermore, there are conceptual problems: For his analysis to work, Abraham has to claim that originally SpecIP was both an argument and an operator/topic position in OHG and it changed to a mere argument position in MHG. Thus, the proposed scenario not only involves a radical reanalysis of the clausal category, but also a change in the status of clausal specifiers.

8.4.2 *Change from an asymmetric CP/IP- to a symmetric CP-verb-second grammar?*

One advantage of Abraham's proposal is that the distribution of non-referential *pro* and of its overt variant *iz/ez/es* has not been subject to any change: It has always been only licensed in SpecI, and not in SpecC. The problematic assumption of the total lack of a CP in OHG could be circumvented if we assumed that OHG originally was a verb-second language with an asymmetric sentence structure along the lines of the Travis-Zwart-hypothesis (Travis 1984; Zwart 1997): Only non-subject-initial sentences were CPs, and subject-initial sentences were IPs. It could thus be hypothesized that the language acquired a symmetric sentence structure where even subject-initial sentences were CPs. Essentially as in Abraham's (1993) proposal, the loss of verb-first constructions and the spread of the prefield *iz* could then be interpreted as evidence that the projection of a CP was generalized.

However, this alternative hypothesis faces the problem that there is no independent evidence for an asymmetry between subject-initial and non-subject-initial sentences. A major argument that has been put forward in favour of the Travis-Zwart-hypothesis is that weak object pronouns do not occur in the prefinite position in verb-second languages, a phenomenon

that would receive a simple explanation if it was assumed that they are banned from moving to SpecC. For OHG, however, this prediction is not borne out. Examples with prefinite weak object pronouns do sometimes occur in OHG texts. For example, Diels (1906: 94) gives the following example in which the accusative personal pronoun *iz* (third person) has been fronted:

(12) oder iz   ezzant die   uogile
      or   it-ACC eat   the   birds
      'or the birds will eat it'
      (*Denkmäler deutscher Poesie und Prosa aus dem VIII.–XII. Jahrhundert: Predd.* 86, B, 3, 3; cited in Diels 1906: 94)

A putative asymmetry between subject-initial and non-subject-initial sentences is also not confirmed by other aspects of the distribution of pronouns. In the earlier OHG texts, subject and object pronouns are sometimes attested in a position between the initial XP and the fronted finite verb in declarative main clauses, thereby giving rise to a verb-third effect.[10,11] Interestingly, object pronouns show up in this position both in subject-initial and in non-subject-initial sentences:

(13) a. Endi [ih] **inan**   chistiftu in minemu dome
         and   I   him-ACC   install   in my   house
         'and I will install him in my house'
         Et statuam eum in domo mea
         (I 629)

      b. [forlaaz *se*nu]   **dhir**   uuer dant dhino   suntea
         forgiven   you-DAT   become   your   sins
         'your sins are forgiven'
         remittuntur tibi peccata tua
         (MF I, 9; Mt 9: 2)

Since there is no compelling evidence for an analysis of OHG sentence structure according to the Travis-Zwart-hypothesis, it is not plausible to trace back the consolidation of verb-second to a change from an asymmetric sentence structure to a symmetric sentence structure.

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[10] In contrast to Old English, in OHG subject and object pronouns are also attested postfinitely ($= \text{XP–V}_{\text{fin}}\text{–pron}$) without inducing a violation of the verb-second constraint.

[11] Tomaselli (1995) only deals with verb-third effects triggered by subject pronouns. However, verb-third with object pronouns was even more frequent (Axel 2007: ch. 5).

8.5 The rise of overt subject pronouns and the development of the preweld *es*

Instead of assuming that the innovation of prefield *iz/ez* was the result of the introduction of a new clausal category (=CP), I will propose that there occurred a much more primitive and 'local' change which merely involved a reanalysis of the non-referential subject *iz*. The rise of the non-referential subject *iz* (i.e. of quasi-argumental *iz* and of correlative *iz*) is in turn part of a much more general development in the course of which empty subject pronouns were replaced by overt subject pronouns.

8.5.1 *Old High German as a partial null-subject language*

In previous generative accounts of OHG syntax (Lenerz 1984; Tomaselli 1995; Abraham 1993, but see Axel 2005, 2007), it has been entirely ignored that the earlier OHG texts contain many sentences where a referential subject pronoun has been omitted:

(14) a. Sume   hahet   in   cruci
         some-ACC   hang-2PL   to   cross
         'some of them you will crucify'
         et ex illis . . . crucifigetis,
         (MF XVIII, 17 Mt 23: 34)

      b. oda   uuanne   gisahumes   thih
         or   when   saw-1PL   you-ACC
         'or when did we see you?'
         aut quando te uidimus
         (T 545,11)

(15) quidis   zi   uns   thesa   parabola
      say-2SG   to   us   this   parable
      'do you tell this parable to us?'
      ad nos dicis hanc parabolam
      (T 529, 2)

   Interestingly, referential null subjects do not give rise to surface verb-first constructions in OHG. This is due to the fact that there is a main-subordinate asymmetry in the distribution of referential null subjects. Since Latin is a full *pro*-drop language, the Latin source sentences usually do not contain an overt subject pronoun unless an emphatic or contrastive interpretation is intended. In the OHG translations, however, the empty subject pronoun is only retained in verb-second main clauses where a non-subject XP or

TABLE 8.1 Overt/null subject pronoun use in main vs. subordinate clauses in three eighth- and ninth-century prose texts[a]

clause type	Isidor pron. subj.		Monsee Fragments pron. subj.		Tatian pron. subj.	
	overt	null	overt	null	overt	null
main	61 (56%)	48 (44%)	48 (36%)	84 (64%)	1434 (60%)	960 (40%)
subordinate	85 (91%)	8 (9%)	73 (85%)	13 (15%)	1180 (92%)	95 (8%)

[a] The figures have been calculated on the basis of Eggenberger (1961). They include referential and non-referential subject pronouns. (Eggenberger excluded the (Bavarian) Isidor fragment when counting (null) subject pronoun occurrences in the Monsee Fragments.)

a *wh*-phrase occurs in prefinite position, as in the examples in (14), or in yes/no-interrogatives with verb-first order; cf. (15). In subordinate clauses with verb-end order, by contrast, subject pronouns have been systematically inserted contrary to the Latin text. This can be seen in the complex sentences in (16) (the subordinate clause is given in square brackets):[12]

(16) Enti [so   aer · danan fuor] · quuam *pro* in iro · dhinchūs . . .
      and when he thence went   came   in their synagogue
      'when he had departed from there, he went into their synagogue'
      Et cum inde transisset, uenit in synagogam eorum . . .
      (*MF* IV, 19; *Mt* 12: 9)

Table 8.1 gives the rates of subject omission in main and subordinate clauses in Isidor, the Monsee Fragments and in Tatian.

In Isidor and in Tatian, approximately 40 per cent of main clauses with pronominal subjects contain null subjects, and in the Monsee Fragments even almost two thirds of the cases do so. This contrasts sharply with the rate of subject omission in subordinate clauses, which is between 8 and 15 per cent for all three texts.

The main-subordinate asymmetry can be derived without further assumptions if we assume that OHG null subjects are only licensed in postfinite position,[13] i.e. in a configuration where they are c-commanded by a leftward-

[12] The fact that OHG null subjects were subject to this special syntactic distribution also strongly suggests that they were not merely a phenomenon of loan syntax as is claimed by Eggenberger (1961). The null-subject property must have been a reflex of the native OHG grammar (see also Axel 2007: ch. 6) for more arguments).

[13] It could be objected that this postfiniteness restriction is not absolute. In all three texts there is some amount of subject omission in subordinate clauses, around 8 to 15% according to Eggenberger (1961). Note, however, that Eggenberger's figures for subordinate clauses also include dependent clauses with verb-second order and examples which are ambiguous between verb-second and verb-end order. See also Axel (2007: 310) for some discussion of problematic cases in Eggenberger's data.

moved finite verb. In OHG, the only way to obtain the configuration in (17) is via verb movement to C.

(17) $[[V+AGR_i]_k \ldots pro_i\ t_k]$

Note that in Old French, in various Medieval Northern Italian dialects and in some varieties of Rhaeto-Romansch null subjects were also licensed in verb-second sentences. A postfiniteness restriction can furthermore be observed in the recent German dialects: In some dialects, referential subject pronouns can still be dropped when they are preceded by so-called inflected complementizers (e.g. Weiß 2005):

(18)   wenn-**st**   ***pro***   kumm-**st**
        when-2SG   pro   come-2SG
        'when you come'

In OHG, the use of the null variant in postfinite contexts seems to be optional. In contrast to the canonical null-subject languages, overt and null pronouns have the same referential properties. This is suggested by sentence pairs as in (19): The two sentences, which are both from the Isidor translation, differ in the use of an overt vs null subject pronoun, yet both sentences are very similar in wording and interpretation.

(19) a. Dhar ir   quhad >...<, chiuuisso meinida **ir** dhar
        where he   said   certainly   meant   he there
        sunu endi fater
        son   and father
        'Where he said >...<, he certainly meant there the Son and the Father'
        Dicendo enim >...< et filium et patrem ostendit
        (I 273f.)

    b. Dhar ir   auh quhad >...<, dhar meinida ***pro***
        where he   also said   there meant   pro
        leohtsamo   zi   archennenne dhen heilegan gheist
        easily   to   recognize   the   holy   spirit
        'where he said >...<, he clearly meant there the Holy Spirit'
        Item dicendo >...< sanctum spiritum euidenter aperuit
        (I 274f.)

The same variation is attested with quasi-argumental *pro* and correlative *pro* (see Section 8.5.2).

This raises the question of why the overt variant was introduced in non-emphatic contexts. This development, which must have started before the first written attestations of the language, has traditionally been argued to have resulted from the decay of verbal endings due to a phonological weakening process, which in turn has been hypothesized to have been a consequence of the introduction of word-initial accent (e.g. Held 1903: XIII). However, as was already objected by Grimm (1967 [1898]: 235) and Eggenberger (1961), these phonological and morphological changes did not result in a substantial levelling of inflectional distinctions in the OHG verbal paradigms. Even the verbal inflection of present-day German would be sufficiently 'strong' to identify referential *pro* from a cross-linguistic perspective (e.g. Rohrbacher 1999). What syncretism there is has largely remained constant: The third- and first-person singular have had identical endings in the past indicative and in the present and past conjunctive with both strong and weak verbs of all classes throughout the history of German.[14,15]

So the hypothesis that the rise of overt subject pronouns was triggered by morphological decay is not confirmed by the empirical facts. It is as yet still an open question what brought about this development.

8.5.2 *The reanalysis of non-referential subject* iz *as prefield* iz

I will argue that it was a conspiracy of factors that led to the loss of verb-first constructions as in (1) above and to the consolidation of verb-second. The assumption of a radical reanalysis of sentence structure is not necessary.

One precondition was the rise of overt subject pronouns. Generalized XP-movement could only evolve after the full null-subject property, which had been inherited from Proto-Germanic, had been weakened and the overt realization of the subject pronoun no longer had a special semantic/pragmatic effect. Take a sentence with a one-place verb such as OHG *irrôn* 'to err'. In the Tatian example in (20), the pronoun *ir* occurs in the SpecC position of

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[14] To give an example of a weak verb: OHG *nam* is both the first- and third-person singular past indicative of the verb *neman* 'to take'. The first- and third-person singular in the past indicative are *nam* and in the present and past conjunctive *neme* and *nāmi*, respectively. The same syncretism is still present in present-day German (i.e. *nahm*-1./3.sg.pst.ind., *nehme*-1./3.sg.prs.conj., *nähme*-1./3.sg.pst. conj.). Furthermore, in the present-day German weak-verb paradigm, the endings of the third-person singular and second-person plural indicative present are identical (e.g. *sagt*-3.sg.prs.ind./2.pl.prs. ind.). In OHG, this syncretism only occurs in the weak classes II and III (e.g. *salbōt* '(he) salves, (you-PL) salve'; *habēt* '(he) has, (you-PL) have').

[15] According to Jaeggli and Safir (1989) the identification of *pro* is only satisfied in inflectional paradigms which are 'morphologically' uniform in that they contain either only non-derived or only derived forms for one category. This condition is also satisfied in present-day German as well as in OHG and in MHG if one assumes that a null morpheme is present in some cases.

a verb-second clause. It does not have an emphatic or contrastive reading in this context, which is also suggested by the fact that there is no overt pronoun in the Latin source.

(20) **Ir**   irrot ...
      you-NOM   err
      'You err'
      erratis
      (T 429, 14)

As we have seen, referential null subjects were only licensed postfinitely; they were parasitic on verb movement. In postfinite position there was a variation between overt subject pronouns and null subjects. This observation is unexpected, given that the so-called 'Avoid Pronoun Principle' (Chomsky 1981: 85) obtains, which rules out the possibility of overtly realizing a subject pronoun in cases where the more economical null subject variant is licensed. We may assume that there was a grammar competition (see Kroch 1989) between both variants. Sprouse and Vance (1999) propose that the gradual replacement of null pronouns by overt pronouns that took place in several Germanic and Romance languages was probably triggered by a grammatical competition between null subjects and overt atonic forms.

The introduction of overt forms has not only affected referential subject pronouns, but also quasi-arguments and subject correlatives. In the earlier OHG texts, there is a variation between empty and overt quasi-arguments. Notably with time and meteorological expressions consisting of non-verbal predicates (i.e. of the copula + an adjectival/nominal predicate), both variants are attested within individual texts, as the following examples from Tatian illustrate:

(21) uuas *pro* sambaztag in themo tage
      was   Saturday   in that   day
      'it was a Saturday (= Sabbath) on that day'
      erat autem sabbatum in illo die.
      (T 285, 23)

(22) uuantaz[16] friietag uuas
      because-it   Friday   was
      'because it was Friday'
      quoniam parascheue erat
      (T 651, 1)

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[16] Here the pronoun *iz* has cliticized phonologically to the adverbial subordinator *uuanta* (*uuantaz = uuanta iz*).

Interestingly, even in modern German the use of the overt quasi-argument *es* is optional with some predicates; cf. (23a). Likewise, there are some predicates where the correlative *es* can be dropped; cf. (23b).

(23) a. weil   **es/pro_quasi**   Weihnachten   ist
          because   it/pro$_{quasi}$ Christmas   is
          'because it is Christmas'

      b. weil   **es$_i$/pro$_i$**   mir   wichtig   ist, [$_i$ teilzunehmen]
          because   it/pro$_{quasi}$ me-DAT   important   is   to-participate
          'because it is important to me to participate'

If these predicates with an optional *es* occur in declarative main clauses, an *es* occurs in SpecC which cannot be dropped:

(24) a. *(**Es**)   ist   Weihnachten
          it   is   Christmas
          'It is Christmas'

      b. *(**Es**)   ist   mir   wichtig,   [teilzunehmen]
          it   is   me-DAT   important   to-participate
          'it is important to me to participate'

The instances of *es* in (24a) and (24b) are ambiguous (see also Sternefeld 2006: 347–9): The *es* can either be analysed as the quasi-argumental or correlative *es* fronted from the sentence-internal argument position or as the 'prefield' *es* merged in SpecC.

It could thus be speculated that the prefield *iz* developed from a reanalysis of the quasi-argumental or the correlative *iz*: Once the overt quasi-argument and the correlative *iz* began to arise, there was a competition between the new overt variant and the old variant with an empty *pro*. Look at the two examples from Tatian in (25): both contain the impersonal predicate *gilimp-fan*, which selects an infinitival or gerundival 'subject' clause. As can be seen in (25a), the use of the correlative *iz* is not obligatory.

(25) a. gilampf   **pro$_i$**   thir   [$_i$ zibifelahanne]….
          behoved   pro   you-DAT   to-commit
          'it behoved you to commit…'
          oportuit ergo te committere…
          (T 537, 4)

      b. **iz**   gilimpfit   [sus   zi   uuesanne]
          it   behoves   so   to   be
          'it behoves to be so'
          oport& enim haec fieri
          (T 513, 5)

Note that the example in (25b) with a prefinite *iz* may receive two analyses just like the modern German example in (24). While speakers produced the variant which contains the overt quasi-argument *iz* fronted to SpecC, some hearers might still have pursued an analysis with an empty correlative *pro* in the clause-internal argument position. In the latter case, the *iz* in SpecC would no longer be a (quasi-) argument selected by the verb/predicate, but merely a structural expletive in SpecC. So the new category of the prefield *es* was developed.[17]

Once this element had become part of the lexicon, it could be used in all contexts where XP-movement failed to occur, i.e. also in thetic sentences, in impersonal passives etc., thereby consolidating the verb-second property. As a result, the correlations between verb placement and sentence types were strengthened: In declaratives verb-first order was marginalized (today it primarily occurs in the so-called 'narrative' verb-first declaratives, cf. Önner-fors 1997). The establishment of a distinct association between formal aspects (verb-first vs verb-second) and sentence type (interrogative vs declarative) replaced the strategy of marking sentence type by lexical means, which has Indo-European roots. This development was in turn necessitated by lexical loss, i.e. by the disappearance of sentence-typing particles such as the inter-rogative particle *inu/eno* and the affirmative particle *jā/ia*, which are still attested in the OHG texts (Axel 2007).

8.6 Summary

In this chapter, I investigated a number of interrelated phenomena in the early history of the German language. I argued that the development of the prefield *iz* as a new category resulted from a reanalysis of the non-referential subject *iz*. This reanalysis was possible since there was a structural ambiguity which in turn had arisen due to an independent syntactic development, namely the introduction of (unemphatic) overt subject pronouns. The syntactic distribu-tion of non-referential *pro* has not changed in the history of the language. Even the postfiniteness restriction for the licensing of referential *pro* can be shown to have persisted until the present (in the dialects with partial *pro*-drop referential null subjects are only possible after inflected complementizers or after the finite verb in C). Furthermore, I argued that the developments discussed

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[17] Lenerz (1985) puts forward the opposite hypothesis, i.e. that the quasi-argument *iz* evolved through a reanalysis of the prefield *iz*. However, this account is contrary to the empirical facts: there are many instances of the quasi-argument *iz* in the early OHG documents, while the prefield *iz/ez* only developed in the Middle High German period.

do not provide evidence for the hypothesis that there have been more profound and far-reaching changes in the sentence category or in other aspects of sentence structure.

Primary Sources

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9

Syntactic change as *chain reaction*: the emergence of hyper-raising in Brazilian Portuguese

ANA MARIA MARTINS AND JAIRO NUNES

9.1 Introduction*

In contrast to European Portuguese (*EP*), Brazilian Portuguese (*BP*) is not a 'Romance-type' null subject language.[1] Like German or Chinese (see Ross 1982, Huang 1984, 1989, and Cardinaletti 1990*b*), BP displays referential null subjects in matrix clauses as instances of topic deletion, i.e. the empty category is a variable bound by a zero topic (see Ferreira 2000, 2004, Modesto 2000, and Rodrigues 2002, 2004). In turn, its referential null subjects in finite embedded clauses show properties of obligatory control, such as the require- ment of a local c-commanding antecedent and sensitivity to island effects.[2] This state of affairs led Ferreira (2000, 2004) and Rodrigues (2002, 2004), whose insights we will be following here, to analyse referential null subjects

[1] For an overview of the properties of null subjects in BP and the different interpretations they have received, see the collection of papers in Kato and Negrão (2000). On the split between BP and EP with respect to the acquisition of null subjects, see Simões (1997) and Magalhães (2006).

[2] In BP the embedded subject in (i), for instance, cannot be discourse-licensed and must be coreferential with the closest c-commanding DP, namely, *o pai do Pedro* 'John's father', contrasting with what happens in EP, where all the potential interpretations for the embedded null subject signalled by the indices are grammatical options.

(i) [[o   João]$_i$ disse que [o pai   d[o Pedro]$_j$]$_k$ acha   que Ø$_{k/*i/*j/*l}$ vai   ser promovido]
     the João   said that the father of-the P.   thinks that   goes be promoted
     'João$_i$ said that [Pedro$_j$'s father]$_k$ thinks that he$_{k/*i/*j/*l}$ is going to be promoted'

in embedded finite clauses in BP as traces of A-movement, rather than *pro*.[3] Under this approach, a sentence such as (1a) in BP is analysed along the lines of (1b), where the embedded subject moves to the matrix [Spec,vP] before reaching the matrix [Spec,TP]. In other words, sentences such as (1a) are analysed as control-like structures under the movement analysis of control (see Hornstein 1999, 2001).

(1) a. As crianças disseram que gostam da babá.
         the children said-3PL that like-3PL of-the babysitter
         'The children said that they like the babysitter.'

      b. $[_{TP}$ [as crianças]$_i$ T $[_{vP}$ t$_i$ $[_{VP}$ disseram $[_{CP}$ que $[_{TP}$ t$_i$ gostam da babá]]]]]

The analysis of embedded subjects as traces of A-movement also encompasses hyper-raising structures (in the sense of Ura 1994) such as (2a), which is derived along the lines of (2b) (see e.g. Ferreira 2000, 2004; Duarte 2003, 2004; Martins and Nunes 2005, forthcoming; and Nunes 2007).[4]

(2) a. As crianças parecem que gostam da babá.
         the children seem-3PL that like-3PL of-the babysitter
         'The children seem to like the babysitter.'

      b. $[_{TP}$ [as crianças]$_i$ T $[_{vP}$ parecem $[_{CP}$ que $[_{TP}$ t$_i$ gostam da babá]]]]

Sentences such as (1a) are of course allowed in EP, given its pro-drop nature. By contrast, sentences such as (2a) are ungrammatical in contemporary EP and are not attested at any stage of its history. This indicates that hyper-raising structures are the outcome of a syntactic change that took place in BP. In this chapter, we will discuss how such constructions came to be a

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[3] The lack of licensing for 'referential' *pro* in BP also holds of null resumptives, explaining why null subjects in BP are not licensed in strong islands that cannot be subject to an obligatory control analysis, as shown in (i).

(i) Este é o autor que eu li o livro que *(ele) escreveu.
     this is the author that I read the book that he wrote
     'This is the author that I read the book that he wrote.'

[4] Although the relevant examples in the text all involve the raising verb *parecer* 'seem', it should be noted that hyper-raising in BP is not restricted to this verb, as illustrated in (i) with *acabar* 'turn out' and *perigar* 'be in danger of' (see Nunes 2007).

(i) a. Os estudantes acabaram que (eles) viajaram mais cedo
        the students finished that they travelled more early
        'The students ended up travelling earlier.'

     b. Aqueles funcionários perigam que (eles) vão ser demitidos
        those employees are-in-danger that they go be fired
        'Those employees are likely to be fired.'

grammatical option in BP and suggest that the emergence of hyper-raising was a by-product of the loss of the Romance-type pro-drop property in the course of language acquisition by BP learners.

We will be following Fodor (1998) and Dresher (1999), who propose that children are conservative incremental learners, who delay decisions until they have come across unambiguous triggers/cues for parametric setting. From this perspective, a trigger/cue is a piece of tree structure made available by UG and incorporated into the learner's grammar when the learner is exposed to input sentences that cannot be parsed otherwise. Structural representations become gradually more complex while acquisition proceeds following a (partially) ordered path, in which cues become increasingly abstract and grammar internal.[5] This learning strategy is deterministic 'in that the learner may not backtrack or undo parameter settings that have already been set. Some such restriction is necessary if the learner is to be prevented from getting into infinite loops' (Dresher 1999: 29).

Dresher's model can derive the fact that children are *degree-o learners* (Lightfoot 1991) up to a certain point. As simpler structures are parsed/ acquired at earlier developmental stages, they will constitute cues for parameter settings which the child will not be allowed to reset at later developmental stages.[6] Suppose, for instance, that in the case under discussion, the Romance-type pro-drop parameter is set at a stage when learners are exclusively dealing with unembedded structures. Once the negative value was assumed for the pro-drop parameter by some children at some point of BP history, these innovative learners exposed to input sentences with embedded referential null subjects could only parse them as traces of A-movement (given UG constraints), hence incorporating hyper-raising in their grammars.[7] Under this interpretation of the change, which we will further clarify in

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[5] Both the acquisition path and the particular triggers/cues associated with each parameter value are assumed to be provided by UG, thus part of innate knowledge.

[6] Within the language acquisition model developed by Dresher (1999), the resetting of parameters is only possible when it is imposed by parameter dependencies along the (partially) ordered acquisition path: 'Determinism does not hold in the following case: when a parameter is set to a new value, all parameters that depend upon it (follow it in the order) revert to default' (Dresher 1999: 29).

[7] Note that it is not the case that the loss of Romance-type pro-drop and the emergence of hyper-raising are two manifestations of the same parametric change. Crucially, there is no implicational dependency between the availability of null subjects and the availability of hyper-raising, as all types of combinations can be found: (i) non pro-drop + no hyper-raising (e.g. English, French); pro-drop + no hyper-raising (e.g. EP, Italian); pro-drop + hyper-raising (e.g. Romanian and Occitan; see Camproux 1958, Grosu and Horvath 1984, Sauzet 1989, 2006, Dobrovie-Sorin 1994, and Ura 1994); non pro-drop + hyper-raising (BP; see Ferreira 2000, 2004, and Martins and Nunes 2005, forthcoming). The specific innovation triggered by the resetting of the pro-drop parameter which allowed the incorporation of hyper-raising in BP will be discussed in Section 9.4 below.

Section 9.4, hyper-raising emerges in BP as the effect of a prior syntactic change, i.e. the loss of Romance-type pro-drop. This type of *chain reaction* (see Lightfoot 1991, 1999) is to be expected under a deterministic model of language acquisition and argues for the availability of syntactically induced syntactic changes (cf. Keenan 1998, 2002, this volume and Longobardi 2001*a*).

The remainder of the chapter is organized as follows. Section 9.2 describes the properties of hyper-raising structures in BP and shows how this innovation introduced a split between BP and EP. Section 9.3 draws a formal analysis of hyper-raising constructions in BP in terms of the φ-features associated with its finite Ts. Section 9.4 explores the idea that the change arose in the context of language acquisition as a consequence of the interplay between the learning device, UG constraints, and an earlier innovation along the learning path. Section 9.5 concludes the chapter, by calling attention to the importance of *chain reactions* as a source for syntactic change.

9.2 Hyper-raising in Brazilian Portuguese

Ferreira (2000, 2004) presents two types of evidence to show that the matrix DP in constructions such as (2a) above in BP occupies a regular subject position, rather than a topic position. First, the matrix preverbal DP triggers agreement with the matrix predicate, as illustrated in (3).

(3) a. A   criança   **parece**   que   gosta   da   babá.
        the   child   **seem-3sg** that like-3sg of-the   babysitter
        'The child seems to like the babysitter.'

      b. As   crianças **parecem** que   gostam   da   babá.
        the   children **seem**-3pl that like-3pl of-the   babysitter
        'The children seem to like the babysitter.'

And second, the DP in question can be a quantified expression or a weak pronoun, both of which cannot be topicalized. (4) below, for instance, shows that the quantifier *alguém* 'someone' cannot be a topic (cf. (4a)), but it can be the matrix subject of a hyper-raising sentence (cf. (4b)). In turn, (5) shows that as opposed to strong pronoun *você*, the weak pronoun *cê* can occur in the subject position of a hyper-raising construction, but not in a topic position. Similar considerations apply to the weak pronoun *ele*, which is homophonous with its strong counterpart (see Martins and Nunes 2005). Thus, given that the topic position only allows strong pronouns, the pronoun *ele* in (6a) can only be interpreted as [+human]; by contrast, the pronoun *ele* in the subject position of a hyper-raising construction is compatible with either [+human] or [−human] interpretation, as illustrated in (6b).

(4) a. *Alguém,   a   babá   me disse que chorou.
         someone   the babysitter me told   that cried
         'The babysitter told me that someone cried.'

     b. Alguém   parece   que   chorou.
        someone   seem-3SG that cried-3SG
        'Someone seems to have cried.'

(5) a. Você/*cê,   a   babá   me disse que está doente.
        you_strong/you_weak the babysitter me said that is   sick
        'The babysitter told me that you are sick.'

     b. Você/cê   parece que está doente.
        you_strong/you_weak seem that is   sick
        'You seem to be sick.'

(6) a. Ele,   a   Maria disse que caiu.
        pro-3SG   the Maria said   that fell
        'Maria said that he fell down.' [e.g. *ele* = 'John']
        *'Maria said that it fell down.' [e.g. *ele* = 'the book']

     b. Ele   parece que caiu.
        pro-3SG   seems that fell
        'He seems to have fallen down.' [e.g. *ele* = 'John']
        'It seems to have fallen down.' [e.g. *ele* = 'the book']

Additional evidence for Ferreira's analysis is provided by Martins and Nunes (2005), who observe that the constructions in question may also involve idiom chunks, as illustrated in (7), which cannot be topicalized either.

(7) a. O   pau   vai   comer feio.
        the stick goes   eat   ugly
        'There's going to be a big discussion/fight.'

     b. *O   pau, o   João disse que vai   comer feio.
         the stick the João said that goes   eat   ugly
         'João said that there's going to be a big fight.'

     c. O   pau   parece que vai   comer feio.
        the stick seems that goes   eat   ugly
        'It seems that there's going to be a big fight.'

It is very illuminating to contrast BP with EP with respect to the structures involving raising of the embedded subject of a finite clause to the matrix clause. Since hyper-raising is not an option in EP, subject-verb agreement in the matrix clause is prohibited in EP, as shown in (8) below. Hence, the

DP *a(s) criança(s)* is an agreeing *subject* in the BP sentences in (3a) and (3b), but a non-agreeing *topic* in the EP sentences in (8a) and (8c). Note that (8a) resembles a case of hyper-raising, because third-person singular is the default agreement form for impersonal constructions with a null expletive subject, as seen in (8c).

(8)   European Portuguese:

　　a. A　　criança　**parece**　que　gosta　da　　babysitter.
　　　　the　child　　**seem-3SG**　that　like-3SG　of-the　babysitter
　　　　'It seems that the child likes the babysitter.'

　　b. *As　crianças　**parecem**　que　gostam　da　　babysitter.
　　　　the　children　**seem-3PL**　that　like-3PL　of-the　babysitter
　　　　'The children seem to like the babysitter.'

　　c. As　crianças　**parece**　que　gostam　da　　babysitter.
　　　　the　children　**seem-3SG**　that　like-3PL　of-the　babysitter
　　　　'It seems that the children like the babysitter.'

The contrast between BP and EP is also revealed when standard raising structures are compared with hyper-raising structures. Example (9) shows that when standard raising out of an infinitival is involved, a quantified expression may be the matrix subject in both BP and EP. By contrast, the analogous construction with a finite embedded clause is possible in BP, but not in EP, because in this case topicalization is not an option and EP does not allow A-movement of the embedded subject into the matrix clause.

(9) a. Brazilian Portuguese: OK;　European Portuguese: OK
　　　Pouca atenção　parece ter　　sido dada às　　crianças doentes.
　　　few　　attention　seems　have-INF　been given to-the children sick
　　　'It seems that little attention has been paid to the sick children.'

　　b. Brazilian Portuguese: OK;　European Portuguese: *
　　　Pouca atenção　parece que foi dada às　　crianças doentes.
　　　few　　attention　seems　that was given to-the children sick
　　　'It seems that little attention was paid to the sick children.'

Finally, (10) below shows that in EP, only standard raising allows idiom chunks in matrix subject positions (cf. (10b)). There is no grammatical counterpart with a finite complement clause, as opposed to what happens in BP (compare (7c) with (10c)). Once hyper-raising is not allowed in EP, the ungrammaticality of (10c) is to be ascribed to the general restriction blocking idiom chunks as topics.

(10) European Portuguese:

   a. A   montanha   pariu   um   rato.
      the   mountain   gave-birth-to   a   mouse
      'The results were well below the expectations.'

   b. A   montanha   parece   ter   parido   um   rato.
      the   mountain   seems   have-INF   given-birth-to a   mouse
      'The results seem to have been well below the expectations.'

   c. *A   montanha   parece   que   pariu   um   rato.
      the   mountain   seems   that gave-birth-to   a   mouse
      'It seems that the results were well below the expectations.'

To summarize, several empirical contrasts between BP and EP can be subsumed under the descriptive generalization that BP—but not EP—allows A-movement out of a finite clause, yielding a hyper-raising construction. In order to understand how the innovative hyper-raising construction emerged in BP, we first need to have a formal account of such construction that is able to derive the grammatical split between BP and EP. This is the topic of the next section.

9.3 φ-incomplete finite Ts and hyper-raising in BP

It is a well-known fact that BP verbal inflection underwent significant erosion across time, with the result that certain person/number distinctions ceased to be overtly expressed (see Galves (1984, 1993, 2001), Duarte (1993, 1995, 2000), Nunes (2007), and the references therein). Assuming Chomsky's (2000, 2001) Agree-based framework, Ferreira (2000, 2004) proposes that this weakening of verbal morphology led finite Ts in BP to be of two sorts, either φ-complete or φ-incomplete, thus becoming optional Case-assigners. When the Case-assigning version of a finite T is selected (i.e. a φ-complete T), it assigns nominative to the subject, freezing it for further A-movement. If the non-Case-assigning version of a finite T is selected instead (i.e. a φ-incomplete T), the subject of its clause must have its Case checked by a higher probe.

Although we will not directly correlate the weakening of verbal morphology with the emergence of φ-incomplete Ts in BP (see Section 9.4 below), we will assume Ferreira's (2000, 2004) general proposal regarding the ambiguity of finite Ts in BP with respect to φ-completeness, reinterpreting it under the implementation in terms of the feature [person] proposed by Nunes (2007). Nunes observes that the verbal agreement paradigm of BP is such that the only inflection that overtly encodes both number and person is

the first-person singular inflection. All the other cases involve either number specification with default value for person (third) or default values for both person and number (third singular), as illustrated in (11).

(11) Verbal agreement paradigm in (Colloquial) Brazilian Portuguese
cantar 'to sing': indicative present

eu 'I'	canto	P:1; N:SG
você 'you (SG)'	canta	P:default; N:default (= 3SG)
ele 'he'	canta	P:default; N:default (= 3SG)
ela 'she'	canta	P:default; N:default (= 3SG)
a gente 'we'	canta	P:default; N:default (= 3SG)
vocês 'you (PL)'	cantam	P:default; N:PL (= 3PL)
eles 'they (MASC)'	cantam	P:default; N:PL (= 3PL)
elas 'they (FEM)'	cantam	P:default; N:PL (= 3PL)

Nunes proposes that φ-complete and φ-incomplete finite Ts in Ferreira's terms correspond to Ts specified with number and person features or a number feature only. That is, the verbal forms in (11) may also be associated with a T specified only for number, with the person information being provided in the morphological component by redundancy rules, as illustrated in (12) below. If T has only a number feature and it is valued as singular in the syntactic component, it will later be associated with first person in the morphological component; if the number feature receives any other value in the syntactic component (default or plural), it will later be associated with a default value for person (third) in the morphological component.

(12) *cantar* 'to sing': indicative present

Valuation of T in the syntactic component	Addition of [person] in the morphological component	Surface form of the verb
N:SG	N:SG; P:1	canto
N:default	N:default; P:default	canta
N:PL	N:PL; P:default	cantam

Under this view, the impersonal sentence in (13a) is derived along the lines of (13b) while the hyper-raising sentence in (14a) is derived along the lines of (14b).

(13) a. Parece que   o   João comprou um carro novo.
seems that the João bought   a   car   new
'It seems that João bought a new car.'

b. [$_{TP}$*pro*$_{expl}$ T$_{[N:default;\ P:default]}$ parece que [$_{TP}$ [o João]$_{[Case:NOM]}$
T$_{[N:default;\ P:default]}$ ...]]

(14) a. O   João   parece   que   comprou   um   carro   novo.
          the   João   seems   that   bought   a   car   new
          'João seems to have bought a new car.'

      b. $[_{TP}$ [o João]$_{[Case:NOM]}$ T$_{[N:default; P:default]}$ parece que $[_{TP}t$
          T$_{[N:default]}\ldots]]$

In (13), both Ts have number and person features, that is, they are Case
assigners. Thus, *o João* has its Case valued in the embedded clause and
becomes inactive for further A-movement. By contrast, in (14) the embedded
T has only a number feature and, as such, it is unable to value the Case
feature of *o João*. Therefore, the embedded subject is still active for purposes
of agreement and A-movement and may be Case-licensed by the matrix T,
which has both number and person features, yielding a hyper-raising con-
struction.[8] Observe that both Ts in (14) display third-person singular morph-
ology although they differ with respect to their abstract φ-features. The
ambiguity involves the source of the person feature: whether it is part of
the numeration and feeds the syntactic component, as is the case with the
matrix T, or whether it is added in the morphological component by redun-
dancy rules, as is the case with the embedded T.[9]

To summarize, BP exercises an option that is generally restricted to non-
finite clauses in other languages, namely, it allows raising out of a finite
embedded clause when its T is not a Case assigner (i.e. when it only has
a number feature as it enters the numeration). If such movement targets a
θ-position, we have a control-like structure as in (1), here repeated as (15); if
it targets a non-thematic position, we get a hyper-raising construction as in
(2), here repeated as (16).

(15) a. As   crianças   disseram   que   gostam   da   babá.
          the   children   said-3PL   that   like-3PL of-the   babysitter
          'The children said that they like the babysitter.'

      b. $[_{TP}$ [as crianças]$_i$ T $[_{vP}$ t$_i$ $[_{VP}$ disseram $[_{CP}$ que $[_{TP}$ t$_i$ gostam da
          babá]]]]]$

---

[8] Ferreira (2000: 55) suggests that if C selects a φ-incomplete T, it should not define a strong phase,
rendering the CP it heads transparent for long-distance agreement. Hence, a matrix T can enter into a
probe-goal relationship with the subject of an embedded T specified only for number. For further
discussion, see Martins and Nunes (forthcoming).

[9] Although both φ-complete and φ-incomplete finite Ts are legitimate options for any given
numeration, UG principles determine whether or not the choice and the structural locus of a φ-
incomplete finite T give rise to a convergent derivation (see Ferreira 2000, 2004 for discussion). If the
matrix clause is associated with a φ-incomplete finite T, there is no source of Case assignment for the
matrix subject and the derivation simply crashes. In other words, a φ-incomplete finite T will only
yield a convergent derivation if it sits within an embedded clause, being no different from other types
of φ-incomplete Ts, such as the infinitival T of standard raising constructions or the infinitival T of
obligatory control constructions under a movement analysis.

(16) a. As   crianças   parecem   que   gostam   da   babá.
         the   children   seem-3PL   that   like-3PL of-the babysitter
         'The children seem to like the babysitter.'

      b. [$_{TP}$ [as crianças]$_i$ T [$_{VP}$ parecem [$_{CP}$ que [$_{TP}$ t$_i$ gostam da babá]]]]

In the next section we will consider how ɸ-incomplete finite Ts came to be part of the grammars of BP speakers.

9.4 From the loss of Romance-type pro-drop to the emergence of hyper-raising

As discussed in the previous section, the availability of a ɸ-incomplete finite T in BP (i.e. a finite T lacking a person feature) is the crucial ingredient that allows derivations along the lines of (17) and (18) below. In both derivations, the embedded T is ɸ-incomplete and therefore, its subject is allowed to undergo A-movement to the matrix clause.

(17) [$_{TP}$ [os músicos]$_i$ T$_{ɸcomplete}$ [$_{vP}$ t$_i$ [$_{VP}$ disseram [$_{CP}$ que
          the musicians   said-3PL   that
      [$_{TP}$ t$_i$ T$_{ɸincomplete}$ não vêm]]]]]
                         not come-3PL
      'The musicians said that they are not coming.'

(18) [$_{TP}$ [os músicos]$_i$T$_{ɸcomplete}$ [$_{vP}$ parecem [$_{CP}$ que
          the musicians   seem-3PL   that
      [$_{TP}$ t$_i$ T$_{ɸincomplete}$ não vêm]]]]
                          not come-3PL
      'It seems that the musicians are not coming.'

The innovative BP structures in (17)–(18) are regularly absent from grammars where finite T is exclusively of the Case-assigning type, as witnessed by EP. Thus, we need to find a logical setting for the emergence of ɸ-incomplete finite T in BP. The question is how a grammar without that option came to embrace it; in other words, how an EP-type grammar evolved into a BP-type grammar. As suggested by Ferreira (2000, 2004), the evanescence of Romance-type pro-drop in BP depicted in Fig. 9.1 below (from Duarte 2000)[10] and the advent of ɸ-incomplete finite T are certainly somehow related.[11] However, the fact that hyper-raising is not common in non-pro-drop

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[10] The 26% of null subjects in the last period depicted in Fig. 9.1 most likely include instances of topic drop (see Section 9.1) and A-traces in the subject position of finite clauses, as these possibilities were not distinguished from true instances of *pro* in Duarte (2000).

[11] Unfortunately, there is no available information—as far as we know—on how early ɸ-incomplete finite T constructions were incorporated into the grammar of BP (note that unambiguous
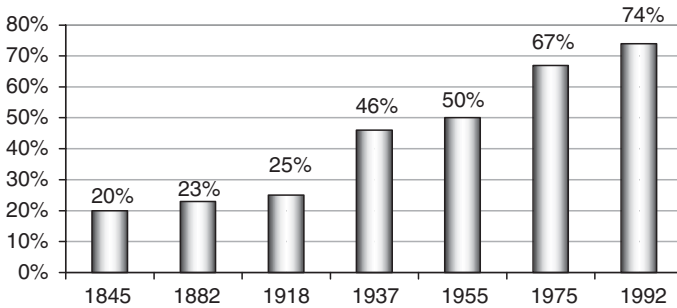
FIGURE 9.1 Overt pronominal subjects in Brazilian Portuguese (from Duarte 2000)

languages and is actually attested in pro-drop languages (see references in n. 7) clearly indicates that there is not a direct causal relation between the loss of pro-drop and the emergence of hyper-raising. We will show that by taking into consideration language acquisition, it is possible to clarify the nature of the link between the loss of pro-drop and the appearance of φ-incomplete finite T, the latter making hyper-raising a grammatical option.[12]

The loss of Romance-type pro-drop in BP has been thought of by most authors as the by-product of a previous morphological change, namely the impoverishment of verbal inflection (see Kato and Negrão (2000) and the references therein). Contrary to this main trend of thought, Negrão and Viotti (2000) interpret the BP particular behaviour with respect to null referential subjects as rather the effect of a typological change in the direction of the so-called discourse-oriented languages. Both perspectives allow us to trace a former scenario with BP still being a Romance-type pro-drop language while the increase in the frequency of overt pronominal subjects was reaching a critical point. We would like to propose that in the course of language acquisition, the negative setting of the pro-drop parameter in BP started a *chain reaction* that made room for the appearance of the new kind of finite T.

Under the morphology-induced-change approach, null subjects would be decreasing in frequency because the impoverished verbal inflection *per se* could do little to avoid discourse ambiguity with respect to subject

evidence for such constructions can only be given by complex sentences with raising verbs and first-person singular or plural subjects). The fact that they are still subject to sociolinguistic stigmatization suggests that it is a recent change. If our understanding of the change is correct, the loss of pro-drop and the emergence of φ-incomplete finite T are contemporaneous grammatical changes. Duarte (2004) attests occurrences of hyper-raising in spoken language records since the early 80s in the 20th century.

[12] We depart from Ferreira (2000, 2004) in not taking the simplification of the verbal agreement paradigm as the common historical source for both the unavailability of pro-drop and the availability of φ-incomplete finite Ts in BP.

identification. On the other hand, under the alternative approach of Negrão and Viotti (2000), overt subjects would be progressively gaining ground over null subjects because BP was turning into a topic-prominent language. The important point to retain here is that, in one way or the other, a clear asymmetry between main clauses and certain embedded clauses is predicted to have emerged. Concretely, in complex sentences with co-referential subjects (cf. (17)), the tendency to fill in the subject position would apply to the matrix subject but not to the embedded subject. There are two possible sources for this asymmetry: first, the matrix subject qualifies as the sentential topic, but an embedded subject doesn't; second, the embedded subject can have its content unambiguously identified by a very close discourse antecedent, that is, the matrix subject.[13] So, there must have been a stage in the history of BP when matrix subjects tended not to be null while embedded co-referential subjects were regularly null. This stage in turn set in motion the sequence of changes that made BP a non-pro-drop language allowing hyper-raising.

The rationale for the changes is to be found in the context of language acquisition. At a 'degree-0 stage' of the acquisition path, some BP learners must have taken certain unembedded structures as indicating that the Romance-type pro-drop parameter was to be set to the negative value.[14] Afterwards, the same learners would come across complex sentences regularly displaying embedded null subjects. If at this later developmental stage, backtracking from the earlier non-pro-drop decision was not an option (in the spirit of Dresher 1999), either the evidence of such complex sentences should be disregarded[15] or they should be processed (thus acquired) as instances of hyper-raising. The hyper-raising choice would imply incorporating in the growing grammar an additional ϕ-incomplete finite T, in accordance with UG principles.[16]

The ambiguity of verbal agreement inflection in BP may have played a 'facilitating' role in the change. Recall that in BP, every piece of verbal agreement morphology on finite verbs (or lack thereof) is such that it may

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[13] As is well known, the unmarked case for complex sentences with coreferential subjects in the pro-drop Romance languages is to have a null subject in the embedded clause.

[14] The incremental learning model designed by Dresher (1999) allows a relativized version of degree-0 learnability (cf. Lightfoot 1991, 1999) to be derived from the general tenet that 'the series of grammars a learner traverses in the course of acquisition does not resemble a succession of states, but represents a movement from lesser to greater complexity along a number of dimensions' (Dresher 1999: 44).

[15] As argued by Lightfoot (1991, 1999) and Dresher (1999), learners are not compelled to match the input.

[16] This picture of the emergence of the new syntactic properties in the grammar of BP echoes previous analyses of classical cases of syntactic change in the history of English (see Lightfoot 1991, 1999):

be interpreted as ambiguous between number and person or number only, as shown in (19) below. Therefore, verbal morphology would not give positive counter-evidence against reanalysing structures with an embedded ϕ-complete finite T (i.e. a T with number and person) as structures with an embedded ϕ-incomplete finite T (i.e. a T with only number).

(19)   *cantar* 'to sing': indicative present

Valuation of T in the syntactic component	Surface form of the verb
$T_{[N:SG]}$ or $T_{[N:SG; P:1]}$	cant<u>o</u>
$T_{[N:default]}$ or $T_{[N:default; P:default]}$	canta
$T_{[N:PL]}$ or $T_{[N:PL; P:default]}$	canta<u>m</u>

9.5 Syntactic change as *chain reaction*

In this chapter we have discussed the appearance of some new syntactic structures in BP, where the matrix T assigns nominative Case to the embedded subject. We fixed our attention particularly on hyper-raising. It was shown that BP, in contrast to EP, allows hyper-raising because in BP grammars finite T can be ϕ-incomplete, hence a non-Case-assigning head (like infinitival T).

We then explored the idea that the change arose in the context of language acquisition as a consequence of the interplay between the learning device, UG constraints, and an earlier innovative move along the learning path. Our proposal takes a prior change, namely, the loss of Romance-type pro-drop to have prompted a chain reaction leading to a reanalysis of finite Ts as optional Case-assigners/checkers and, therefore, to the incorporation of hyper-raising structures into the grammar.

Such chain reactions are expected as a consequence of the way in which grammars are built by learners and identify clear cases of syntactic changes syntactically induced. So under our analysis, hyper-raising was not prompted

parameter settings (...) sometimes set off chain reactions. (...) Such chain reactions can be understood through the acquisition process: a child with the new verb-complement setting is forced by the constraints of Universal Grammar to analyze expressions like *I ordered the grass cut + infin* differently from the way they were analyzed in earlier generations, with *the grass* coming to be analyzed as the subject of the embedded clause. (Lightfoot 1991: 167)

not only is a new grammatical property typically manifested by a cluster of new phenomena; it also sometimes sets off a chain reaction. An example from the history of English is the establishment of verb-complement order. I showed (Lightfoot 1991) that this led indirectly to the introduction of an operation analyzing *speak to*, *spoken to*, etc. as complex verbs. Such chain reactions can be understood through the acquisition process: a child with the new verb-complement setting is induced by the constraints of UG to analyze some expressions differently from the way they were analyzed in earlier

into BP syntax by some kind or other of 'external' pressure, although that might have been the case with respect to the loss of Romance-type pro-drop. Because chain reactions are a function of the learning path, in the sense of Dresher (1999), empirical inquiry on the acquisition of syntax may open new avenues for isolating and understanding instances of 'predictable' syntactic changes. The reverse trend of investigation is also very auspicious, as the study of actual cases of syntactic changes identified as a chain reaction can give us valuable insights on the ordering of the learning path.

generations. As a result, the new grammar comes to differ from the old in more than one way. (Lightfoot 1999: 105)

where the distribution of cues results from an earlier grammatical shift (. . .) one has a 'chain' of grammatical changes. One example would be the recategorization of the modal auxiliaries (. . .), which contributed to the loss of V to I. (Lightfoot 1999: 166)

10

On the emergence of *TER* as an existential verb in Brazilian Portuguese

JUANITO AVELAR

10.1 Introduction*

The idea that inherently possessive verbs result from the combination of a copular verb and an abstract preposition is a well-known hypothesis concerning the syntax of possession in generative literature. Since Freeze (1992), whose analysis explores an approach previously suggested in Lyons (1967), a considerable number of studies within the Principles and Parameters framework have provided empirical and conceptual support for such a hypothesis (see, among others, Kayne 1993; Longa, Lorenzo, and Rigau 1998; Ouhalla 2000; Torrego 2002; Avelar 2004; Reintges and Lipták 2006). An interesting aspect that reveals a link to us between copular and possessive structures can be observed in languages whose possessive verb corresponds to a morphological amalgam containing a copular verb and an adpositional item, as in the Coptic Egyptian and Kamaiura sentences which follow. If this amalgam is a universal strategy in the generation of possessive verbs, then languages in which such verbs do not overtly exhibit a copula-plus-adposition morphology (for instance, *have* in English or *avoir* in French) must also present an 'invisible' incorporation of an abstract category into the copula.

(1) a. Coptic Egyptian (Reintges and Lipták 2006: 111)
         ne-*wǝnte*   p-ǝrro   salpigks   sǝnte
         PRET-be + with (=have)   DEF.M.SG-king   trumpet   two
         ǝn-nuβ   ǝn-tšatšǝh.
         gold   refined
         'The King had two trumpets of refined gold.'

     b. Kamaiura (Seki 2000: 304)
         je-r   -a'yr-a   w-*ereko*   ywyrapar-a
         1SG   son   3-be + with (=have)   bow
         'My son has a bow'

Changes undergone by possessive and copular verbs can be discussed from the perspective above. For example, the history of Portuguese presents deep alterations involving *ter* 'to have', *haver* 'to exist', and *ser/estar* 'to be'. In Medieval Portuguese, *haver* was the canonical possessive verb, whereas *ser* was used in existential and copular constructions. This situation was strongly affected around the fifteenth century: *haver* was replaced by *ter* in possessive constructions, but took the place of *ser* in existentials; in the same period, *ser* was also replaced by *estar* in locative and stage level copular constructions (Mattos e Silva 1996, 1997, 2002*a*, 2002*b*). Taking into account that possessive sentences are intrinsically copular, the idea that alterations in copular domains can affect possessive constructions is extremely plausible when attempting to account for this set of changes.

In this chapter, I will concentrate on a more recent change in possessive and existential domains of Portuguese: the emergence of possessive *ter* as an existential verb in Brazilian Portuguese. Although sociolinguistic descriptions of this innovation have been made (Callou and Avelar 2001, 2003; Leite and Callou 2002; Silva 2004, among others), there is no explanation for why *ter* became existential in the literature on Brazilian Portuguese. My proposal to deal with this question is that the emergence of *ter* as an existential verb is related to the appearance of a new clausal pattern with the copula *estar* 'to be', apparently triggered by radical alterations in the Brazilian Portuguese inflectional paradigm.

The chapter is organized as follows. In Section 10.2, I present some innovations in Brazilian Portuguese associated with the impoverishment of the inflectional paradigm, suggesting that the emergence of *ter* as an existential verb derives from these innovations. Section 10.3 presents Avelar's (2004) proposal for the underlying structure of possessive sentences in Portuguese, exploring the hypothesis that possessive verbs have copular features within their internal composition. Section 10.4 provides some evidence to suggest that

existential constructions with *ter* have inherited the internal structure of possessive sentences. My conclusions are presented in Section 10.5.

10.2 Null subject restrictions and locative PPs as subjects

In this section, two correlated innovations in Brazilian Portuguese will be presented: the impoverishment of the inflectional paradigm (with consequences for the restrictions on null subjects), and the realization of locative PPs in the subject position of transitive sentences. I will suggest that these innovations played a decisive role in the emergence of *ter* as an existential verb.

10.2.1 *The impoverishment of the inflectional paradigm and restrictions on null subjects*

In European Portuguese (henceforth, EP), null subject sentences with *ter* 'to have', as in (2) below, are interpreted as possessive constructions with null referential subject. In Brazilian Portuguese (henceforth, BP), by contrast, these same sentences receive an existential interpretation. To obtain a possessive interpretation in BP, it is necessary for the sentence to have, as in (3), a phonological subject, whereas in EP only *haver* 'to exist' can be used in existential environments, as exemplified in (4).

(2) a. Dentro do   armário tem   várias   calças.
        inside   of-the closet   has   several trousers
        EP: '(S)he has several trousers inside the closet.'
        BP: 'There are several trousers inside the closet.'

  b. Tinha   um   documento   na   carteira.
        had   a   document   in-the   wallet
        EP: '(S)he had a document within the wallet.'
        BP: 'There was a document within the wallet.'

(3) a. Ele/Ela tem   várias   calças   dentro   do   armário.
        he/she   has   several trousers inside   of-the closet
        EP/BP: '(S)he has several trousers inside the closet.'

  b. Ele/Ela tinha   um   documento   na   carteira.
        he/she   had   a   document   in-the   wallet
        EP/BP: '(S)he had a document in the wallet.'

(4) a. Há   várias   calças   dentro   do   armário.
        exists several trousers inside   of-the closet
        EP/BP: 'There are several trousers inside the closet.'

b. Havia   um   documento   na   carteira.
   existed   a   document   in-the   wallet
   EP/BP: 'There was a document in the wallet.'

The use of *ter* in existential environments is considered to be one of the more prominent contrasts between BP and EP.[1] However, the reasons why *ter* receives an existential interpretation in BP have lacked a clear explanation until now. Following an idea presented in Callou and Avelar (2001), one can speculate whether a strong candidate which triggered the innovation could not be the gradual impoverishment of the inflectional paradigm of BP, today drastically reduced: as shown in (5), the only clear distinction in the BP verbal inflection is in the singular first person; in contrast, EP has a morphologically rich inflection, with distinct suffixes for the different persons.

(5) | **Brazilian Portuguese** | **European Portuguese** | |
|---|---|---|
| eu **fal-o** | eu **fal-o** | 'I speak' |
| você/tu **fala-Ø** | tu **fala-s** | 'you speak' |
| ele/ela **fala-Ø** | ele/ela **fala-Ø** | 'he/she/it speaks' |
| nós **fala-Ø** / **fala-mos** | nós **fala-mos** | 'we speak' |
| a gente **fala-Ø** | | |
| vocês **fala-Ø** / **fala-m** | vós **fala-is** | 'you speak' |
| | vocês **fala-m** | |
| eles **fala-Ø** / **fala-m** | eles **fala-m** | 'they speak' |

Different analyses argue for the idea that the inflectional impoverishment made the contexts licensing referential null subjects extremely restricted (cf. Duarte 1995; Tarallo 1996; Figueiredo Silva 1996; Galves 1996, 2001; Ferreira 2000; Kato 2000, 2004; Kato, Duarte, and Barbosa 2005; Rodrigues 2002, 2004, among others). The null subject construction in (6a) below, for example, is acceptable only in EP; in BP, the same sentence has to receive a phonological subject, as in (b).

(6) a. Brazilian Portuguese: * / European Portuguese: ok
        Bebe   cerveja.
        drinks   beer
        'He/She drinks beer.'

---

[1] Variationist studies on *ter* and *haver* in BP (Callou and Avelar 2001, 2003; Silva 2004, among others) show that the former is much more frequent than the latter in spoken language. *Haver* is largely preferred in formal written language, but its frequency is extremely low in spontaneous language, even among people with a high educational level.

b. Brazilian Portuguese: ok / European Portuguese: ok
    Ele bebe   cerveja.
    he   drinks beer
    'He drinks beer.'

Taking these facts into consideration, we can conclude that BP speakers do not interpret the sentences in (2) as possessive constructions, because this interpretation requires a referential null subject that is not available in BP grammar. There is a temporal parallelism corroborating this conclusion: the existential use of *ter* began to appear in the second half of the nineteenth century, and it is exactly in this period that the frequency of referential null subjects began to decrease (Duarte 1995; Tarallo 1996). There is no clear example of existential *ter* until eighteenth century in documents written in Brazil (Avelar 2006a), but the frequency of *ter* in existential environments rises suddenly and strikingly to 22 per cent in the second half of nineteenth century (Callou and Avelar 2003), as illustrated in Fig. 10.1. A study presented by Duarte (1995) shows that, in this same period, the rate of null subjects corresponding to the third person began to decrease, going from 83 per cent in 1845 to 67 per cent in 1882, as illustrated in Fig. 10.2. These quantitative results, in addition to the qualitative facts previously mentioned, provide suggestive evidence that the reanalysis of *ter* as an existential verb reflects a solution to resolve the loss of the referential null subject in the domain of *ter* constructions.

10.2.2 *Locative elements in subject position*

Although the restrictions on null subjects help us to understand why null subject sentences with *ter* cannot be possessive in BP, they do not clarify the
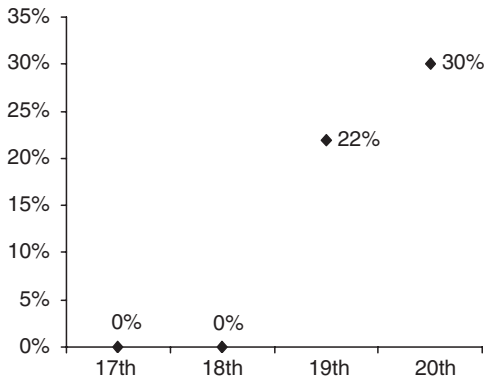
FIGURE 10.1 Frequency of existential *ter* (against frequency of *haver*) in documents written in Brazil, from the 17th century to the 20th century. (Avelar 2006a)
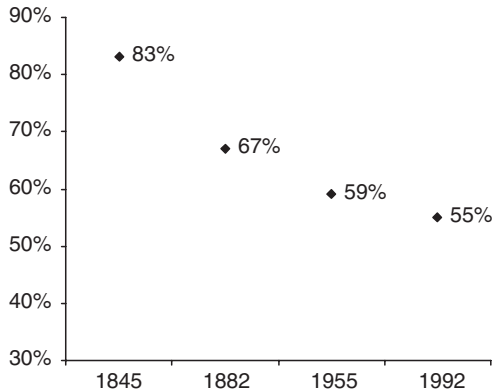
FIGURE 10.2 Frequency of referential null subject corresponding to the third person in documents written in Brazil, from 1845 to 1992. (Duarte 1995: 20)

reason why these same sentences must receive the existential meaning. A clue to this question may lie in another BP innovation exemplified in (7) below: many BP verbs can dispense with a nominal subject when there is a locative PP (or a locative deictic adverb) in the sentence. In (a), for instance, the verb *vender* 'to sell' co-occurs with the locative constituent *(ali) naquela loja* '(there) in that shop' in the left periphery. In EP, such a sentence is taken to have a null referential subject, but BP speakers provide it with a meaning corresponding to *that shop there sells many clothes* or *in that shop there, many clothes are sold*. The same observation extends to the sentences in (b)–(c).[2]

(7) a. *(Ali)*   naquela   loja   vende   bastante   roupa.
      there   in-that   shop   sells   many   clothes
      EP: 'In that shop, (s)he sells many clothes.'
      BP: 'That shop sells many clothes.' / 'In that shop, many clothes are sold.'

   b. *(Aí)*   *no*   *meu DVD*   grava   todo   tipo   de   filme.
      there   in-the   my DVD   records   all   kind   of   movie
      EP: '(S)he records all kind of movie with my DVD.'
      BP: 'My DVD records any kind of movie.' / 'Any kind of movie is recorded by my DVD.'

   c. *(Aqui)*   *nessa*   *rua*   rouba   muito   carro.
      here   in-this   street   steals   many   cars
      EP: '(S)he steals many cars in this street.'
      BP: 'Many cars are stolen in this street.'

---

[2] See Franchi, Negrão, and Viotti (1998) for a discussion on ergativized transitive verbs in BP.

Taking facts like these into consideration, Avelar (2006*b*) and Avelar and Cyrino (2007) suggest that locative PPs can occupy the subject position of transitive sentences in BP, but not in EP. This opposition between BP and EP can be associated with the properties of T(ense)'s φ-features: elements without accessible interpretable φ-features (like PPs and adverbs) can appear in the subject position of BP transitive sentences, because BP displays a version of T without uninterpretable φ-features to be valued.[3] By contrast, finite T in EP always presents complete φ-features, a situation that requires the presence of an element with interpretable φ-features (a DP/NP) accessible to T's probe. If this view is correct, the contrasts between EP and BP concerning locative PPs in subject position can be explained within the same schema, previously explored, to account for null subject contrasts.

Sentences with *ter* are subjected to restrictions that reveal to us a connection between the presence of a locative phrase and the existential interpretation. As shown in (8), the presence of a locative phrase rescues *ter* sentences without a subject from being ill-formed in BP, providing it with an existential meaning.

(8) a. *(na   bolsa)   tem   um   livro.
        in-the   bag   has   a   book
        BP: 'There is a book in the bag.'

     b. *(dentro   do   avião)   tinha   bastante   gente.
        inside   of-the   airplane   had   many   people
        BP: 'There were many people inside the airplane.'

This fact raises the following question: why does the presence of a locative phrase in *ter* sentences without a referential subject yield an existential interpretation? Freeze's (1992) perspective can shed some light on this question. According to this author, the following condition is present in Universal Grammar: copular structures with a locative phrase in their subject position receive an existential interpretation. In (9) to follow are sentences from Hindi, Chamorro, Tagalog, and Finnish, presented in Freeze (1992: 555–6), that illustrate this property.

(9) a. Hindi (SOV)
        kamree-mẽẽ   aadmii   hai.
        room-in   man   COP-3SG.M.PRES
        'There is a man in the room.'

---

[3] See also Ferreira (2000), Rodrigues (2004), and Martins and Nunes (in this book) for approaches exploring T's defective φ-features in BP.

b. Chamorro (VOS)

guäha lahi   gi   gima
be   man   P   house.
'There is a man in the house.'

c. Tagalog (VOS)

may   gera   sa   ewropa.
COP   war   in   Europe
'There is a war in Europe.'

d. Finnish (SVO)

huonee-ssa   on   mies.
room-INESSIVE   is   man-NOM
'There is a man in the room.'

Within Freeze's analysis, the possessive verb is formed from a copular verb and an abstract preposition, represented respectively as V_{cop} and P in (10). Thus, it should be no surprise that sentences with *ter* presenting a locative PP in subject position receive an existential interpretation, given that the possessive sentence is in fact a copular structure, a topic I will concentrate on in the next section. The existential interpretation is, from this view, a Universal Grammar strategy explored by BP learners as a result of two facts: the absence of null referential subjects, and the possibility of inserting locative PPs in subject position. EP learners don't resort to the same strategy because EP displays referential null subject, and does not license locative PPs in the subject position of *ter* sentences.

(10)   I [V_{cop} + P = **HAVE**] a book.

Before proceeding with the discussion, it is worth considering *ter* existential sentences whose locative phrase appears in the sentence-final position, as in (11). If it is assumed that the existential interpretation is triggered by the presence of a locative in subject position, and given that BP is a SVO language, it should be expected that existential sentences with a locative in the sentence-final position are ill-formed, contrary to the facts.

(11)   a. Tinha   muitos   livros   *na*   *biblioteca.*
           had   many   books   in-the   library
           'There were many books in the library.'

       b. Tem   bastante   gente   *dentro*   *desse*   *avião.*
           has   many   people   inside   of-this   airplane
           'There are many people inside of this airplane.'

In fact, these data do not pose a real problem for the present analysis, given that BP allows sentence-final subjects in specific pragmatic situations. In (12) to follow, for instance, the DP taken as subject is situated in the final position, with an optional preverbal pronoun coindexed to it. In (13), the locative PP also appears in the final position, optionally coindexed with a preverbal locative deictic. In (14), *ter* existential sentences show the same behaviour: the preverbal position can be occupied by a deictic pronominal element coindexed with the locative phrase. Then, I will also take into account that locative PPs occurring in the sentence-final position can preserve their subjecthood.[4]

(12) a. (ele$_i$) não   almoçou, o   Roberto$_i$
          he   not   lunched   the Roberto
          'Roberto did not have lunch.'

     b. (ele$_i$) não   cabe aqui na   minha bolsa, esse caderno$_i$
          it   not   fits here in-the my   bag   this notebook
          'This notebook doesn't fit in my bag.'

(13) a. (lá$_i$)   vende muitas calças, naquela loja$_i$
          there   sells many   pants   in-that shop
          'That shop sells many pants.'

     b. (aí$_i$)   grava   todo tipo de filme, nesse   meu DVD$_i$
          there   records all   type of movie   in-this my   DVD
          'My DVD records any kind of movie.'

(14) a. (lá$_i$)   tinha muitos livros, na   biblioteca$_i$
          there   had   many   books   in-the library
          'There were many books in the library.'

---

[4] A reviewer of this paper enquires why there is no intonational pause between *livros* and *na biblioteca* in (11), in contrast to the cases in (12)-(14). Although I have used commas (14), I think that the cases with sentence-final subjects do not exhibit an intonational pause. The presence of commas results, in fact, from the perception that a constituent is not in its canonic position, and not because there is a pause preceding it. The insertion of comma in these BP sentences is conventional, and not a strategy based on facts linked with intonational structures. In the *ter* sentences below, for example, I do not see any intonational differences between (a), with a sentence-final PP, and (b), with a sentence-final DP, although it is common to insert a comma only in the latter case.

(i) a. Tem muito livro naquela biblioteca.
          have many book in-that library
          'There are many books in that library.'

     b. Tem muito livro, aquela biblioteca.
          have many book, that library
          'That library has many books.'

    b. (aqui$_i$) tem bastante gente, dentro desse avião$_i$
       here   has   many   people   inside   of-this   airplane
       'There are many people inside of this airplane.'

10.3. The copular basis of possessive sentences in BP

In this section, I briefly present Avelar's (2004) proposal for possessive constructions in BP. This proposal will be relevant to the analysis I will develop in the next section. A non-lexicalist view is adopted, following the Late Insertion hypothesis of Distributed Morphology (Halle and Marantz 1993; Embick 2003), in order to sustain the equation in (15): *ter* results from features corresponding to the copula *estar* 'to be' and the preposition *com* 'with'.[5] This hypothesis is chiefly sustained by the existence of two patterns of possessive sentences in Portuguese—one with *estar com*, exemplified in (16a), and another with *ter*, exemplified in (16b).[6]

(15)   TER   =   ESTAR   +   COM
       have   be   with

(16)   a. O   Pedro   *tá   com*   dinheiro.
         the   Pedro   is   with   money
         'Pedro has money.'

      b. O   Pedro   *tem*   dinheiro.
         the   Pedro   has   money
         'Pedro has money.'

The difference between *estar com* and *ter* can be described in aspectual terms: in (16a), the relation between *Pedro* and *money* must be taken as a transitory or recently acquired possession, expressing that *Pedro has money now, at this moment*; in (16b), by contrast, the relation between *Pedro* and

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[5] For an analysis of *ter* sentences from a lexicalist perspective, see Viotti (1999).

[6] A reviewer of this paper remembers that Freeze derives the possessive verb from the structure 'Possessee is with possessor', whereas it is derived from 'Possessor is with Posseessee' in my analysis. This difference can be associated with the idea that, as proposed in Harley (2002) and Torrego (2002), natural languages do not resort to the same kind of preposition in order to derive their possessive structures. Consequently, the structure generated by the preposition is not uniform among languages. According to Harley (2002), the possessor is the complement of the preposition only if the preposition is locative. In Avelar (2006), I show that *com* is not a locative item, but functions as a complementizer that expresses an inherent notion of possession in small clause domains. In these terms, the element interpreted as possessor cannot be in the complement position, but in the subject position of *com*.

money is normally taken as a more permanent or enduring possession. In other words, (16b) is easily interpreted as *Pedro is rich*, but not (16a).

The structures in (17) to follow show the configurations for both *ter* and *estar com* possession: in (a), the copula and the prepositional features are not combined, which results in V and P being fed by the phonological matrix respectively of *estar* and *com*; in (b), the prepositional features are moved to V, and the phonological matrix of *ter* is inserted in the node containing $P + V$. In both structures, the element interpreted as *possessor* is inserted in [Spec, PP], and then is moved to [Spec,TP] to satisfy agreement and EPP requirements.

(17) a.

```
              TP
           /      \
    possessor_i    T'
                 /    \
                T      VP
                     /    \
             estar → v      PP
                          /    \
                         t_i    P'
                              /    \
                       com → P   possessee
```

b.

```
              TP
           /      \
    possessor_i    T'
                 /    \
                T      VP
                     /    \
           tem → Pj + V     PP
                          /    \
                         t_i    P'
                              /    \
                             t_j   possessee
```
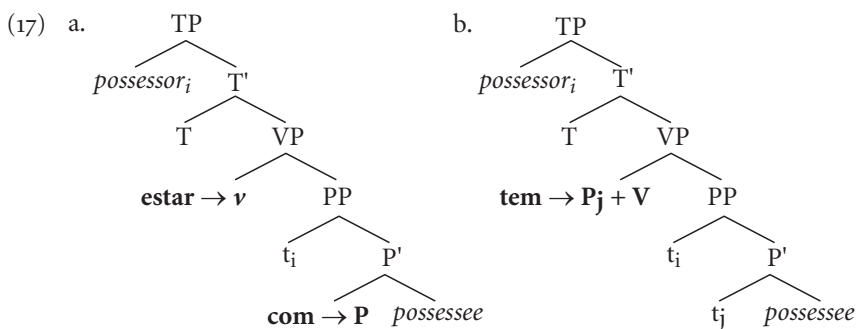
In the next section, I present correlations between *ter* and *estar com* in existential environments, complementing the analysis I have developed in Avelar (2004) for these same elements in possessive contexts. The facts I will present show that the innovation in BP does not exactly involve a reanalysis of *ter* as an existential verb, but the use of the possessive structure (with copular and prepositional features) to express existence.

10.4 From possessive to possessive-existential structures

As exemplified in (18)–(19) to follow, BP presents impersonal clauses with *estar com* (cf. (a)), unacceptable in EP, that are semantically parallel to *ter* existential sentences (cf. (b)). The aspectual contrast is also observed: *a big traffic jam* and *excellent movies on sale*, respectively in (18) and (19), are necessarily interpreted as temporary episodes in sentences with *estar com*, but not with *ter*. This parallelism suggests to us that *ter* is also obtained from *estar com* features in existential contexts.

(18) Brazilian Portuguese: ok ; European Portuguese: *
   a. No   centro da   cidade *tava com* um engarrafamento enorme.
      in-the centre of-the city   was with a   traffic jam   big
      'There was a big traffic jam in downtown.'

   b. No   centro da   cidade *tinha* um engarrafamento enorme.
      in-the centre of-the city   had   a   traffic jam   big
      'There was a big traffic jam in downtown' or
      'There were big traffic jams in downtown.'

(19) Brazilian Portuguese: ok; European Portuguese: *
   a. Na   locadora   *tá com* filmes ótimos   em promoção.
      in-the movie store is with movies excellent on sale
      'There are excellent movies on sale in the movie store.'

   b. Na   locadora   *tem* filmes ótimos   em promoção.
      in-the movie store has movies excellent on sale
      'There are excellent movies on sale in the movie store.'

If this idea is correct, the structures with *estar com* and *ter* in (18) above must be represented respectively as in (20) and (21) below: the DP *um engarrafamento enorme* 'a big traffic jam' is the complement of the preposition, and the locative phrase must be realized in subject position.[7] The difference between the structures is the fusion of P and V in (21), resulting in the insertion of *ter*. An analysis in these terms implies that BP learners acquire a possessive-existential structure, while EP learners acquire different structures for each expression: the *ter* structure for possession, and the *haver* structure for existence.[8]

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[7] In the approach developed by Freeze (1992), the locative appearing in [Spec,InflP] is moved from a position where it functions as a predicative phrase within a locative small clause. The analysis I am developing is not affected by this assumption: it could be assumed here that the locative in (20)–(21) is in fact a predicative phrase initially within the domain headed by the preposition *com*. Recall that it is indispensable for the present approach to assume that, in some derivational point, the locative phrase must occupy the thematic position corresponding to the one also occupied by the subject in possessive sentences (which I have identified with [Spec,PP]).

[8] In the final part of this section, I explore the idea that *haver* structures do not have the prepositional layer. However, I have nothing to say, in a systematic way, about the internal structure of sentences with *haver*. On this question, Avelar (2006*a*) suggested that *haver* lost the functional status in BP, and became a substantive verb acquired only in the process of formal education. In this sense, *haver* existential sentences cannot be considered as belonging to the core grammar of BP speakers.

(20)

```
                    TP
          ┌─────────┴─────┐
    [PP no centro        T'
     da cidade]i      ┌───┴────┐
                      T        VP
               ┌──────┴──┐
         estar → V       PP
                      ┌───┴────┐
                      ti       P'
                          ┌────┴────┐
                com →     P        DP
                                ┌───┴───┐
                              um engarrafamento
                                  enorme
```

(21)

```
                    TP
          ┌─────────┴─────┐
    [PP no centro        T'
     da cidade]i      ┌───┴────┐
                      T        VP
               ┌──────┴──┐
         ter → Pj+V      PP
                      ┌───┴────┐
                      ti       P'
                          ┌────┴────┐
                          ti       DP
                                ┌───┴───┐
                              um engarrafamento
                                  enorme
```
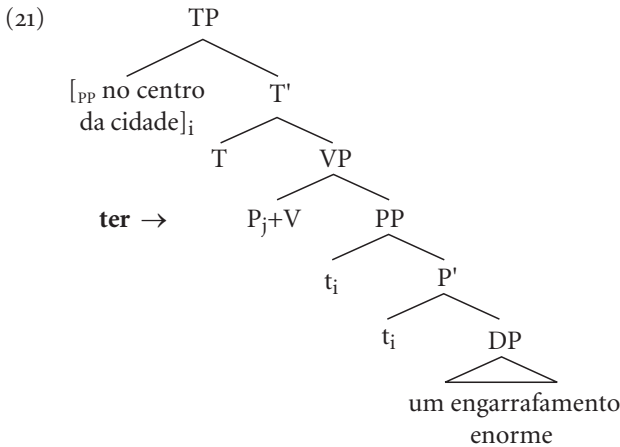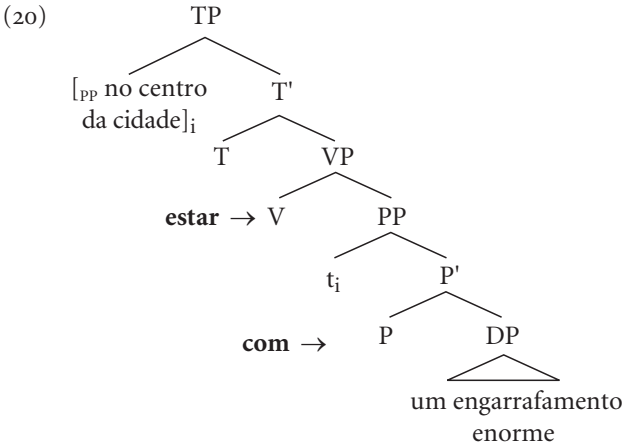
The paradigm in (22)–(23) below adduces a piece of evidence for the existence of a prepositional layer in *ter* existentials. In (22), the gerund *passando* 'broadcasting' occurs between the verb and the DP *um filme ótimo* 'an excellent movie'; in this situation, we can use *estar*, but not *estar com* and *ter*. In (23), by contrast, the gerund appears after the postverbal DP, and *estar com* and *ter* are licensed, but not *estar*.

(22) a. *Tá* (*com) passando   um   filme   ótimo   na   TV.
          is   with   broadcasting a   movie   excellent in-the TV

      b. *Tem passando   um   filme   ótimo   na   TV.
          has   broadcasting a   movie   excellent in-the TV
          'There is an excellent movie being broadcasted by the TV.'

(23) a. *Tá* *(*com*)   um   filme   ótimo   passando   na   TV.
      is   with   a   movie   excellent   broadcasting   in-the   TV

   b. *Tem*   um   filme   ótimo   passando   na   TV.
      has   a   movie   excellent   broadcasting   in-the   TV
      'There is an excellent movie being broadcasted by the TV.'

The unacceptability of *com* in (22) results from the fact that this preposition has to access a DP (say, via probe-goal agreement) in order to satisfy grammatical requirements; such a condition is not satisfied because the only available DP is within the gerundial domain, out of *com*'s reach.[9] In (23), the DP immediately follows *com* (or, in structural terms, the DP is within the domain of *com*), satisfying the requirements of this preposition. The grammaticality of the *ter* sentence in (23), but not in (22), can be straightforwardly explained if the features of *com* are part of the existential version of this verb, which implies that the contexts licensing the existential *estar com* must be the same contexts that license the existential *ter*.

The possessive sentences exemplified below confirm this idea. In (24), the DP *um filme ótimo* 'an excellent movie' appears in subject position, yielding a context in which *estar com* (but not *estar*) and *ter* are rejected. In (25), it is the DP *a TV* 'the TV' that appears in subject position, and both *estar com* and *ter* are licensed. These sentences reinforce the hypothesis that BP has a single structure with which to express possession and existence.

(24) a. Um   filme   ótimo   *tá*   (**com)   passando   na   TV.
      a   movie   excellent   is   with   broadcasting   in-the   TV

   b. *Um   filme   ótimo   *tem*   passando   na   TV.
      a   movie   excellent   has   broadcasting   in-the   TV
      'An excellent movie is being broadcasting on the TV.'

(25) a. A   TV   *tá*   *(*com*)   um   filme   ótimo   passando.
      the   TV   is   with   a   movie   excellent   broadcasting

   b. A   TV   *tem*   um   filme   ótimo   passando.
      the   TV   has   a   movie   excellent   broadcasting
      'The TV is broadcasting an excellent movie.'

The facts associated with the sentences in (26)–(27) below provide another piece of evidence. In BP, monoargumental verbs like *chegar* 'to arrive' and *ficar* 'to stay, to remain' allow the subject to be postverbal (cf. (a)) or preverbal (cf. (b)).[10] A DP interpreted as ground (normally interpreted as

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   [9] See Avelar (2006*b*) for an analysis of properties of PP headed by *com* in BP.
  [10] See Kato and Tarallo (2003) for an analysis of the VS syntax in Brazilian Portuguese.

complement of P) can also appear in the subject position of sentences with these verbs, as in (c). In (26c), for example, the DP *aquele carro* 'that car', interpreted as the complement of *dentro* 'inside', appears in subject position. Note that the acceptability of the (c) instances depends on the insertion of the preposition *com*.

(26)   a. Chegaram   várias   pessoas   dentro   daquele   carro.
           arrived-PL several   people   inside   of-that   car
           'Several people arrived in that car.'

       b. Várias   pessoas   chegaram   dentro   daquele   carro.
           several   people   arrived-PL inside   of-that   car
           'Several people arrived in that car.'

       c. Aquele   carro   chegou   *(com)   várias   pessoas   dentro.
           that   car   arrived with   several   peoples   inside
           'That car arrived with several peoples inside it.'

(27)   a. Ficaram   alguns   livros   em   cima   da   mesa.
           remained-PL some   books   on   top   of-the   table
           'Some books remained on the table.'

       b. Alguns   livros   ficaram   em   cima   da   mesa.
           some   books   remained-PL on   top   of-the   table
           'Some books remained on the table.'

       c. A   mesa   ficou   *(com)   alguns   livros   em   cima.
           the   table remained   with   some   books   on   top
           'The table remained with some books on it.'

Sentences with *estar* show the same behaviour: the subject can be postverbal or preverbal, as respectively in (a)–(b) of (28) below. Note that, if *com* is present, the DP *seis pessoas* 'six people' cannot be preverbal, but must immediately follow the preposition. In this situation, *ter* sentences also reject the preverbalization of the same DP (cf. (29)), a fact that is expected in the present analysis.

(28)   a. Na   hora   do   acidente   tava   (com)   seis
           in-the   hour   of-the   disaster   was   with   six
           pessoas   dentro   do   carro.
           people   inside   of-the   car

       b. Na   hora   do   acidente,   seis   pessoas   tavam   (*com)
           in-the   hour   of-the   disaster   six   people   were   with
           dentro   do   carro.
           inside   of-the   car
           'At the moment of the disaster, there were six people inside that car'

(29) a. Na   hora do   acidente tinha seis pessoas dentro do   carro.
        in-the hour of-the disaster had   six people inside of-the car

  b. * Na   hora do   acidente, seis pessoas tinha dentro do   carro.
       in-the hour of-the disaster six people had   inside of-the car
       'At the moment of the disaster, there were six people inside that car.'

Following the pattern in (c) of (26)–(27), *estar* and *ter* sentences accept the ground DP *o carro* 'the car' in subject position, as in (30) below. Note that the preposition *com* is required in the *estar* construction, but cannot occur with *ter*. This opposition can be explained properly if we assume that *ter* naturally brings the preposition that is required when the ground DP is in subject position; in other words, the insertion of *com* is not necessary to guarantee the acceptability of (30), in contrast to the cases with *estar*, *ficar*, and *chegar*, verbs that do not present the features of *com* in their internal composition.

(30) a. Na   hora   do   acidente, o   carro estava *(com)
         in-the hour   of-the   disaster   the   car   was   with
         seis   pessoas   dentro.
         six   people   inside

  b. Na   hora   do   acidente, o   carro tinha   (*com)
     in-the hour   of-the   disaster   the   car   had   with
     seis   pessoas   dentro.
     six   people   inside
     'At the moment of the disaster, that car had six people in it.'

Another fact that deserves attention has to do with the use of an expletive-like version of the pronoun *você* 'you' (Duarte 1999; Callou and Avelar 2001) in BP: this pronoun is licensed in existential sentences with *ter* (cf. (31)), but not with *haver* (cf. (32)).[11]

(31) a. (Você) tem   prédios   altíssimos em   Nova York.
         you   has   buildings   very-high   in   New York
         'There are huge buildings in New York.'

  b. (Você) tem   excelentes jogadores   brasileiros em   times
     you   has   excellent   players   Brazilians   in   teams
     da   Europa.
     of-the   Europe
     'There are excellent Brazilian soccer players in European football teams.'

[11] See Duarte (1999) and Callou and Avelar (2001) for a more detailed discussion concerning this specific use of *você*.

(32) a. (*Você) há   prédios   altíssimos em   Nova York.
          you   exists buidings   very-high   in   New York
          'There are huge buildings in New York.'

      b. (*Você) há   excelentes jogadores brasileiros em   times
          you   exists excellent   players   Brazilians   in   teams
          da   Europa.
          of-the   Europe
          'There are excellent Brazilian soccer players in European football
          teams.'

In Avelar (2004, 2006*c*), I argue for the proposition that this expletive-like
category is not a true expletive, but a version of *você* with generic reference.[12]
This condition implies that the supposed expletive cannot be directly inserted
in [Spec,TP], but in a thematic position, in order to be licensed. If this idea is
correct, this position may be the specifier of the prepositional layer, reserved
for elements destined for the subject position of *ter* sentences.[13] As illustrated
in (33), the false expletive is merged into [Spec,PP], and then moved to
[Spec,TP].

(33) a. [$_{TP}$ você$_i$ [$_{T'}$ T [$_{vP}$ V [$_{PP}$ t$_i$ [$_{P'}$ P [$_{XP}$…]]]]]]
      b. [$_{TP}$ você$_i$ [$_{T'}$T + [$\mathbf{V_j + P_k}$]= *tem* [$_{vP}$ t$_j$ [$_{PP}$ t$_i$ [$_{P'}$ t$_k$ [$_{XP}$ prédios   altos
          you   has   buildings high
          em   Nova York]]]]
          in   New York
          'There are huge buildings in New York.'

In these terms, the pronoun does not co-occur with *haver* because there is
no preposition layer in *haver* structures, given that this verb does not express
possession in Portuguese (remember that the prepositional layer in *ter*
existentials derives from the possessive status of *ter*); consequently, the

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[12] Kayne (2006a) suggests that items such as *there* and *ci*, which are normally taken as expletives in
English and Italian existential sentences respectively, are not real expletives, but categories that receive
some interpretation within the so-called associate DP. In Avelar (2006*c*), a similar line of reasoning is
pursued to account for the properties exhibited by *você* in BP existential clauses.

[13] In Avelar (2006*c*), it is argued that *você* is initially merged into the subject position of a locative
phrase within the existential coda. I will consider here that *você* must pass through the position of
[Spec,PP] indicated in (40) in order to be properly licensed. At a first glance, this assumption brings
about an apparent problem: if the existential meaning is obtained by the presence of a locative phrase
in the subject position of *ter* sentences, the insertion of *você* in this same position might prevent the
interpretation of *ter* as existential. However, the analysis developed in Avelar (2006c) reveals that there
is a link between *você* and the content of a locative phrase that make the supposed expletive a
potential substitute for the locative in the subject position. Although the nature of this link is not
clearly understood, I will here adopt this view and consider that the presence of the expletive-like *você*
in subject position of *ter* sentences also yields an existential meaning.

haver structure does not present a proper locus to receive the pronoun *você*. This contrast between *ter* and *haver* sentences corroborates the idea that the use of *ter* as an existential verb involves not only a gradual process of replacing *haver* with *ter* (otherwise the *ter* existential structure couldn't accept the insertion of *você*), but also the reanalysis of the possessive structure as a syntactic configuration capable of expressing existence.

10.5 Concluding remarks

I have proposed in this chapter that the emergence of *ter* as an existential verb in BP is a by-product of a major process unobserved in EP, namely the impoverishment of the inflectional paradigm and the consequent restrictions on referential null subjects. This means that the appearance of a new syntactic pattern for the existential expression in BP is a consequence of radical alterations in the morphological domain. If this view is correct, the facts presented here corroborate the Inertial Theory, according to which syntax, by itself, is diachronically inert, as proposed in Keenan (1998, 2002, this volume) and Longobardi (2001*a*). In this sense, this chapter provides evidence for the hypothesis that syntactic changes arise only as a consequence of changes in other domains.

I have shown that *ter* sentences with null subjects are unacceptable in BP, unless a locative anchorage appears in the sentence (specifically, within a structural position I have identified as subject position), yielding the existential meaning. Taking into consideration that possessive sentences are intrinsically copular, the existential interpretation of *ter* was associated with Freeze's (1992) hypothesis that copular structures whose subject position is filled with a locative phrase result in the expression of existence. Some evidence was presented showing that the existential sentences with *ter* have the prepositional layer that is assumed in possessive structures. To sum up, the set of facts presented here, revealing that existential structures can inherit the underlying structure of possessive sentences, provide support for the study of how the computational system deals with requirements yielded by changes triggered in morphological domains.

11

Gradience and auxiliary selection in Old Catalan and Old Spanish*

JAUME MATEU

11.1 Introduction

As is well known, in Romance languages, like Italian and French, or in Germanic languages, like German or Dutch, there is an important division or split in the class of intransitive verbs; this is clearly shown in their auxiliary selection: some verbs select HAVE (It. *avere*, Fr. *avoir*; Germ. *haben*, Dutch *hebben*), while others select BE (It. *essere*, Fr. *être*; Germ. *sein*, Dutch *zijn*). Although this split cannot be exemplified in Contemporary Catalan or Spanish, it is well known that this double possibility in the formation of perfective tenses did exist in the old stages of these two Romance languages.[1] See, for example, the Old Catalan data in (1) from Batlle (2002: 54/70) and the Old Spanish data in (2) from Castillo (2002: 44/50).

(1) a. perquè *haurà* vostra senyoria descansat ab ells (XVI c)
because has-FUT your lordship rested with them
'because your lordship will have rested with them'

   b. Y aprés *és* mort en Castella (XVI c)
and then is died in Castilla
'and then [he] died in Castilla'

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[1] I will not deal with the reasons why the opposition *HAVE/BE* in the formation of perfective tenses disappeared in Catalan or Spanish, this not being the case in French or Italian (cf. Vincent 1982; Pérez Saldanya 1998; Batlle 2002). Concerning Catalan, it is interesting to point out that *ésser* (*BE*) still remains as a perfect auxiliary in some dialectal varieties: mainly, Balearic, Rossellonian, and Alguerese; cf. Batlle's (2002) appendix.

(2) a. El   Rey   le   dixo   que   antes   allí   *avía* descansado
        the   king   him   told   that   before there   had   rested
        con   mucho   placer (XV c)
        with   much   pleasure
        'the king told him that he had rested with much pleasure before'

     b. Su   Rey   *es*   muerto no   en   la   batalla (. . .) sino
        their   king   is   died   not   in   the   battle   (. . .) but
        en   su   cama (XVI c)
        in   his   bed
        'their king did not die in battle but in his bed'

In this chapter, I provide a syntactic explanation of some interesting observations and descriptions found in Batlle's (2002) work on Old Catalan and in Aranovich's (2003) and Castillo's (2002) works on Old Spanish. In particular, I show how Mateu's (2003) comparative lexical-syntactic proposal for languages like Italian, French, German, and Dutch can also be naturally extended to account for Batlle's (2002) diachronic data from Old Catalan and Aranovich's (2003) and Castillo's (2002) data from Old Spanish. In so doing, I will also argue for a lexical-syntactic encoding of those semantic determinants involved in auxiliary selection with intransitive verbs, which have been worked out in excellent descriptive works like Sorace's (2000, 2004) gradience approach to auxiliary selection.[2]

Quite importantly, I will put forward a non-casual correlation whose supporting generalizations have already been reached independently in both synchronically oriented works (Sorace 2000, 2004) and diachronically oriented ones (Batlle 2002; Aranovich 2003): namely, it is the general case that those intransitive verbs that are more variable syncronically with respect to BE selection in Italian are the ones that earlier lost the BE auxiliary in both Old Catalan and Old Spanish. As noted, I do not believe this correlation to be a mere coincidence; rather I want to argue that there is a principled explanation which accounts for it.

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[2] Following Sorace (2000: 861), I have put pronominal/reflexive verbs aside because there is an additional morphosyntactic condition involved in Romance, but not in Germanic: cf. the so-called 'cliticization parameter' discussed by Haider and Rindler-Schjerve (1987). Furthermore, in this paper I do not aspire to give a unified explanation of auxiliary selection: for example, other factors like person, number, tense, or mood can also be involved (see Kayne 1993 and McFadden 2007, among others).

11.2 The gradual process of replacement of auxiliary BE by HAVE in Old Catalan and Old Spanish

Concerning auxiliary selection with intransitive verbs in Old Catalan, I will provide an explanation of the following facts which are nicely summarized by Batlle (2002: 30) in (3):

(3)   *Ésser* (BE) generally remains quite stable in those domains that are of its own. However, *have* (HAVE) can sporadically appear in medieval texts. According to the data from our corpora, it is not the case that all verbs and verbal constructions present the same capacity to accept *haver* (HAVE), because some are more conservative than others. The most innovative behaviour seems to take place in verbs of appearance and existence (e.g., *ocórrer, succeir, esdevenir* <'occur', 'happen', 'become'>), in copulative verbs (e.g., *estar, restar, romandre* <'stand', 'rest', 'remain'>) and in pronominal constructions with inanimate subject and with a clitic functioning as direct object. In contrast, the most conservative behaviour appears with the verb *ésser* <'be'>, in intransitive verbs of change of state, in intransitive verbs of movement and in constructions with *poder* <'can'> and *voler* <'want'> when followed by infinitive.

Batlle's (2002) corpus was compiled from twelve extensive texts ranging from the fourteenth to seventeenth century, whose selection was made on the criterion of covering 'all registers and/or varieties of Catalan' (Batlle 2002: 17). As noted in (3), she points out that the process of replacement of the auxiliary *ésser* (BE) by *haver* (HAVE) followed a gradual and slow evolution and did not take place in an arbitrary way: quite typically, some lexical semantic classes appeared to be affected earlier than others. In particular, Batlle shows that appearance and existence verbs (cf. the Old Cat. examples in (4)) and stative verbs (cf. the Old Cat. examples in (5)) were the first unaccusative verbs to accept the HAVE auxiliary.

(4) a. Lo matín   les monges demanaren al   dit
       the morning the nuns   asked   to-the called
       baron si neguna res   *avia* esdevengut al emfant   (15th c.)
       man if any   thing had happened   to-the child.
       'In the morning the nuns asked to the aforementioned baron if anything had happened to the child'

b. Y   scrigueren los   capitans cartaginesos   a   Cartago
   and   wrote   the   captains Carthaginian   to   Carthago
   lo que *avie* passat   (15th c.)
   what   had happened
   'and the Carthaginian capitans wrote what had happened to Carthago'

(5) a. no·m   *ha*   res   romàs   de   dubte   (15th c.)
     not-me   has   (any)thing remained   of   doubt
     'I have no doubt left'

    b. y   destruirà   tot   quant *haia* restat
      and   destroy-FUT.3SG all   what   has   remained
      salvo en   sa   casa   (16th c.)
      safe   in   his   house
      'and will destroy everything that has remained safe in his house'

One interesting question to answer is why there appear to be many uses of *haver* (HAVE) with appearance and existence verbs in Batlle's (2002) corpus, while this behaviour is not attested with verbs expressing telic change of location/state, which continue to select *ésser* (BE) quite consistently in her corpus.

Following Hopper and Thompson's (1980) classic work on prototypes and transitivity, Batlle (2002: 140) points out that the answer to this question could have to do with the fact that appearance and existence verbs have some features which are related to high transitivity, because, according to her, these verbs present the semantic schema CAUSE-EFFECT which is typical of prototypical transitivity. This answer however cannot be correct, since, as shown by Levin and Rappaport Hovav (1995) and Mateu (2002), among others, appearance and existence verbs are not found in transitive contexts precisely because the semantic function CAUSE is not involved in these unaccusative verbs.

Before arguing for an alternative explanation to Batlle's (2002) observation, it is interesting to show that the very same process of gradual replacement of BE by HAVE that has been proposed for Old Catalan by Batlle, is also found in Old Spanish, as shown by Aranovich's (2003) and Castillo's (2002) diachronic works. Accordingly, it is important to realize that it cannot be a mere coincidence that in these two Old Romance languages, both existence and appearance verbs were the first ones to admit the HAVE auxiliary, the remaining unaccusative verbs being more reluctant to accept it.

Table 11.1 taken from Aranovich (2003: 6), which is in turn based on Benzing's (1931) work ('the most comprehensive study of split auxiliary

TABLE 11.1 Classification of the lexical semantic classes of intransitive verbs and the date/century of their last attested occurrence with auxiliary *ser*

Century –>	13th	14th	15th	16th	17th
Stative appearance & existence	fincar rastar quedar	holgar			
Dynamic appearance & existence	cuntir	aparecer acaecer desaparecer			
Manner of motion		errar	correr	caminar	
Directed change of location	exir desviar viar	arribar	descender tornar	venir llegar caer entrar salir huir escapar volver subir avenir	pasar ir partir
Change of state	cenar yantar	transir	fallir despertar	fallecer finar fenecer adormir adormecer amanecer anochecer acabar Aranovich (2003: 6)	nacer crecer morir

selection in Spanish'; RA: p. 3), contains a classification of the lexical semantic classes of intransitive verbs and the date/century of their last attested occurrence with auxiliary *ser* (BE).

In (6) there is a quote from Aranovich (2003: 5–6), worth taking into account since it makes evident a happy coincidence with Batlle's (2002) observations regarding the gradual process of replacement of BE by HAVE in the history of the Catalan language: interestingly, in both Old Catalan and Old Spanish, the replacement of BE by HAVE started affecting verbs of existence and appearance and concluded by affecting the so-called prototypical unaccusative verbs, i.e., telic verbs of change of motion and change of state.

(6)   A quick glance at the verbs in these groups <cf. Table 11.1> reveals that
the degree of *affectedness* of the subject is a factor in the displacement of
ser by *haber* as the perfect auxiliary. At one end of the continuum are
the subjects of stative verbs of existence and appearance like *quedar*
'remain'. The subjects of these verbs do not suffer any changes in state
or location, hence they are not affected in any way by the event. This is
the first class to lose its ability to select *ser*. At the opposite end are
subjects of verbs of directed motion and verbs of change of state. These
subjects are affected since they are in a new location or state as a
consequence of the event. These classes are the last ones for which
haber displaces *ser* as the perfect auxiliary of choice. In between these
two extremes are verbs of manner of motion like *correr* 'run', and
dynamic verbs of existence and appearance like *desaparecer* 'disappear'.
[...] The chronology of split auxiliary selection in Spanish, then, falls
under the generalization that the less affected the subject, the earlier a
verb lost its ability to select auxiliary *ser*.

While Batlle (2002) attempted to explain the relevant gradual process by
relating it to certain insights from Hopper and Thompson's (1980) work on
prototypical transitivity, Aranovich (2003) based his semantic analysis of
replacement of BE by HAVE on Dowty's (1991) theory of Proto-Roles,
where it is claimed that split intransitivity is gradable, i.e., a verb can be
more or less unaccusative depending on whether its subject is more or less of
a Proto-Patient. According to Aranovich (2003: 11), the hypothesis that
Proto-Patient properties characterize the class of verbs that select *ser* (BE)
serves to make the notion of affectedness or affected subject in (6) more
precise. By framing such a notion into Dowty's semantic Proto-Role theory,
Aranovich argues that an affected subject is a subject that has a greater
proportion of Proto-Patient properties than Proto-Agent properties.[3]
According to Aranovich (2003: 11), the explanation of the gradual replacement
of *ser* by *haber* is crucially related to the relevant semantic principle in (7).

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[3] According to Dowty (1991), the relevant Proto-Agent and Proto-Patient properties are the
following:

(i)   *Proto-Agent Properties*   *Proto-Patient Properties*
volitionality   changes state
sentience   incremental theme
causally active   causally affected
moving relative to another argument   stationary relative to other argument
existence independent of event   existence dependent on event
                                                          Dowty (1991), *apud* Aranovich (2003: 7)

(7)   *Semantic Displacement Hypothesis*: In the diachronic development of the Spanish perfect auxiliary system, the closer the subject is to being a prototypical patient, the longer the predicate resists the displacement of *ser* by *haber*.

My main objection to Aranovich's hypothesis in (7) is related to the lack of formal constraints of Dowty's Proto-Role theory: i.e., if theta-roles are to be regarded as clusters of concepts relevant to the external conception of human life (cf. Dowty 1991: 575), one would like to know what the formal constraints that limit the number of the relevant semantic entailments are. For example, why five (external) semantic entailments and not ten or twenty-five for each Proto-Role? Indeed, if the relevant formal restrictions concerning volition, sentience, change of state, incremental theme, etc. are not explained, it seems to me that Dowty's Proto-Role theory and Aranovich's Semantic Displacement Hypothesis in (7) turn out to be hard to test and falsify. In fact, notice that it is absolutely crucial for Dowty's approach to work that precise limits be given to the relevant number of semantic entailments that will enter into Argument Selection. In fact, Dowty (1991: 572) offers a 'preliminary list of entailments (. . .) without implying that these lists are necessarily exhaustive or that they could not perhaps eventually be better partitioned in some other way'. Despite Dowty's claim, however, notice that exhaustiveness should be taken as a fundamental property of his system if one wants to attribute explanatory value to statements such as 'X has more {agent/patient} properties than Y, so X is selected'. Indeed, I think that exhaustiveness should be taken as a crucial property of any theory of theta roles in order to avoid falling into an open-ended list of properties, which would invalidate Dowty's approach completely.

In contrast to Dowty's (1991) or Aranovich's (2003) non-configurational semantic theory, in Hale and Keyser's (1993, 2002) syntactic theory of argument structure, the number and the nature of (syntactically relevant) theta-roles are clearly delimited; that is, there are few (syntactically relevant) theta-roles since there are few specifier and complement positions of the syntactic argument-structure relations involved. Accordingly, in Section 11.4 I will show how Hale and Keyser's (1993, 2002) and Mateu's (2002) configurational theories can provide a more explanatory account of the argument-structure relations involved in auxiliary selection with intransitive verbs, and, in particular, of those verbs involved in the replacement of BE by HAVE in Old Catalan and Old Spanish. However, before dealing with that syntactic approach, it will be helpful to review some of the most interesting descriptive insights from Sorace's (2000, 2004) semantic account of auxiliary selection.

11.3 Intransitive verbs and the Auxiliary Selection Hierarchy in Old Catalan and Old Spanish

In spite of the abovementioned shortcomings of Batlle's (2002) and Aranovich's (2003) descriptive semantic approaches, it is important to bear in mind that in both works it is recognized that there is a crucial property involved in the process of replacement of BE by HAVE, i.e., gradience. Interestingly enough, this property is not only relevant to the diachronic process of replacement of BE by HAVE in Old Catalan and Old Spanish, but has also been shown by Sorace (2000, 2004) to be relevant synchronically in languages like Italian, French, German, or Dutch.[4] For example, she shows that in Italian some intransitive verbs (e.g., those in (8a-8b) and (8 k)) select an auxiliary more categorically than other verbs do (e.g., see those in (8c) through those in (8j)). The former are called 'core verbs', while the latter 'non-core verbs'.

(8) a. Gianni è/*ha arrivato
       Gianni is/has arrived

  b. Gianni è/*ha morto
      Gianni is/has died

  c. La pianta è fiorita /   ha fiorito   due volte quest' anno
      the plantis blossomed / has blossomed twice   this   year

  d. I   miei nonni   sono sopravvissuti /?hanno sopravvissuto
      The my grandparents are survived   / have   survived
      al   terremoto
      to-the earthquake

  e. La guerra è durata/?ha durato a   lungo
      the war   is lasted/has lasted for long

  f. I   dinosauri   sono esistiti/?? hanno esistito 65 milioni di anni fa
      The dinosaures are existed/ have   existed 65 million of years ago

  g. Il   nuovo ballo brasiliano è/ha attecchito anche in Italia
      the new   dance brasilian is/has taken-root also   in Italy

  h. La campana ha rintoccato /?è rintoccata
      the bell   has tolled   /is tolled

  i. Maria ha corso/è corsa velocemente
      Maria has run/is run   fast

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[4] Unfortunately, Sorace's (2000) important work on gradience in auxiliary selection with intransitive verbs is not mentioned by Batlle (2002), nor by Aranovich (2003).

j. È corsa/?ha corso voce   che Maria si   sposa
  is run /has   run   rumour that Maria self marries

k. Gianni ha   lavorato/*è lavorato
   Gianni has   worked/is   worked

There is then an important observation that should be made: when applied to auxiliary selection, prototypicality and gradience appear to be relevant not only diachronically but also synchronically; more particularly, the first intransitive verbs to admit the replacement of BE by HAVE in Old Catalan and Old Spanish (e.g., verbs of appearance and existence) are precisely those verbs that show a more variable behaviour regarding auxiliary selection in Italian. Moreover, as shown by Sorace's recent works, both native and non-native speakers of Italian can have more doubts when establishing auxiliary selection grammaticality judgements of non-prototypical intransitive verbs (e.g., verbs of appearance and existence) than when establishing those of prototypical verbs (e.g., verbs of telic change of location/state). In (9) the relevant Auxiliary Selection Hierarchy argued for by Sorace (2000: 863; 2004) and Keller and Sorace (2003) is depicted. It basically embodies two main factors: telicity and agentivity.[5]

(9) Auxiliary Selection Hierarchy (ASH)
    CHANGE OF LOCATION   selects BE   -- least variation
    CHANGE OF STATE
    CONTINUATION OF A PRE-EXISTING STATE
    EXISTENCE OF STATE
    UNCONTROLLED PROCESS
    CONTROLLED PROCESS (MOTIONAL)
    CONTROLLED PROCESS (NON-MOTIONAL) selects HAVE -- least variation

In particular, Keller and Sorace (2003: 60–1) explain ASH as follows:[6]

(10)   'verbs at the BE end of the ASH <i.e., Auxiliary Selection Hierarchy> are core unaccusatives and denote telic change; verbs at the HAVE end are core unergatives and denote agentive activity in which the subject is unaffected. Intermediate verbs between the two extremes incorporate telicity and agentivity to lesser degrees, and tend to have a less

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[5] Zaenen (1993) and van Hout (2004), among others, also argue that telicity is the main semantic notion that is characteristic of unaccusative verbs.

[6] See also Shannon (1990: 476) for very similar ideas: e.g., '<in German and Dutch> verbs closely approximating the transitive prototype take HAVE, whereas clear mutatives take BE. However, the farther away from the prototypical extremes we get, the more room for variation we find'.

specified (basically stative) event structure [. . .]. Core verbs are those on which native grammaticality judgments are maximally consistent, and are acquired early by both first and second language learners. In contrast, intermediate verbs are subject to crosslinguistic differences and exhibit gradient auxiliary selection preferences.'

On the other hand, as shown by Batlle's (2002), Castillo's (2002), and Aranovich's (2003) diachronic works, it is important to note that the so-called cut-off points between the lexical-semantic classes involved in auxiliary selection were fixed gradually. Accordingly, following Sorace's (2000, 2004) work, I argue for the preliminary descriptive proposal in (11) for both Old Catalan and Old Spanish (cf. Mateu 2005). Although the process of replacement of BE by HAVE took place earlier in Old Spanish than in Old Catalan, the steps of such a process were essentially the same:[7] as noted above, verbs of existence and appearance were the first ones to accept the HAVE auxiliary, verbs of telic change being the last ones to do so.

(11) The Auxiliary Selection Hierarchy in Old Catalan and Old Spanish
      TELIC CHANGE OF {LOCATION/STATE} selects *ésser/ser*--least variation
      -   stable cut-off point
      ATELIC CHANGE OF {LOCATION/STATE}
      -   unstable cut-off point
      APPEARANCE OF STATE
      -   unstable cut-off point
      EXISTENCE OF STATE
      -   unstable cut-off point
      UNCONTROLLED PROCESS
      CONTROLLED PROCESS (MOTIONAL)
      CONTROLLED PROCESS (NON-MOTIONAL) selects *haver/haber*--least variation

Next I exemplify some relevant cut-off points in (11) with data from Old Catalan, which are all taken from Batlle's (2002) corpus. Indeed, the fact that gradience is involved in auxiliary selection makes it natural to find both auxiliaries HAVE and BE for those verbs that appear to be affected by an unstable cut-off point in (11). In particular, I argue that the fact that verbs of appearance accept both auxiliaries in Batlle's (2002) corpus is not to be related to their having features of 'high transitivity' (*sic*), as argued by Batlle,

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[7] As pointed out by an anonymous reviewer, the similarity between the Catalan process and the Spanish one could be due to contact. Furthermore, it would be interesting to work out whether the same order is to be found for the same change in Old English. I leave these questions for further research.

but rather to the fact that these verbs can be regarded as intermediate ones in the Auxiliary Selection Hierarchy in (11). For example, as pointed out by Batlle (2002: 76), during the sixteenth and seventeenth centuries, the verb *venir* 'to come' can also select *haver* (HAVE) when its meaning is related to appearance: cf. (12).[8] In contrast, when *venir* 'to come' is used in its proto-typical use (e.g., *El cavaller és/*ha vingut al castell*, lit. 'The knight is/*has come to the castle'), *ésser* (BE) is always used (cf. Batlle 2002: 74).

(12) a. A   14   de   yuliol, per   les   noves   que   *heren*   vingudes
          At   14   of   July,   by   the   news   that   were   come-PL
          que   los   tortosins   havien   deixat   pasar   lo   conseller
          that the   Tortosians had   let   pass   the counsellor
          per   Tortosa,...   (16th c.)
          through   Tortosa
          'On the 14th of July, by the news that had come that the Tortosians
          had let the counsellor pass through Tortosa...'

      b. Vuy,   que   contam   a 3 de   desembre,   *ha*   vingut
          Today, that   count-we at 3 of December,   has   come-SG
          nova   com   don   Alonso   no   havie   ynnovat
          new(s)   how   *don* Alonso   not   had   innovated
          alguna   cosa   (16th c.)
          any   thing
          'Today, December 3rd, the news has arrived that don Alonso has not
          innovated anything'

Similarly, although *arribar* 'arrive' selects *ésser* (BE) quite systematically, the coexistence of both auxiliaries is documented in Batlle's (2002) corpus only in its appearance sense:

(13) a. Vui   *ha*   arribat   correu   de   Sa   Majestat, que'l   deixà
          today has   arrived   mail   from Her Majesty, which-him   left
          molt   bo   (16th c.)
          very   good
          'today mail has arrived from Her Majesty, which pleased him a lot'

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[8] Notice that the definiteness of the subject is not necessarily involved when BE is selected, as can be seen in the following minimal pair:

(i) a. allí   estarie   segur fins que de   Àfrica li   *fos* vengut *socorro*
        there would-be-3SG safe   until that from Africa him-DAT was   come   help   (16th c.)
        'there he would be safe until help came to him from Africa'
    b. (...) Ab *lo* *socorro* que   també   de   Roma   los   *era* vengut   (16th c.)
        with   the   help   that also   from Rome   them-DAT   was   come
        'with the help that had come to them from Rome too'

b. Vui *és* arribat correu de   Barcelona ab   la
  today is arrived mail from Barcelona with the
  nova   que *era* arribada l'   armada   (16th c.)
  new(s) that was arrived the navy
  'today mail has arrived from Barcelona with the news that the navy
  has arrived'

Finally, stative verbs like those in (14) can also be argued to be affected by an unstable cut-off point (cf. 11), whereby both auxiliaries can be found:

(14) a. Aquel poc d' oli qui *era* romasut   en   lo
   that   little of oil that was   remained in   the
   monestir   (15th c.)
   monastery
   'the little oil that was left in the monastery'

b. que·n   *avia* un poc romàs   (15th c.)
  that-PARTITIVE had a   little remained
  'a little of it was left'

c. y   alguns que *són* restats   per   lo   bosh (16th c.)
  and some   who are remained along the forest
  'and some who remained in the forest'

d. y *he*   restat   ab   sols la   pell de
  and have-1SG remained with only the skin of
  les   dents   mies   (16th c.)
  the   teeth   mine
  'I'm left with only the skin of my teeth'

e. y   destruirà   tot quant *haia* restat
  and destroy-FUT.3SG all what has   remained
  salvo en sa casa   (16th c.)
  safe   in   his house
  'and will destroy everything that has remained safe in his house'

11.4 Auxiliary selection in Old Catalan and Old Spanish: a relational semantic account

In Section 11.3 we saw how Sorace's (2000, 2004) Auxiliary Selection Hierarchy allows us to describe some important diachronic facts of auxiliary selection from Old Catalan and Old Spanish. However, her non-syntactic model has its own limitations and it is important to keep them in mind. For example, it is not clear how one can provide an explanation of why the lexical

semantics involved in change of location or change of state is to be regarded as 'more reluctant' to the replacement of BE by HAVE than the one involved in those predicates expressing appearance or existence.[9] I believe that this problem cannot be solved unless a major degree of formalization is pursued. Although I have shown the usefulness of Sorace's (2000, 2004) semantic model when describing some relevant data from Old Catalan and Old Spanish, it is correct to point out that it is not clear what the formal and/or explanatory constraints are that led her to posit seven or eight (but not nineteen or twenty) lexical semantic classes of verbs when dealing with the auxiliary selection problem.[10]

Given the shortcomings of non-syntactic models of event classification (cf. Rosen 1996, i.a.), it seems then appropriate to emphasize the importance of drawing the theoretical distinction in (15), which Mateu (2002) offers to deal with the relational semantics associated with Hale and Keyser's (1993, 2002) syntactic argument structures:

(15)   Meaning is a function of both (syntactically non-transparent) conceptual content and (syntactically transparent) semantic construal.

Assuming the important distinction in (15), our first step should consist of trying to work out which discrete semantic determinants can be argued to be syntactically transparent and which non-discrete ones cannot. Indeed, it seems more plausible to start with drawing the much more limited syntactically transparent notions of semantic construal. In particular, I want to argue that the formal limits involved in the semantic determinants of auxiliary selection are precisely dictated by those bits of semantics that can be argued to be encoded in a syntactic argument structure representation. In other words, I follow Hoekstra's (1999: 83) proposal of 'expressing L<exical> C<onceptual>S<tructure>-type information in a syntactic format'. In

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[9] Sorace (2000: 861) is aware of this problem and acknowledges it when saying:
(i)   [. . .] there are some important questions that I do not attempt to address. First, the reader will not find an *explanation* of why particular semantic components are more crucial to the selection of particular auxiliaries than others.

[10] Indeed, the main problem of Sorace's system has to do with the fact that the very same notion of *lexical semantic class* seems appropriate to describe the linguistic facts, but it is not clear which status this descriptive notion has in linguistic theory. It seems that it can be regarded as a descriptive artifact as many others (like, for example, the notion of *affected subject* in Aranovich's (2003) work). See also Rosen (1996: 193–4) for a severe criticism against non-syntactic models based on lexical semantic classes: 'Because the verb-class approach neither describes the syntactic facts adequately nor solves the learning problem, I conclude that verb classes do not exist as a cognitive or linguistic organizing mechanism but are instead an epiphenomenon of descriptive work on lexical semantics, argument structure, and verbal alternations (. . .) verb classes have no explanatory power, and therefore they do not help us understand the computational system'.

particular, I want to argue that the present syntactic approach can account for the data from Old Catalan and Old Spanish in a more explanatory way than non-syntactic approaches like Batlle's (2002), Castillo's (2002), and Aranovich's (2003).

Mateu's (2002) Hale-Keyserian approach to thematic structure, which I have no space to review in all its detail here, allows one to provide some explanatory constraints to those allegedly relevant lexical semantic classes in Sorace's Auxiliary Selection Hierarchy. It is important to notice that meaning components like process, change or existence (cf. (9)/(11)) turn out to be relevant at the syntax-semantics interface precisely because these notions can be argued to be filtered into the abstract relational semantics associated with the unaccusative and unergative syntactic argument-structure configurations in (16a) and (16b), respectively.

(16)   a. $[_v v \ [_{X_1} X_{1[\pm T]} \ [_{X_2} Z_2 \ [_{X_2} X_{2[\pm r]} \ Y_2]]]$ (Unaccusative argument structure)

   b. $[_v Z_1 \ [_v v \ [_{X_1} X_{1[\pm R]} \ Y_1]]]$ (Unergative argument structure)

Syntactically speaking, in (16a) an eventive head X_1 subcategorizes for a birelational non-eventive head X_2, which relates two non-relational elements, Z_2 and Y_2; in (16b) an eventive head X_1 selects a non-relational element Y_1 as its complement, the external non-relational element Z_1 being introduced by the relevant functional projection (v; Chomsky 1995 and following works). The relational semantics corresponding to the relational syntactic heads in (16) can be formalized as follows: the $[+T]$ and $[-T]$ features associated with the unaccusative verbal head X_1 in (16a) encode the *become* and *be* semantic functions, respectively. Moreover, the $[+r]$ and $[-r]$ features are correlated with Hale and Keyser's (1993, 2002) terminal coincidence relation and central coincidence relation, respectively:[11] the birelational element X_2 relates two non-relational elements Z_2 and Y_2, Figure and Ground, respectively (Talmy 2000).

On the other hand, in (16b) the $[+R]$ feature encodes the agentive DO function, while the $[-R]$ feature subsumes whatever the function assigned to non-agentive unergative verbs is. The non-relational elements Z_1 and Y_1 are

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[11] See Hale (1986) for relevant discussion on the semantic notions associated with {terminal/central} coincidence relations. Basically, a terminal coincidence relation involves a coincidence between one edge or *terminus* of the theme's path and the place, while a central relation involves a coincidence between the centre of the theme and the centre of the place. See also Mateu (2002) for some relevant correlations between terminal coincidence and (lexical) telicity, and between central coincidence and (lexical) atelicity.

interpreted as Originator and Incremental Theme, respectively. Y_1 is the created object that can be typically conflated into the unergative verbal head X_1 (cf. Hale and Keyser 1993, 2002; Mateu 2002).

As pointed out by Mateu (2002), the relational semantic features $[T]$ and $[R]$ are configurational in the sense that they can be read off from the mere syntactic argument structure: i.e., it is important to point out that X_1 is the very same eventive head in both (16a) and (16b). It is just the case that this head is realized as $[R]$ if there is an external argument (cf. Z_1 in 16b); otherwise, it is realized as $[T]$, as in (16a).

In contrast to the lack of formal constraints involved in Sorace's lexical semantic classes (recall that their number is not formally limited), I argue that the possible combinations of relational semantic features that can be drawn from the syntactic argument structures of unaccusative verbs (cf. 16a) and unergative verbs (cf. 16b) turn out to be formally limited or reduced to the ones in (17):[12]

(17) a. $[[+T]\ [+r]]$ (cf. telic change of {location/state})
      b. $[[+T]\ [-r]]$ (cf. atelic change of {location/state})
      c. $[[-T]\ [-r]]$ (cf. {continuation of a pre-existing state / existence of state})
      d. $[-R]$ (cf. non-volitional internal cause)
      e. $[+R]$ (cf. volitional internal cause)

The relational semantic features in (17) are then associated with the syntactic argument structures depicted in (18), where the most relevant 'cut-off points' in languages like French, German, Dutch, or Italian, have been represented as well (Mateu 2003).

(18) a. $[_v v\ [_{X_1}\ X_{1[+T]}\ [_{X_2}\ Z_2\ [_{X_2}\ X_{2[+r]}\ Y_2]]]$ selects BE
          -cut-off point (French)
      b. $[_v v\ [_{X_1}\ X_{1[+T]}\ [_{X_2}\ Z_2\ [_{X_2}\ X_{2[-r]}\ Y_2]]]$
          -cut-off point (German/Dutch)
      c. $[_v v\ [_{X_1}\ X_{1[-T]}\ [_{X_2}\ Z_2\ [_{X_2}\ X_{2[-r]}\ Y_2]]]$
          -cut-off point (Italian)
      d. $[_v Z_1\ [_v v\ [_{X_1}\ X_{1[-R]}\ Y_1]]]$
      e. $[_v Z_1\ [_v v\ [_{X_1}\ X_{1[+R]}\ Y_1]]]$ selects HAVE

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[12] The $[[-T]\ [+r]]$ combination can be argued to be excluded in virtue of the fact that all telic unaccusative verbs involving $[+r]$ are always associated to a positive Transition (i.e., $[+T]$). In contrast, $[[+T]\ [-r]]$ appears to be an idoneous combination in order for us to deal with Sorace's (2000) verbs of indefinite change of state (i.e., Dowty's (1979) degree achievements): e.g., cf. It. *Mio figlio è cresciuto molto quest'anno* 'My son has grown a lot this year'.

Thus, for example, depicted in (18) is the fact that in French the use of *être* (BE) as the perfect auxiliary with intransitive/unaccusative verbs is much more reduced than in Italian, where there are more unaccusative verbs selecting *essere* (BE): quite typically, while Fr. *être* is reduced to the domain of telic verbs of change of location or state (e.g., Fr. *sortir* 'to go out' or *mourir* 'to die'), It. *essere* is not only used with these prototypical unaccusative verbs (e.g., It. *uscire* 'to go out' or *morire* 'to die'), but also with verbs expressing atelic or indefinite change of state (e.g., *crescere* 'to grow') or with verbs of existence (e.g., *esistere* 'to exist'). In contrast, in French it is the case that indefinite change of state verbs and existence verbs (e.g., cf. Fr. *grandir* 'to grow' and *exister* 'to exist') select *avoir*. On the other hand, in German and Dutch, verbs of existence behave as in French and typically select HAVE. However, unlike in French, in these two Germanic languages, atelic or indefinite change-of-state verbs select BE, and then behave like in Italian (for more discussion, see Shannon 1990; Sorace 2000, 2004; Keller and Sorace 2003 and Mateu 2003, among others).

Going back to Old Catalan and Old Spanish, I argue that the preliminary descriptive proposal depicted in (11), repeated in (19), can be formalized by means of the syntactic argument structure representations given in (20).

(19)   The Auxiliary Selection Hierarchy in Old Catalan and Old Spanish
        TELIC CHANGE OF {LOCATION⁄STATE}   selects *ésser/ser* -- least
                                                 variation
        -    stable cut-off point
        ATELIC CHANGE OF {LOCATION⁄STATE}
        -    unstable cut-off point
        APPEARANCE OF STATE
        -    unstable cut-off point
        EXISTENCE OF STATE
        -    unstable cut-off point
        UNCONTROLLED PROCESS
        CONTROLLED PROCESS (MOTIONAL)
        CONTROLLED PROCESS (NON-MOTIONAL)   selects *haver/haber*--least
                                                 variation

(20) a. $[_v v\ [_{X_1}\ X_{1[+T]}]\ [_{X_2}\ Z_2\ [_{X_2}\ X_{2[+r]}\ Y_2]]]$ selects *ésser/ser*--least
                                                 variation
          -stable cut-off point
      b. $[_v v\ [_{X_1}\ X_{1[+T]}]\ [_{X_2}\ Z_2\ [_{X_2}\ X_{2[-r]}\ Y_2]]]$
          -unstable cut-off point

c. $[_v v [_{X_1} X_{1[-T]} [_{X_2} Z_2 [_{X_2} X_{2[-r]} Y_2]]]$
    -------------------------unstable cut-off point
d. $[_v Z_1 [_v v [_{X_1} X_{1[-R]} Y_1]]]$
e. $[_v Z_1 [_v v [_{X_1} X_{1[+R]} Y_1]]]$ selects *haver/haber*--least
                                                            variation

In both Old Catalan and Old Spanish, telic verbs of change of location/state select BE quite systematically and form the most stable class of unaccusative verbs, that is, the class that was more reluctant to accept the replacement of BE by HAVE. My proposal is that these unaccusative verbs (e.g., Cat. *anar* / Sp. *ir* 'to go', Cat. *néixer* / Sp. *nacer* 'to be born', Cat./Sp. *morir* 'to die', etc.) are associated with the feature combination $[[+T] [+r]]$; that is, they involve a positive transition (i.e., there is a change involved) and, additionally, there is a *telos* involved.

On the other hand, as shown by Batlle (2002), Castillo (2002), and Aranovich (2003), verbs expressing appearance (e.g., Old Cat. *passar* / Old. Sp. *passar* 'to happen') or existence (e.g., Old Cat. *romandre/restar* / Old Sp. *quedar*, 'to remain', etc.) behave in a less stable way than telic-change verbs. My proposal is that these classes can be formalized in the present lexical-syntactic approach as follows: verbs of appearance and verbs of indefinite change of state are associated with the feature combination $[[+T] [-r]]$, since they involve a transition or change, but there is no resulting state involved (cf. Aranovich 2003: 12). Finally, verbs of existence are associated with the feature combination $[[-T] [-r]]$, since they do not involve any transition nor final end-point/resulting state.

This said, next I want to show how the present relational theory of auxiliary selection with intransitive verbs could account for the gradient effects briefly reviewed above. The feature combination $[[+T] [+r]]$ can be argued to form the 'prototypical' meaning associated to unaccusative verbs (cf. Sorace's (2000, 2004) core unaccusative verbs); in contrast, the feature combinations $[[+T] [-r]]$ and $[[-T] [-r]]$ can be argued to form 'peripheral' meanings (i.e., Sorace's (2000, 2004) non-core or intermediate unaccusative verbs). Accordingly, given the present relational approach, core unaccusative and unergative verbs are defined via a fully positive feature specification: cf. $[[+T] [+r]]$ and $[+R]$, respectively. The former holds for all those verbs involving a telic change, while the latter holds for those verbs involving an internal cause whose external argument is also interpreted as a volitional agent. On the other hand, non-core or intermediate verbs, i.e., those standing in the periphery of the class, are provided with at least one negatively specified relational feature.

In other words, the feature combination $[[+T]\ [+r]]$ and the feature $[+R]$ express maximally different eventualities, hence they are placed at the edges of the hierarchy. In contrast, the feature combination $[[-T]\ [-r]]$ and the feature $[-R]$ express minimally different eventualities, hence they touch each other in the middle of the hierarchy. Finally, the feature combination $[[+T]\ [-r]]$, the one which is related to intransitive 'degree achievements', can actually be regarded as the truly intermediate one because of its combining a positive relational feature $([+T])$ with a negative one $([-r])$.

To conclude, although I agree with those linguists who claim that the unergative/unaccusative distinction must be encoded in syntactic terms (cf. Perlmutter 1989; Burzio 1986), I have claimed that one must also appeal to semantics (in particular, to relational semantics) when accounting for important empirical facts like the diachronic ones described by Batlle (2002) and Aranovich (2003), or the synchronic ones described by Sorace (2000, 2004) (cf. also Shannon 1990, and Bentley and Eythórsson 2003). Hopefully, encoding the relevant semantic features into the relevant syntactic structures could be regarded as a first step towards making compatible the insights of the semantic approach with those of the syntactic one. In this sense the present lexical-syntactic framework could then be said to provide some further insights concerning the relational semantics involved in the diachronic replacement of BE by HAVE: in particular, Hale and Keyser's (2002: 221) insightful hypothesis that a terminal coincidence relation $([+r])$ always includes a central coincidence one $([-r])$ could explain the fact that the most complex unaccusative structures (those having $[+r]$, i.e., the telic ones) were the last ones to admit HAVE, the structurally simplest ones (those having only $[-r]$, i.e., the atelic ones) being the former to admit it.

12

Verb-to-preposition reanalysis in Chinese*

REDOUANE DJAMOURI AND WALTRAUD PAUL

12.1 Introduction

Since the introduction of the Minimalist Program (cf. Chomsky 1995 and subsequent works) relegating variation to the lexicon, various proposals have adopted this approach and located change in the discrete features of individual lexical items (cf. a.o. Roberts and Roussou 1999, 2003; Longobardi 2001*a*; Whitman 2000; Whitman and Paul 2005). They differ, however, with respect to the hypotheses made about the triggering factors of syntactic change and the consequences resulting from change. Both Longobardi (2001*a*) and Roberts and Roussou (2003) consider the disappearance of an item as change in its ultimate form, maximally implementing Longobardi's (2001*a*: 294) principle 'minimize feature content', by the reduction of semantic and phonological features to zero. Within Longobardi's *Inertial Theory*, inspired by Keenan (1998; also cf. Keenan 2002, this volume), this loss may even constitute the decisive factor for the grammaticalization starting from this item and the associated semantic changes. Furthermore, Roberts and Roussou (2003) as well as Longobardi (2001*a*) adhere to the widespread idea that syntactic change induces simplification.

In Roberts and Roussou's (2003: 128–9) view, reanalysis of one lexical category as another lexical category does not qualify as grammaticalization, but is considered as a preliminary step to grammaticalization 'proper', the latter resulting in a new functional item. Accordingly, a preposition resulting from V-to-P reanalysis is claimed to remain lexical and to still have relation properties in the sense of Hale and Keyser (1993: 128). No loss of the external

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argument ('pruning') is said to have occurred, the latter being a crucial component in the V-to-P reanalysis according to Whitman's (2000) analysis.

For these various assumptions, a language such as Chinese with numerous cases of V-to-P reanalysis attested throughout its history of more than 3000 years offers an ideal test case. The many instances in e.g. modern Mandarin where the verb and the preposition coexist question the general validity of a central claim in Longobardi (2001*a*), viz. that the disappearance of the 'original' item acts as a trigger for syntactic change. Likewise, the widely accepted scenario of semantic 'bleaching' going hand in hand with phonological 'erosion' cannot be upheld, given the perfect homophony (including the tones) of verb- preposition pairs in modern Mandarin. Furthermore, the longevity of prepositions resulting from V-to-P reanalysis challenges Roberts and Roussou's (2003: 129) assumption that this kind of reanalysis represents only a preliminary step to grammaticalization 'proper'. Nor do prepositions resulting from V-to-P reanalysis (and hence lexical) in modern Mandarin and earlier stages retain the relational status of VPs or behave like V/P hybrids. On the contrary, once the reanalysis as preposition has taken place, the reanalysed item displays the same syntactic properties as the other prepositions. As a matter of fact, prepositions and verbs in Chinese must be distinguished from the earliest available documents on. Last, but not least, given that in Chinese the primary historical source for prepositions derived from verbs are adjunct clauses (cf. Whitman 2000; Whitman and Paul 2005), no simplification in structure is observed after V-to-P reanalysis has taken place, the only difference induced by this reanalysis consisting in relabelling the adjoined projection.

The present article is organized as follows. Section 12.2 examines in detail the earliest available documents in Chinese (13th-11th c. BC) and provides extensive evidence for the distinction between prepositions and verbs. In Section 12.3, we turn to modern Mandarin and again argue for the differences between verbs and prepositions. Section 12.4 concludes the article and briefly discusses the tacit assumptions underlying frameworks such as Longobardi's (2001*a*) 'Inertial Theory' and the conception of 'preliminary change' defended by Roberts and Roussou (2003).

12.2 Prepositions in the Shang bone inscriptions (13th–11th c. BC)

In order to illustrate our claim that in all periods of the Chinese language prepositions are clearly distinguished from verbs, we have chosen the extreme ends on the timescale, i.e. the earliest documents available for Chinese (13th–11th c. BC), on the one hand, and modern Mandarin, on the other. The same

demonstration could equally be made for any other synchronic stage located between these two extremes.

In the earliest available Chinese texts, i.e. the Shang inscriptions (13th-11th c. BC),[1] the following three prepositions are attested: 于*yu* 'in, to', 在*zai* 'in, at', 自*zi* 'from'.[2] As will be illustrated throughout this section, these prepositions can introduce a range of locative expressions, i.e. spatial, temporal, and abstract location. This is important insofar as temporal and abstract location are never taken into account by the proponents of a verbal interpretation of *yu, zai*, and *zi*, whose only 'argument' for the verbal analysis of these items is the apparently existing 'choice' between a verbal and a prepositional translation for a spatial locative, as in the case of *zai shi Dao* in (1) ('being at the camp Dao' *vs* 'at the camp Dao'):

(1)   王在師稻豢   (H 24255)[3]
    Wang [$_{vP}$ [$_{PPspat.}$ zai   shi   Dao]   huan]
    king   at   camp   Dao   raise
    'The king at the camp Dao will raise [animals].'

In the case of an abstract locative as in (2), however, the interpretation of *zai* as a verb results in a nonsensical meaning: 'The prince will not end (and) be in misfortune'.

(2)   子商亡斷在囗   (H 02940)
    Zi   shang [$_{vP}$ wang   duan [$_{PPabstr.}$ zai   huo]]
    prince   Shang   have:not   end   in   misfortune
    'The prince Shang will not end in misfortune.'

Temporal locatives likewise render a verbal interpretation for the projections headed by *zai* (cf. (1)–(2)) and *yu* (cf. (3)) implausible:

(3)   王于七月入于商   (H 7780 r.)
    Wang [$_{vP}$ [$_{PPtemp.}$ yu   qi   -yue]   [$_{vP}$ ru   [$_{PPspac.}$ yu shang]]
    king   in   seven-month   enter   in Shang
    'The king in the seventh month will enter the Shang city.'

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[1] The corpus of the Shang inscriptions consists of more than 150,000 fragments carved on ox bones and tortoise shells among which more than 26,000 complete sentences can be identified.

[2] While the synchronic studies of the Shang inscriptions assign prepositional status to *yu, zai*, and *zi* (cf. Chen Mengjia 1956; Guan Xiechu 1953; Kryukov 1980; Huang Weijia 1987; Djamouri 1988; Shen Pei 1992; Zhang Yujin 1994; Djamouri and Paul 1997), the few assessments of these items from a diachronic point of view insist on their verbal status or verbal origin (Guo 2005; Mei 2004; Pulleyblank 1995).

[3] The following abbreviations are used in glossing examples: CL classifier; NEG negation; DUR durative aspect; PERF perfective aspect; PL plural (e.g. 3PL = 3rd-person plural); SG singular; SUB subordinator.

Note that to translate the spatial locative *yu shang* in the postverbal position in (3) as 'go to the Shang city' does not make sense either, the preceding verb *ru* 'enter' requiring a locational complement.

Last, but not least, (4) provides an example for a spatial locative PP headed by *zi* 'from'.[4]

(4)   王自余入   (H 3458)
    Wang [_{*v*P} [_{PPspat.} zi   yu]   ru]
    king   from Yu   enter
    'The king will enter from Yu.'

12.2.1 *Prepositions cannot function as predicates*

The linguists who insist on the verbal characteristics of the prepositions *yu*, *zai*, or *zi* rely on their textual understanding of the sentence and do not provide any criteria for when to interpret these items as prepositions and when as verbs (cf. Guo 1997, 2005; Mei 2004 among others). In the following, we will therefore offer an array of arguments in favour of the prepositional status of *yu*, *zai*, and *zi* in the Shang inscriptions.

First, while transitive verbs (5a) can occur without their object (5b), the prepositions *yu*, *zai*, and *zi* always require an object; hence, structures such as (5c) are not attested.

(5)   a. 王伐土方   (H 6354)
        Wang   fa   tu   fang
        king   fight   Tu   tribe
        'The king will fight the Tu tribe.'

    b. 王伐   (H 7587)
        Wang   fa
        king   fight
        'The king will fight.'

    c. * S 于/在/自 Ø V
        * S [_{*v*P}[_{PP} yu/ zai/ zi Ø] V]
                 to / at / from

Furthermore, while VPs can be negated and be selected by auxiliaries, PPs cannot. Accordingly, a structure such as (6) is not attested:

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[4] The few occurrences of the verb *zi*, generally glossed as 'to follow' (cf. Pulleyblank 1995: 52), are in fact only attested in transmitted texts of the late archaic period (5th c.–3rd c. BC).

(6)   * S 勿/其/不 于/在/自 NP
    * S wu/   qi /   bu [$_{PP}$ yu/ zai/ zi   NP]
      must:not/   FUT/ neg   to / at / from

These observations indicate that the items *yu, zai,* and *zi* cannot function as predicates and can therefore not be assigned verbal status.

12.2.2 *Argument vs adjunct position: PPs pattern with NPs*

Another piece of evidence for the prepositional status of the projections headed by *yu, zai,* or *zi* is the fact that they do not pattern with VPs, but with NPs. More precisely, PPs show the same positional asymmetry as NPs: arguments obligatorily occupy the postverbal position, whereas adjuncts may occur in the postverbal and the preverbal position (cf. Djamouri and Paul 1997).[5]

The examples below, (7)–(8), show the argument NP in postverbal position. In the double-object construction, the indirect object and the direct object likewise follow the verb (cf. (8)):

(7)   我伐羌   (H 6620)
    Wo [$_{vP}$ fa   [$_{NP}$ qiang]]
    1PL   fight   Qiang
    'We will fight the Qiang tribesmen.'

(8)   來乙未侑祖乙宰   (H 721 r.)
    Lai   yiwei   [$_{vP}$ you   [$_{NP}$ zuyi] [$_{NP}$ lao]]
    coming   *yiwei*   offer   Zuyi   penned:sheep
    'The next *yiwei* day, one will offer Zuyi a penned sheep.'

Like argument NPs, argument PPs occur in the postverbal position (cf. (9)–(11)). This holds e.g. for the goal PP in the double-object construction. Note that the three prepositions *yu, zai,* and *zi* may all head such a goal PP:

(9)   王其侑于小乙羌五人   (H 26922)
    Wang   qi   [$_{vP}$ you [$_{PPgoal}$ yu xiao-yi] [$_{NP}$ qiang wu ren]]
    king   FUT   offer   to Xiaoyi   Qiang five man
    'The king will offer Xiaoyi five Qiang tribesmen.'

(10)   其侑在父庚   (W 1374)
    [$_{vP}$ Qi you [$_{PPgoal}$ zai fu   geng]]
      FUT offer   to father   Geng
    'One will offer [the sacrifice] to Father Geng.'

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[5] The postverbal position of arguments in the Shang inscriptions invalidates Li and Thompson's (1974) assumption of SOV as main word order in Archaic Chinese. Note that they do not take into account the Shang inscriptions at all.

(11) 其登鬯自小乙   (H27349)

[$_{vP}$ Qi [deng   [$_{NP}$ chang   ] [$_{PPgoal}$ zi   xiaoyi]]]

　　　FUT elevate.in.sacrifice   millet.alcohol   from Xiaoyi

'One will sacrifice millet alcohol to (a whole genealogy of ancestors starting from) the ancestor Xiaoyi.'

Examples (12) and (13), where the PP is the only argument of the verb, illustrate a spatial locative (12) and an abstract locative (13) in postverbal position:

(12) 方允其來于沚   (H 6728)

Fang yun   qi   [$_{vP}$ lai   [$_{PPloc.}$ yu zhi]]

Fang effectively FUT   come   to Zhi

'Fang will effectively come to Zhi.'

(13) 婦妌魯于黍年   (H 10132 r.)

Fu   jing   [$_{vP}$ lu   [$_{PPabst.loc}$ yu shu   nian]]

lady Jing   be:plentiful.   in millet   harvest

'Lady Jing will be plentiful in her millet harvest.'

In contrast to argument NPs and PPs, adjunct NPs and PPs may occur both postverbally and preverbally, including the pre-subject position. In fact, adjunct NPs—'bare NP adverbs'—turn out to have the same distribution as adjunct PPs, a situation equally holding for English (cf. Emonds 1987; McCawley 1988, among others) and for modern Mandarin (cf. Ng 1987).[6] In (14), a temporal adjunct NP occurs in sentence-initial position. (15)–(17) illustrate adjunct PPs in the same position; these examples are important insofar as they show again that PPs headed by *yu, zai,* and *zi* are not associated with a 'covert' subject position, there being no obvious controller for a PRO. This again demonstrates that *yu, zai,* and *zi* have to be analysed as prepositions and not as verbs.

(14) 今六月王入于商   (H7775)

[$_{NP}$ Jin   liu   yue]   wang   ru   yu   shang

　　 actual six   month   king   enter   in   Shang

'This sixth month, the king will enter the Shang city.'

(15) 于辛巳王圍召方   (H33023)

[$_{PP}$ Yu xinsi] wang wei   shao   fang

　　 on *xinsi*   king surround   Shao   tribe

'On the *xinsi* day, the king will surround the Shao tribe.'

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[6] By contrast, the few adverbs attested in the Shang inscriptions such as *yun* 'indeed', *yi* 'also', *ji* 'already' can only appear in the preverbal position below the subject (cf. (14) above).

(16) 自旦至食日不雨   (TUNNAN 42)
[PP Zi   dan]   zhi   shiri   bu   yu
      from dawn   until mealtime   NEG   rain
'From dawn to mealtime, it will not rain.'

(17) 在𡆥王其先遘捍   (Y 593)
[PP Zai nü]   wang   qi   xian   gou   han
      at Nü   king   FUT   advance   meet   opposition
'At Nü, the king will advance and meet an armed opposition.'

In the examples below, the adjunct NPs and PPs occupy the preverbal
position right of the subject. (18) illustrates the case of an adjunct NP in the
preverbal position, whereas (3) and (4) above and (19) show adjunct PPs
headed by *yu*, *zai*, and *zi* in the same position:

(18) 王今丁巳出   (H7942)
Wang [vP [NP jin   dingsi]   chu]
king   actual Dingsi   go:out
'The king on this Dingsi day goes out.'

(19) 王在十二月在襄卜   (H24237)
Wang [vP [PP zai shi'er -yue]   [vP [PP zai   xiang]   [vP bu]]]
king   at twelve-month   at   Xiang   divine
'The king in the twelfth month at Xiang made the divination.'

Finally, like arguments, adjunct NPs and PPs may also occupy the postverbal
position:

(20) 方其至今月   (H20479)
Fang   qi   zhi   [NP jin   yue]
Fang   FUT   arrive   present   month
'The Fang tribesmen will arrive this month.'

(21) 呼多犬网鹿于龏   (H10976r)
Hu   duo   quan   [vP wang lu   [PP yu nong]]
order numerous   dog.officer   net deer   at Nong
'Call upon the many dog-officers to net deer at Nong.'

(22) 乞令吳以多馬亞省在南   (H564r)
Qi   ling   wu   yi   duo   maya   [vP xing
Qi   order   Wu   lead   numerous   military.officer   inspect
[PPspat. zai nan]]
        at   south
'Officer Qi will order Wu to lead the numerous military officers to
carry out an inspection in the south.'

(23) 其品祠于王出   (H23713)
　　　Qi   [$_{vP}$ pin,   ci.   [$_{PP}$ yu [$_S$ wang   chu]]]
　　　FUT   *pin*.sacrifice *ci*.sacrifice   at   king   go.out
　　　'One will perform a *pin* and a *ci* sacrifice when the king goes out.'

Note that in (23) *yu* selects a sentential complement which provides another
piece of evidence against its alleged verbal status.[7]

12.2.3 *Focalization structures in the Shang inscriptions*

As stated above, arguments are confined to the postverbal position whereas
adjuncts may appear both pre- and postverbally. However, when focalized,
arguments and adjuncts alike must occur in the preverbal position right of
the subject. (For a detailed discussion on focalization in the Shang inscrip-
tions, see Djamouri (1988, 2001).

　　　Starting with argument NPs, (24a) and (24b) illustrate the case where the
focalized object NP of a simple transitive verb occupies the preverbal pos-
ition, preceded by the copula *wei* 'be', or *hui* 'must be':

(24)　a.　王勿唯易白娀 比   (H 6460 r.)
　　　　　 Wang [$_{NegP}$ wu   [$_{vP}$ wei [$_{FocP}$ [$_{NP}$ yang   bo   shi] [$_{vP}$ bi]]]]
　　　　　 king   NEG   be   Yang   lord   Shi   follow
　　　　　 'It must not be Shi, lord of Yang, that the king will follow.'

　　　　b.　王重　易白娀　比   (*ibid.*)[8]
　　　　　 Wang [$_{vP}$ hui   [$_{FocP}$ [$_{NP}$ yang   bo   shi] [$_{vP}$ bi]]]
　　　　　 king   must:be   Yang   lord   Shi   follow
　　　　　 'It must be Shi, lord of Yang, that the king will follow.'

In a double-object construction, either the direct object or the indirect object
can be focalized:

(25)　重　羊侑于母丙   (H 2523)
　　　[$_{vP}$ Hui   [$_{FocP}$ [$_{NP}$ yang]   [$_{vP}$ you   [$_{PP}$ yu mu   bing]]]]
　　　　 must:be   sheep   offer   to ancestress Bing
　　　'It must be a sheep that one will offer to Ancestress Bing.'

(26)　唯祖乙侑匚   (H 1573)
　　　[$_{vP}$ Wei [$_{FocP}$ [$_{NP}$ zuyi] [$_{vP}$ you   po   ]]]
　　　　 be   Zuyi   offer   *po*.sacrifice
　　　'It is to Zuyi that one will offer a *po* sacrifice.'

---

　[7] Whether *yu* should rather be analysed as a complementizer here is orthogonal to the issue at hand.
　[8] In the Shang inscriptions, often varying predictions concerning the same issue are made in order
to determine the auspicious one, thus explaining the abundance of focalization structures.

For argument PPs, the presence of a copula is optional, as illustrated in (27b). (27b) is the matching sentence for (27a), i.e. it shares with it the presupposition—'the king will present an immolation'—but varies on the goal PP, which is focalized ('to Fuding' vs 'to Zuyi').

(27)   a. 王侑歲于祖乙   (H 3213)

   Wang   you   sui   [PP yu   zuyi]
   king   present immolation   to   Zuyi

   'The king will present an immolation sacrifice to Zuyi.'

   b. 于父丁侑歲   (*ibid.*)

   [_vP_ [_FocP_ [_PP_ Yu fuding]   [_vP_ you   sui   ]]]
                 to Fuding   present   immolation

   'It is to Fuding that [the king] will present an immolation.'

Finally, (28) and (29) illustrate the focalization of adjunct NPs and PPs, for which the presence of a copula seems obligatory:

(28)   帝唯今二月令雷   (H 14129 r.)

   Di [_vP_ wei   [_FocP_ [_NP_ jin   er -yue]   [_vP_ ling lei   ]]]
   Di   be   actual two-month   order lightning

   'It is in this second month that Di will order lightning.'

(29)   叀 于甲子酌 叙   (H 32053)

   [_vP_ Hui   [_FocP_ [_PP_ yu jiazi]] [_vP_ jiu   dui   ]]]
        must:be   in *jiazi*   *jiu*.sacrifice *dui*.sacrifice

   'It must be on the *jiazi* day that one will perform a *jiu* and a *dui* sacrifice.'

Once again, the preceding data involving focalization not only demonstrate that PPs pattern with NPs, but also that SVO is the basic word order in the Shang inscriptions, SOV order arising in focalization structures only.

12.2.4 *Interim summary*

The detailed investigation of the Shang inscriptions provides us with a straightforward picture where the difference between verbs and prepositions is attested since the earliest available documents.

First, prepositions in these inscriptions cannot function as predicates. Accordingly, prepositions lack an 'extended' P-projection to assign the external theta-role, which clearly sets them apart from verbs.

Second, prepositions in the Shang inscriptions cannot be stranded, in contrast to verbs which allow for an empty object position. (This situation equally obtains for modern Mandarin, cf. Section 12.3 below.)

Third, PPs pattern with NPs, not with VPs, and show the same positional argument/adjunct asymmetry as NPs. Consequently, both PP and NP arguments are confined to the postverbal position, except in focalization structures where they must occur preverbally below the subject. Adjunct PPs and NPs, on the other hand, can occupy three different positions, i.e. the post-verbal, the preverbal (below the subject), and the sentence-initial position. When focalized, however, PP and NP adjuncts—like arguments—must appear in the preverbal position right of the subject.

These observations also challenge current assumptions concerning V-to-P reanalysis, often presented as the model case of grammaticalization in Chinese linguistics. According to the generally retained scenario, prepositions are 'grammaticalized' from verbs occurring in a serial verb construction (SVC). Putting aside the confusing practice in Chinese linguistics to use the label SVC as an indiscriminate cover term for any surface string containing more than one verb (cf. Paul 2008), it is important to stress that it would be anachronistic to use the same scenario for the Shang inscriptions, the emergence of SVC being commonly dated about ten centuries later, i.e. after the third century AD.[9]

Notwithstanding this chronology, some scholars nevertheless try at all costs to produce a verbal derivation when confronted with the full-fledged prepositions *yu, zai,* and *zi* in the Shang inscriptions and reconstruct a 'corresponding' verb (cf. a.o. Mei 2004; Guo 2005).

The efforts to construe a 'verbal origin' for *yu, zai,* and *zi* are also motivated by the desire to save the 'unidirectionality principle' of grammaticalization, given that the verbs *zai* and *zi* are attested in later texts only.[10] (For the factual and conceptual problems related to this principle, cf. Lightfoot 2002*b*; Newmeyer 1998: ch. 5.)

As we will see in the next section, both the preposition *zai* and the verb *zai* exist in modern Mandarin, along with other pairs of homophonous verbs and prepositions. This coexistence has often been misinterpreted as an indication of the verbal nature of prepositions in Chinese.

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[9] A strict definition of SVC as an object-sharing structure (cf. Collins 1997*b*) leads to the conclusion that the main verb in such a structure remains the head of a complex VP and cannot be reanalysed as a preposition (cf. Whitman and Paul 2005). Only verbs in adjunct position or those contained in the complement of the main verb are liable to undergo V-to-P reanalysis. Consequently, SVCs are not a privileged source for V-to-P reanalysis: the primary historical source for prepositions derived from verbs are adjunct clauses. Note that in the Shang inscriptions structures where a clause is adjoined to the main verb are not attested, nor are object-sharing SVCs (cf. Djamouri 2005). Instead, sequences containing several verbs have to be analysed as complex sentences.

[10] The verb *zai* 'to be at' is first attested in the Western Zhou bronze inscriptions (10th c. BC). The few alleged examples of *yu* as verb 'to go' (dating from the 8th c. BC) all turn out to be cases where the preposition *yu* introduces an abstract or a spatial locative (cf. Djamouri and Paul 1997). For *zi*, cf. n. 4 above.

12.3 Modern Mandarin

Roberts and Roussou (2003: 128) claim that prepositions resulting from V-to-P reanalysis retain predicative properties. This is reminiscent of the widespread idea in Chinese linguistics that prepositions in modern Mandarin 'still' display verbal characteristics and should be labelled 'coverb', thus reflecting the supposedly hybrid character of these items (cf. a.o. Simon 1958, Chao 1968, Liang 1971, Li and Thompson 1981, and references therein).

12.3.1 *Adjunct position and alleged verbal properties of PPs*

Evidence provided for the alleged verbal nature of prepositions crucially involves the position right of the subject, i.e. the position for phrases with an adverbial function adjoined to (a projection dominating) the main VP. As (30)–(32) illustrate, adverbs, NPs, PPs, and (null subject) clauses can all function as adjuncts. Accordingly, to occur in the adjunct position is *not* tantamount to PP status, an equation often wrongly established in the literature.

(30) 他星期天 / 仔仔細細地整理房間。
      Ta [NP xingqitian] [vP [adverb zizixixide] [vP zhengli fangjian]]
      3SG Sunday   carefully   tidy   room
      'He carefully tidies up his room on Sundays.'

(31) 我從農村回來。
      Wo [vP [PP cong nongcun] [vP huilai]]
      1SG   from village   return
      'I return from the village.'

(32) 他看著電視吃飯。
      Ta [vP [adjunct clause PRO   kan -zhe dianshi] [vP chi fan]]
      3SG   watch-DUR TV   eat food
      'He eats watching television.'

Furthermore, given that negation and adverbs mark the left edge of the *v*P (inclusive of adjoined material), they precede adjunct PPs. The resulting sequence 'Neg/Adv PP VP' is often adduced as evidence for an alleged compatibility of PPs with negation and adverbs:

(33) 我已經給瑪麗打了半個小時的電話。
      Wo [vP [adverb yijing [vP [PP gei Mali] [vP   da -le ban-ge xiaoshi
      1SG   already   to Mary   make-PERF half-CL hour
      de dianhua]]]
      SUB phone.call
      'I have already talked to Mary on the phone for half an hour.'

(34) 我還沒給瑪麗寄E-mail。
       Wo   hai   mei [$_{vP}$ [$_{PP}$ gei Mali] [$_{vP}$ ji   E-mail]]
       1SG still NEG   to Mary   send E-mail
       'I still haven't sent an E-mail to Mary.'

(35) 他不在上海學法文。
       Ta   bu [$_{vP}$ [$_{PP}$ zai shanghai] [$_{vP}$ xue   fawen]]
       3SG NEG   in Shanghai   study French
       'He does not study French in Shanghai.'

However, as soon as the PP occurs elsewhere than in a VP-adjoined position, e.g. in the sentence-initial topic position (cf. (36)–(38)) or as a modifier embedded in a NP (cf. (39)), the incompatibility of PPs with adverbs and negation becomes visible:

(36) (*已經) 給瑪麗，我已經打了半個小時的電話。
       (*yijing) [$_{PP}$ Gei Mali],   wo [$_{vP}$ [$_{adverb}$ yijing   [$_{vP}$ da -le
        already   to Mary   1SG   already   make-PERF
        ban-ge xiaoshi de dianhua]]
        half-CL hour SUB phone.call
        'To Mary, I have already talked on the phone for half an hour.'

(37) (*沒) 給瑪麗，我還沒寄E-mail，給小李，我已經寄了。
       (*mei) [$_{PP}$ Gei Mali], wo hai mei ji   E-mail, [$_{PP}$ gei Xiaoli],
        NEG   to Mary   1SG still NEG send E-mail   to Xiaoli
        wo   yijing   ji -le
        1SG already send-PERF
        'To Mary I still haven't sent an E-mail, to Xiaoli, I have already sent one.'

(38) (*不) 在上海他不學法文，他學漢語。
       (*bu) [$_{PP}$ Zai shanghai] [$_{TP}$ ta bu   xue   fawen],
        NEG   in Shanghai   3SG NEG study French
       [$_{TP}$ ta   xue   hanyu]
        3SG study Chinese
       'In Shanghai, he does not study French, [but] he studies Chinese.'

(39) 他買了幾本（*不）關於 Chomsky 的書。
       Ta   mai-le   ji   -ben [$_{NP}$ [$_{PP}$ (*bu) guanyu Chomsky] de   shu]
       3SG buy-PERF several-CL   NEG about Chomsky SUB book
       'He bought several books (not) about Chomsky.'

Similarly, the possibility to mark the verb in an adjunct clause with aspectual suffixes has been misinterpreted as an instance of the homoph-

onous preposition displaying verbal properties, as illustrated with the pair of verb *gen* 'follow' and preposition *gen* 'with, to':

(40)   你跟著他!
     Ni   gen -zhe ta
     2SG   follow-DUR 3SG
     'Follow him!'

(41)   我跟他説話。
     Wo [$_{\nu P}$ [$_{PP}$ gen ta]   [$_{\nu P}$ shuo hua]
     1SG   with 3SG   talk   word
     'I speak to him.'

Only the verb *gen* 'follow' is compatible with aspect (cf. (40)), but not the preposition *gen* 'with, to' (cf. 41). Accordingly, when *gen* is suffixed with the durative aspect suffix *-zhe* (cf. (42)), it must be analysed as the verb 'to follow', i.e. in this case the adjoined phrase is not a PP, but a VP:[11]

(42)   我跟著他説話。
     wo [$_{\nu P}$ [$_{adjunct\ clause}$ PRO gen   -zhe   ta] shuo hua]
     1SG   follow -DUR 3SG talk   word
     'While I'm following him, I'm talking (to myself, to him, or to a third person).'

Note that the contrast between the VP status of *gen-zhe ta* in (42) and the PP status of *gen ta* in (41) is reflected in the interpretation: while the PP *gen ta* in (41) indicates the person spoken to, the interlocutor in (42) must be inferred from the context.

The failure to distinguish between an adjunct PP and an adjunct VP is at the origin of the wrong idea that prepositions 'retain' verbal properties and that they should be labelled 'coverbs'. In fact, prepositions in Chinese turn out to be not 'verb-like' at all.

12.3.2 *Prepositions cannot function as predicates*

Roberts and Roussou (2003: 128) claim verbal character for prepositions resulting from V-to-P reanalysis. This implies that like the VP, the PP is selected by a *v*-like head. However, the data below demonstrate that there is no 'extended' P projection to assign the external theta-role in Chinese. PPs cannot function as predicates, neither as primary (43) nor as secondary (44)

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[11] To be precise, the adjoined projection in (42) is a clause with a null subject. For expository purposes, we will continue to talk about VP vs PP adjuncts.

(cf. Huang 1982 for evidence that structures such as (44) involve a secondary predicate).

(43)   *他從北京。
    * Ta   [$_{PP}$ cong   Beijing]
       3SG   from   Beijing
    (Intended meaning: 'He is from Beijing.')

(44)   他有幾個學生會說中文 / *從北京。
    Ta   you   ji   -ge xuesheng   [$_{vP}$ hui shuo   zhongwen]
    3SG   have   several-CL student   can speak   Chinese
    /* [$_{PP}$ cong   Beijing]
    /   from   Beijing
    'He has several students who can speak Chinese / several students from Beijing.'

(45)   他從北京回來了。
    Ta   [$_{vP}$[$_{PP}$ cong Beijing]   [$_{vP}$ huilai-le]]
    3SG   from Beijing   return-PERF
    'He has returned from Beijing.'

(46)   a.   *這本書關於 Chomsky 。
        *Zhei-ben   shu   [$_{PP}$ guanyu   Chomsky]
        this -CL   book   about   Chomsky
        (intended meaning: 'This book is about Chomsky.')

    b.   他有一本書 *關於Chomsky / 談到 Chomsky 。
        Ta   you   yi-ben shu   *[$_{PP}$ guanyu Chomsky] /
        3SG   have   1-CL book   about   Chomsky /
        [$_{vP}$ tandao Chomsky]
            talk.about Chomsky
        'He has a book about Chomsky/talking about Chomsky.'

These data tie in with the observation above that unlike VPs, PPs cannot be negated or be modified by adverbs (cf. (36)–(39)).[12] This demonstrates the lack of functional structure above P; there is no 'little p' selecting the PP in Chinese, notwithstanding its verbal origin. 'Pruning' of the external argument must therefore have taken place along with the V-to-P reanalysis, in accordance with Whitman (2000).

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[12] Prepositions in Chinese lack a specifier position to host modifiers (cf. Huang 1982: 27, 61). Consequently, Chinese has no equivalent of English PPs as in (i):

(i)   [$_{PP}$ very [$_{P'}$ near [$_{NP}$ the house]]   (Bresnan 1976)

12.3.3 *Ban on preposition stranding*

Another important difference between prepositions and verbs in Chinese (and elsewhere) is the fact that prepositions always require their complement (cf. Huang 1982: 499, 510–13), while verbs allow for an empty object position:

(47) 護士每天跟著的醫生姓張。
      [NP [TP Hushi mei -tian gen -zhe Ø] de   yisheng] xing Zhang
            nurse every-day follow-DUR   SUB doctor   call Zhang
      'The doctor whom the nurse follows every day is called Zhang.'

(48) a. *我跟不熟的那個人。
         *[NP [TP wo [PP gen Ø] bu   shou   de] nei-ge   ren]
                1SG with   NEG familiar   SUB that CL   person
         'the person I'm not familiar with'

      b. *張三，我跟不熟。
         *Zhangsan_i [TP wo [PP gen Ø]   bu   shou]
          Zhangsan   1SG   with   NEG   familiar
          ('Zhangsan, I'm not familiar with.')   (Huang 1982: 499 (109a-b))

(49) 我剛才去了一趟, 他沒在（家）。   (Lü *et al.* 2000: 230)
      Wo   gangcai qu-le   yi-tang,   ta   mei [vP zai (jia)]
      1SG   just   go-PERF   1-time   3SG   NEG   be home
      'I just went there, he wasn't at home.'

(50) 他每天在*（家）睡了午覺。
      Ta   mei -tian   [vP [PP zai *(jia)]   [vP shui wujiao]]
      3SG   every-day   at home   sleep nap
      'He takes a nap at home every day.'

As illustrated above (cf. 47), the object leaves a gap when relativized; this, however, is not acceptable for the complement of a preposition (cf. (48a–b)). Similarly, the object of a verb can remain implicit when known from the context (cf. (49)); again, this is impossible for the complement of a preposition (cf. (50)).

12.3.4 *Selection restrictions: preposition vs verb*

The existence of homophonous preposition/verb pairs has been one of the major reasons for the reluctance to admit the distinction between verbs and prepositions. However, in addition to the numerous syntactic differences demonstrated above, their diverging selection restrictions equally argue against any conflation.

First, prepositions only take one complement, irrespective of the number of complements of the 'corresponding' verb. For instance, the preposition *gei* 'to, for' only has one complement, in contrast to the verb *gei* 'give' which has two:

(51)   我從來沒給過他錢。
       Wo   conglai   mei   gei -guo   ta   qian
       1SG   ever   NEG   give-EXP   3sg   money
       'I have never given him any money.'

(52)   他通常給瑪麗做炒麵。
       Ta   tongchang   [*v*P [PP gei Mali] [*v*P zuo   chaomian]]
       3SG   often   for Mary   make   fried.noodles
       'He often makes fried noodles for Mary.'

Second, while the goal of the double-object verb *gei* must be a [+human] NP, no such constraint exists for the preposition *gei*:[13]

(53)   *給黑板報一個稿子。
       * [*v*P gei   heibanbao   [yi-ge gaozi]]
            give blackboard.newspaper   1-CL article
       (intended meaning: 'to give the blackboard newspaper an article')

(54)   給黑板報寫一個稿子。
       [*v*P [PP gei heibanbao   ]   [*v*P xie   [yi-ge gaozi]]]
              for blackboard:newspaper   write   1-CL article
       'to write an article for the blackboard newspaper'

Furthermore, the wide range of roles expressed by the *gei*-PP constitutes another difference with respect to the verb *gei*. The *gei*-PP can indicate the goal of an action (cf. (55)), the benefactive (cf. (56)), and the so-called 'ethical dative' (cf. (57)):

(55)   給小朋友講個故事。   (goal)
       gei   xiaopengyou   jiang   ge gushi
       to   child   tell   CL story
       'Tell the children a story.'

(56)   我給你當翻譯。   (benefactive)
       Wo   [*v*P [PP gei ni] [*v*P dang   fanyi   ]]
       1SG   for 2SG   serve   interpreter
       'I'll serve as an interpreter for you.'

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[13] NPs referring to institutions such as e.g. *xuexiao* 'school', *guojia* 'state' etc. are considered as quasi-human goals and hence acceptable as indirect object of the verb *gei* 'give'.

(57)   你給我小心點兒!   (ethical dative)
       Ni   [*vP* [*PP* gei wo]   [*vP* xiaoxin   dianr]]!
       2SG   for 1SG   be.careful   a.little
       '(Do me the favour and) be a bit more careful!'   (Lü *et al.* 2000: 227)

To summarize, prepositions in Chinese cannot function as predicates (hence incompatibility with aspect, negation, and adverbs), they only allow for one complement (irrespective of the number of arguments of the 'corresponding' verb), and do not admit preposition stranding. These properties hold for all prepositions, irrespective of whether there exists a homophonous verb (e.g. 在 *zai* 'in, at'; 給 *gei* 'to, for'; 跟 *gen* 'with, to', 對 *dui* 'towards') or not (e.g. 從 *cong* 'from', 關於 *guanyu* 'concerning' etc.). Accordingly, there is no 'extended' P projection and V-to-P reanalysis must therefore involve pruning of the external argument position, notwithstanding the lexical status of prepositions.

Last, but not least, the longevity of prepositions resulting from V-to-P reanalysis challenges Roberts and Roussou's (2003) assumption that this kind of reanalysis represents only a 'preliminary' step to grammaticalization 'proper'. The preposition 從 *cong* 'from' e.g. is attested since the first century BC, the preposition 對 *dui* 'towards' since the first century AD, and the preposition 給 *gei* 'to, for' since the eighteenth century (cf. Peyraube 1988: 265).[14]

12.4 Conclusion

We have provided extensive evidence to show that in all periods of the Chinese language, prepositions must be distinguished from verbs. In contrast to Roberts and Roussou's (2003: 128) claim, prepositions resulting from V-to-P reanalysis do not retain the relational status of VPs, given that the external argument position has been pruned (cf. Whitman 2000).

The co-existence of homophonous verbs and prepositions in modern Mandarin as well as the longevity of prepositions resulting from V-to-P reanalysis considerably weaken the widespread idea that the loss of the 'original' lexical item is a crucial factor for grammaticalization (cf. Longobardi 2001*a*: 278) and that lexical reanalysis represents a kind of 'preliminary' change in this process (cf. Roberts and Roussou 2003: 129).

These conjectures are based on the fallacious idea that in an A-to-B reanalysis A 'becomes' B. As emphasized by Hale (1997) and corroborated

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[14] The different 'life spans' of these prepositions highlight the difficulty to determine up to what 'age' a given reanalysis still counts as 'preliminary'.

by the Chinese data, A continues to exist while B is added as a new entry in the lexicon. The eventual loss of A is a matter of contingency and independent of the emergence of B. The minimalist conception of change as a change in discrete features of individual lexical items allows us to avoid the misconception that the loss of the 'original' item is necessary for the reanalysis to occur. Upon reflection, we can see that this would amount to the claim that, for example, in any instance of feature change, including even a zero derivation, such as *bicycle > (to) bicycle* (i.e. N-to-V), the basic term would be predicted to disappear.

V-to-P reanalysis in Chinese offers us a window on the mechanisms of lexical change and the restrictions governing it. It also illustrates that in order to make meaningful statements about language change, it is indispensable to have a precise structural analysis of both the input and the output structure.

13

Downward reanalysis and the rise of stative HAVE *got*

HEIDI QUINN

13.1 Introduction

According to Roberts and Roussou (2003: 207f), 'upward' change (often referred to as grammaticalization) typically affects only certain members of a category and tends to change the category of the head/phrase involved. Downward reanalysis, on the other hand, is argued to apply across the board and is assumed to involve a loss of movement, but no category change.

This chapter presents evidence from the diachronic development of stative HAVE in New Zealand English which suggests that Roberts and Roussou's (2003) definition of downward reanalysis is too restrictive. I propose that the current preference for the form HAVE *got* in both New Zealand English and southern British English is the by-product of the categorial reanalysis of stative HAVE from a functional to a lexical head. Data from the Origins of New Zealand English archives suggest that in the speech of at least some early English-speaking New Zealanders, stative HAVE had the same syntactic category as copular BE, namely Pred (1a). In current New Zealand English, on the other hand, stative HAVE is a lexical verb, and the form HAVE *got* arises from Copy Spell-Out of a stative HAVE that has undergone short movement to Pred (1b).

(1) a.   PredP   b.   PredP

```
         DP      Pred'                       DP       Pred
         they                                I

             Pred    PP                         Pred       VP
             've
                                             V   Pred V        DP
                  P      DP
                                             've    have ➲ got    a gold bracelet
                      the spring             [pred]
                      dray horse
```

(mu-29g, male, born 1865)   (fyn02-12a, female, nonprofessional, born 1982)
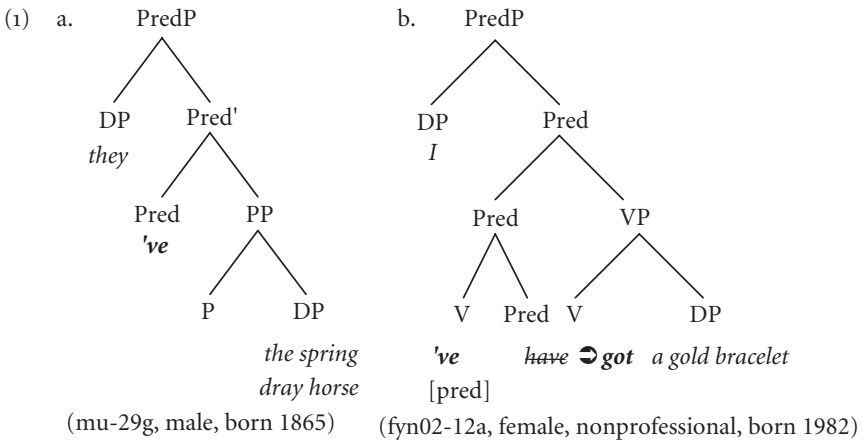
The historical development of stative HAVE indicates that downward re-
analysis may affect individual lexical items rather than all members of a class,
and, when this is the case, may also entail a change in the category status of
the item concerned. In the New Zealand context, this change may have been
triggered by contact with varieties of British English where the form (HAVE)
got was already established. However, the original downward reanalysis of
stative HAVE from Pred to V in British English is more plausibly treated as an
analogical change prompted by the semantic similarities between prototyp-
ical possessive HAVE and canonical dyadic verbs.

13.2 Stative HAVE and HAVE *got* in current New Zealand English

The data presented in this section come mainly from the Canterbury Corpus,
which is part of the Origins of New Zealand English (ONZE) archives (cf.
Gordon, Maclagan, and Hay 2007).[1]

The Canterbury Corpus
A set of recordings collected by undergraduate students at the University of Canter-
bury since 1994. The speakers in this corpus were born between 1930 and 1984. Older
Canterbury Corpus speakers (o) were aged 45–60 when interviewed, and younger
speakers (y) were aged 20–30. The sex (f = female, m = male), age group, and
socioeconomic status (n = nonprofessional, p = professional) of each speaker is
encoded in their speaker number (e.g. fyn94-20b, mop01-4).

Canterbury Corpus speakers tend to use (HAVE) *got* rather than HAVE in positive present-tense declaratives with a possessive/stative meaning (2).

(2)   a. I**'ve got** tapes of me actually
       b. I**'ve got** eighty-two second cousins
       c. I**'ve got** a really good memory
          (fyn98-1, female, nonprofessional, born 1978)

Speakers who do use stative HAVE will generally also use stative (HAVE) *got*, sometimes even in very similar contexts (3).

(3)   a. oh sorry **I have** one female staff in my department
       b. **got** a good team of staff
          (myn96-17, male, nonprofessional, born 1974)

Negative present-tense declaratives, questions, and positive present-tense declaratives with emphasis on the verb may be formed either with DO + *have* or with HAVE *got* (4)–(6).

(4)   a. students **don't have** the time to [. . .] think about what we're teaching them
       b. they almost **haven't got** time to consider anything in any. any great detail
          (mop94-20a, male, professional, born 1947)

(5)   a. **does** your fire **have** a vent that you can open to get it moving?
          (fop94-13a, female, professional, born 1948)
       b. so **have** you **got** brothers and sisters?
          (fyn00-7, female, nonprofessional, born 1980)

(6)   a. they **DO have** good teachers
          (myp94-21a, male, professional, born 1974)
       b. but you **HAVE got** a way of analysing this presumably
          (mop94-20a, male, professional, born 1947)

Interestingly, some speakers will use DO + *have* in present-tense negatives, even when they favour HAVE *got* in the corresponding positive sentence (7).

(7)   and we **don't** actually **have** any normal light bulbs but we**'ve got** the long ones
       (fyn01-10a, female, nonprofessional, born 1981)

As can be seen from the DO-support examples in (4)–(7), auxiliary DO is always followed by *have* alone, never by *have got*.

The results of a written survey of thirteen undergraduate linguistics students at the University of Canterbury provide further evidence for the trends observed in the Canterbury Corpus. When asked to rank the four options in items (8)–(11), eleven students consistently opted for HAVE *got* as the favoured choice in the positive declarative clause. Six of these speakers ranked the DO-support option most highly in at least one of the two negative declarative items (8)–(9), and nine favoured DO-support in at least one of the two negative tag items (10)–(11).[2]

(8)   [ ]   Tom **hasn't** just got a food allergy—he**'s got** diabetes.
      [ ]   Tom **doesn't** just **have** a food allergy—he**'s got** diabetes.
      [ ]   Tom doesn't just have a food allergy—he has diabetes.
      [ ]   Tom hasn't just got a food allergy—he has diabetes.

(9)   [ ]   She **hasn't got** asthma—she**'s got** bronchitis.
      [ ]   She **doesn't have** asthma—she**'s got** bronchitis.
      [ ]   She doesn't have asthma—she has bronchitis.
      [ ]   She hasn't got asthma—she has bronchitis.

(10) [ ]   They**'ve got** quite a big house, **don't** they?
      [ ]   They**'ve got** quite a big house, **haven't** they?
      [ ]   They have quite a big house, don't they?
      [ ]   They have quite a big house, haven't they?

(11) [ ]   She**'s got** a Mercedes, **doesn't** she?
      [ ]   She**'s got** a Mercedes, **hasn't** she?
      [ ]   She has a Mercedes, doesn't she?
      [ ]   She has a Mercedes, hasn't she?

In the past tense, *had* (rather than *had got*) appears in positive declaratives (12), and negatives and questions are generally formed with DO-support (13)–(14).

(12) a. he **had** the most amazing hands
      b. well I had accepted the fact that I **had** dyslexia
          (fyn98-1, female, nonprofessional, born 1978)

(13) a. cos they **didn't have** an answer phone
      b. I **didn't** really **have** time
      c. I **didn't have** any other friends here
          (fyn98-1, female, nonprofessional, born 1978)

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[2] The options are listed in order of popularity here, but they were randomly ordered in the questionnaires.

(14)   what **did** they **have**? [talking about training options]
(fon94-25c, female, nonprofessional, born 1940)

Even speakers who consistently favour HAVE *got* in present-tense negatives, questions, and tags (15b–e) will use only *had* in the past (15f).

(15)   a. he**'s got** knobbly knees
b. you **haven't got** time
c. what type of computer **have** you **got**?
d. **have** you **got** your own computer as well **have** ya?
e. he**'s got** a girlfriend as well **hasn't** he?
f. I **had** a Nissan Pulsar
(fyn94-20b, female, nonprofessional, born 1976)

I have found only one instance of stative *had got* in the Canterbury Corpus (16). The utterance involves the idiomatic expression *have a clue*, and seems to be exceptional even for the speaker in question, who otherwise uses *didn't have* in negative past-tense utterances and *had* in positive past-tense sentences (17).[3]

(16)   we **hadn't got** a clue

(17)   a. we **didn't have** a fishfinder
b. they **had** their babies with them
(myp02-6b, male, professional, born 1978)

The form of the verb after *to* and modals is always *have* (18), and in past participle contexts only *had* is used (19).[4]

(18)   and um I used to **have** a little . diagram that they used to draw and it had a B on it . and it was the head of the bed . and then I'd **have** a D at the end
(fyn98-1, female, nonprofessional, born 1978)

(19)   he's **had** it [= new car] for about three weeks now four weeks
(fyn94-20b, female, nonprofessional, born 1976)

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[3] The use of *hadn't got a clue* may have been influenced by the strong preference for (HAVE) *got* in the present-tense version of this idiom. Liz Pearce (p.c.) notes that, for her, the properties of *have a clue* (i) contrast sharply with those of similar idioms, where negation only sounds idiomatic if it involves HAVE or DO + *have* (ii)–(iii).

(i)   I haven't got a clue.   ?? I don't have a clue.
(ii)   I haven't the faintest idea.   I don't have the faintest idea.
(iii)   I haven't the foggiest.   ?? I don't have the foggiest.

[4] Many thanks to Tony Kroch (p.c.) for drawing my attention to the properties of utterances where stative HAVE follows a modal.

The data presented in this section confirms patterns already noted by Le Sourd (1976) and Wasow and Akmajian (1977) for other varieties of English, and it raises the following questions:

- Why does HAVE *got* basically have the same meaning as HAVE in stative contexts?
- Why does stative (HAVE) *got* only appear in the simple present?
- Why do some speakers use DO-support in present-tense negatives, questions, and tags, even though they strongly favour HAVE *got* in corresponding positive declaratives?
- Why can auxiliary DO only be followed by *have*, and never by *have got*?

I propose that these questions can be answered if we assume that stative HAVE may undergo short movement to a functional head that is automatically projected in the simple present, but not in the past. When HAVE raises to this head, the copy in its base position is spelled out as *got*, because the movement violates Anti-Locality.[5]

13.3 Anti-Locality and Copy Spell-Out

Grohmann (2003: 74) proposes that clauses are divided into three domains:

(a) **Θ-Domain**, where thematic relations are created
(b) **Φ-Domain**, where agreement properties are licensed
(c) **Ω-Domain**, where discourse information is established

According to Grohmann (2003: 76–80), movement is subject not only to locality conditions (i.e. don't move too far), but also to an Anti-Locality constraint that rules out movement within a particular domain unless the copy left behind by the movement has a different surface form from the moved copy (= Copy Spell-Out). Grohmann (2003: 113) argues that this is exactly what happens in reflexive sentences like (20), where the two arguments of HURT have the same referent. The movement of the noun phrase *John* violates Anti-Locality, because *John* moves within the Θ-Domain (from

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[5] The idea that *got* is the spelled-out copy of a raised stative HAVE is reminiscent of Le Sourd's (1976) and Wasow and Akmajian's (1977) proposals that the form HAVE *got* results from a shift in the syntactic status of HAVE from a purely lexical verb to a (semi-)auxiliary, combined with *got* insertion (cf. Chalcraft 2006), and Brugman's (1988: 103f.) suggestion that *got* is used 'to allow HAVE to function as an auxiliary even when it heads a construction in which it normally functions as a "main" verb'.

the lower to the higher argument position). However, the derivation is saved
by Copy Spell-Out of the lower copy as *himself*.

(20)   [$_{vP}$ John hurt [$_{VP}$ ~~John~~ ➲ himself]]$_{\Theta\text{-Domain}}$

Copy Spell-Out is a PF repair strategy that assigns a different pronunciation
to a copy left behind by anti-local movement. The properties of the moved
element determine which 'filler' is selected from the limited range of 'purely
grammatical formatives' that can supply the required PF-matrix (cf. Groh-
mann 2003: 116, 124f., 242ff., 302).[6] In (20), the lower copy of the DP *John* is
spelled out as *himself*, because *himself* is the filler that most closely matches
the semantic properties and phi-features of *John*.

Grohmann (2003: 76–80) argues that all types of movement have to obey
Anti-Locality constraints, but suggests that head movement within a domain
is licensed without Copy Spell-Out because head adjunction creates copies
that are morphologically distinct from the original. However, Grohmann's
(2003: 78) Condition of Domain Exclusivity states that anti-local movement
is only licensed if the presence of the two copies of the moved constituent
'yields a drastic effect on the output', that is if the two copies are 'phonetically
distinct'. While head adjunction certainly creates an object that differs from
the copy in morphosyntactic respects, the assumption that there is a phono-
logical difference between the higher and lower copy of the moved element is
problematic in a lexicalist approach, as Grohmann (2003: 100, n.62) himself
notes. I therefore suggest that head-adjunction alone is not sufficient to
license anti-local verb movement.

In the analysis I will adopt here, the general absence of verbal Copy Spell-
Out in English is due to a lack of V-to-*v* movement.[7] I assume that stative
verbs do not project a *v*-layer at all, so there is no possibility for movement.
For causative and agentive verbs, *v* acquires the phonological features
(p-signature) of the verb by conflation with the head of its complement in
the argument structure (cf. Hale and Keyser 2002: 62–4; Massam 2005).
When *v* conflates with V, the phonological features of V are copied into *v*
and the p-signature of V itself is deleted. As illustrated in (21), this copying
process does not involve head-movement.

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[6] The grammatical formatives involved are assumed to be part of the lexical inventory (cf.
Grohmann 2003: 108), and are presumably identified as potential fillers in some way.

[7] As Kleanthes Grohmann (p.c.) notes, the proposed approach to verb movement will also require
us to assume that verbal heads do not move within the Φ-Domain or Ω-Domain in English, because
there is no evidence for Copy Spell-Out in these domains.

(21)

The conflation of ν and V for causative *hurt* (p-signatures are given in square brackets)
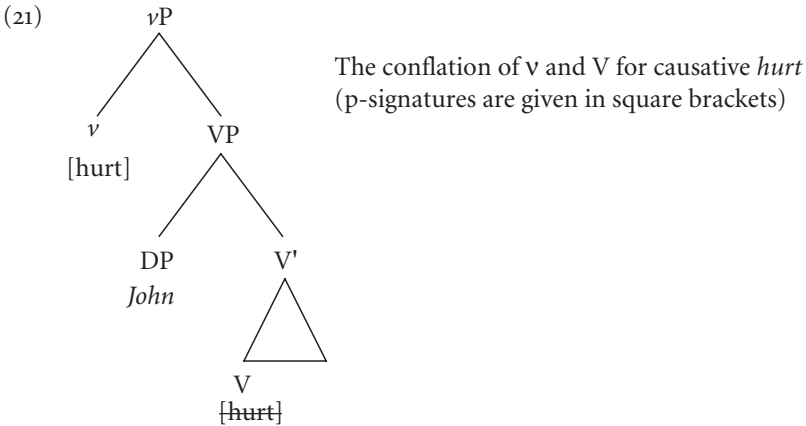
If we want to treat *got* as a Copy Spell-Out of stative HAVE, we need to posit that stative HAVE may be attracted to a higher head within the Θ-Domain by a special syntactic feature not shared by other verbs. In the next section, I will argue that the head in question is Delfitto's (2004) Pred. As we will see, there are good reasons for assuming that PredP is automatically projected in the simple present tense, but not in the past, present perfect, or untensed contexts. So the proposed approach neatly accounts for the absence of the additional *got* in utterances such as (12), (15f), (18), and (19).

13.4 PredP

Delfitto (2004: 126, 137) proposes that imperfective verb forms trigger the projection of a PredP above *v*P/VP, which has the effect of imposing a 'categorical' (i.e. subject—predicate) interpretation on the utterance.[8] As Bhat (1999: 45) points out, 'perfective' and 'imperfective' aspect represent

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[8] Delfitto (2004: 127) crucially assumes that the subject of predication need not be identical to the grammatical subject. In thetic sentences like *It rains*, *There are firemen available*, and *Firemen are available* (under its existential reading), the subject of predication is a null spatiotemporal argument that is licensed by the lexical properties of the predicate (cf. Delfitto 2004: 138f.). This means that when a thetic sentence appears in the simple present in English, the whole event is interpreted as a property of a particular (implicit) spatiotemporal location. Since the null spatiotemporal argument is unable to satisfy the requirement for an overt syntactic subject in English, the grammatical subject will be either an expletive (*it, there*) or an argument that has moved out of its *v*P-internal base position, such as *firemen* in *Firemen are available* (cf. Borschev and Partee 2002 for similar analyses of existentials in other languages). Many thanks to Barbara Partee and Liz Pearce for drawing my attention this issue.

different ways of looking at a particular event (cf. also Klein 1994 and Delfitto 2004). Perfective aspect treats the event as completed and views it from the outside. Imperfective aspect takes us inside an event and treats it as ongoing. As a consequence, imperfective utterances usually have a habitual, characterizing, or progressive interpretation. The differences between the most natural interpretations of the English simple present sentences in (22) and their past-tense counterparts in (23) suggest that the simple present tense is imperfective while the simple past is fundamentally perfective (cf. Langacker 1982: 289; Chierchia 1995: 197; Cowper 1999: 220; Delfitto 2004: 137).

(22) **Simple present**
    a. John works from 9 to 5.
    b. Sue plays the piano.
       most natural interpretation: habitual/characterizing → **imperfective**

(23) **Simple past**
    a. John worked from 9 to 5.
    b. Sue played the piano.
       most natural interpretation: completed one-off event → **perfective**

Delfitto's PredP analysis offers an elegant way of accounting for the natural interpretation of English simple present-tense sentences as denoting temporary or permanent properties (cf. Bertinetto 1994: 410–12; Chierchia 1995: 196f.; Cowper 1999: 213; Delfitto 2004: 134–8). When PredP is present, one of the arguments of its complement becomes the subject of predication, and the remainder of the vP/VP is predicated of it.

    Delfitto (2004: 126) argues that the argument displaced to [Spec, PredP] 'cannot be reconstructed' inside the vP/VP complement, which suggests that it is actually merged directly into [Spec, PredP] (24). So PredP is best viewed as part of the Θ-Domain.[9]

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[9] The analysis in (24) is based on Hale and Keyser's (2002: 24) proposal that the gratification of the specifier requirement of an argument-taking head may be delayed until after a higher head has been merged. In (24), the subject of predication is an external argument that would normally be merged in vP. However, the merger of this argument is delayed until after Pred has merged with vP, which results in a vP without a Spec position. Many thanks to Liz Pearce (p.c.) for prompting me to clarify this point.

(24)

```
              PredP
             /      \
           DP        Pred'
           Sue       /    \
                  Pred      vP
                          /    \
                         v      VP
                       plays    /\
                               /  \
                              /____\
                            the piano
```
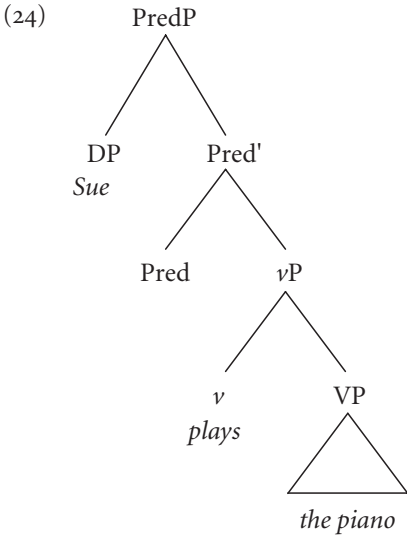
I propose that for most speakers of present-day New Zealand English stative HAVE differs from other lexical verbs in having the interpretable feature [pred], which may be attracted by Pred.[10] Since the movement of HAVE from V to Pred happens within the Θ-Domain, it violates Anti-Locality and obligatorily triggers Copy Spell-Out. In (25), the higher copy is spelled out as *has*, while the lower copy is spelled out as *got*.

(25)

```
                    PredP
                   /      \
                 DP        Pred'
                Maria      /    \
                         Pred      VP
                        /    \    /   \
                       V    Pred V      DP
                      has        has ⊃ got   a Mercedes
                     [pred]
```

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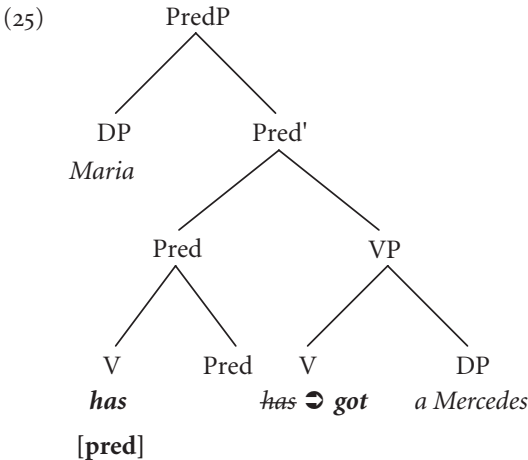
[10]   As noted by an anonymous reviewer, the coexistence of (24) and (25) suggests that speakers who use stative HAVE *got* will have two types of Pred in their lexicon: one with an uninterpretable feature that attracts V[pred], and one that lacks this feature and therefore does not need to enter into a checking relation with a V[pred].

The *got* is confined to the simple present, because only the simple present automatically triggers the projection of PredP. The simple past, present perfect, *to*-infinitive and modals do not impose the same kind of characterizing imperfective interpretation on an utterance, so there is no reason to assume that PredP is automatically present in such contexts.[11] Since the [pred] feature of HAVE is interpretable, it does not need to be checked in order for the derivation to converge. In the absence of a Pred head that could attract its [pred] feature, stative HAVE remains in V, and there is no opportunity for short movement and subsequent Copy Spell-Out.

13.5 Copular BE and stative HAVE

The most quintessential Pred would have to be copular BE (26), which takes a nonverbal one-place predicate, such as *hungry*, and predicates it of an entity (cf. Partee 1986: 124).

(26)
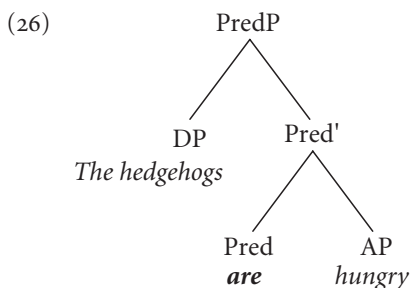
Freeze (1992) and Kayne (2000 [1993]: 110f.) propose that stative HAVE is basically identical to a copular BE + prepositional predicate (cf. also Benveniste 1966: 197; Belvin and den Dikken 1997: 154; and Avelar's contribution in this volume). In present-day New Zealand English (NZE), stative HAVE is best analysed as a lexical V with a [pred] feature, but as we will see in Section 13.7, the syntactic properties of stative HAVE in early NZE suggest that it once belonged to the category Pred, just like copular BE.

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[11] As Richard Kayne (p.c.) points out, the marginal modal *used to* would appear to trigger a characterizing interpretation similar to that associated with the simple present. However, in New Zealand English at least, there is little evidence to support a monoclausal analysis of *used to* constructions. So utterances like (i) are best given a biclausal analysis where the verb *work* appears in an embedded clause that lacks a PredP projection.

(i)   John used to/didn't use to work from 9 to 5.

13.6 Auxiliary DO

If we assume that auxiliary DO also has the category feature Pred, then the short movement of stative HAVE to Pred will be blocked in any derivation containing DO-support (27).[12] This will ensure that DO is always followed by *have* alone, rather than *have got*.

(27)

```
                    PredP
                   /     \
     (temporal location)  Pred'
                         /    \
                      Pred     VP
                     doesn't  /   \
                            DP     V'
                            she   /  \
                                 V    DP
                               have  asthma
```
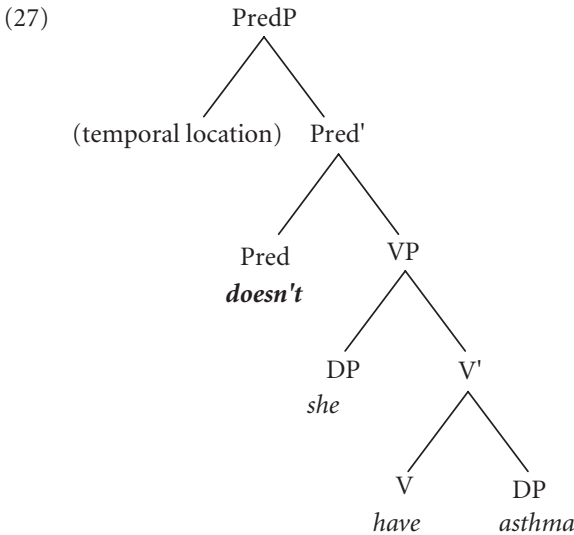
I propose that the appropriate form of auxiliary DO is included in the numeration when no other lexical item with the necessary negation [neg], question [Q], or emphatic features is available. As discussed in Section 13.2, speakers of present-day New Zealand English generally use auxiliary DO in past-tense negatives, questions, and emphatic declaratives involving stative HAVE. This

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[12] In the proposed analysis, auxiliary DO has the same syntactic category as copular BE, but it takes a verbal rather than non-verbal complement. Auxiliary DO arguably also resembles copular BE in its semantics. Partee (1986: 124, 136) suggests that copular BE takes a predicate of type <e,t> and predicates it of any kind of argument of type <e>. Using the notation outlined in Heim and Kratzer (1998: 37), copular BE can be given the translation in (i).

(i) $\|\mathbf{be}_{cop}\| := [\lambda P: P \in D_{<e,t>}. [\lambda x: x \in D_{<e>}. P(x)]]$.

I propose that auxiliary DO takes a predicate of type <e,t> and predicates it of an <e> type argument that has to be a (phonetically null) temporal location. So the translation of auxiliary DO differs from that of BE only in the restriction on the domain of x (ii).

(ii) $\|\mathbf{do}_{aux}\| := [\lambda P: P \in D_{<e,t>}. [\lambda x: x \in D_{<e>}$ and x is a temporal location. $P(x)]]$

As Barbara Partee (p.c.) points out, it is possible that there are also domain restrictions in the translation of copular BE (cf. Rothstein 2001: 273–338), which would serve to distinguish it from stative HAVE.

suggests that the lexical entry for the past tense form *had* lacks [neg], [Q], and [emph] features. The present-tense forms of stative HAVE appear to have [neg], [Q], and emphatic features for some speakers but not for others. There also appear to be speakers who vary between HAVE *got* and DO + *have* in negatives (cf. the examples in (4)). I propose that these speakers have two or more lexical entries for stative HAVE which are associated with subtly different semantic interpretations and/or selectional restrictions (e.g. concrete vs abstract possessions, alienable vs inalienable possession relation).[13]

13.7 Historical developments

The data presented in this section come from the Mobile Unit corpus, which is the earliest corpus in the ONZE archives (cf. Gordon, Maclagan, and Hay 2007):

The Mobile Unit (MU) recordings
Interviews about the life of the early settlers, conducted by the New Zealand Broadcasting Service in the 1940s, with speakers born between 1851 and 1910.

Although instances of HAVE *got* do already occur in the Mobile Unit recordings, the majority of speakers appear to favour HAVE without *got* in positive present-tense utterances (28). Unlike in the Canterbury Corpus, both present and past-tense forms of stative HAVE without *got* may cliticize to the subject (29)–(30), a property usually considered to be characteristic of auxiliary verbs (cf. Warner 1993: 7).

(28)   Aunt Izy here **has** one of his medals no . hasn't . I **have** one of them (mu-41b, male, born 1871)

(29)   and his stories some of them were so preposterous that ah of course they're ah . I don't know whether they'**ve** any in intrinsic value (mu-13, male, born 1889)

(30)   they'**d** short wings . little flappers like (mu-39a, male, born 1869)

Questions and negative declaratives with stative HAVE are rare in the Mobile Unit corpus. However, the negated forms in (28) & (31)–(32) and the fronted *have* in (33) do provide further evidence that for at least some MU speakers, stative HAVE had auxiliary-like properties both in the simple present and in the past tense.

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[13] Chalcraft (2006) also argues that variation between HAVE and (HAVE) *got* arises from competition between lexical choices, but she assumes that the competing lexemes are main verb HAVE and main verb GOT, rather than different lexical entries for HAVE.

(31)   A: have you any other tales about the early mining days you could tell us?
       B: no no I **haven't**
       (A = interviewer; B = mu-82b, male, born 1866)

(32)   a. and he said he **hadn't** the faintest idea (mu-62a, female, born 1867)
       b. and he **hadn't** a bean . himself (mu-68c, male, born 1874)
       c. oh they **hadn't** the quantities (mu-1c, female, born 1894)

(33)   eight hundred was our population and what **have** we now?
       (mu-1c, female, born 1894)

The data in (28)–(33) suggest that in early NZE, stative HAVE tended to raise to T (and on to C) in both the present and the past tense, i.e. the lexical entries for stative *had* as well as *has* and *have* contained [T], [neg], [Q], and emphatic features. At the same time, the absence of the additional *got* indicates that stative HAVE did not move within the Θ-Domain. This will fall out naturally, if we assume that for the speakers concerned, stative HAVE has the category Pred. Drawing on Freeze's (1992) and Kayne's (2000 [1993]: 110f.) analyses of possessive HAVE, I will assume that Pred HAVE takes a complement headed by an empty P (cf. Section 13.5). When HAVE is a Pred rather than a V, PredP will be present in any derivation containing stative HAVE, regardless of tense, so stative HAVE is correctly predicted to exhibit the same properties in the simple present and the simple past (34).

(34)
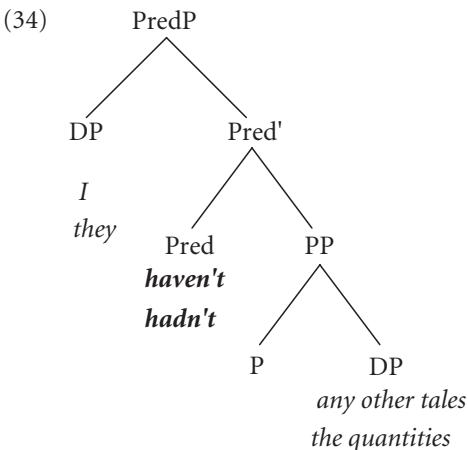
I propose that HAVE will only be able to cliticize if it has the category Pred or has raised to Pred, because only functional verbal heads can undergo raising to T in Standard Modern English. In early NZE, cliticization is possible because stative HAVE is Pred. In current NZE, on the other hand, HAVE

generally has the category V. This means that cliticization is only possible when HAVE has undergone short movement to Pred, and this is why we only find the cliticized forms 've and 's when the Copy Spell-Out *got* is present.[14]

13.8 Implications for a theory of downward reanalysis

The evidence presented in the preceding sections suggests that stative HAVE has not only undergone a loss of features triggering movement to higher functional projections, especially in the past tense, but also a categorial reanalysis, from Pred to V. The [pred] feature that enables stative HAVE to undergo short movement to Pred in the simple present tense today could be seen as the last vestige of its former Pred status.

13.8.1 *Upward vs downward reanalysis*

The change from HAVE to HAVE *got* indicates that downward reanalysis may affect individual lexical items rather than all members of a class, and, when this is the case, it may follow a course that mirrors the path of upward change. In upward reanalysis (= grammaticalization), a lexical item attracted by a functional category is reanalysed as the functional head targeted by the movement (35) (cf. Robert and Roussou 2003: 36–42, 207). And in the downward reanalysis of stative HAVE, we have a functional head that is reanalysed as a lexical head attracted to this functional head (36). The attraction of V to Pred ensures that stative HAVE still has the ability to undergo further raising to T and C and can thus exhibit the same auxiliary-like properties as the Pred HAVE in the adult input that the language acquirer is exposed to.

(35)

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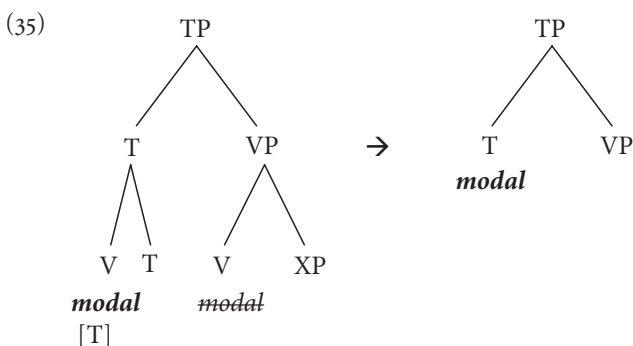
[14] The frozen expression *I've no idea* appears to be an exception where *have* retains its Pred status even in current NZE.

(36)

PredP → PredP

Pred   PP   →   Pred   VP
have

                V   Pred   V   XP
              have [pred]   ~~have~~ ⊃ **got**
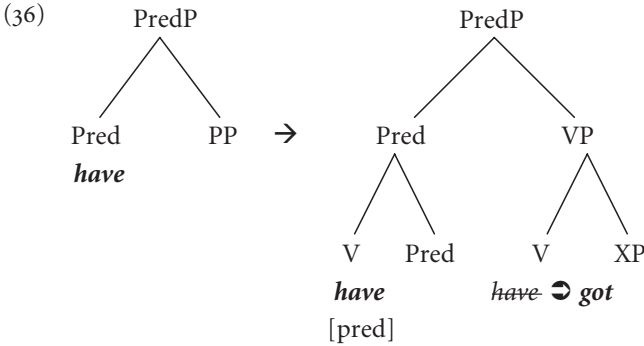
13.8.2 *Accounting for* got

In the Anti-Locality approach to head movement introduced in Section 13.3, the movement of *have* from V to Pred will only be licensed if the copy in V is given a pronunciation distinct from that of the higher copy. So the reanalysis of HAVE as a V with a [pred] feature will automatically trigger Copy Spell-Out. However, as pointed out by an anonymous reviewer, reanalysis is standardly defined as a change in the underlying structure of a string that does not have any bearing on the surface form (cf. Harris and Campbell 1995: 50). We would thus expect the downward reanalysis of Pred HAVE to yield a lexical verb that remains in V and is unable to undergo any anti-local movement that would require Copy Spell-Out. It is possible that this is indeed what happened in varieties of English where stative HAVE has clear lexical verb status today and does not occur with *got* (cf. Tagliamonte, D'Arcy, and Jankowski 2006).

But how can we account for the popularity of stative HAVE *got* in current New Zealand English and many varieties of British English? As discussed in Section 13.3, the 'filler' PF-matrix supplied by Copy Spell-Out can only come from a grammatical formative whose semantic properties are compatible with those of the moved element. Harley (2004) and McIntyre (2005) draw attention to the close semantic relations between HAVE and GET. Both are 'light verbs' that are comparatively bleached of semantic content and appear in a wide range of syntactic constructions (cf. also Brugman 1988; Belvin 1996; Harley 1998; Carter and McCarthy 1999). GET not only appears as a causative and/or inchoative counterpart of HAVE (37), but actually alternates with HAVE in certain contexts, most commonly in the form *got* (38).

(37) a. I had a car. (possessive—HAVE)
      b. I got a car. ((causative) inchoative possessive—(CAUSE) BECOME
          HAVE)

(38) we arranged with them that we were to finish our paddocks . like ah .
      if we started again in the summer . early if we hadn't **had** word
      from them . and if we **got** word we we were allowed to finish it you
      see (mu-23 g, male, born 1862)

I therefore propose that the surface output of the reanalysis outlined in
(36) draws on the perfect form of acquisition/receipt GET (39), which
tends to imply possession and supplies the ideal PF filler (*got*) for a moved
HAVE.

(39) I've got (= bought/received) the tickets.
      [implies: I now have the tickets in my possession]

So there are effectively two inputs to the reanalysis: Pred HAVE and the
perfect form *have got* (40).[15]

(40)
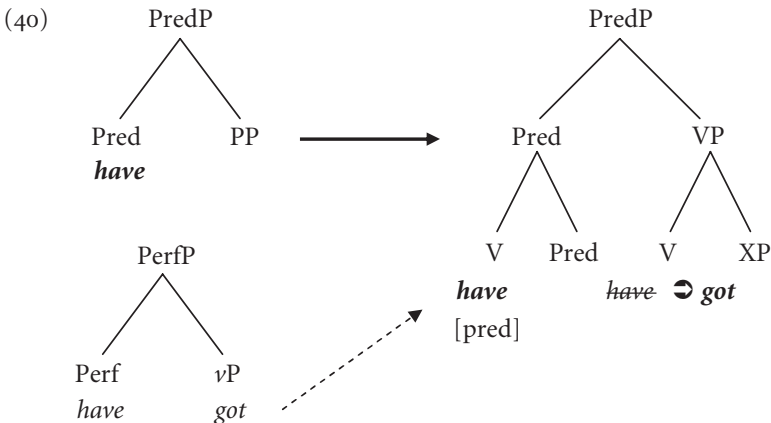
13.8.3 *Triggers*

As Newmeyer (1998: 275–8) points out, changes where a functional element is
reanalysed as a lexical head appear to be considerably rarer than instances of

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[15] As noted in Chalcraft (2006: 7) and Quinn (2000), acquisition GET has the past participle form
gotten in some varieties of English. I am not certain whether this also applies to receipt GET. The
analysis outlined here would predict that stative HAVE *got* can only develop when the form *has/have
got* already exists elsewhere in the grammar of the variety itself or of a contact variety.

grammaticalization. It is therefore interesting to consider the possible triggers of such a change.

In the New Zealand context, the downward reanalysis proposed in (36) may have been triggered by dialect contact. According to Gordon *et al.* (2004: 44, 256f.), just under half of the early English-speaking migrants to New Zealand came from Scotland and Ireland, where stative HAVE retains auxiliary properties to this day (cf. Trudgill *et al.* 2002: 4). However, most of the remaining migrants came from southern England, where the use of unambiguously stative (HAVE) *got* is attested from the eighteenth century onwards (cf. Visser 1973: 2202; Warner 1993: 67). What is more, many of the Australian goldminers who emigrated to New Zealand had south-eastern English ancestors.

In view of the overall predominance of the southern English influence, it does not seem implausible that the stative HAVE should have been analysed as a lexical verb by children acquiring English in the early New Zealand settlements, no matter whether their parents spoke Scottish, Irish, or English English. In this context it is worth noting that the Mobile Unit interviews were carried out in rural areas that were predominantly settled by Scottish and Irish immigrants, which means that the linguistic behaviour of the Mobile Unit speakers is not necessarily characteristic of early New Zealand English as a whole. As we might expect, Mobile Unit speakers generally favour HAVE in present-tense utterances, but we do also find examples like (41), which was uttered by a New Zealand-born speaker whose parents came from Scotland.

(41)   people outside **have got** an exaggerated idea of . the danger of . floods invading Balclutha (mu-40a, male, born 1867)

Of course this still leaves us with the question of how stative (HAVE) *got* first arose in British English. I would like to suggest that the downward reanalysis of stative HAVE from a functional to a lexical head was originally triggered by the semantic similarities between prototypical possessive HAVE and clearly lexical verbs such as *own* and *possess* (cf. Roberts 1993: 77 n.13; Warner 1993: 67). Warner (1993: 66) observes that canonical lexical verbs appear to have lost their ability to occur in inversion contexts and before *not* during the eighteenth century. When a separate category of auxiliaries developed and DO-support came in, main verb HAVE and BE became somewhat exceptional, because they had auxiliary syntax but subcategorized for non-verbal complements. While copular BE only appears with predicates and has semantic properties that are very different from those of prototypical lexical verbs, stative HAVE is typically followed by a nonpredicative noun phrase and bears a strong semantic resemblance to stative lexical verbs that take two

arguments, especially when it is used to express an alienable possession relation, as in (42).

(42)   mm I could find out I**'ve got** the books (mu-40a, male, born 1867)

I therefore propose that the original Pred-PP structure of stative HAVE was reanalysed as a V-DP structure in analogy to the V-DP structure that characterizes purely lexical stative verbs.

13.9 Conclusions

The historical development of stative HAVE in New Zealand and British English indicates that the differences between grammaticalization and downward reanalysis are not as dramatic as suggested by Roberts and Roussou (2003). The data presented in this chapter suggest that stative HAVE originally had the status of a functional head, but was subsequently reanalysed as a lexical head. Like grammaticalization, downward reanalysis may thus affect individual lexical items and change the syntactic category of the element involved.

Part III
Parameter resetting and reanalysis

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14

The Old Chinese determiner *zhe*

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14.1 Introduction

This chapter proposes a unified analysis of three uses of the functional morpheme *zhe* in late archaic Chinese (5th -3rd centuries BC). One function of *zhe* was to form a relative clause. (1a) shows a relative clause formed on the subject of a verbal predicate. In (1b), the relative head is the subject of an adjectival predicate. *Zhe* can only relativize on subject position. A different morpheme *suo* is used to relativize on VP-internal positions, as will be discussed in Section 14.4.

(1) a.   欲   戰   者   可   謂
         [[*e* Yu   zhan] **zhe**] ke   wei
             desire fight   ZHE POT say
         眾   矣。   (*Zuozhuan*, Cheng 6)
         zhong   yi.
         majority ASP
         '(Those) who desire to fight can be said to form the majority.'

    b.   仁   者   不   憂。   (*Analects*, Zihan)
         [[*e* Ren] **zhe**] bu   you.
             virtue ZHE not   worry
         'One who is virtuous does not worry.'

In the examples in (2), the *zhe* constituents do not contain a gap. The function of *zhe* is to nominalize the clause so that it can appear in argument position. (2a) shows a sentential subject, while the two *zhe* constituents in (2b) are complement CPs.

(2) a. 以   尨   衣   純   而   玦   之   以
        [Yi   mang   yi   chun   er   jue   zhi   yi
        with   impure clothe pure   CONJ jade   3.OBJ with

金銑　者　寒　之　甚　　矣。　　　　　　(*Guoyu*, Jin 1)
jinxian **zhe**] han zhi shen   yi.
gold   ZHE cold GEN extreme ASP
'To clothe the pure with impure colours and (replace) his jade pendant with gold is cold(heartedness) in the extreme.'

b. 吾　聞　用　夏　　變　　夷　　者
Wu wen [yong Xia   bian   yi   **zhe**]
I   hear use Chinese change foreigner ZHE
未　聞　變　　於　夷　　者　也。　(*Mencius*, Tengwen 1)
wei wen [bian yu yi   **zhe**] ye
not hear change by foreigner ZHE DECL
'I have heard of using Chinese (culture) to change the ways of foreigners but have not heard of being changed by foreigners.'

Given examples like those in (2), it is clear that *zhe* is not simply a relativizer. Rather, *zhe* is frequently assigned the more general designation of nominalizer (Yang and He 1992; Han 1995; Pulleyblank 1995; He 2004, and others), since in both (1) and (2) it selects a verbal, adjectival, or clausal projection and creates a nominal phrase which can appear in argument position in the clause. This analysis does not extend, however, to instances like (3), in which *zhe* takes an NP as its complement, given that NP is itself a nominal category. He (2004) proposes that this is a different type of *zhe*, designating it as a 'discourse particle' (語氣詞). Interestingly, *zhe* often attaches to topicalized constituents, as is the case in (3). For example, the paragraph preceding (3b) in the text is a lengthy discussion conducted by two wives on the odd behaviour of their spouse, who has a habit of going to cemeteries to enjoy the offerings of food and wine left for the spirits.

(3) a. 　夫　二　人　　者，　魯國　社稷　之　臣　　也。
[[NP Fu er ren] **zhe**], Luguo sheji zhi chen ye.
　　 DEM two person ZHE Lu nation GEN minister DECL
'These two men (will become) ministers of Lu at the national level.'
(*Zuozhuan*, Cheng 16)

b. 　良人　　者　所　仰望　　而　　終身　　也。
[[NP liangren] **zhe**] suo yangwang er   zhongshen ye.
　　 husband ZHE SUO look-up-to CONJ lifelong DECL
'A husband is someone we should look up to our entire lives.'
(*Mencius*, Lilou 2)

However, proposing different types of *zhe* introduces the obvious problem of a non-uniform analysis. An additional problem is the lack of precision

afforded by this analysis. For instance, the designation 'discourse particle' is not clearly defined. It is also not accurate to assume that the *zhe* constituent is always a topic, as I discuss in Section 14.2. Furthermore, He's nominalizing category fails to distinguish between relative clause formation in (1) and clausal nominalization in (2).

Zhu (1983) offers a more precise analysis by distinguishing *zhe* constituents which involve a gap, as is the case with the relative clauses in (1), from those which do not involve a gap, as in (2) and (3). The former, he dubs 'other-referring' (轉指), since the reference of the *zhe* constituent is the gap and not the overt part of *zhe*'s complement. The other type is called 'self-referring' (自指), since the reference is to the constituent itself. Zhu's analysis, however, still suffers from the problem of not being able to make a connection between the two types of *zhe*.

In this chapter, I propose a uniform account of the three uses of *zhe* exemplified in (1)–(3). I analyse *zhe* as a determiner which can select a nominal or clausal complement and project a DP. In relative clauses, *zhe* additionally binds the head position inside the clause. Thus, the proposal in this chapter is consistent with Zhu's dichotomy between the relativizer and non-relativizer. Unlike Zhu, however, I treat *zhe* uniformly as a determiner, varying only in whether it serves as an operator.

14.2 *Zhe* as a determiner

I argue that the different functions of *zhe* can be given a uniform account by analysing *zhe* as a type of determiner. Significantly, the earliest known example of *zhe* is one in which it selects a nominal complement. (4) is taken from the *Shangshu*, which is believed to have been written between 800 and 700 BCE, several centuries before the late archaic period examples in (1)–(3).

(4) 曰   時   五   者   來   備，   各   以
     Yue   [shi   wu   zhe]   lai   bei,   ge   yi
     say   DEM   five ZHE   come   provide each with
     其   敘，   庶   草   蕃蕪。   (*Shangshu*, Hongfan)
     qi   xu   shu   cao   fanwu
     3.GEN turn DEM   plant flourish
     'If these five (elements) have been provided, and each in their turn, then the plants will flourish.'

According to the DP Hypothesis (Szabolcsi 1983; Abney 1987; Longobardi 1994, among many others), an NP must combine with a determiner in

order to occur in argument position. The NP is treated as a predicate; the determiner picks out a particular member or members from the extension of that predicate. In the words of Cheng and Sybesma (1999: 513), a determiner 'has the function of mediating between the description (predication) provided by the NP and whatever specific entity in the real world to which the description is applied.' In (5) 'the' picks out the unique individual in the discourse with the property of being a house.

(5)
```
        DP
       /  \
      D    NP
      |    |
     the  house
```
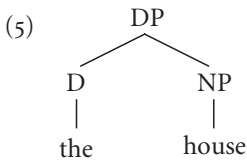
Adding positions for demonstratives and number phrases (Ritter 1992), this yields the following preliminary analysis of the *zhe* DP in (6).

(6)
```
            DP
           /  \
         shi   D'
              /  \
           NumP   D
           /  \   |
          wu   NP zhe
               |
              pro
```
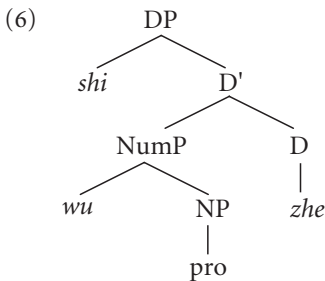
To take the analysis a step further, however, the nominalizing function of *zhe* is more aptly captured by analysing it as a lower functional head in DP. Marantz (1997), Harley and Noyer (1999, 2000), and others have proposed that lexical categories are not inherent features of lexical items but are rather determined by the structural environment. Hence, the head of the complement of *v* is understood as a VP. Likewise, the head of the complement of a determiner is interpreted as a nominal category. To make the parallel more direct, I suggest that the determiner responsible for categorizing an NP is *n*, a functional category located in DP between NP and D.[1]

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[1] For Marantz, Harley, and Noyer, the relevant functional category in DP is the determiner itself. The discussion in this section may help to refine their original proposal.

(7)
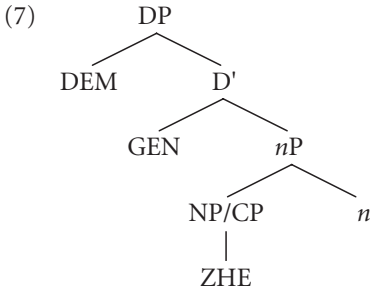
Initial evidence for this proposal is the fact that *zhe* co-occurs with other elements in the DP layer, for example demonstratives and genitives.

(8) a. 夫　三　子　　者　之　言　何　如？　(*Analects*, Xianjin)
　　 [**Fu** [san zi　**zhe**]] zhi yan he　ru?
　　 DEM three gentlman ZHE GEN word what like
　　 'How about what those three gentlemen said?'

　　 b. 庾公之斯　衛子　之　善　射　　者　也。　(*Mencius*, Lilou 2)
　　 Yugongzhisi [Weizi **zhi** [shan she　**zhe**]] ye.
　　 Yugongzhisi Weizi GEN　well shoot ZHE DECL
　　 'Yugongzhisi is a skilled archer of Wei.'

There is also clear evidence that the position of *zhe* is structurally lower than D. (9) and (10) show *zhe* relative clauses with an adverbial modifier. The adverb can optionally appear with genitive case. If the adverb takes genitive case, it is interpreted as having wide scope with respect to the *zhe* constituent, as in (9). *Xue zhe* is a relative clause meaning 'one who studies' or 'those who study'. The adverb *hou* 'later' is interpreted outside of the constituent headed by *zhe*, modifying the entire relative clause. Specifically, Mencius is referring to the next generation of scholars who will succeed him in observing the ways of the ancient kings.

(9) 守　　先　　王　　之　　道
　　 shou　xian　wang　zhi　dao
　　 observe ancient king　GEN　principle
　　 以　待　後　　之　　學　　者。　　　(*Mencius*, Tengwen 2)
　　 yi　dai　[hou　**zhi**　[xue　**zhe**]]
　　 C　await later　GEN　study　ZHE
　　 '(He) observes the principles of the ancient kings in order to await future scholars.'

In contrast to this, the lack of genitive marking forces the adverb in (10) to be interpreted inside the relative clause. *Hou si zhe* is a humble first-person

expression. It can be translated literally as 'one who will die later', in other words someone younger than the interlocutor. This cannot mean 'a future dead person', since all humans are mortal and therefore future dead people.

(10) 天   之   將   喪   斯   文   也
     Tian   zhi   jiang   sang   si   wen   ye
     Heaven GEN   will   extinguish this culture NOM
     後   死   者   不   得   與   於   斯
     [hou   si   **zhe**] bu   de   yu   yu   si
     later   die   ZHE   not   can be   with   this
     文   也。   (*Analects*, Zihan)
     wen   ye.
     culture DECL
     'If Heaven intends to extinguish this culture, then I (one who will die later) should not be able to have contact with it.'

Additional evidence that genitive phrases are structurally higher than the position of *zhe* comes from the difference between internally and externally headed relative clauses. The head in a relative clause in old Chinese can either follow or precede the clause. When the head follows the clause, the genitive marker intervenes between the head and the clause, as in (11a). The relative head in final position is clearly external to the clause, since it is dislocated from its normal preverbal position. (11b) and (11c) show relative clauses with the head NP in initial position, which could be understood as argument position for a subject. When the head NP precedes the clause, *zhe* is required at the end of the entire constituent. The difference between the two types is that the head nominal in (11b) precedes the genitive case marker, while in (11c) there is no genitive marking on the head nominal.

(11) a. 豈   若   從   避   世   之
        qi   ruo   cong   [[bi   shi   **zhi**]
        how   like   follow escape world   GEN
        士   哉。   (*Analects*, Weizi)
        shi]   zai.
        gentleman   EXCL
        'How could that compare to following a gentleman who escapes from the world?'

     b. 馬   之   死   者   十   二   三   矣。 (*Zhuangzi*, Mati)
        [ma   **zhi** [si   **zhe**]] shi er   san yi.
        horse   GEN   die   ZHE   10   2   3   ASP
        'Of the horses, 2 or 3 out of 10 have died.'

c. 臣　　弑　　其　　君　　者　　有　　之。
[[chen   shi   qi   jun]   **zhe**]   you   zhi.
minister   assassinate   3.GEN   lord   ZHE   exist   this
'Ministers who assassinate their lords do exist.'

(*Mencius*, Tengwen 2)

The question that needs to be addressed here is whether the head nominals in both (11b) and (11c) are internal to the constituent headed by *zhe*. In other words, does the presence or absence of genitive marking in (11b) and (11c) have the same structural correlate we observed for the adverbs in (9) and (10)? What I argue here is that the genitive marker occurs only in externally headed relative clauses, i.e. when the head NP is located structurally outside the constituent selected by *zhe*.

This is shown by the difference in information status of the head NP in (11b) and (11c). Williamson (1987) has shown convincingly that heads of internally headed relative clauses are indefinite. The head nominal in (11b), however, is definite, a discourse topic in fact. The preceding discourse is a story about a horse trainer who brands his horses, shaves them, bridles them, and confines them to stables. *Ma* in (11b) refers to the horses which he endeavours to train, a good number of which end up dying. The head nominal in (11c), on the other hand, is indefinite. This is the first mention of *chen* ('minister') in the discourse. This fact lends itself to an analysis under which the head in (11c) is internal to the clause and hence is located in a position below *zhe*. In (11b), the head NP is located in the specifier of DP, structurally higher than the *n* position of *zhe*, allowing this NP to be interpreted as definite and not as a variable bound by *zhe*.

This analysis is further supported by the distribution of *zhe* relatives in existential constructions. We see in (12) that the head nominal preceding the clause cannot take genitive marking. Bearing in mind the well-known definiteness effect on complements of existential verbs, the ungrammaticality of genitive marking in (12) receives a natural account: genitive marking makes the head definite and therefore precludes its appearing in an existential construction.

(12) a. 今　　有　　同　　室　　之　　人　　(*之)
Jin   you   [[tong   shi   zhi   ren]   (*zhi)
now   exist   same   house   GEN   person   GEN
鬥　　者。　　　　　　　　　　　(*Mencius*, Lilou 2)
dou   zhe].
fight   ZHE
'Now (let's say) there are people from the same house fighting.'

b.

有	人	(*之)	日	攘	其	鄰
you	[*ren*	(*zhi)	ri	rang	qi	lin
exist	person	GEN	daily	steal	3.GEN	neighbour

之	雞	者。
zhi	ji	zhe].
GEN	chicken	ZHE

'There is someone who steals chickens from his neighbour every day.'

(*Mencius*, Tengwen 2)

The preceding evidence has been shown to support the proposal in (7). *Zhe* is a functional category *n* positioned between D and NP. It functions as a determiner in the sense that it semantically binds the variable introduced by the predicate NP and projects a phrase which can appear in argument position.

(13) a.

	良人	者	所	仰望	而
[[NP	liangren]	**zhe**]	suo	yangwang	er
	husband	ZHE	SUO	look-up-to	CONJ

終身	也。	
zhongshen	ye.	(*Mencius*, Lilou 2)
lifelong	DECL	

'A husband is someone we should look up to our entire lives.'

b.
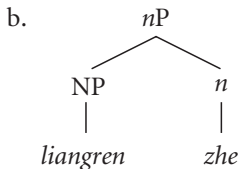
Demonstratives and genitive constituents are located in the DP layer, above *n*P. This captures the fact that genitive phrases are not interpreted in the scope of *zhe*, since *n* does not c-command them.

(14) a.

後	之	學	者	(*Mencius*, Tengwen 2)
hou	**zhi**	xue	**zhe**	
later	GEN	study	ZHE	

'future scholars'

b.
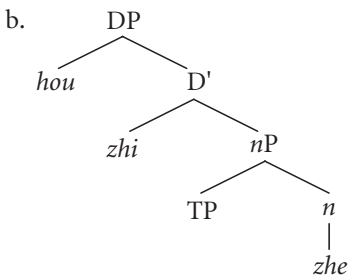
As a determiner, we might also expect that *n* makes a semantic contribution to the DP. The preceding examples in which *zhe* takes an NP complement are all definite or generic. Examining additional textual evidence, in the first eight chapters (roughly half) of the *Zuozhuan* (4th–5th centuries BCE), we find fourteen examples of *zhe* phrases built on NPs. All of them are either definite or generic.

(15)   *Zuozhuan* (Yin – Cheng)
Definite NP + ZHE: 11
Generic NP + ZHE: 3

As mentioned in Section 14.1, He (2004), Dong (2001), Zhang (2006), among others, have proposed that one function of *zhe* is to mark topics. However, if we examine the syntactic distribution of the NP + *zhe* examples summarized in (15), we discover that not all of them occur in clause-initial topic position. A significant number are found in postverbal object position. Since topics in both old and modern Chinese are required to be preverbal, this indicates that *zhe* cannot be a topic marker.

(16)   Definite NP + ZHE
Subject/Topic: 7
Object: 4

(17) shows an example of a *zhe* phrase in object position, following the verb *shi* 'lose'.

(17)   失　兹　三　者，　其　誰　與　　我？ (*Zuozhuan*, Cheng 17)
[$_{VP}$ Shi [zi　san **zhe**]], qi　shei yu　　wo?
lose DEM 3　ZHE　then who be-with us
'If (you) lose these three (principles), then who will stay with us?'

14.3 *Zhe* with a clausal complement

The previous section proposed an analysis of *zhe* as a type of determiner which takes an NP complement. This proposal accounts for the examples in (3), in which *zhe* selects an NP. The relative clauses in (1) and nominalized clauses in (2) can be accounted for by assuming slight variations on the structure proposed in Section 14.2.

14.3.1 *Nominalizing* zhe

The analysis of NP + *zhe* extends almost directly to cases in which *zhe* nominalizes a clause. In this case, *zhe* selects a TP instead of an NP.[2] *n* then projects a determiner phrase which can appear in argument position in the clause.

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[2] I propose that the clausal complement of *zhe* is TP and not CP for two reasons. First is the parallelism with nominal structure. Assuming that DP and CP are both phases, NP and TP are

(18) a. 陶冶　　　亦　　　以　　　其　　　械器　易
      [Taoye　yi　　yi　　qi　　xieqi　yi
      craftsman　also　take　3.GEN　ware　trade
      粟　　　　者，　　其　　　為
      su　　　　**zhe**]　qi　　wei
      grain　　ZHE　then　consider
      厲　　　農夫　　哉?　　　　　　(*Mencius*, Tengwen Gong 1)
      li　　　nongfu　zai?
      burden　farmer　Q
      'Craftsmen also trading their wares for grain, do you consider this a
      burden on farmers?'

   b.

taoye yi yi qi xieqi yi su
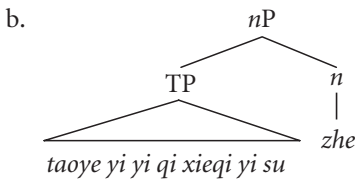
The semantic contribution discussed in Section 14.2 can also be observed
when *zhe* takes a clausal complement. The constituent as a whole expresses
given information. In (19), the *zhe* constituent appears in clause-initial
position as a topic. It is clear from the text that the *zhe* constituent expresses
given information, since the preceding discussion centres on the fact that the
Jin king has presented his son with a certain type of clothing and pendant
before sending him to lead the army on a military campaign. The son is
puzzled by the gifts, at which point in the discourse, the prince's retainer
utters (19) to explain the king's meaning.

(19) 以　　　龙　　　衣　　　純　　　而　　　玦　　　之　　　以
     [Yi　　mang　yi　　chun　er　　jue　　zhi　　yi
     with　impure　clothe　pure　CONJ　jade　3.OBJ　with
     金銑　者　　寒　　之　　甚　　矣。　　(*Guoyu*, Jin 1)
     jinxian　**zhe**]　han　zhi　　shen　yi.
     gold　　ZHE　cold　GEN　extreme　ASP

---

sub-phase-level categories, selected by a determiner (D or *n*) and C, respectively (See Chomsky 2000,
2001, 2004 for discussion of the theory of phases and their role in sentence derivation.) The other
reason for positing TP as the complement of *zhe* is the fact that there is no positive evidence that
archaic Chinese embedded clauses were even capable of projecting a CP layer. For example, discourse
particles, including interrogative markers, are never found in embedded domains. *Wh*-words are
likewise disallowed in embedded clauses. Headless relative clauses were the only way to express
embedded constituent questions.

'To clothe the pure with impure colours and (replace) his jade pen-
dant with gold is cold(heartedness) in the extreme.'

However, as in the case of NP + *zhe*, TP + *zhe* does not necessarily occur in
topic position and can also appear postverbally, as in the case in (20). These
nominalized clauses do, however, represent given information. This is par-
ticularly obvious in the case of (20b), since all intellectuals in pre-modern
China read the Confucian classics, including the *Mencius*, and were therefore
familiar with Mencius' position on human nature.

(20) a. 吾　　聞　　用　　夏　　　變　　夷　　　者　　未
　　　 Wu　 wen　[yong Xia　　 bian　 yi　　 **zhe**] wei
　　　 I　　 hear　 use　 Chinese change foreigner ZHE not
　　　 聞　　變　　於　　夷　　　者　　也。　 (*Mencius*, Tengwen 1)
　　　 wen　[bian　 yu　　 yi　　 **zhe**]　 ye
　　　 hear change by　　 foreigner ZHE　 DECL
　　　 'I have heard of using Chinese (culture) to change the ways of
　　　 foreigners but have not heard of being changed by foreigners.'

　　 b. 余　　固　　以　　孟軻　　 言　　人　　　性　　　善
　　　 Yu　 gu　　 yi　　[Meng Ke yan　 ren　　 xing　　 shan
　　　 I　　 so　　 take　 Mencius　 say　 human nature good
　　　 者，　 中　　人　　以上　　　 者　　也。　 (*Lunheng*, Benxing)
　　　 zhe] Zhong ren　　 yishang　　 zhe　 ye.
　　　 ZHE average person above　　 ZHE DECL
　　　 'So I take Mencius' saying that human nature is good to (refer to)
　　　 above average people.'

14.3.2 *Relativizing* zhe

The relativizing *zhe* also selects a TP complement. The difference between the
relativizing and nominalizing *zhe* is that the former serves as a relative
operator binding the head position inside the clause. Interestingly, when
zhe functions as a relative operator, it does not add any semantic or prag-
matic import like definiteness.

One important fact for the analysis I propose below is that archaic Chinese
relative clauses were not formed through movement. This is evident from the
fact that the head position can be contained within a syntactic island. (21a)
shows that *zhe* relative clauses can be formed on the possessor of the subject.
Movement from the possessor position in the subject NP would violate the
Left Branch Condition. Likewise, *zhe* relative clause formation can invoke
apparent violations of the Coordinate Structure Constraint. The gap in (21b)
is inside one of the conjoined TPs.

(21) a. 我　　未　　　見　　　　　力　　不　足　　者。
　　　 wo　 wei　 jian [TP [DP e_i　li]　 bu　 zu]　 **zhe$_i$**
　　　 I　 not-yet　see　　　　　 strength　not　suffice　ZHE
　　　 'I have yet to see someone whose strength is not sufficient.'

　　　　　　　　　　　　　　　　　　　　　　　　　　(*Analects*, Liren)

　　　 b.　　　 莫　　 之　　 為　　 而　　 為　　 者
　　　　 [[TP　 mo　 zhi　 wei]　 er [TP e_i　 wei]]　 **zhe$_i$**]
　　　　　　 noone　3.obj　force　and　　do　　ZHE
　　　 'one who no one forces him and (he) does (it)'

　　　　　　　　　　　　　　　　　　　　　　(*Mencius*, Wanzhang 1)

The theoretical foundation for the analysis I propose is the idea that a determiner can take a relative clause as its complement (Williamson 1987; Kayne 1994, and others). The function of the determiner is to bind the head position within the clause (Basilico 1996). The head position in the relative clause is a non-referential DP, typically a gap *pro* in subject position in the clause which is coindexed with and bound by *zhe*. Assuming that the derviation proceeds bottom up and syntactic operations are limited to the current phase and the edge of the preceding phase (Chomsky 2000, 2001, 2004), we derive the restriction that *zhe* forms a relative clause only on a VP-external position. By the time *zhe* is merged into the derivation, the VP has been spelled out and is no longer visible to the computational system. Object relative clauses in old Chinese require a binder in the edge of *v*P. These will be discussed in the next section.

(22) a.　　 欲　　 戰　　 者　可　謂　眾　　　矣。(*Zuozhuan*, Cheng 6)
　　　　 [[*e* Yu　 zhan]　**zhe**]　ke　 wei zhong　yi.
　　　　　 desire　fight　 ZHE　POT　say majority ASP
　　　　　 '(Those) who desire to fight can be said to form the majority.'

　　　 b.
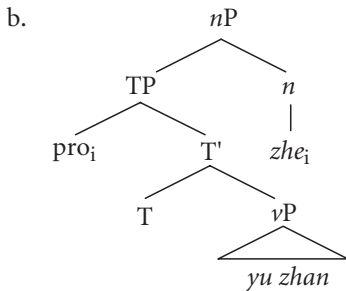
When the head nominal is a possessor, the *pro* in the specifier of the subject DP will be bound by *zhe*.

(23) a. 我   未   見   力   不   足   者。
          wo   wei   jian [$_{TP}$ [$_{DP}$ e_i li]   bu   zu]   **zhe$_i$**
          I   not-yet see   strength not   suffice ZHE
          'I have yet to see someone whose strength is not sufficient.'

<div align="right">(Analects, Liren)</div>

b.
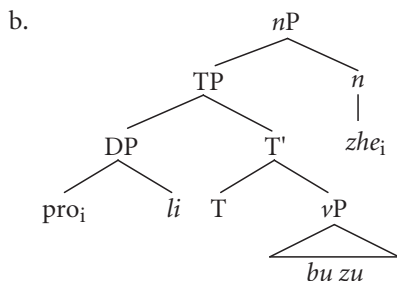
This analysis also accounts straightforwardly for internally headed relative clauses. In internally headed relative clauses, the head nominal in subject position is treated as a variable and bound by *zhe*. Treating the head position as a variable accounts for the definiteness effect on internally headed relative clauses proposed by Williamson (1987) and demonstrated in (11) and (12) in Section 14.2.

(24) a. 臣   弒   其   君   者   有   之。
          [[chen   shi   qi   jun]   **zhe**] you   zhi.
          minister assassinate 3.GEN   lord   ZHE   exist this
          'Ministers who assassinate their lords do exist.'

<div align="right">(Mencius, Tengwen 2)</div>

b.
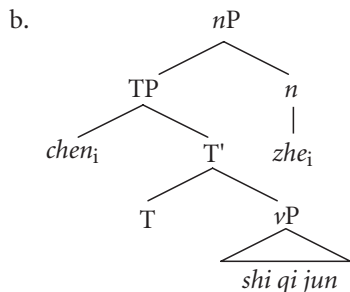
To summarize the proposal put forth in Sections 14.2 and 14.3, *zhe* is a determiner *n* which can select either an NP or a TP. When it selects a TP, it either serves merely to nominalize the clause or it can function as an operator binding the head position inside a relative clause. This allows a uniform analysis of *zhe* as a determiner and solves the problem posed by previous accounts based on disparate types of *zhe*.

As mentioned at the beginning of this section, the relativizing *zhe* does not add any sense of definiteness. At present, I have no explanation as to why this should be the case, but it may be indicative of the path of historical change. As a determiner selecting an NP, *zhe*'s function was to semantically bind the variable introduced by the predicate NP and also to indicate the definiteness of the constituent. When *zhe* began to select TP complements, a split took place. The nominalizing *zhe* retained the definiteness contribution, while the relativizing *zhe* retained the variable binding function, only replacing semantic binding with syntactic binding.

Whatever the correct analysis of the loss of definiteness in relativizing *zhe*, the proposal I have put forth of the types of *zhe* as involving either syntactic or semantic binding meshes with Zhu's (1983) intuition that the difference centres on whether *zhe*'s complement contains a gap. Beyond Zhu's proposal, however, I have shown how the seemingly disparate functions of *zhe* can be subsumed under a single analysis of *zhe* as a determiner.

14.4 Object relative clauses

Object relative clauses also serve to support the dichotomy between the function of variable binding and that of supplying definiteness. While *zhe* is used to form a relative clause on subject position, a distinct functional morpheme *suo* is employed to relativize on VP-internal elements. (25a) shows a headless relative formed on a direct object. (25b) has an external head preceded by the genitive marker.[3]

(25) a. 人   之   所   畏   不   可   不   畏。   (*Laozi* 20)
          [ren   zhi   **suo**   wei]   bu   ke   bu   wei.
          person GEN   SUO   fear   not   POT   not   fear
          'What people fear cannot not be feared.'

      b. 仲子   所   居   之   室   (*Mencius*, Tengwen 2)
          [Zhongzi   **suo**   ju   zhi   shi]
          Zhongzi   SUO   live   GEN   house
          'the house in which Zhongzi lives'

In contrast to *zhe*, which relativizes on *v*P-external positions, it is reasonable to assume that *suo* resides in the edge of the *v*P phase and serves as the binder for the variable position in VP.

---

[3] Head nominals in *suo* relative clauses always follow the clause. There is no *suo* relative clause type corresponding to (11b), in which the head precedes the clause.

(26) a. 魚， 我 所 欲 也。   (*Mencius*, Gaozi 1)
      Yu   [wo **suo** yu] ye.
      fish I   SUO   want DECL
      'Fish is something I want.'

   b.
```
          TP
         /  \
       wo    \
            / \
          T    vP
              /  \
          <wo>    \
                 /  \
              SUO_i  VP
                    /  \
                  yu    pro_i
```
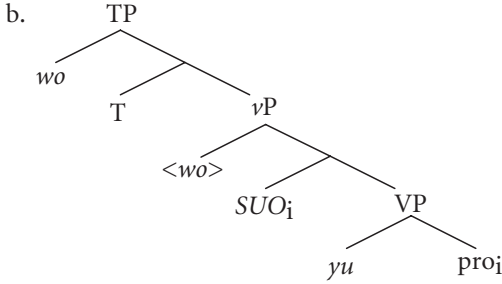
A relative clause formed with *suo* can additionally appear with *zhe*. The gap inside VP is bound by *suo*. Therefore, *zhe* must be the nominalizing *zhe*. If it did carry an index, this would result in vacuous quantification, since the gap in VP is already bound by *suo*.

(27) a. 狄 人   之   所   欲   者   吾   土地 也。
      [[Di ren zhi **suo** yu] **zhe**] wu   tudi ye.
      Di   person GEN SUO desire ZHE our land DECL
      'What the Di want is our land.'   (*Mencius*, Lianghui Wang 2)

   b.
```
            nP
           /  \
         TP    n
        /  \   |
    Diren   \  zhe
        zhi  \ vP
              / \
          <Diren> \
                 /  \
              suo_i  VP
                    /  \
                  yu    pro_i
```
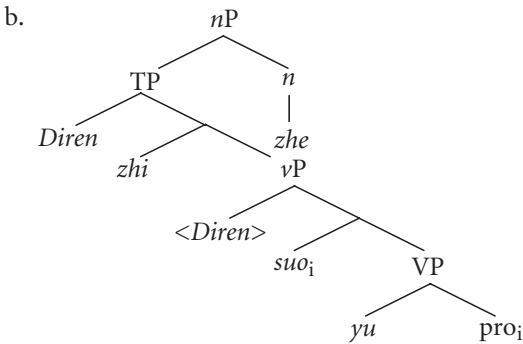
Since *zhe* is not a syntactic binder in *suo* relative clauses, this predicts that a *suo* + VP + *zhe* constituent is interpreted as definite. This prediction is indeed borne out. *Suo* + VP appears freely in any nominal position, and is frequently indefinite. (28) shows indefinite *suo* + VP relatives as a direct object and as a nominal predicate, respectively.

(28) a. 仁   者   以   其   所   愛   及   其
         Ren   zhe   yi   [qi   **suo**   ai]   ji   [qi
         virtue ZHE   take   3.SUBJ SUO   love   extend 3.SUBJ
         所   不   愛。
         suo bu   ai]
         SUO   not   love
         'A virtuous person takes what he likes and extends it to those whom
         he does not like.'   (*Mencius*, Jinxin 2)

      b. 魚，   我   所   欲   也。   (*Mencius*, Gaozi 1)
         Yu   [wo   **suo**   yu]   ye.
         fish   I   SUO   want   DECL
         'Fish is something I want.'

In contrast to this, *suo* + VP + *zhe* tends overwhelmingly to refer to discourse topics. This is clearly shown in (29a), where the context indicating that speakers have things to say is established in the first clause. In (29b), since the husband is clearly sated and drunk when he returns, there is a clear implication that he has consumed food and beverages. As the natural assumption is that he did not eat alone, it is understood as given that there should be a companion to which *suo* + VP + *zhe* is referring.

(29) a. 言   者   有   言，   其   所
         Yan   zhe   you   yan,   [qi   **suo**
         speak ZHE   have   speech they   SUO
         言   者   特   未   定。   (*Zhuangzi*, Qiwu)
         yan   **zhe**] te   wei   ding.
         say   ZHE   but   not   uniform
         'Ones who speak have things to say, but what they have to say is not
         uniform.'

      b. 其   良人   出，   則   必   饜   酒   肉   而   返。
         Qi   liangren chu,   ze   bi   yan   jiu   rou   er   fan
         DEM   husband leave   CONJ   always fill   liquor meat   CONJ   return
         其   妻   問   所   與   飲   食   者，
         Qi   qi   wen   [**suo** yu   yin   shi   **zhe**]
         DEM   wife   ask   SUO   with   drink eat   ZHE
         則   盡   富   貴   也。   (*Mencius*, Lilou 2)
         ze   jin   fu   gui   yi.
         CONJ   all   rich   powerful   DECL
         'Whenever the husband went out, he would come back well fed and
         liquored. His wife asked who he ate and drank with, and (the answer
         was) all rich and powerful people.'

(30) summarizes the distribution of *suo* + VP and *suo* + VP + *zhe* in the *Mencius*. The overwhelming majority of *suo* + VP + *zhe* constituents appear in either subject or fronted topic position, i.e. clause-initial position. Given that subject position in Chinese is generally restricted to definite DPs, we can see from (30) that *suo* + VP + *zhe* constituents are generally required to be definite.

(30)

	SUO + VP = 159	SUO + VP + ZHE = 35
Clause-initial:	32	30
Non-subject argument:	66	4
Predicate:	61	1

Traditional approaches, including He (2004), Pulleyblank (1995), and Yang and He 1992, analyse both *zhe* and *suo* as nominalizers, given that both functional categories generally select non-nominal complements but participate in projecting a nominal category which can occur in argument position, typically by binding the gap in a relative clause. However, I have already suggested that designating *zhe* simply as a nominalizer fails to distinguish between the nominalizing and relativizing *zhe*. Furthermore, it should be pointed out that *suo* has only the relativizing function, i.e. it must bind a gap in VP. This restriction is not accounted for on the traditional approach. But if we assume, as I have suggested in Section 14.2, that syntactic treatment of a constituent as nominal is the function of *n*, then we can account for why *suo* has only the binding function. Specifically, this is because *suo* is *v*, which is a verbal, not nominal, functional head.

14.5.   Conclusion

In this chapter, I have proposed that the seemingly disparate functions of the archaic Chinese functional category *zhe* can be given a uniform analysis by analysing *zhe* as a type of determiner which can select either a nominal or clausal complement. Semantically, the basic function of *zhe* is to bind the variable introduced by its complement. If this variable is a syntactic gap, as in a relative clause, then *zhe* serves as the binder for this gap. If there is no syntactic gap, then the binding is merely semantic binding and *zhe* marks the constituent it projects as definite.

15

Grammaticalization of modals in Dutch: uncontingent change

GRIET COUPÉ AND ANS VAN KEMENADE*

15.1 Introduction

In this chapter, we discuss the comparative historical development of modal verbs in Dutch and English. In both languages, modals have been grammaticalized; the development of modals in English is often called a paradigm case in this respect, in the sense that it represents a much-studied example of the development from a lexical to a grammatical element. For the history of Dutch, it has also been argued that modals underwent a process of grammaticalization (IJbema 2002). But although English and Dutch are closely related sister languages in the West-Germanic subfamily and were, as far as we know, even more closely related in earlier times, the outcome of the grammaticalization process is quite different: whereas in present-day English (PDE), modals are finite-only forms in a syntactic head position separate from the rest of the verbal complex (variously called Aux, INFL, Mood, Tense, or some such), modals in present-day Dutch (PDD) may be non-finite as well, and may appear in combination with other modals and non-finite verbs in verb clusters. On the assumption that the properties of modals in standard PDE are well known, we briefly highlight the most salient facts about verb clusters in PDD. Like German and some other West-Germanic languages, Dutch has 'long' sequences of verbs clustering in clause-final position. Example (1) shows that as many as six verbs can cluster in such a way:

(1)   dat   Catelijne   Peter   gisteren   de   vaat   zou   hebben
         that   Catelijne   Peter   yesterday   the   dishes   should   have

moeten   kunnen   laten   doen.
must   can   let   do.
'that Catelijne should have been able to make Peter do the dishes yesterday'

Long verb clusters may contain a perfective auxiliary, one or more modals, but also other clustering verbs like causatives and perceptives, structured hierarchically in accordance with the semantics of the complex event. Any verb in the complement of the perfective, moreover, appears as an infinitive rather than a past participle when further complemented by one or more bare infinitives, yielding a series of infinitives. The example above, for instance, contains a finite modal, a perfect auxiliary, a modal *moeten*, a further modal *kunnen*, a causative *laten*, and the lexical verb *doen*. Two important facts here seem to be preconditions for the existence of long verb clusters: the modal verb *moeten* features as an infinitive rather than a past participle; this phenomenon is known as the IPP effect (*Infinitivus Pro Participio*). The second important fact is that the modals have non-finite forms. *Moeten* and *kunnen* can occur as infinitives as in the example above.

Verb clusters form an intriguing feature of the Dutch verbal system, not least because they represent a phenomenon in which varieties of Dutch and German diverge sharply from the other Germanic languages. These facts alone make it interesting to look at how this feature originated and became embedded so firmly in the syntax of varieties of Dutch and German, in contrast to those of other West-Germanic languages.

In the literature, it is often implicitly assumed, in the wake of Lightfoot's influential (1979) work on the history of English modals, that the pre-modals in the Old Germanic dialects were essentially unexceptional main verbs. We are not the first to show that this position is far too strong (see e. g. Nagle 1993; Warner 1983, 1993; Denison 1988; van Kemenade 1993). In this article, we consider some of the core properties of the Old Germanic pre-modals, highlighting the main verb properties that they undoubtedly have in fuller measure than in PDE. At the same time, they conspicuously lack non-finite forms, and this presents us with a paradox with respect to the divergent further histories of English and Dutch: while English first tentatively developed non-finite forms for the modals in Middle English, it subsequently eliminated them altogether and now has a modal paradigm that is syntactically restricted to a high auxiliary position. Dutch likewise developed non-finite forms for modals in Middle Dutch, but, in Dutch, they caught on and paved the way towards the rise of long verb clusters as in (1). It is this comparative perspective that raises questions about how we should analyse these processes as cases of language change. The analysis of the history of English modals has

been viewed as a paradigm case of grammaticalization: pre-modals that were putatively main verbs moving to a functional category, lost their inflectional morphology and were reanalysed as grammatical words generated in the head position of that functional category (see most recently Roberts and Roussou 2002). But if we contrast this development with the historical development of Dutch, starting from a common Germanic source in which pre-modals had many verb-like rather than auxiliary-like characteristics, but occurred in finite form only, this raises the question of a proper analysis of the history of Dutch: how did modals come to acquire non-finite forms? How were these operative in paving the way toward long verb clusters? If modals in English were grammaticalized to functional head status, does the history of Dutch represent a case of anti-grammaticalization? We will take the position that, even in closely related languages, grammaticalization processes take place in interaction with the grammars in which they feature. Here, we build on the comparative analysis of the English and Dutch modal systems in Barbiers (2005), accommodating in it our revised view of the Old Germanic facts. We will show that the relative histories of English and Dutch modals were shaped by a series of local changes that were compatible with what was going on in the grammars of these languages. The result of these developments was that modals in English became grammatically circum-scribed to a high and exclusively finite auxiliary position, whereas Dutch modals continued to feature in two positions, developing non-finite forms in the lower one.

In Section 15.2, we describe the core features of the modal system in Gothic and in Old West-Germanic dialects, and its broad outline development in the history of English, analysing it along the lines of Barbiers (2005). In Section 15.3, we consider Middle Dutch and the transition to Early Modern Dutch, arguing that two changes paved the way towards long verb clusters: the first is a change in mood morphology, the second the rise of the IPP effect. We analyse these developments according to the perspective presented in Section 15.2. Section 15.4 is a summary and brief discussion of the kinds of morpho-syntactic changes involved.

15.2 Dutch and English modals in an Old Germanic perspective

In the following paragraphs, we will demonstrate that the ancestors of modals in English, Dutch, and other Germanic languages had much in common. The discussion will be centred on the most frequent pre-modals in Old Germanic languages, i.e. the descendants of Germanic *skulan,

*motan, *magan, *wiljan and *kunnan.[1] The section is concluded with an analysis of Old Germanic modals based on the insights obtained, and a brief sketch of the further history of English modals. This will provide the necessary background for our account of the historical development of Dutch modals in Section 15.3.

15.2.1 *Similarities between the dialects*

15.2.1.1 *Finite vs non-finite forms*   In the wake of Lightfoot (1979) the assumption that modals originated as unexceptional full verbs has taken firm root in the literature. The crucial argument in these accounts is the reportedly rich paradigm of the pre-modals in Old English, putatively including non-finite forms. The facts show, however, that pre-modals in Old English were already subject to the finiteness restriction characteristic of the PDE modals. And indeed, the other Old Germanic languages reveal the same pattern.

For English, Warner (1983, 1993) emphasizes the lack of evidence for the existence of non-finite forms of the modals *must* and *shall*. Nagle (1993), in addition, shows that the double modal constructions that sporadically occur in Middle English are not, as generally assumed following Lightfoot (1979), a relic from Old English. Nagle concludes, not having found any attestations of double modals in the complete Old English corpus, that they might be a Middle English innovation. This is in line with Koopman (1990), who shows that verb sequences in Old English contain a maximum of three verbs. The modal is always the top verb, the complement of which consists of a passive or perfective auxiliary (*habban* 'have'; *beon* 'be'; *wesan* 'be'; *weorþan* 'become'), and a participle, as illustrated in (2) and (3).

(2) þæt   Cristes   ðeowdom   ne   sceal   beon   geneadad
     that   Christ's   service   not   shall   be   forced
     'that Christ's wisdom must not be forced'   (*ÆCHom*, ii.9.79.220)

(3) &   ðe   he   habban   wyle   gehealdan   &   geholpen
     and   which   he   have   wants   held   and   helped
     'and which he wants to have held and helped'   (*WHom* 5.107)

Thus, none of the sequences contains a non-finite modal. Given the robust frequency of these three-verb sequences, and of pre-modals more generally, these facts are significant.

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[1] It is common practice in the literature to refer to these pre-modals by using the reconstructed infinitive form. We will show, however, that these infinitival forms probably never existed.

TABLE 15.1 Distribution of finite/non-finite pre-modals in Old Germanic texts

		Finite	Infinitive	Participle
*skulan	Gothic *skulan	52	0	0
	Old Sax. *skulan	364	0	0
	OHGm. *skulan	225	0	0
	OLFr. *sulen	155	0	0
*motan	Gothic		————*not attested*————	
	Old Sax. *mōtan	137	0	0
	OHGm. *muozan	45	0	0
	OLFr		————*not attested*————	
*magan	Gothic *magan	124	0	11
	Old Sax. *mugan	245	0	0
	OHGm. *magan/mugan	321	0	0
	OLFr. *magan	1	0	0
*wiljan	Gothic wiljan	108	3	16
	Old Sax. *willian	303	1	6
	OHGm. *wellen	328	0	1
	OLFr. *willen	2	0	0
*kunnan	Gothic kunnan	75	8	12
	Old Sax. *kunnan	17	0	0
	OHGm. *kunnan	6	0	0
	OLFr.		————*not attested*————	

To compare the Old English findings with other Old Germanic sources, we have investigated all the instances of pre-modals in the Gothic Bible,[2] the Old Saxon *Heliand* and *Genesis*, and the Old High German *Tatian* and *Otfrid*. For Old Saxon and Old High German, we relied heavily on the detailed observations in Birkmann (1987), checking the examples in the TITUS database at the University of Frankfurt. In addition, we examined the only surviving written records of Old Lower Franconian (the closest ancestor of Dutch), i.e. the *Wachtendonckse Psalmen*, which are tenth-century psalm translations. The types and tokens of pre-modals are listed in Table 15.1.

Motan and *skulan* are finite across the board, in Old English as well as in the other Old Germanic records. These two finite pre-modals already occur with infinitival complements in all the surviving texts. The other pre-modals *magan*, *wiljan*, and *kunnan* are sporadically attested with non-finite forms (bare infinitive, to-infinitive, or participle). In these cases, however, pre-modals invariably have non-modal meaning, e.g. *wiljan* 'to wish, desire',

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[2] Based on *A Concordance to Biblical Gothic*, Snædal (1998).

magan 'have the power to', *kunnan* 'to know', and are never complemented by a bare infinitive. An example is (4):

(4) ei   swaswe   fauraïst   muns   du   **wiljan** ...
     that   just as   for-is   readiness   to   will
     'for if there was a readiness to desire'   (Gothic Bible; 2 Cor. 8: 11)

We conclude that Old Germanic pre-modals, when they have modal meaning and take an infinitival complement, are *always* finite. Thus, they cannot feature as the middle member of a three-verb cluster.

15.2.1.2 *Complementation* While the availability of non-finite forms is not among them, Old Germanic pre-modals indisputably have a number of main verb properties, which have been reported already for Old English (e.g. Plank 1984; Denison 1988; Warner 1993; van Kemenade 1993). One of these is their syntactic complementation. Beside occurring readily with an infinitival complement, they may also take a direct object only (5) or a directional adverb (6).

(5) a. Binnan   þrim   nihtum   **cunne**   ic   his   mihta
        within   three   nights   can-SBJV   I   his   powers
        'may I know his powers within three nights'
                                          (OE; Metrical Charms, 9, 14, in *ASPR*)

     b. Uuáz   **múgen**   uuír   nû   mêr?
        What   may   we   now   more?
        'What more can we (do) now?' (OHG; Notker, Boeth. *Cons.*, III 181, 8)

(6) and he begeat ða   leafe þæt he of   þam lande   **moste**
     and he got   then leave that he from   the country must-SBJV
     'and then he got permission to leave the country'   (OE; *ÆLS* I.5.328)

Pre-modals, especially *wiljan, are also frequently attested with a *that*-clause complement.

(7) ...ic   **wolde**   þæt   þa   ongeaten   [...]   hwelc   mildsung
     ...I   would   that   they perceived [...]   what   blessing
     siþþan wæs, siþþan se   cristendom   wæs.
     since   was, since   the   Christianity was
     'I would want those [...] to perceive what blessing there has been since the rise of Christianity'   (OE; *Oros.*, 38, 10)

(8) **Wiljau**   ei   mis   gibais   ana   mesa
     want-PRS.OPT.1SG   that me   give-PRS.OPT.2SG   on   platter

haubiþ   Iohannis   þis   daupjandins
head   John   the   Baptist-GEN
'I want you to give me the head of John the Baptist on a platter'

(Gothic Bible; Mk 6: 25)

To a certain extent, modals in modern Dutch and German still display these complementation patterns (e.g. Abraham 2002: 24–5). English modals, however, have lost them altogether.

15.2.1.3 *Inflection*   The Old Germanic dialects have productive mood inflection. Pre-modals are attested in the subjunctive/optative form as well as the indicative:

(9)   þat-ein   **wiljau**   witan   fram   izwis
That alone   want-PRS.OPT.1SG   learn   from   you
'This only would I like to learn from you'   (Gothic Bible; Gl 3: 2)

(10)   Butan   tweo,   gif   hie   þa   blotan   **mehten**
except   two,   if   they   them   sacrifice   may-PRS.SBJV
'except two, if they could (be able to) sacrifice them'   (OE; *Oros.*, 115, 14)

(11)   thaz   thu   úns   es   **muazis**   thánkon
that   you   us   it   must-PRS.SBJV   thank
'that you should thank us for it' (OHG: Otfrid's *Evangelienbuch* 2, 24, 38)

(12)   ne   hi   thes   lôn   **sculi,**   fora   godes   ôgun
not   he   the   reward   shall-PRS.SBJV,   for   gods   ought
geld   antfâhan
money   receive
'He should not (get) the reward, for the gods ought to receive money'

(OS: *Heliand* XXIII, 1968)

This mood inflection has been lost in English and Dutch, but still survives in present-day German in the forms *sollte(n)*, *müsste(n)*, *möchte(n)*, *könnte(n)* and *wollte(n)*.

15.2.2 *Analysis*

We now outline an analysis in line with current thinking about modals and the effects of grammaticalization in the respective histories of English and Dutch, and which does justice to the novel perspective on the Old Germanic facts that we present here. Let us begin by briefly discussing the contrast between PDE and PDD modals.

The typical view of PDE modals is that they represent a unified class of syntactic auxiliaries generated under a functional node Tense, Mood or some such. Modals in PDD, in contrast, show considerably greater morphosyntactic versatility, and allow of a number of generalizations concerning their morphosyntax and its mapping with semantic readings. Modals have main verb properties in the sense that they can take non-verbal complements as in (13), they can occur in sequences as in (14), and they have non-finite forms, participles as well as infinitives (15).

(13) Waar **moet** hij naartoe?
      where must he towards
      'Where should he go?'

(14) Iedereen   zou   **moeten   kunnen**   zwemmen
      Everyone   should   must   can   swim
      'Everybody should be able to swim.'

(15) a. Het idee   de   oorzaak   van   het   ongeluk   **te   kunnen**
         The idea   the   cause   of   the   accident   to   can-INF
         zijn,   verontrust   Ed
         be,   worries   Ed
         'Ed is worried at the idea that he might be the cause of the accident'

      b. dat   had   best   **gemogen**
         that   had   best   may-PTCP
         'that would have been allowed'

We start from Barbiers' (2005) analysis of the contrast between PDE and PDD, which we first summarize: according to Barbiers, Dutch and English modals are categorially identical and impose the same selectional restrictions.[3] Barbiers postulates two areas where modals can be generated: one on top of the Root (in the sense of Hale and Keyser 1993, $\approx$ the VP/non-verbal predicate, cf. also Butler 2004); the other on the left of υP, $\approx$ on the left of the subject, in TP. This yields something like the following structure:

(16) [$_{TP}$ [**modal1** [$_{\upsilon P}$ Subject υ [**modal2** [$_{RootP}$ Object Root]]]]]

Modals in position 1 yield non-subject-oriented readings (including epistemic readings which have scope over the proposition), while modals in position 2 yield subject-oriented readings. The crucial property that according to Barbiers derives the superficial distinction between English and Dutch

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[3] For reasons of space, we refrain from including in the discussion Barbiers' claims about the relation between modal position and OV/VO word order.

modals, is that in English, the modal2 position is unavailable. This is because the relative poverty of verb inflection in English renders movement of Root V to υ obligatory. Hence English modals only occur in the modal1 position, and are only finite.

For Dutch verb roots on the other hand, movement to υ is not obligatory, hence they can occur in the modal2 position, may be non-finite and can take a verbal or a non-verbal RootP. The two modal positions in Dutch to some extent correlate with semantic readings: while the modal1 position allows root as well as epistemic readings, the lower one allows root readings only. This sits well with the well-known observation that non-finite modals do not allow an epistemic reading (e.g. Abraham 2002; Butler 2004, among many others).

Barbiers' analysis makes sense of a number of core features of the morphosyntax and semantics of modals in English and Dutch respectively. First, it accounts for the syntactically unified behaviour of English modals by means of a simple and independently motivated account for why the modal2 position is unavailable in English. By the same simple account, it makes sense of some core properties of Dutch modals: the fact that they may select verbal as well as non-verbal predicates, and allow finite as well as non-finite forms. The historical development of English is keyed to one fundamental change: the rise of obligatory V to υ movement, resulting from loss of inflection on the verb. It is this change that putatively renders the modal2 position unavailable. It should be observed, however, that the contrast between English and Dutch is correlated crucially with the absence vs presence of non-finite forms, the historical development of English keyed to the loss of non-finite forms. The latter assumption has been shown above to be untenable.

Let us therefore review the Old Germanic situation in the light of Barbiers' analysis. It is observed in van Kemenade (1993) that modals in Old English can take a non-verbal complement and that this correlates with a root reading. An example is (5a), repeated below as (17):

(17) Binnan   þrim   nihtum   **cunne**   ic   his   mihta
      within   three   nights   can-sjbv   I   his   powers
      'may I know his powers within three nights'

<div align="right">(OE; Metrical Charms, 9, 14, in ASPR)</div>

Modals cannot occur in each other's complementation in Old English, as established in Nagle (1993) and discussed in Section 15.2.1.1. In the same section, it was established that Old English pre-modals do not occur with a modal reading in infinitival or participial form. We conclude that essentially

Old English modals are much like their Dutch counterparts, but that, like their Gothic and Old West-Germanic sisters, they lack non-finite forms. This would lead us to adopt Barbiers' analysis, but would at the same time force us to say that the modal2 position is one that does not host non-finite modal verbs in Old English. We feel that this solution is along the right lines, and that the cause for this situation is the defectiveness of the preterite present paradigm. Observe, however, that the preterite presents are not really a class but rather a mixed gathering of verbs split off from various classes of strong verbs by reanalysing their past tense paradigm as the present tense and forming a new past tense with a regular dental ending. These verbs are morphologically rather special, some more so than others. This need not have been a problem from the language-learning point of view, as they were also high-frequency verbs and therefore presumably represented robustly enough in the language environment to learn their special morphology. Preterite presents with non-finite forms include *witan* 'know', *agan* 'possess', *unnan* 'grant', *cunnan* 'know', *þurfan* 'need', (*ge*)*munan* 'remember'. Others are finite only: *cann* 'can', *dearr* 'dare', *sceal* 'shall', *mot* 'must', *mæg* 'may'. The only pre-modal not featuring in this list is *willan*, which belongs in a different inflectional class. Given that the facts concerning preterite presents seem to generalize at least to Gothic and the other Old West-Germanic languages, as discussed in 2.1, we could say that like in PDE, Old Germanic modals exhibit a mismatch between their morphosyntax and their semantics, although this mismatch is in a direction opposite from that in PDE: while Old Germanic has two positions available for modals, and while the modal1 position is available to root as well as epistemic modals, and the modal2 position only to root modals, the pre-modals do not possess non-finite morphology to differentiate the modal2 position in that respect. This may, however, be a historical accident.

We would like to take the argument in the previous paragraph one step further: on the basis of this analysis of Old Germanic, we hypothesize that the later rise of non-finite forms represents a morphological extension that was possible because the syntactic position of a subset of the root modals (those in modal2 position) allowed a non-finite verb there. This hypothesis, we claim, provides an interesting perspective on the divergent further histories of English and Dutch respectively: while English, like Dutch, tentatively developed non-finite forms for root modals in Middle English, they are far from robustly represented in the textual record, as documented by Nagle (1993). If the same was true for the non-verbal complementation of modals (which must remain speculative for the moment, as a detailed investigation of the robustness of the evidence is beyond the scope of this article), the cue

for the language learner to postulate non-finite forms may well have been very slender indeed.

Let us contrast the scenario for the history of English with that for the history of Dutch: given that, like in English, Dutch allowed a non-finite modal in the modal2 position, and that the evidence to allow the modal2 position, i.e. non-verbal complementation, was available, the least we can say is that there was no pressure in the language environment to disallow non-finite forms for modals. Indeed, we might hypothesize that non-finite forms were in a sense desirable to differentiate the two modal positions on the grounds of more than partial semantics alone. With this perspective in mind, we now consider the further history of Dutch, which is characterized by two developments that promote the use of non-finite forms for modals: one is the rise of double modals; the second is the rise of the IPP-effect. We will consider these developments as strategies to create non-finite forms.

15.3 The historical development of Dutch

In order to trace the developments in the verbal complex in Middle and Early Modern Dutch, we performed several case studies in the thirteenth-century *Corpus Gysseling* and in the fifteenth- to seventeenth-century corpus *Dutch in Transition*. For the most time-consuming searches, we had to make a selection of texts from the former corpus. As Bruges is the best represented location in this corpus, we chose in most cases to examine only the texts from this city, all from the second half of the thirteenth century. All the subcorpora are made up of official or legal texts, which are dated and located. As outlined in Table 15.2, the texts are from different parts of the Dutch-speaking area.

In what follows, we sketch the results of these case studies with respect to the rise of non-finite modals, the emergence of the IPP-effect, and the length of verb clusters.

TABLE 15.2 Overview of the subcorpora

Region	area	corpus	time span	number of words
Bruges	Southwest	Gysseling	1260–1300	± 353.000
Drenthe	Northeast	DiT	1400–1519	± 225.000
Brabant	South	DiT	1400–1480	± 137.000
Zeeland	(South)west	DiT	1580–1700	± 360.000

TABLE 15.3 *Mogen* 'may', *moeten* 'must', and *willen* 'want' + bare infinitive in all charters of *Corpus Gysseling* (C13)

	mogen		moeten		willen	
	Finite 3pl	Infinitive	Finite 3pl	Infinitive	Finite 3pl	Infinitive
1230–1249	28	0	5	0	8	0
1250–1269	14	0	9	0	9	0
1270–1289	105	27	68	0	32	2
1290–1300	157	12	6	4	8	0

15.3.1 *Morphological strengthening: the rise of non-finite modals in Middle Dutch*

In 15.2.1.1, it was demonstrated that all the attested pre-modals in the Old Lower Franconian *Wachtendonckse Psalmen* were finite. A two-century data gap separates this text from the first Middle Dutch texts in the *Corpus Gysseling*, which includes most of the surviving thirteenth-century Dutch charters.[4] In this corpus, we searched for modal infinitives, by analysing all the lexical forms that could actually be infinitival.[5] These lexical forms, ending in *–en,* are homophonous with the third-person plural forms. The 1116 attestations of *sullen* are all finite. This should not come as a surprise, since non-finite *zullen* is very rare even in PDD. Other modal verbs do show up as infinitives, but only in the later texts. The first example of infinitive *mogen* 'may' is from 1277. The infinitive of *willen* 'want' first occurs in 1281, that of *moeten* 'must' in 1292. An overview of all the attestations is given in Table 15.3.

Examples are given in (18) and (19). Quite remarkably, all the modal infinitives occur in the complement of modal *sullen*.

(18) soe dat deen   sonder   den   andren niet daer towe
      so   that the.one without   the   other   not   there to
      en   sal **moghen** gaen
      NEG shall may-INF go
      'so that the one shall not be allowed to go there without the other'
                                                                (CG195; 1277)

---

[4] This corpus comprises both the above-mentioned charters and a rich collection of literary texts. We have chosen not to investigate the latter because of the difficulties in dating and localizing them.

[5] Because this study could be carried out relatively quickly, we included not only the texts from Bruges here but also all the other charters in the *Corpus Gysseling*.

TABLE 15.4 Number of constructions of the type *zullen* 'shall' + modal + main V in all the subcorpora

Region	time span	number of words	*sullen* + modal + main V	
			#	#/10.000 words
Bruges	1260–1300	± 353.000	3	0,08
Drenthe	1400–1519	± 225.000	2	0,09
Brabant	1400–1480	± 137.000	156	11,39
Zeeland	1580–1700	± 360.000	981	27,25

(19) dat   sal   al   **moeten**   bliuen   jnt   couent...
      that   shall all   must-INF   stay   in.the   monastery
      'that will all have to stay within the monastery'   (CG1124; 1292)

Interestingly, a similar construction (*shall*+modal infinitive+main verb) also shows up in thirteenth-century Middle English texts, cf. Visser (1963–73).

(20) þatt   I   shall   **cunnenn**   cwemenn   Godd
      That   I   shall   can-INF   please   God
      'That I will be able to please God' (Ormulum, ed. White, p. 101, l. 7)

For Middle High German, Birkmann reports infinitives of *müezen, mugen, wellen*, and *kunnen* (not of *suln*). These infinitives feature in three-verb clusters headed by *suln,* in much the same way as in Dutch and English. This is illustrated by (21):

(21) Ich   meyn,   es   sol   nymands   **mögen**   thun.
      I   think,   it   shall   nobody   may-INF   do
      'I think that noboby will be able to do it'   (Müller 2001: 255)

We claim that these double modals were a thirteenth-century innovation, which became very productive in Dutch, but never really made its way into the English grammar.

A comparison of the data from the *Corpus Gysseling* with those from the corpus *Dutch in Transition*, confirms our assumption. As shown in Table 15.4, double modals were as infrequent in fifteenth-century Drenthe as in thirteenth-century Bruges, whereas examples abound in fifteenth-century Brabant and seventeenth-century Zeeland. The double modal construction seems to have gradually gained frequency over the centuries.

It is important to note that the only two examples of double modals in Drenthe date from the last part of the subcorpus, in verdicts from 1517 and 1518. These findings indicate that the incipience of the double modal construction took place at different times in different regions. In the

north-eastern Drenthe dialect, for example, it happened much later than in the southern province of Brabant.

15.3.2 *The rise of the IPP-effect*

Apart from double modal constructions, another important feature of Dutch and German V-clusters is the *Infinitivus Pro Participio* (IPP)-effect or *Erzatzinfinitiv*. This constitutes the 'replacement' of a past participle by an infinitive when it takes an infinitival complement of its own. The phenomenon can be found in clusters of the type perfective auxiliary + modal/causative/benefactive/perceptive verb + main V (e.g. Schmid 2005). Examples are given in (22) and (23).

(22) Dutch
… dat hij de hele   dag heeft kunnen / * gekund   werken
      that he the whole day has   can-INF / * could-PTCP work
'that he has been able to work all day'

(23) German
Ich habe das   immer machen wollen   / * gewollt
I   have that always make   want-INF / * wanted- PTCP
'I have always wanted to do that'

IPP-constructions are completely absent in the Old Germanic textual record; in this respect, they are comparable to the double modal constructions. In 15.3.1, it was reported that the infinitival modals in the Middle Dutch *Corpus Gysseling* were all embedded under *sullen*, indicating that no modal infinitives (whether 'Ersatz' or real) occurred under a perfect. This suggests that modals could not yet undergo IPP in the thirteenth century, despite being able to occur as an infinitive (under *sullen*). In the texts from Bruges, which constitute more than half of the corpus, we have found only four examples of a three-verb group headed by perfective *hebben*. In all these examples, *hebben* is complemented by a form of causative *doen*, which is itself complemented by the main verb. The first three attestations still have the past participle of *doen*, as in (24). Only the last example (25) is an indisputable instance of the IPP-effect.

(24) die muer die die   van sinte claren … hebben **ghedaen**   maken
     the wall that those of Saint-Claire … have   done-PTCP make
     'the wall that those of Saint-Claire … have ordered to build'

<div align="right">(CG801; 1288)</div>

(25) ende wiet met onsen ghesuoren lantmetere **doen**   meten hebben
     and we.it with our   sworn   surveyor   do-INF measure have
     'And we have had it measured by our sworn surveyor'   (CG1599; 1297)

In locations other than Bruges, however, IPP with *doen* occurs earlier and more frequently, suggesting that perhaps the Bruges texts represent a conservative dialect. According to van Dijk (2003), who searched the complete *Corpus Gysseling*, nearly all examples of IPP in the *Corpus Gysseling* involve the causative verb *doen* 'do' as the middle member of the verbal group. The very first attestations occur within the so-called *corroboratio*, a formulaic conclusion of the charter. The earliest example, from Ghent, is given in (26).

(26)   So   hebbe   wi   dese   lettren   **doen**   seghelen   met
       So   have   we   this   letter   do-INF   seal   with
       den   seghele   uan   onsen   gotshuse
       the   seal   of   our   hospice
       'Thus we have had this letter sealed with the seal of our hospice'
                                                          (CG48; Ghent, 1267)

Van Dijk found 78 cases of IPP with *doen* in a formula of this kind, and 12 cases outside the *corroboratio*.[6]

   Remarkably enough, the earliest attestations of IPP in Middle German (Kurrelmeyer 1910; Weiss 1956) are found in the same period as in Middle Dutch, also with *dun* 'do'. They are from the Rhine area, which borders on the Dutch-speaking area.

(27)   Han   wir   disen   brief   **dun**   besegelen.
       Have   we   this   letter   do-INF   seal)
       We have made (someone) seal this letter.   (Cologne 1259)

Apart from *tun* 'do', two other causative verbs *lassen* 'let' and *heissen* 'order' are found with IPP in early Middle German texts. In the Middle Dutch *Corpus Gysseling*, on the other hand, *doen* is by far the most frequent causative. The only two examples of causative *laten* under a perfect auxiliary have perfect participles, e.g. (28).

(28)   Ende   dit   heuet   die   scerre   te   houdene   bi   sinen
       and   this   has   the   shearer   to   hold   by   his
       ede   dat   hem   es   **ghelaten**   weten   er   hie   die
       oath   that   him   is   let-PTCP   know   before   he   the
       lakene   an   slaet
       cloth   on   beats
       'And this (hallmark) the shearer has to keep according to his oath, which he has been informed of before he nails the cloth (onto the frame)'
                                                          (CG1340; Bruges 1294)

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[6] In the same period, constructions with past participle as in (24) are also attested several times.

TABLE 15.5 Attestations of IPP with causatives and modals in the corpus *Dutch in Transition*

Region	time span	IPP with causatives	IPP with modals
Drenthe	1400–1519	33	1
Brabant	1400–1480	23	21
Zeeland	1580–1700	39	37

Only one example is found with *heten* (the cognate of *heissen*), which might be the only example of IPP with a verb other than *doen* in the *Corpus Gysseling*. The lexical form *hieten*, however, can also have a *ghe*-less participle and is therefore ambiguous.

(29) der almoesenen die hi adde **hieten** gheuen.
       the alms   that he had order-INF give
       'The alms that he had ordered to give'   (CG368a; Ghent, 1281)

For reasons of space, we refrain from an account of the causes of the rise of the IPP-effect, and refer to Los, van Kemenade, and Coupé (forthcoming), who trace the history of the participial marker *ge*- in Old Germanic.

15.3.3 *Modals in the IPP-configuration*

As mentioned in 4.2., IPP is not attested with modals in our thirteenth-century corpus. In the corpora from the fifteenth- and seventeenth-century, however, we do find examples of this pattern. Table 15.5 shows that the IPP-construction is gaining frequency in the fifteenth-century subcorpus from Brabant, both with causatives and with modals. In this respect too, the dialect of Brabant seems to be further advanced than the Drenthe dialect. The only example of a modal *Ersatzinfinitiv* in the Drenthe subcorpus was again found in a sixteenth-century text. In the seventeenth-century material from Zeeland, examples of IPP with modals are as frequent as those with causatives.

   We conclude that in the process of syntactic change that led to the spread of the IPP-effect, causatives consistently preceded modals in time. The dialect of Brabant is advanced both in its use of double modals and of IPP with modals. In earlier texts, the double modal construction was sporadically attested (as described in Section 15.3.1) but the IPP-effect is restricted to causatives. This leads us to propose a three-stage historical scenario for Dutch. The first stage (before 1250) applies to all the Germanic languages. Both the double modal construction and the IPP-effect were unavailable. The second stage, around 1250–1300, involves two major innovations in Dutch:

the incipience of the double modal construction, which is however restricted to the combination of *sullen* with another modal (*moeten, mogen, kunnen,* or *willen*). At roughly the same time, the perfective auxiliary *hebben* starts to combine with causatives, yielding the first instances of the IPP-configuration. Given the morphological strengthening of modals that took place in stage 2, the IPP-effect could be easily (and quickly) extended to modal verbs in a third stage, which should be situated after 1300. The set of IPP-verbs is then extended to include perception verbs, duratives, inchoatives, and control verbs (cf. Schmid 2005), yielding ever more possibilities of combining three or more verbs.

To sum up, both the double modal construction and the incipience of the IPP-effect have played a role in the development of the verb clustering phenomena characteristic of PDD. These two innovations seem to be closely related, but they occur in a consistent diachronic order across dialects.

15.3.4 *The lengthening of V-clusters*

In all the subcorpora, we investigated the complementation domain of one frequent auxiliary, *zullen* 'shall'. Only those subclauses containing a finite form of *zullen* were selected, in order to create a set of tokens with a clearly visible verbal complex, as illustrated in (30).

(30)   …dat   die   buer   van Suythlaeren oir   bewys
       …that   the   inhabitants of   Suythlaeren their   evidence
       by **brengen** **zullen**
       by bring   shall
       'that the inhabitants of Suythlaeren shall bring forth their evidence'
                                                                (Drenthe 1502)

Whereas two-verb clusters with *zullen* are very frequent from the oldest records, longer clusters barely occur in these oldest texts; in the thirteenth-century Bruges corpus, only 25 clusters of three verbs are attested, mostly involving a periphrastic perfect or passive embedded under modal *sullen,* as in (31).

(31)   Ende sullen   hem   vraghen   bi   sinen   ede   wie   hem
       And   shall-PL   him   ask   by   his   oath   who   him
       dat   **sal**   **hebben** **ghedaen**
       that shall   have   done-PTCP
       'And (they) will ask him on oath who will have done that to him'
                                                                (CG347; 1281)
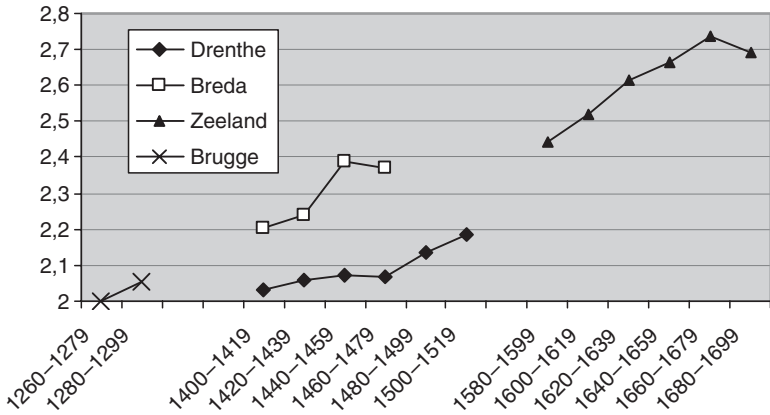
FIGURE 15.1 Average cluster length in sequences with finite *zullen* in the various sub-corpora, plotted over time.

In seventeenth-century Zeeland, on the other hand, clusters of four and even five verbs are found, as in (32).

(32) ...een saecke van seer quade consequentie ende schadelijck
     ...a   matter of very bad   consequence and harmful
     gevolch, dewelcke haere achtbaerheden pro auctoritate
     result,   the-which their honours   pro auctoritate
     souden hebben connen doen retracteeren
     should have   can   do   retract
     'A matter of bad consequence and harmful result, which the honourable
     (men) would have been able to have retracted'   (Zeeland, 1650)

(32) is an example of an IPP-construction with perfective *have*, followed by an IPP-instance of *connen*, which takes a causative + main V as its complement. This whole sequence of four verbs is embedded under modal *souden*.

As the possibilities of creating long clusters increase due to the availability of double modals and IPP, we expect the average cluster length to increase. This is confirmed by Figure 15.1, in which the average length of clusters headed by *zullen* is plotted over time.

Figure 15.1 shows quite clearly the increase of cluster length over time, rising to an average of over 2.7 by 1680. Note that this average is lowered considerably by a massive majority of two-verb clusters in all the subcorpora.

Let us come back to an analysis of this historical development. Why did modals acquire non-finite forms? We recall the analysis of the Old Germanic situation in Section 15.2: modals in the modal1 position are restricted to finite

morphology and allow root and epistemic readings; modals in the modal2 position allow root readings only and in principle allow non-finite forms, even though the Old Germanic modals did not possess them. The fact that modals in Middle Dutch, prior to the rise of the IPP-effect, already featured some non-finite forms suggests that, parallel to their sisters in High German, Saxon, and English, the preterite presents were in the process of generalizing and regularizing their verbal paradigms to include non-finite forms. We submit that this development was promoted by the inherently modal characteristics of infinitives: the infinitive with *–en* ending essentially encodes an open mood form that tends to replace the *irrealis* mood (see Los 2005). The modal2 position, which hosts modals with root readings, freely allows non-finite forms. When these are available, there is no reason why modals should not be manifested more than once in that area of the clause, restricted only by the relative scope properties of the various readings. In this sense, we really are looking at a process of grammaticalization here: modal morphology on a single modal verb is replaced by periphrastic sequences of modals, of which necessarily only the highest one is finite. We leave to further research the question of the relative scope of modal combinations. The rise of the IPP-effect and its extension to modals, as discussed in Section 15.3.2.3, was a further source of non-finite forms for modals, expanding the possibilities for modals to combine in modal2 positions. In combination with other auxiliaries, which had always had finite as well as non-finite forms, this yields verb clusters expanding to up to five auxiliaries. We should emphasize that the scenario sketched here receives considerable support from the very fact that the diachronic sequence is consistent across the dialects discussed, even though the scenario itself is manifested in the various dialects at different points in time.

15.4 Conclusion

The facts presented here, and the analysis in Section 15.2 and further, provide a comparative perspective of the historical development of modal forms in English and Dutch, developing from a broader Old West-Germanic backdrop. Taken in isolation, the history of English modals indeed seems a paradigm case of grammaticalization: main-verb like mood forms that tentatively develop non-finite forms, then eliminate them, come to be syntactically circumscribed to a functional auxiliary position in the clause, undergoing a categorical reanalysis to functional head status. This essentially represents the rise of a periphrastic form 'compensating' for the loss of

subjunctive/optative inflection. The comparative perspective here, while not contradicting any of the results of the analyses for English, yields an alternative grammaticalization scenario for Dutch, during the development from a common West-Germanic source: Dutch modals, embedded as they are in a system that favours the use of non-finite forms, develop them fairly freely, extending their morphological paradigm as well as their syntactic combinability. We argue that Dutch developed them because its grammar allowed them, perhaps aided by a process of regularization of the paradigms for verbal morphology.

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16

Correlative clause features in Sanskrit and Hindi/Urdu*

ALICE DAVISON

16.1 Introdction

Correlative clauses are found in various related and unrelated languages (Bhatt 2003). Correlative clauses are adjoined peripherally to a full clause (cf. Grosu 2002; den Dikken 2005), instead of to a sentence-internal NP. Here I contrast finite correlative clauses in the earliest Indic language which is attested, the Sanskrit of the Rg Veda and early Sanskrit prose, with corresponding subordinate clauses in a modern Indic language, Hindi/Urdu (HU). There is remarkable lexical continuity, in that the relative determiners are formally distinct from the interrogatives. Sanskrit has only one dependent clause type, the correlative construction, which corresponds to three kinds of subordinate clause in HU: correlative clauses, complement clauses, and conditional/adverbial clauses.

By many syntactic and semantic criteria, the correlative clauses in the two languages are sharply different. In Vedic Sanskrit, correlative clauses are loosely and paratactically related to another clause, while in HU, the relation between a correlative clause and the other 'host' clause is very closely constrained, and dependent clauses are syntactically different from main clauses.

This sequence of historical changes linking Vedic Sanskrit and the modern languages involves the grammaticization of a semantic predicational feature, so that what was a semantic default feature in Sanskrit becomes a lexical feature of relative Ds in HU, present throughout narrow syntax as well as at

the interpretive interface. The syntactic relation between the relative clause and the main clause changes from symmetric adjunction to asymmetric adjunction. These changes opened the way for a syntactic encoding of subordination, marked by lexically reanalysed relative D as a functional head.

16.2 Dependent clauses in Sanskrit and HU

Dependent complement clauses are adjoined to a main clause, and are optionally marked by a complementizer *ki* (borrowed from Persian) (1). Conditional clauses may be prefixed by a conditional conjunction (2):

(1) [HU]
    ham-nee (yah) puuch-aa [*ki* **kyaa** vee aa-eeNgee   (yaa nahiiN)]
    we-ERG this   ask-PRF   that what 3PL come-FUT.3PL or   not
    'We asked [*whether* they will come (or not)].'

(2) [HU]
    [**agar** tum is   kuursii-par aisee   baiTh-oogee] (too)
    if   you this chair-on   that-way sit-FUT.2SG then
    woo Tuut ja-eegii
    3SG break go-FUT.3SG
    '[If you sit that way on this chair] it will break.'

HU preserves the Indo-European correlative construction, marked by a special series of relative determiners, which are distinct from interrogatives:

(3) [HU]
    [aap-nee **joo kitaabeeN** khariidiiN]   maiN-nee **un-(kitaabooN)-koo**
    you-ERG REL book-F.PL buy-PRF.F.PL I-ERG   3PL-(books)-DAT
    khoo   Daal-aa
    lose   put-PRF.M
    'I (carelessly) lost the books [which you bought].'

The relative clause in (3) contains a relative determiner and a common noun. The relative (CP) clause is adjoined to a 'main' clause, a TP containing a correlate phrase, the phrase which is modified by the relative. I adopt the base adjunction analysis of Dayal (1996) and McCawley (2004).

Movement of the correlative clause is proposed in Srivastav (1991), Mahajan (2000), and Bhatt (2003). See Davison (forthcoming) for fuller discussion of the movement/adjunction issue.

This construction is different from the nominally adjoined relative clauses of modern European and Asian languages (4)-(5). I will begin with a brief schematic introduction to the correlative structure. The nominally adjoined structures may have both a restrictive (4) and a non-restrictive interpretation (5). Both kinds of relative clauses involve some kind of subordinate clause, roughly (6a), a relative DP, and predication relation.

(4)   Canonical restrictive relative:
      I took the *books* [**which/that/ø** you bought ___ yesterday].
      (I didn't take others.)

(5)   Canonical non-restrictive/appositive relative:
      I took the *books*, [**which/*that/*ø** you bought ___ yesterday].
      (#I didn't take those you bought today)

(6)   a.   'Head' relative   b.   Correlative

```
            NP                                      TP
          /    \                                  /    \
        NP      CP                              CP      TP
```

Correlatives in Indic involve a potentially discontinuous relation between a relative clause and a modified phrase, or *correlate,* which occurs in the host clause (6b). The correlatve of paraphrase of (4) is (7).

(7)   [**Which** books you bought yesterday] I took *them* (Correlate)

There is a semantic relation between the modified nominal and the relative clause. Safir (1986) calls this relation R-binding, holding at LF. Grosu (2002) uses the feature [PRED] for restrictive, intersective, maximizing interpretation; Adger and Ramchand (2005) use the feature [Λ] to require the relative clause to be translated as a predicate applied to an argument, the head or correlate nominal.

Both Sanskrit and HU preserve the Indo-European distinction between relative, interrogative, and demonstrative determiners (8):

(8)   Indic relative, interrogative, and demonstrative series of D/DP

		Sanskrit	Hindi-Urdu
a.	Relative	**yás** 'who-rel.'	**joo** 'who, which-rel.'
b.	Interrogative	kás 'who?'	kaun 'who?'
c.	Demonstrative	sás/tát 'he/that'	yah, woo 'this/that'
d.	Relative	**yátra** 'where-rel.'	**jahaaN** 'where-rel.'

    e. Interrogative   kva 'where?'   kahaaN 'where?'
    f. Demontrative   tátra 'there'   yahaaN/wahaaN 'here/there'

These distinctions allow us to distinguish clause types with some certainty (see 16.5).

16.3 Clause types in Sanskrit and HU

In (9a,b,c) are examples of three clause types in Vedic Sanskrit, corresponding to HU (10a,b,c).

(9) Vedic Sanskrit
    a. [Relative]
      [[**yád**   īm   uśmási   kár-tave] karat **tát**
      what-REF he-ACC be-eager-PRES.1PL do-INF   do-PRES.3SG that
      '[What$_i$ we are eager for him to do t$_i$], he does that$_i$'
                                      R.V. 10.74.6 (Hettrich 1988: 273)

    b. [Interrogative]
      kám   ā́po   **ádrim** **paridhím**
      INT-ACC waters-NOM cliff   wall
      rujanti   [Discontinuous D . . . NP]
      break-PRES.3PL
      'Which cliff as wall do the waters break t?'
                                          R.V. 4.146d (Etter 1985: 73)

    c. [Dependent clause]
      [tvā́m   stoṣāma . . .] **iti**   tvā́   agne
      you-ACC praise-FUT.1PL QUOT you-ACC Agni-VOC
      ŕ̥ṣayah   avocan
      sages   say-AOR.3PL
      '"We shall praise you . . .", the sages tell you, Agni.'
                               R.V. 10.115.8–9 (Hock 1982: 49)

(10) [HU]
    a. [Relative]
      [us-nee **joo** **ciiz-eeN** tooR-ii   haiN] [[**un**-kii
      3SG-ERG rel thing-PL break-PRF are   3PL-GEN
      kiimat] [us-kii   tankhvaah-see] zyaadaa hai]
      price   3SG-GEN wages-from   more   is
      '[**Which things**$_i$ he has broken t$_i$]] their$_i$ price is more
      than his salary.'   (Rakesh 161: 19)

b. [Interrogative]

aap [**kisee**   sab-see acchaa ummiidwaar] samajh-tee   haiN?

you who-DAT all-than good   candidate   understand-IMPF are

'Who$_i$ do you consider [t$_i$ the best candidate]?'

c. [Dependent clause]

maiN-nee sooc-aa   [**ki**... panjim cal-aa jaa-uuNgaa]

I-ERG   think-PRF that   Panjim go-PRF go-FUT.1SG.M

'I thought [that...I would go on to Panjim].'   (Rakesh 1963: 32)

Relative clauses are marked by the Sanskrit y- series and its etymological descendant the HU j- series of determiners. Interrogative clauses are marked by the interrogative k- series in both languages. Sanskrit tends to place these determiners at the left periphery of the clause, while HU prefers interrogatives *in situ*, and allows relatives to be either *in situ* or at the left periphery. In both languages, the clausal projection is marked with an uninterpretable feature [Rel], which is checked by the relative D either by movement or Agree (16.6).

HU has a specialized complementizer *ki* 'that' which marks both declarative and interrogative dependent clauses (1), (10c). Sanskrit has no lexical marking specifically for subordination; the quotative *iti* (9c) means 'thus' and has many other functions unrelated to clause subordination (Hock 1982).

16.4 Symmetric and asymmetric adjunction of correlative clauses

Many have observed that finite clauses in Sanskrit are linked in a loose paratactic way, without syntactic encoding of subordination (Delbrück 1888; Herman 1895; Gonda 1975; Hettrich 1988).[1] Hock (1989) expresses this relation as the adjunction of a full clausal projection to another full clausal projection (11).

(11)   [Symmetric adjunction to another clause] (Hock 1989)

a.   CP

CP1[Rel]   CP

Relative XP   correlate XP...

b.   CP

CP1   CP2[Rel]

Correlate XP   **Relative XP**

---
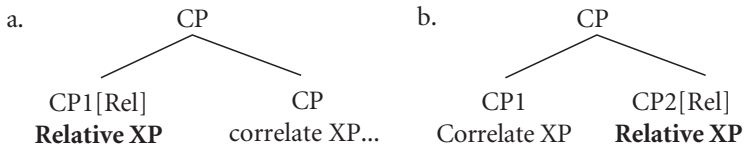
[1] Non-finite clauses in both Sanskrit and HU are syntactically subordinate. They are marked by infinitive or participle verbal inflection, in contrast to finite inflection for tense/aspect and person/number (9a).

I propose an asymmetric adjunction structure for HU (9), in which the correlative CP is adjoined to TP, which then is the complement of its own CP* projection. This is a base adjoined structure (cf. Dayal 1996; McCawley 2004).

(12)   [Asymmetric adjunction]

a. Correlative clause

```
        CP*
       /   \
            C'
           /   \
          C    TP*
              /    \
          CP[Rel]   TP
          /    \   /   \
    relative XPi correlate XPi
```
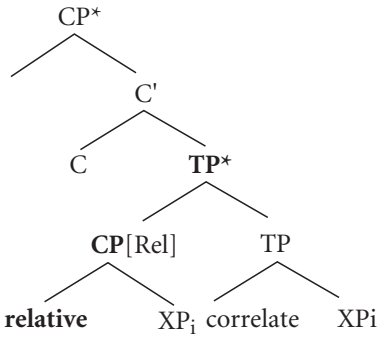
b. Right-adjoined complement clauses

```
        CP*
       /   \
            C'
           /   \
          C    TP*
              /    \
             TP    CPi
             /\    /   \
        ...yahi 'this'...  C'
                          /   \
                      ki 'that'  TP
```
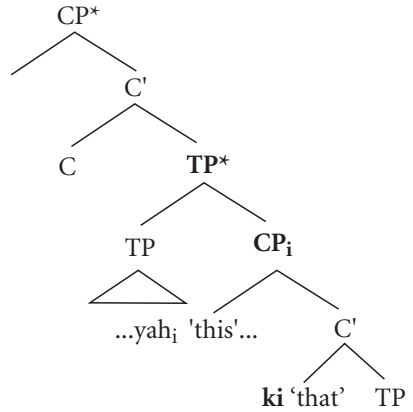
The asymmetric adjunction in (12) is an example of standard Chomsky adjunction, involving two distinct categories TP and CP. The 'host' clause TP projects as TP and then as CP*.

The adjoined CP is encoded syntactically as subordinate, because its category does not project. It satisfies no argument requirement, so it must be a modifier (Chomsky 2004). The adjunction of CP to CP in (11) is problematic as a possible syntactic combination. Hock (1989) argues for (11) over a covert coordinate analysis. One of the CPs must project syntactically as CP, but there is no syntactic category difference to define which projects. The structure is saved from intolerable ambiguity, or simultaneous projection of both CPs, violating the Projection Principle. The presence of a relative D in one of the clauses lexically conveys semantic dependence, allowing the inference that the relative CP is not the one which projects.[2]

The argument for the difference of (11)–(12) has three parts: (a) syntactic properties of correlatives suggest that Sanskrit has no syntactic encoding of finite clause subordination, while HU does; (b) this lack of syntactic subordination is responsible for the range of correlative interpretations in Sanskrit which are not found in HU; (c) feature checking of correlative clauses in both languages differs

---

[2] In Vedic Sanskrit, the tone accent is found on verbs in relative and conditional clauses marked by clitic conjunctions. Elsewhere verbs are unaccented. (Macdonnell 1993: 467).

in one crucial respect in the two languages, reflecting the structural difference in (11)–(12). I argue that this property leads to a much wider range of interpretations of correlative clauses in Sanskrit than in HU (16.5.3–5).

16.5 Contrasts in Sanskrit and HU correlatives

The difference in structures (11)–(12) is supported by syntactic evidence (16.5.1,2) and semantic evidence (16.5.3–5).

16.5.1 *Clause architecture: the Clause Initial String and markers of subordination*

A distinctive property of finite clauses is found in the oldest Indo-European languages, Sanskrit (Hock 1989; Schäufele 1990), Avestan, and Old Persian (Hale 1987). This is a string of head positions optionally occupied by particles and pronouns, which may fill up to five ordered positions in the left periphery of the CP (13).

(13) Vedic clause-initial string positions (Hock 1989: 115)

Nexus	1	2	3	4	5
conjunction	accented	unaccented	accented	enclitic	stressed
eg. *atha* 'so'	word	particle	particle	pronoun	pronominal
	[Rel, Int]				

In the string, relative and interrogative determiners may appear as single words. They may be moved from their DP, leaving a remnant NP (Schäufele (1990) (15a,b). Other evidence that this clause-initial string involves CP projections comes from the nature of the particles, which are sentence- and discourse-oriented.

(14) [Sanskrit] Sentence-oriented particles:
    a. Unaccented: u 'and'; sma 'always, indeed'; ha 'certainly'
    b. Accented: tú 'then'; vaí 'truly, indeed, now, furthermore, surely'

The clause-initial string seems to be characteristic of an independent clause, because it contains sentence-oriented particles. Yet the clause-initial string is found not just in the independent 'correlate' clause (15a), but in the correlative clause as well (15b); see also (20), (27) below.

(15) [Sanskrit] Clause-initial string with both adjoined clauses:
    a. [yám$_i$ u   ha   evá   [tát paśávo   manuṣyéṣu
       REL-ACC PTCL PTCL PTCL that cattle-PL.NOM man-PL.LOC
       ~~yám$_i$~~   kámam$_i$ árohaṃs]]
       REL-ACC desire-ACC obtain-3PL

b. [tám$_i$ u   ha   evá   [paśúṣu   t̶á̶m̶$_i$ kā́mam$_i$
   that-ACC PTCL PTCL PTCL cattle-PL.LOC that-ACC desire-ACC
   rohati]]
   obtain-PRES.3SG
   'The desire which$_i$ the cattle obtained among men, he obtains the
   same desire$_i$ among the cattle.'   S.B. 2.1.2.7 (Hock 1989: 12).

c. [tám$_i$ u   ha evá [yám$_i$ (u   ha   evá)   [tát paśávo
   kā́mam$_i$ árohaṃs]]   [paśúṣu t̶á̶m̶$_i$ kā́mam$_i$ rohati]]
   manuṣyéṣu y̶á̶m̶$_i$
   UNATTESTED

The presence of the clause-initial string in *both* clauses of (15) is explained if (15)
is a sequence of two CPs, neither of which is syntactically subordinate. If the
correlative clause (15a) were adjoined to TP, as in HU, then it should be internal
to the host clause (15b), with the host CP projection preceding the relative, as in
(15c). But this order appears not to be found.[3] In HU, however, it is normal for
a complementizer *ki* 'that' to precede a correlative clause adjoined to TP,
forming a complement CP (see (31b) below). There is no string of initial
particles in HU. At most one clause-initial marker is allowed, like *ki* 'that'.
D-movement is possible but unusual in relative clauses in Hindi-Urdu.[4]

16.5.2 *Stacked relative clauses*

Sanskrit allows stacked correlatives (16):

(16)   [Sanskrit] Stacked relatives on the left: yas$_i$ yas$_i$ … sa$_i$ with verb
        gapping:
        a. [yáḥ$_i$ sū́ryam   yáḥ$_i$ uṣásam   jajā́na   ]
           REL-NOM   sun-ACC   REL-NOM   dawn-ACC   create-PRF.3SG
           [yó$_i$ apā́m   netā́   ]   sá$_i$ janāsa
           REL   water-GEN.PL   leader-NOM   that-NOM   people-VOC
           índraḥ
           Indra-NOM
           'Who-rel created the sun, who-rel created the dawn, who-rel is
           leader of the waters, that is Indra.'
                                    R.V. 2, 12.7c (Hettrich 1988: 544)

---

[3] This statement is subject to further search of the vast corpus of Vedic prose.

[4] D movement is possible in sentences such as (i):

i) [joo tumheeN ___ kitaab caahiyee]   woo meeree paas nahiiN hai
    REL you-DAT   book need   3SG   my   near not   is
    'I don't have the book which you need.' (Example due to an anonymous reviewer)

'That one is Indra, who made the sun, who made the dawn, who is the leader of the waters.'

b. **yásyā**vadhīt$_i$ pitáram   **yásya**$_i$ mātáram
   REL-GEN kill-AOR.3SG   father-ACC   REL-GEN   mother-ACC
   yásya$_i$ śakró   bhrǎtaram   nǎta   īṣate
   REL-GEN   mighty-NOM   brother-ACC   not-away   go-PRES.3SG
   'Whose$_i$ father, whose$_i$ mother, whose$_i$ brother the Mighty One kills, he$_i$ does not escape'
   'He does not escape, of whom the Mighty has killed the father, the mother, the brother.'   R.V. 5.34.4a (Hettrich 1988: 571)

As with other correlative constructions in modern languages (Grosu 2002; Den Dikken 2005), stacked restrictive relatives in HU are ungrammatical on the left of the main clause, and also on the right for some speakers (17).

(17)   a. [HU] Stacked relatives on the left
   * [joo laRkii$_i$ skuul-meeN mehnat kartii hai], [joo$_i$
      REL girl   school-in   effort   do-IMPF is   REL
   anu-kii   doost hai] woo$_i$ bahut acchii   hai
   Anu-GEN friend is   3SG   very   good-F   is
   'That girl is very nice, who works hard in school, who is a friend of Anu.   (Grosu 2002)

   b. [HU] Stacked relatives on the right
   % woo laRkii$_i$ bahut acchii hai, [joo$_i$ skuul-meeN
      that girl   very   good-F is   REL   school-in
   mehnat kar-tii hai] [joo$_i$ anu-kii   doost hai]
   effort   do-IMPF is   REL   Anu-GEN friend is
   'That girl is very nice, who works hard in school, who is a friend of Anu.'

If CP adjoins to CP, and adjunction iterates, we expect free stacking in Sanskrit. Relative clauses are linked in discourse, rather than by syntactic subordination. HU adjunction of relative CP to TP is more constrained; see Davison (forthcoming) for a fuller discussion of the syntactic conditions on iteration of correlatives.

16.5.3 *Relative clauses as interrogative complements*

In both languages, interrogative sentences are marked by the k- series of determiners (8b,e). Yes/no questions are prefixed by 'what?'.

(18) [Sanskrit] Yes/no question
      kád   aryamṇó   mahás   pathā́-áti   kramema
      what-INT   Aryaman-GEN   great-GEN   road-INST   surpass-OPT.1PL
      dūḍhyo
      inferior-PL.ACC
      'Should we overcome the base people on the path of the great Arya-
      man?   R.V. I. 105.6cd (Etter 1985: 125)

(19) [Sanskrit] Constituent question
      kó   dadarśa   [prathamáṃ   jā́yamānam]?
      who-INT   see-PRF.3SG   first-M.ACC   born-PTCP.M.ACC
      'Who has seen [(him) as first born]?'   R.V. I. 164. 4a (Etter 1985: 66)

If a question is in a semantically subcategorized complement clause, Vedic
Sanskrit substitutes a relative y- determiner for the k- interrogative in both
yes-no questions (20) and constituent questions (21):

(20) [Sanskrit] Complement yes/no question
      ná   tásya   vidma   **tád**   u   ṣú   prá
      not   this-GEN   know-PRES.1PL   this-ACC   PTCL   good   forth
      vocata   [yúvā   ha   **yád**   yuvatyā́ḥ
      speak-IMP.2PL   youth-NOM   PTCL   what-REL   young-girl-GEN
      kṣéti   yóniṣu]
      lie-PRES.3SG   womb-LOC.PL
      'We do not know of this, tell us well [**whether** the young man lies in the
      lap of the young girl.'   R.V. 40.11ab (Etter 1985: 210)

(21) [Sanskrit] Complement constituent question
      nā́háṃ   tád bhagavan veda   [**yátra**   gamiṣyā́mi]
      not-I-NOM   this Lord-VOC know-PRES.1SG   where-REL   go-FUT.1SG
      'I do not know, O Lord, [**where** I will go]'
                                            S.B. 14.6.11.1 (Hettrich 1989: 524)

(22) [Sanskrit] Relative/interrogative ambiguity
      nā́háṃ   tám   veda   [yá   íti
      not-I-NOM   that-ACC.M.SG   know-PRES.1SG   REL-NOM.M.SG   thus
      brávīty]
      speak-PRES.3SG
      [Restrictive] I do not know [the one [who speaks thus]].
      [Interrogative] I do not know [who speaks thus].
                                            R.V. 10.27.3a (Hettrich 1988: 523)

This interrogative to relative shift is found in Homeric Greek (Chantraine 1958), and disappears in both Classical Greek and later Sanskrit. Nothing like (20)–(21) is possible in HU (23).

(23) ham-nee   (yah)   **puuch-aa**   [*ki*   **kahaaN/**   ***jahaaN**   vee
      we-ERG   this   ask-PRF   that   where-INT/*where-REL   3PL
      aa-eeNgee]
      come-FUT.3PL.M
      'We asked [*where-int* they will come].'

Sanskrit has several ways of marking sentential complements: simple parataxis of the complement clause, prefixation or suffixation of the quotative **iti** 'thus', or else the interrogative complement is put in relative form, with an interrogative interpretation. The predicate selecting the complement determines whether it is an embedded question or not (Lahiri 2002). So Sanskrit expresses a semantic selection relation, but this selection relation can be expressed syntactically in Vedic Sanskrit only by the very general CP-CP adjunction, sanctioned by the relative form of one of the clauses. HU has an available marker of subordination (*ki*) which marks interrogative as well as other complement types as syntactically distinct from main clauses (1c), (23).

16.5.4 *Relatives with conditional interpretation*

In Sanskrit, correlative clauses without a correlate phrase are not uncommon (Hettrich 1988). The relative phrase gets an indefinite interpretation, and the whole relative clause is translated as a conditional modifier of the correlate clause (24a). HU requires non-relative conditional clauses such as (24b).

(24) a. [Sanskrit] Relative with no correlate, indefinite conditional interpretation:
          [**yó**   me...   **yújyo**   vā   **sákhā**   vā
           REL-NOM   I-DAT   ally-NOM   or   friend-NOM   or
           svápne   bhayám...   máhyam   āha
           dream-LOC   frightful-ACC   word-ACC   speak-PRES.3SG
           stenó   vā **yó**   dípsati   ]
           thief-NOM   or rel-NOM   hurt-DESID.PRES.3SG
           no...   **tásmād**   varuṇa   pāhy   asmā́n
           we-ACC   that-ABL   Varuna-VOC   protect-IMP.2SG   we-ACC
           [If an ally or friend in a dream says terrible words to me, or if a thief wishes to hurt us] protect us, O Varuna, from that.

                                          R.V. 2.28.10 (Gonda 1975: 196)

    b. [**agar**   tum   is   kursii$_i$-par aisee baiThoogee, (too)
       if   you   this chair-on   so   sit-FUT.2SG   then
       woo$_i$ Tuut   jaaeegii
       3SG   break   go-FUT.3SG.F
       [If you sit that way on this chair$_i$] (then) it$_i$ will break.

Correlative clauses require a correlate phrase in HU. If there is no correlate, the sentence is always ill-formed (25). A non-restrictive meaning is unavailable.

(25)   [HU]
     * [**jis**   laRkee-koo anu-nee   wahaaN deekh-aa hai] maiN
       which girl-DAT   Anu-ERG there   see-PRF   is   I
     miinaa-see mil   ga-ii
     Mina-with   meet   go-PRF
     '[Which girl Anu has seen there], I met Mina.'
     * I met Mina, which girl Anu has seen there.

An indefinite interpretation is also unavailable (26).

(26)   [HU]
     *[**joo** **bijlii-waalaa** abhii   aa-yaa   hai] (is-liyee) ham
       REL   electrician   now-EMPH come-PRF   is   therefore we
     ghar-kee   baahar   jaa sak-eeNgee
     house-GEN   outside   go be-able-FUT.PL
     'If some electrician has already come, then we can go out of the house.'

16.5.5 *Correlative clauses and the appositive interpretation*

Correlative clauses in the modern languages which have them are typically on the left, non-stacking and restrictive, (Grosu 2002; Den Dikken 2005). But Sanskrit freely allows clauses on the left to modify proper names or pronouns appositively, (27a). The more expected restrictive modification of common nouns is also possible, as in the restrictive interpretation of (9), (15), (22).

(27)   [Sanskrit appositive clauses]
    a. Initial appositive relative clause
       [**yó**   gr̥ṇatā́m   íd   ā́sitha-
        rel-NOM   sing-PTCP.GEN.PL PTCL be-IMPF.MIDDLE.2SG
       āpír   ūtí   śiváḥ   sákhā   ]
       ally-NOM favour-INST auspicious-INST familiar-NOM
       sá   *tvám*   ná   indra   mr̥ḷaya
       PTCL   you-NOM we-DAT   Indra-VOC be-gracious-CAUS.IMP.2SG

'O Indra, who has become the good friend of the Singers with your favour to your familiars, be merciful to us.'

<div align="right">RV 6.45.17 (Hettrich 1988: 639)</div>

b. Final appositive relative clause

agním	stuhi	*daivavātám*	devaśravo
Agni-ACC	praise-IMP.2SG	daivevata-ACC	Devashravas-VOC
yó	jánānām	ásad	vaśí
REL-NOM	people-GEN.PL	attain-SBJV.2SG	subjection-ACC

'Praise Agni$_i$ the one of Devavata, o Devashravas, who$_i$ should attain the subjection of the peoples.'

<div align="right">RV 3.23.3c (Hettrich 1988: 632.)</div>

HU does not allow appositive correlatives, (28a). The appositive reading is allowed typically in relative clauses adjoined to the right of DP, (28c). Hock (1989) argues persuasively that internal, NP-adjoined subordinate relatives are not found in Sanskrit. The general absence of syntactically subordinate finite clauses would follow if finite CP may adjoin only to CP in Sanskrit, and never sentence-internally to NP, unlike HU, (28c), (34).

(28) [HU]

a. *[**joo**$_i$ khaRii hai] *anu*$_i$ lambii hai
    REL standing-F is Anu tall-F is
    'Anu, who is standing, is tall.' (Dayal 1996: 155)

b. % *anu*$_i$ lambii hai [**joo**$_i$ khaRii hai]
    Anu tall-F is REL standing-F is
    'Anu, who is standing, is tall.' (*ibid.*)

c. *anu*$_i$ [**joo**$_i$ khaRii hai] lambii hai.
    Anu REL standing-F is tall-F is
    'Anu, who is standing, is tall.' (*ibid.*)

16.5.6 *Summary of Sanskrit-HU differences.*

Correlative clauses in Sanskrit and HU are formally similar, with a relative D linked to a correlate. There are striking syntactic and semantic differences, however. Sanskrit allows a clause-initial string of heads and particles, found in both main and dependent clauses, while HU has a complementizer *ki* 'that' or a conjunction only in subordinate clauses. Sanskrit also allows iteration of relative clauses, HU allows only one relative to be associated with a correlate. Sanskrit correlatives have a wide range of interpretations: restrictive and appositive relative, interrogative, and conditional. The range of interpretation of subordinate clauses suggests that instead of encoding subordination

syntactically, Sanskrit uses the relative morphology on D to stand for semantic dependency. HU, however, allows only the restrictive interpretation for relatives, so that relative morphology is coextensive with syntactic subordination.

16.6 Feature checking and the sequence of derivation of correlative clauses

In this section, I outline the derivations in Sanskrit and HU, showing the similarities of feature checking and coindexing with a correlate, but with different semantic outcomes. Correlatives clauses have the same internal features in Sanskrit and HU. With the CP, the relative D(P) moves to a left-peripheral position. I follow Rizzi (1997) in taking this position to be within the Force projection. I assume that the head of Force ('C') has the uninterpretable feature [Rel]. It is like the [Rel] feature of Rizzi (1990) in motivating movement of a relative phrase or head, though it does not affect interpretation. In Sanskrit, this feature is (usually) strong, requiring D-movement; Sanskrit disallows phrasal movement within the clausal projections in the clausal-initial string (15). In HU, the feature may be strong, motivating XP-movement, or it may be checked by Agree, leaving the relative DP *in situ.*

The correlative D(P) is linked anaphorically to a correlate phrase, which is identified by a deictic/anaphoric determiner:

(29) a. [Sanskrit]
       (i) sás 'that', tá 'that'
       (ii) tátra 'there' (etc.)

      b. [Hindi/Urdu]
       (i) woo 'that' (distal in contrast to deictic/proximal yah 'this')
       (ii) wahaaN 'there' distal in contrast to deictic/proximal yahaaN 'here') (etc)

The coindexing with a correlate takes place within the adjunction structure created by merging relative CP with the host clause. Coindexing identifies the correlate to be modified by the correlative clause.

The interpretation of restrictive relatives is determined at LF by the semantic feature [PRED]. This feature affects semantic interpretation; it specifies a restrictive, intersective interpretation (Grosu 2002). It is the interpretative property of Rizzi's (1990) [Rel] feature, and equivalent to the [Λ] feature proposed for C in Scottish Gaelic and Irish by Adger and Ramchand (2005). It is a feature realization of Safir's (1986) R-binding relation between the restrictive relative clause and the nominal it modifies, in that a

relative clause is translated as a predicate which must be applied to an argument. So [PRED] is a semantic feature, unlike case or phi features in being valued by some corresponding other morphological feature.

It functions differently in HU and Sanskrit. In HU, it is like a lexical item, which may be present in the numeration. It depends on the presence of the feature [Rel] on the Force head, but as an option, in that appositives without [PRED] are also possible. In Sanskrit, it is an interpretative default. In the absence of any other lexical factors which determine the meaning of the relative clause, [PRED] is inserted to provide a well-formed interpretation.

The derivation starts with a numeration, including the following:

(30) Numeration
   a. Force is specified [uF:Rel]; if [PRED] is chosen, the [Rel] is also present (HU only)
   b. HU: [PRED] is a distinct lexical property from [uF:Rel]
        It can be present only if [uF:Rel] is present
   c. Sanskrit: Only [uF:Rel] on Force; no other markers of Force are in the lexicon
   d. Determiners with relative D have the feature [iF:Rel].

In the narrow syntax, Relative D(P) moves to Spec/Force within the CP projection, checking [uF:Rel]. The correlative CP is merged with the host clause (left adjoined in HU).[5] In HU, there is the normal kind of symmetric adjunction of relative CP to TP, with TP projecting. In Sanskrit, adjunction of CP to TP is blocked; the version of the parameter is that CP may not adjoin except to CP. If relative CP did adjoin to TP, it would intervene between the host TP and the heads of the CP projections where D is moved or particles are found (15c). This sequence seems not to be possible. At the interpretative interface, an anaphoric link is established between the correlative and the correlate. In HU, this link must be local, with no intervening clauses, because of the no-stacking constraint discussed earlier. In Sanskrit, there may be intervening clauses, allowing stacking (16); see Hock (1989) and Davison (forthcoming).

In HU, [PRED] has been present all through the derivation, and its presence requires a restrictive predicative interpretation of the clause modifying the correlate, blocking other clausal interpretations. These include the

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[5] It is still not clear how left adjunction is associated with correlatives, but the position of correlatives is always on the left in modern languages (Grosu 2002; Den Dikken 2005). Sanskrit freely allows relatives of all types either to the left or right, with the tendency appositives to occur on the right (Hettrich 1988).

appositive, interrogative, and conditional interpretations found in Sanskrit. In Sanskrit, these interpretations follow from the presence of other lexical information. If the correlate is a proper name or pronoun, the interpretation cannot be restrictive and intersective, so it must be appositive. If the main verb semantically selects an interrogative complement, the relative interpretation may be interrogative. If no correlate with reference to an individual is present, then the relative clause has a conditional interpretation. If none of these factors is already present, then the insertion of [PRED] rescues the complex sentence by providing a well-formed interpretation. In HU, all interpretations except restrictive are ruled out by the presence of [PRED] in the narrow syntax.

16.7 Syntactic change

In 16.5.6, I have contrasted syntactic and semantic differences of correlative clauses in Vedic Sanskrit and in a modern Indic language derived from it at least in an indirect way. I have focused on two differences, in the adjunction structure for correlatives, and the role of the semantic feature [PRED], which I believe to be related. Here I will propose a series of changes which would have to take place to create the modern formal features of correlative clauses in HU from an older spoken language now indirectly represented only by the literary language of the Sanskrit corpus. This proposal is necessarily speculative, as there is little real evidence of change from the Old Indic constructions until the period in the sixteenth to eighteenth centuries in which the modern form of HU emerged (Masica 1991: 50–5; Snell 1991). Classical Sanskrit preserves most of the properties of correlative and other subordinate constructions found in Vedic. Pali may reflect the phonological and morphological changes of Middle Indic but its syntax is little different from Sanskrit (S. Jamison, p.c.). Pali retains clitic particles like those in (14) as well as the quotative *iti* (Gair and Karunatillake 1991). As classical Sanskrit continued to be used as a literary language for many centuries, and there are no known texts surviving from the intermediate period between Middle Indic and the early modern language, it is very hard to define a chronology before the seventeenth century (Snell 1991).

16.7.1 *Syntactic subordination*

One of the earliest modern texts from a variety of Hindi, Braj Bhasha, shows two changes. One is that a relative form *joo* is used as a complementizer introducing a complement clause.

(31) [Braj, 17th century or earlier]
soo   taanseen-neeN   kahi   [**joo** [*jin-neeN*   yah   kiirtan
this   Tansen-ERG   say-PRF   that   REL-ERG   this   hymn
kiyau   hai,]   *soo*   braj-meeN   rahta   hai].
do-PRF   is   that   Braj-in   stay-IMPF   is
'Tansen said [that the one [who made this hymn of praise] lives in Braj].'
(Snell 1991: 71)

The other change is that a relative clause (also marked by a relative form) follows the complementizer. This is evidence that the relative clause is adjoined to TP, lower than C (Force). I take this example to mean that Braj Bhasha of this period had syntactic subordination, with the relative *joo* reanalysed as a lexical non-relative complementizer (cf. Roberts and Roussou 2003). This trend continues with the borrowing of Persian *ke/ki* as a lexical complementizer (12b, 32).[6]

(32) [Braj Bhasha, early 19th century]
puni   rakhvaaree-neeN   jaanyau   [**ki**   yah   tau   gadahaa
still   watchman-ERG   know-PRF   that   this   TOP   donkey
hai   par   baagh-kau   caam   ooRhi   aayau   hai].
is   but   tiger-GEN   hide   wrap-PRF   come-PRF   is
'Still the watchman knew [that this was a donkey but it was covered with a tiger skin].'   (Snell 1992: 65)

The Persian *agar* 'if' is borrowed as a conditional conjunction (24b), though the relative continued to be used as a conditional without a correlate:

(33) [Early 20th century Hindi]
[*joo* aveeN]   too   tab   maluum   hoogii
REL come-SBJV.3PL   so   then   known   be-FUT.3SG
'[If they should come] then it will be known.'   (Greaves 1921: 185)

Even more unambiguous evidence for syntactic subordination is found when relative clauses are adjoined to NP within a matrix clause. This construction is influenced by Persian, and like *ki* 'that' is found in HU and other languages which were within the area ruled by the Moghul empire (Marlow 1997). In the late nineteenth-century dialects of Hindi reported in

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[6] Many Indic languages retain a relative form as complementizer. Bangla is one, marking complements with *je* 'which'. If *je* retained its relative character, it would not be able to combine with an interrogative complement clause, but these combinations are allowed under some circumstances. Genuine correlative clauses may not have an internal interrogative (Probal Dasgupta, p.c.).

Grierson (1967–8), internal relatives are found, with either restrictive and non-restrictive meaning, as in the current language.

(34) [aap-kee   yah   beeTaa   [joo   paturiyaaN-kee   sang   aap-kee
       you-GEN   this   son   REL   prostitutes-GEN   with   you-GEN
       dhan-koo   khaa   ga-yaa hai]] . . .
       wealth-DAT   eat   go-PRF is
       'This son of yours [who ate up your wealth with prostitutes] . . .'

                                              (Grierson 1967–8: vol. 9.1, 96)

The earlier texts in Snell (1991) show no sentence-internal relatives, though right-adjoined relatives have appositive meaning.

   In sum, the texts going back approximately to the seventeenth century show modern Indic features: lexical complementizers and conditional conjunctions, borrowed from Persian, relative clauses adjoined to TP, following the complementizer, and NP-internal relative clauses, all indicating syntactic subordination. At the same time, subordinate clauses are semantically distinct. Complements are marked by the *ki* prefix, conditionals are introduced by non-relative conjunctions, and left-adjoined correlatives are only restrictive. NP adjunction and right adjunction of CP allow both restrictive and non-restrictive meaning.

16.7.2 *Syntactic change*

In the analysis I have given in the preceding sections, there are two areas of contrast between Sanskrit and HU. One is the syntactic adjunction relation between the relative CP and its host clause. The other is the role of [PRED] as a feature of clauses with the feature [Rel]. I propose that these two factors are related.

   Sanskrit had no way of indicating syntactic subordination of finite clauses. Finite clauses are linked with clitic conjunctions and discourse particles. Complements are normally adjoined paratactically, with or without the quotative *iti*; interrogative complements may be expressed by relative clauses.[7] Conditional clauses are expressed with clitics, relative conjunctions or the relatives without correlates. The conclusion I draw is that in addition to simple parataxis, the relative construction is used as a general way of linking finite clauses. The relative D sets up an interpretative dependency with a constituent of the host clause.

   The syntax of the relative construction in Vedic underspecifies the range of possible interpretations. I have represented the syntactic underspecification as

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[7] I leave open here how to represent parataxis and linking of clauses by clitics.

CP to CP adjunction (35). The relative marking of one CP indicates lexically that its CP is semantically dependent; the verb accent also signals dependency (see note 2). Hence the non-relative CP* in (35) is the one which projects (16.4).

(35)
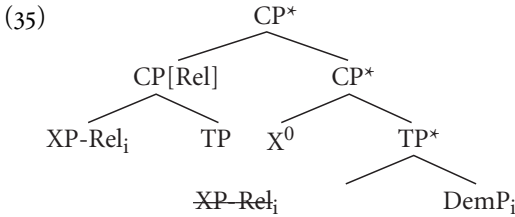
I have proposed that relative CP does not adjoin TP in Sanskrit. The reason for this could lie in the composition of the CP projection in early Sanskrit. On the evidence of the clause-initial string (13)-(15), the CP functional projection consists of one or more head positions which can be filled only by words, not phrases (Xo stand for a series of heads such as Force, Focus, Topic and Finite (Rizzi 1997). These head positions are occupied by particles or D heads copied from positions in TP and TP*, and merged into head positions. If so, then we may suppose that the movement chains formed in CP* cannot be interrupted by adjunction of a full CP to TP*, (15c).

This condition would have to be lost to open the way for reanalysis of CP as a series of functional projections allowing phrasal movement and phrasal adjunction, creating the structure in (36), where CP stands for the clausal projections of Rizzi (1997).

(36)   Asymmetric adjunction [HU]
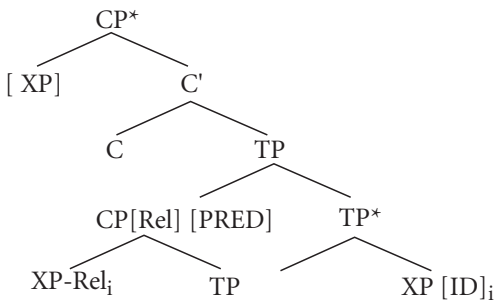
This is the structure which seems to surface in Hindi texts in Snell (1991) from the seventeenth century onwards. It is general; CP can be adjoined to the right of TP as a complement. Appositive relative clauses tend at this stage to occur as right-adjoined relatives. A later change influenced by Persian syntax allows subordinate adjunction to NP, (37):

(37)   NP adjunction [late 18th-century/19th-century Hindi]
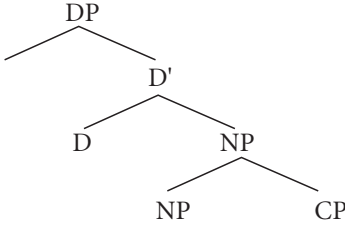
The CP can be a restrictive or non-restrictive relative marked with the relative D, or a complement of N with the complementizer *ki*. CP adjunction to both TP and NP is productive in the modern language.

   If syntactic subordination is possible, there is no need to keep the relative clause itself underspecified for meaning. The relative *joo* on complements is reanalysed as a (Force) complementizer marking subordination (31), later replaced by *ki*. Relative phrases in conditional clauses are reanalysed as conjunctions. Relative-marked determiners can be marked at the outset of the derivation by [PRED]. What was a default semantic feature seems to be reanalysed as a lexical item in the numeration which can be attached to a clausal head marked [uF:Rel].

16.8 Summary and conclusion

The Old Indic correlative construction appears to have undergone two kinds of change. One is the change in nature of the feature [PRED] from a semantic feature to a lexical feature on relative D which is present in syntax. This change caused the correlative CP construction, especially those adjoined to the left, to take on exclusively restrictive relative function, with the restrictions in interpretation found in modern HU and other modern Indic languages. The other was the evolution of a complementizer form specialized for indicating subordination. This split of functions is reflected in the order of adjunction. Left-adjoined relative clauses are typically relatives, while finite complement clauses are typically right-adjoined. This change was correlated with the reanalysis of correlative clauses as adjuncts to TP rather than to CP.

   The CP structure of Vedic Sanskrit evolves to remove the condition on functional projections that they may be filled only with heads, allowing the relative CP as a phrasal projection to adjoin to TP in the later language. This change introduces syntactic encoding of subordination, which might be regarded as a more economical way of expressing semantic relations than in the paratactic, anaphoric Sanskrit syntax. Evidence for subordination in

early modern Hindi is found when the relative *joo* is used as a complementizer distinct from a relative DP; a determiner is reanalysed as a functional category head (Roberts and Rousou 2003).

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17

Towards a Diachronic Theory of Genitive Assignment in Romance*

DENIS DELFITTO AND PAOLA PARADISI

17.1 Introduction

In this contribution, we want to address the theoretical issue posed by some attested cases of prepositionless genitives in Romance for a general theory of genitive case assignment. As is well known, the received wisdom is that the synthetic genitive found in (spoken) Latin was systematically replaced by prepositional case assignment in Romance (see Gianollo 2005 for a detailed overview of the Late Latin and early Romance phases).

However, under a closer scrutiny the alleged complementarity between prepositional genitives and overt synthetic genitive morphology is seriously challenged by significant classes of data concerning both present and old varieties of Romance. In this perspective, there are at least four cases of prepositionless genitive that we would like to consider here:

(A) certain alleged cases of N + N composition that respond positively to important diagnostics for syntactic behaviour;
(B) the so-called Juxtaposition Genitive (JG) widely attested in Old French (OF);
(C) the relatively less appreciated presence of some peculiar forms of JG in Old Italian (OI), attested until the end of the 14th century and partially still surviving in certain Central and Southern Italian dialects;
(D) the construct-state effects attested in Romance and investigated in Longobardi (1995) and subsequent work by the same author.

In terms of a general theory of language change, we aim to show that the (partial or even complete) loss of synthetic genitive morphology does not necessarily involve the recourse to the prepositional mode of genitive assignment. We contend that a comparative theory of genitive assignment reveals itself a useful tool in order to detect some concealed case configurations that arguably underlie the use of prepositionless (functional) genitives even in absence of overt case inflection on nouns. More particularly, the picture that emerges from our investigation involves the presence, in Romance, of a mode of genitive assignment that is arguably dependent on the abstract syntactic structures recently proposed by Kayne in his comparative analysis of possessive constructions (Kayne 1994, 2000). An adequate theory of how genitive may be licensed on possessors or other arguments of the head noun must arguably pay attention to the role played by interpretable formal features such as +Definite and +Human, realized in dedicated functional positions. Although syntax is originally 'inert', it is quickly activated as a consequence of the complex interplay between the morphophonological cues that express the relevant formal features and the shift of structural matrices that underlies language change. Last but not least, we claim that this line of analysis can shed some new light on the intriguing construct-state effects attested in Romance and essentially involving the common noun *casa* ('home').

17.2 On the syntactic nature of a class of N+N compounds

Let us start with the contrast between two classes of alleged N+N compounds found in modern standard Italian, whereby the second nominal corresponds to a genitive complement of the first one. We propose that two distinct classes of compounds can be identified, exemplified in (1) and in (2):

(1) *taglio spese sociali* (cut expenses social, 'social-spending cut'), *ufficio riscossione tributi* (office collection taxes, 'tax-collecting office'), *caduta foglie* (fall leaves, 'leaf fall'), *inizio mese* (beginning month, 'month beginning')

(2) *fondovalle* (bottomvalley, 'bottom of the valley'), *montepremi* (mountainprizes, 'jackpot'), *girocollo* (turnneck, 'neckline'), *centrotavola* (centretable, 'table decoration')

The reasons for keeping members of class (1) apart from members of class (2) have to do with:

  (a) phonological independence of the compound constituents;
  (b) semantic compositionality;

   (c) licensing of ellipsis;
   (d) licensing of pronominal anaphora.

As for (a) and (b), we simply emphasize that all the compound constituents in class (1) have independent stress (take for instance *uffício riscossióne tribúti*) and exhibit a strong compositional meaning, with a maximal degree of productivity. In principle, all phrases involving a head noun and a prepositional genitive complement can be realized prepositionless in modern standard Italian (i.e. as members of class (1)), whereas prepositionless realization generally leads to severe ungrammaticality in all the other Romance varieties we are acquainted with. On the contrary, compounds belonging to class (2) have a strict word-like status, with the primary stress generally falling on the complement nominal (take for instance *centrotávola*), exhibit a highly idiosyncratic meaning and a low degree of productivity (they seem to qualify as lexically 'frozen' variants of the construction under scrutiny). Moreover, the alleged compounds in (1) respond positively to two rather uncontroversial diagnostics for syntactic behaviour. First, they allow ellipsis of the head noun, as shown in (3), whereas ellipsis yields severe ungrammaticality with class (2) compounds, as shown in (4):

(3)   A causa dei tagli in finanziaria, si sono dovuti eliminare due uffici personale e uno __ riscossione tributi
      'because of the spending cuts due to the new financial budget, it was necessary to get rid of two personnel offices and one tax collecting __'

(4)   *Ho già preso le misure di due girovita e di un(o) __collo
      'I already made the calculations of two waist measures and one neck__'

Second, they allow anaphoric resumption of the head noun by means of a pronoun—witness (5)—whereas this is completely impossible with class (2) compounds, as shown by (6):

(5)   Nonostante la rigorosa politica di eliminazione sprechi, questi ultimi rimangono ingenti
      'in spite of the rigorous policy of waste reduction, it (= the waste) remains huge'

(6)   *Il centrotavola è grazioso, ma quest'ultima è troppo piccola
      'the table decoration is nice, but it (= the table) is too small'

The facts in (3)–(6) are strongly reminiscent of the contrast pointed out in Borer (1988) between construct-state compounds and lexical compounds in Hebrew, exemplified in (7)–(8) with respect to the possibility of a pronominal

element (*one*) referring to the head of construct state ((7)) and lexical ((8)) compounds:

(7) hu   bana li   shney   *batey*   ʕec   ve-'exad   mi-plastik
     he   built for-me   two   houses   wood   and-one   from-plastic

(8) *hu   bana lanu   shney   *batey*   *xolim*   ve-'exad   le-zkenim
      he   built for-us   two   houses   sicks   and-one   for-old(s)

     (beyt xolim;   beyt zkenim
     house sicks   house olds
     'hospital'   'retirement home')

The presence of the more syntactic mode of composition represented in Hebrew by construct-state compounds (see (7)) was regarded by Borer as an important argument in favour of Parallel Morphology. In a similar vein, we want to argue that the alleged compounds in (1) represent a peculiar mode of prepositionless genitive assignment that should be theoretically clarified. Some additional evidence in favour of the hypothesis that the nominal complements in (1) are in need of case-marking is provided by the observation that these compounds are systematically ruled out in Italian when the head noun is an agentive nominal (taking the derivational suffix *–tore*; see Scalise 1990). A closely related observation is that these cases of composition are perfectly acceptable in Germanic languages such as English and Dutch. The Romance/Germanic contrast is exemplified in (9):

(9) a. romanschrijver ('novel writer') vs *scrittore romanzi (cf. scrittore di romanzi)

     b. projectontwerper ('project designer') vs *ideatore progetti (cf. ideatore di progetti)

It is strongly tempting to propose that this phenomenon manifests within the nominal domain the empirical effects of Burzio's generalization: being inherently agentive, derived nominals in -*tore* do not assign an external theta-role and are thus incapable of marking (the head of) their complement with structural genitive case.[1] The Germanic counterparts of class (1) compounds are clearly not subjected to this syntactic constraint (cf. (9)) and qualify thus as true compounds.

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[1] There exist *prima facie* counterexamples to this generalization, such as *distributore bibite* (distributor drinks, 'drink machine') and *lettore DVD* (reader DVD, 'DVD player'). However, notice that the occurrence of the prepositionless variant is strictly limited, in Italian, to the cases where the 'absorbed' theta-role is marked as—Animate. For instance, *distributore bibite* cannot refer to a person

We tentatively conclude that the alleged compounds in (1) are in fact the result of a mode of genitive assignment that is presently not attested in other Romance varieties. However, if the members of class (1) are built up in syntax, we may expect to find some close correlates of this construction in early phases of Romance syntax. If the closest synchronic correlate is clearly constituted by the prepositionless occurrence of the genitival complement of *casa* ('home') as found in Italian, Catalan, and other Romance varieties (cf. references above to Longobardi's work), the closest diachronic correlates of the variant of prepositionless genitive exemplified in (1) are represented by the instances of JG found in early phases of French and (as we will argue below) of Italian.

17.3 Juxtaposition genitive in Old French and Occitan

As is well known (cf. Gamillscheg 1957; Foulet 1968; Togeby 1974; Jensen 1986, 1990; Gianollo 2005), the JG was quite common in OF and Occitan. Some examples are provided in (10):

(10) a. Cupido,   li   filz   Venus
        Cupido   the   son   Venus
        'Cupido, the son of Venus'   (*Rose* 1586)

     b. la   niece   le   duc
        the   niece   the   duke
        'the niece of the duke'   (*Vergi* 376)

     c. el   lit   Kex
        in the bed   Keu
        'in the bed of Keu'   (*Charrete* 4833)

     d. La   Mort   le   Roi   Artu
        the   death   the   king   Arthur
        'King Arthur's Death'   (title *Mort Artu*)

who sells drinks on a beach and *lettore manoscritti* (reader manuscripts) cannot refer to someone who reads manuscripts. Theoretically, one might naturally claim that the trait $+$Animate belongs to the prototypical manifestation of the Agent theta-role, to the effect that Burzio's generalization does not apply when the absorbed theta-role is marked as $-$Animate, explaining the distributional pattern under scrutiny. In fact, this line of analysis also explains the limited occurrence of prepositionless forms like *abitatori le terre* (inhabitants the lands 'inhabitants of the lands') found in literary Italian texts: 'abitatore' is clearly assigned a $-$Dynamic $+$Stative interpretation according to which it does not qualify as a prototypical manifestation of the Agent theta-role (cf. Pasquali 1985). Certain residual cases that cannot be accounted for along these lines, such as *istruttore reclute* (instructor recruits, 'recruit instructor') (G. Longobardi, p.c.), are somehow lexically frozen (one does not find **istruttore soldati* ('soldier trainer') besides *istruttore reclute*, and English expressions like *football trainer*, *dance trainer*, etc. are systematically translated into prepositional expressions in Italian: *istruttore di calcio*, *istruttore di danza*, etc.) and may genetically correlate with the manifestation of a special syntactic register (even *domatore leoni* 'lion tamer' becomes acceptable as part of a newspaper headline).

    e. al   cumand   Deu   del   ciel
       at the   order   God   of the heaven
       'at the order of the Lord of Heaven'   (*Alexis* 53)

    f. Li   Coronements   Looïs
       the   crowning   Louis
       'Louis' Crowning'   (title *Couronnement*)

    g. puis   le   tens   Paris   de   Troie
       after the time Paris of Troy
       'since the time of Paris of Troy'   (*Dole* 1605)

    h. pel   cap   sanh   Gregori
       by the head Saint Gregory
       'by Saint Gregory's head'   (Guillaume IX 8.17)

The genitive complement is marked with the *cas-régime* (a label subsuming syncretic morphological realization of accusative and oblique case; for oblique case the label *cas-régime absolu* is also frequently used), with very limited phonological realization, essentially confined to masculine nouns and to some feminine nouns stemming from the Latin third declension class, as is shown in (11) below:

(11)

Masculine Noun	Singular	Plural
cas-sujet	-*s* (li) murs < MURUS	Ø (li) mur < MURI
cas-régime	Ø (le) mur < MURUM	-*s* (les) murs < MUROS

In a nutshell, the properties of the JG on which we would like to concentrate here are those illustrated in (12):

(12)   A. The JG instantiates all arguments of the noun, with a predominance of possessive relations and R-relations (in the sense of Higginbotham 1983, subsuming all cases where the relation between the head and the genitive element is looser than a strictly thematic one; cf. also Giorgi and Longobardi 1991). Since multiple instantiations are excluded, the JG seems to involve genitive realization in a single dedicated syntactic position and thus apparently qualifies as an instance of a functional genitive;

       B. In JG constructions, both the head noun and the genitival possessor are +Definite;

       C. The genitival possessor is marked as +Human, i.e. it obligatorily refers to human beings or to entities that are conceptualized as human;

D. The JG alternates with two kinds of prepositional phrases:

- *a*+DP (normally limited to indefinite or kind-referring genitival complements, typically but not exclusively interpreted as thematic possessors)
- *de*+DP (unconstrained).

Besides not being subjected to any specific interpretive constraint, the standard prepositional construction involving *de* can be freely iterated, as is the case in Modern French and the other Romance languages, contrary to the construction involving the preposition *a*, which is limited to single occurrences and arguably qualifies, on a par with the JG, as an instance of a functional genitive.

As stated at the onset, we believe that a principled analysis of the JG and a principled derivation of the class of properties illustrated in (12) can be obtained by capitalizing on Kayne's seminal work on the syntax of possessive constructions. More particularly, Kayne proposes that in *John's two pictures* the English possessive morphology is insufficient for genitive assignment, to the effect that an abstract +Def Determiner-head must be present in the structure, as indicated in (13b) below:

(13) a. John's two pictures
      b. D° [John ['s [two pictures]]]
      c. [two pictures]$_j$ [[$_D$ of][John ['s [e]$_j$]]]

It is this D°-head that accounts for the definite interpretation 'the two pictures of John' that is normally assigned to the DP *John's two pictures*. Kayne contends in fact that the interpretively related DP *two pictures of John's* is derived from the same underlying structure as *John's two pictures*: by hypothesis, the syntactic trigger is constituted by the fact that D° may be marked as -Def and may thus not qualify as a case-assigner in (13b). As a consequence, the NP *two pictures* moves to spec-D° and 'lexicalizes' D°, which is turned into the case-assigning preposition *of*, as shown in (13c). There is a rather natural extension of this analysis to Romance constructions such as *la voiture de Jean* (cf. Kayne 2000), along the lines represented in (14):

(14) a. la   voiture de Jean
          the   car   of Jean
          'the car of Jean'
      b. la [$_{D/PP}$ voiture$_j$ [de [$_{IP}$ Jean [AGR° [e]$_j$ ...

It goes without saying that in this case, NP raising to spec-D° and lexicalization (by means of preposition insertion) is motivated by the fact that the possessive morphology is completely silent in modern French. Notice also that the underlying structure of *la voiture de Jean* exhibits an interesting similarity with the structure underlying *Jean a une voiture*, possibly revealing a common syntactic structure for the expression of possession with *have* and the expression of possession within DPs (see Kayne 1993).

Let us now briefly consider how this analysis can shed new light on French JG. Under Kayne's proposal, the example in (10b) (*the niece the duke*), reproduced below as (15a) for the reader's convenience, gets associated with the syntactic structure in (15b), involving NP-raising to Spec-D°:

(15)   a. la niece le duc
       b. la [$_{D/PP}$ niece$_j$ [D° [$_{IP}$ le duc [AGR/K° [e]$_j$ ...
       c. la [$_{D/PP}$ niece$_j$ [[AGR/K°$_k$-D°] [$_{IP}$ le duc [e$_k$ [e]$_j$ ...

The explanatory power of Kayne's hypothesis has to do with the independently motivated observation that D° must be marked as +Def for the purposes of genitive assignment.[2] We should notice that in (15b) this result can be easily achieved by means of abstract incorporation of the agreement/case morphology associated with the possessor constituent (the *cas-régime absolu*) into D°, as indicated in (15c). Under incorporation, if the *Agr*-head is marked as +Def, so will D°. This nicely accounts for the definite interpretation of possessors in the JG: the *Agr*-head inherits this feature from the possessor DP under spec-head agreement and transmits it to D° under incorporation. In a nutshell, it is the +Def interpretation of the possessor *le duc* that ensures that D° is correctly provided with the +Def required for genitive case assignment.

As for the +Hum characterization of possessors (cf. 12C above), the natural question that arises is whether there is any correlation between human possessors and the visibility of the AGR/K° morphology for the

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[2] Some qualifications are needed here. Strictly speaking, the presence of a +Def D° for the purposes of genitive case assignment is required only for languages like Hungarian (cf. Kayne 1994) and Old French (cf. the discussion below in the main text). For languages such as English the requirement can be loosened, since genitive can be assigned even in configurations where D° is identified as −Def (by means of abstract Agr/K incorporation into D°), as shown by the perfect grammatical status of *An old man's house*. In this case, Agr/K agrees with the indefinite subject and arguably transmits the −Def feature to D°, turning it into a genitive case-assigner. In Old French (as well as in Hungarian) expressions like *une niece un duc* (a niece a duke) are ungrammatical, showing that genitive assignment requires not only that D° is identified as −Def but also that it is turned into a case-assigning preposition (i.e. *a*) when indefinite. The reasons for this cross-linguistic difference concerning the properties of indefinite D° are presently unclear to us, but they are arguably related to the strenght of Agr/K (stronger in English than in Old French).

purposes of genitive assignment. In effect, English provides some intriguing evidence that this might be the case, as shown by the grammaticality contrasts in (16), recently observed by Kayne (cf. also Giorgi and Longobardi 1991):[3]

(16) a. John's car
      b. *the car of John
      c. the dreams of my youth
      d. *my youth's dreams

It seems that in English the –Hum interpretation of the possessor (*my youth* in (16c)) is a necessary prerequisite for the AGR/K° morphology to be evaluated as syntactically inert, to the effect that D° must be lexicalized by resorting to preposition insertion. In this way, it does not really come as a surprise that the +Hum feature is exploited in OF in order to syntactically activate the AGR/K° position associated with the possessor argument, triggering AGR-into-D incorporation.

Crucially, this analysis also accounts for the cases of alternation of JG with the *a*-genitive (cf.12D above). If the possessor is indefinite, the *Agr*-head will inherit its -Def characterization and will transmit it to D° under abstract AGR-to-D raising. This is arguably the reason why the D° position is turned into the preposition *a* under Kayne's analysis of Hungarian (essentially borrowed from Szabolcsi), where dative case is also manifested in indefinite contexts (cf. Szabolcsi 1983). As for the possibility that the *a*-genitive is triggered by the presence of kind-referring possessors, we will simply assume, for the purposes of this contribution, that kind-reference also involves lack of definiteness (cf. Zucchi 1995 for relevant remarks on the semantics of definiteness).

In this way, three of the main properties of the JG in OF—as listed in (12)—have been derived in a principled way. Moreover, we can successfully combine the insights of Pesetsky and Torrego's minimalist re-analysis of case assignment in terms of valuation of unspecified case features (cf. Pesetsky and Torrego 2004) with Longobardi's and Kayne's insights concerning the requirement that the structural case-checking configuration responsible for genitive licensing should coincide with the internal domain of a dedicated head.

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[3] A full discussion of the relevance of the +Human feature for genitive assignment would involve the construction of minimal pairs whereby one could control for factors such as the use of the same thematic relation, the same degree of 'heaviness' of the complement etc. in the two structures to be compared. This task exceeds the limits of the present contribution. However, minimal contrasts such as *the shape of John* vs *the shape of Boston* or *the leg of my cousin* vs *the leg of my table* seem to point exactly in the direction we indicated in the main text (thanks to G. Longobardi for some preliminary discussion of this issue).

In a nutshell, this result can be achieved as follows. In Longobardi's analysis, prepositionless postnominal possessors in Romance (*casa mia*, *casa Rossi*) are unified with the 'construct-state' construction in Semitic. In the relevant configuration, the genitive possessor finds itself in the *spec* of a dedicated *Agr*-head, while being at the same time in the internal domain of a second dedicated head (i.e. D°). We contend that this is exactly the case-checking configuration that is at stake in the occurrences of prepositionless genitive under scrutiny here. Given Pesetsky and Torrego's analysis, the possessor must be endowed with *valued* genitive features. The case features on AGR/K° are weak, that is, also *unvalued*, so they cannot induce *valued* genitive on the possessor through feature checking under a *spec-head* relation. In this perspective, abstract AGR-to-D incorporation is the syntactic device adopted in order to provide AGR/K° with *valued* genitive features, under Kayne's suggestion that definiteness (and possibly other related interpretable features) on D° is relevant for genitive case licensing. In fact, incorporation ensures that the chain AGR°- D° is endowed with the requested *valued* genitive features. Under *spec-head* agreement between AGR/K° and the possessor, the required *valuation* of the genitive features on the possessor can finally take place. In this way, the structural matrices relevant for genitive assignment are shown to interact in a non-trivial way with the role played by the formal features + Def and + Hum for the purpose of genitive case valuation. Moreover, we have the prospects of a successful unified analysis of prepositionless postnominal possessors in Romance, the construct state in Semitic, and the cases of prepositionless genitive in OF and OI that constitute the main topic of the present contribution.

17.4 Juxtaposition genitive in Old Italian and in modern Italian dialects

Let us now consider the variety of JG that is found in OI and in some Central and Southern Italian dialects. An exemplification of the data that we have collected is given from (17) to (20) below:

(17) a. Anchises   lo   padre   Enea
         Anchises   the   father Aeneas
         'Anchises, Aeneas' father'   (Brunetto Latini)

      b. la   moglie   Menelao
         the   wife   Menelaus
         'Menelaus' wife'   (Brunetto Latini)

c. il   nodo   Salamone
   the   knot   Solomon
   'Solomon's knot'   (Dante and other Tuscan authors)

d. il   porco   sant' Antonio
   the   pig   saint Anthony
   'Saint Anthony's pig'   (Dante)

e. lo   canto   san   Simeon
   the   song   saint Simeon
   'Saint Simeon's song'   (Pietro da Bescapè, Lombardy)

f. per   la   Iddio   mercè / al   Dio   iudicio[4]
   for   the   God   mercy / at the God   judgement
   'for God's mercy' / 'at God's judgement'   (Tuscany, 14th century)
                                  [Examples from Rohlfs 1969: 630]

(18) a. la   figliuola Puccio da   Monte Spretoli
        the   daughter   Puccio from   Monte Spertoli
        'Puccio from Monte Spertoli's daughter'
                                    (Tuscany, 1300; NTF, 267.11–2)

   b. dale   rede   Bertino d'   Aiuolo
      from the heirs Bertino from   Iolo
      'from Bertino from Iolo's heirs' (Tuscany, 14th century; TPr, 215.24)

   c. lo   prode   Puccio   Sinibaldi
      the   interest Puccio   Sinibaldi
      'Puccio Sinibaldi's interest'   (Tuscany, 14th century; TPt, 289.1234)

   d. a   nome   messer   Eustagio
      at   name   sir   Eustagio
      'in the name of Sir Eustagio'   (Tuscany, 14th century; Sercambi)

(19) a. Rosa łu   síndichə
        Rosa the mayor
        'Rosa, the servant of the mayor'
                                    (Southern Latium; cf. Rohlfs 1969: 630)

   b. łə   fiłə   łə   tabbakkarə
      the son   the   tobacconist
      'the son of the tobacconist'   (Castro dei Volsci; cf. Vignoli 1911)

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[4] For these formulaic expressions (most typically involving the name of God), where the genitive complement occurs in prenominal position, we simply assume that the genitival expression does not move to spec-D°: in this archaic phase movement is arguably not required (in Old French and in Old Italian) in order to lexicalize D°.

c. la   kasa   la   mammana
   the   house   the   midwife
   'the house of the midwife'
        (Veroli; also attested in Castro dei Volsci; cf. Vignoli 1911, 1925)

(20) a. con   zò   sia   cosa   que   ogni   homu
         with   it   be-PRS.SBJV.3SG thing   that   every   man
         disiyassi   la   morti   Dyonisiu   tyranpnu
         want-PST.SBJV.3SG the   death   Dyonisius   tyrant
         'even if everyone wanted the tyrant Dyonisius' death'
         (ed. Ugolini: ...la morti [de] Dyonisiu...)
                          ...the death [of] Dyonisiu...
                          '...Dyonisius' death...'
                                    (Sicily, 1337; *Valeriu Maximu*, 69.11–12)

      b. Et   havendu   li   armi   Diana   alcuna   volta   li
         and   having   the   weapons   Diana   some   time   the
         Latini   eranu   sicutati...
         Latins   were   followed
         'and as they had Diana's weapons, sometimes the Latin people were
         followed...'
         (ed. Folena: ...li armi [di] Diana...)
                         ...the weapons [of] Diana...
                         '...Diana's weapons...'
                                    (Sicily, 1337; *Istoria Eneas*, 200.2–3)

The main properties of this construction are briefly illustrated in (21) (to be compared with (12)):

(21) A. JG instantiates all the arguments of the head noun
      B. no multiple occurrences of JG attested
      C. in JG, both the head noun and the genitival possessor are + Def
      D. the arguments of the head noun are not case-marked (no *cas-régime*)
      E. the possessor is always a proper name (but need not be a proper name in the dialects)
      F. no alternation with a + DP genitives (for a predicative use of a-genitives in Central and Southern Italian dialects, cf. Loporcaro and Limacher-Riebold 2001)

While (21A–C) suggest that the Italian JG might also qualify as an instance of a functional genitive involving raising of the head-noun projection to the *spec*

of the case-assigning D°, there are some important reasons to keep the Italian JG apart from the French JG. First, the agreement/case projection—that correlates with *cas-régime*—is syntactically inert, since there is no overt oblique case manifestation in the Italian varieties under scrutiny (cf. 21D). Second, there is no limitation of possessors to +Hum constituents, as witnessed by the extension of the JG-construction to all sorts of proper names (crucially involving many cases of toponyms, which are rare in OF); a case in point of –Hum reference (from the dialects, where the possessor need not be a proper name; cf. 21E) is provided in (22):

(22)   lu   filo   la   škiina   (= spina dorsale)
        the   line   the   back
        'the line of the back'   (= 'backbone')
        (Veroli; also attested in Castro dei Volsci and Amaseno; cf. Vignoli 1911, 1920, 1925)

Given the properties in (21D–E), we propose that abstract AGR-to-D incorporation is unable to provide D° with the set of formal features required for case valuation: in fact, what we have in OI is an extremely weak mechanism of genitive case valuation based on the fact that *Agr* is marked with definiteness (cf. 21C). In these conditions, it is tempting to propose that D° is not easily recognized by the language learner as a case-assigning head, and that this fact explains why JG is substantially less robust in OI than in OF (with the prepositional *di*-genitive rapidly emerging as the default option, cf. also 21F) and why it only sporadically survives in the dialects.

Suppose further that this situation gives rise to a transition phase where D° lexicalizes as preposition *di* in order to yield genitive case valuation and only marginally qualifies as a case-assigner when it is phonologically empty. Interestingly, in OI we find some evidence of a construction in which the prepositionless genitive systematically expresses one of the internal arguments of a deverbal head noun. Significantly, these instances of prepositionless genitive are not limited to proper names or even to definite constituents, as shown by the examples in (23)–(25):[5]

(23)   a. facitura   e   cocitura   lo   detto   pane
           making   and   baking   the   mentioned   bread
           'making and baking of the above-mentioned bread'
                                          (Tuscany, 14th century; TPr, 255.5)

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[5] For similar examples involving event nouns, drawn from a practical text (Tuscany: Siena; 13th century), cf. Pasquali (1985: 130–1).

b. per scrivitura la   sentença contra Saracione
  for writing   the   sentence   against Saracione
  'for the writing of the sentence against Saracione'

                (Tuscany, 14th century; TPr, 290.21)

c. reghatura   una chassa da   Mungnese
  transportation a   box   from Mugnese
  'transportation of a box from Mugnese'

                (Tuscany, 14th century; TPr, 223.26)

(24) a. reghatura   lengname
    transportation wood
    'transportation of wood'   (Tuscany, 14th century; TPr, 222.9)

b. per raconciatura ferri
  for repairing   iron-M.PL
  'for the repairing of iron instruments'

                (Tuscany, 14th century; TPr, 291.75)

c. aburattatura farina
  selection   flour
  'selection of flour'   (Tuscany, 14th century; TPr, 417.62)

d. Gosstommi portatura   letame tra   due volte…
  cost to me   transportation manure in two times
  'the double transportation of manure cost to me…'

                (Tuscany, 14th century; TPt, 181.266)

(25) a. capogallo
    head-cock
    'cockscomb'   (DEI: name of a mushroom sort; Standard Italian; cf. *cresta di gallo* in some dialectal varieties of Liguria and Calabria)

b. cuvuàlp
  fox-tail
  'fox tail'   (Beccaria 1995: phytonym *Verbascum*; attested in some dialectal varieties of Piedmont, cf. dialectal French *coua d renart*)

The learning cues for the existence of an empty case-assigning D° are not robust enough and this construction—in the general form attested in (23)—quickly disappears. However, we contend that there is a way to make these acquisition cues strong enough to support the existence of a case-assigning prepositionless D°: when the genitive complement is a bare noun receiving a kind-level interpretation (cf. the examples in (24)), the language learner has

access to a structural matrix in which the bare noun is raised to $D°$ as a result of the presence of valued genitive features in $D°$ (cf. Longobardi 1996 for genitive as a trigger for N-to-D raising in Semitic construct state).[6] The relevant structural cue is shown in (26) below:

(26) $D° [N° \ldots [N°_j\text{-}D° \ldots t_j \ldots]]$

Arguably, it is this mode of genitive assignment—with concealed N-to-D raising within the genitive complement—that gives rise, in modern Italian, to the class of alleged N + N compounds exemplified in (1) at the onset. In this perspective, it is interesting to notice that the true compounds of class (2) also developed very early as lexicalized variants of the prepositionless structures under discussion, as shown by the examples in (25) above.

If this analysis is essentially correct, it is the fact that the JG in OI is based on less robust morphological cues (overt case inflection, definiteness, humanness)

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[6] In modern Italian, the kind-level interpretation of bare nouns does not depend on a (covert) mechanism of N-to-D raising (for a detailed discussion, cf. Longobardi 2001*b*; Delfitto 2002). However, what we are proposing here is that in Old Italian the situation was different, with common nouns raised to the D-level as a consequence of the presence of 'concealed' genitive features in $D°$, and on analogy with the Semitic construct state. Consider the contrast illustrated in (i) below:

(i)   a. *elenco ultime novità*
          list   last   news
          '(a/the) list of the last news'

       b. **elenco novità ultime*
          list   news   last

The ungrammaticality of (ib) shows that the compulsory kind-level interpretation of the prepositionless genitival complement cannot be a consequence of overt N-to-D raising: otherwise, the noun should be allowed to cross over the prenominal adjective, yielding the word order in (ib). However, we propose that what moves is the whole complement (phrasal movement of the NP-complement to spec-$D°$). In this way, the phrasal nature of the complement in these alleged compounds ceases to be a problem: in particular, the possibility that the non-head constituent undergoes modification simply stems from obvious properties of syntactic structure. Moreover, there is a reasonable account for the fact that the head of the compound tends to resist modification, as shown in (ii):

(ii)   *produzione* (??*accurata*) *scarpe estive*
        production   (accurate)   shoes   summer
        '(accurate) production summer shoes'

The hypothesis is that prepositionless genitive case can be correctly checked only under strict adjacency between the head noun and the genitival phrase in the *spec* of its DP-complement. In effect, the observation that the head noun cannot be modified in structures such as (ii) exactly parallels the adjacency requirement detected in other prepositionless genitival structures like (iii) below (Longobardi 1996: 11):

(iii)   a. **Casa nuova Rossi* …
           Home new   Rossi …

        b. *Casa   Rossi nuova* …
           Home Rossi   new …

than the JG in OF that triggers the presence, in OI, of a 'structural' cue for covert genitive features in $D°$ that is not available in French. The unique status of the constructions in (1) within Romance is thus elegantly clarified.

17.5 On CASA and construct-state effects in Romance

Let us now take into consideration the construct-state effects involving the common noun *casa* in Romance (Longobardi 1996, 2001*a*). It is fair enough to assume that the analysis of expressions like *casa Rossi* (see 27b below) should be assigned the same analysis proposed by Kayne for *la voiture de Jean* in (27a). The question is of course why there is no determiner and no preposition insertion in (27b):

(27)   a. $D°$ [$_{D/PP}$ voiture$_j$ [de [$_{IP}$ Jean [AGR° [e]$_j$ . . .
       b. $D°$ [$_{D/PP}$ [casa$_j$ [$_{IP}$ Rossi [AGR° [e]$_j$ . . .

Suppose we exploit Longobardi's observation that *casa* manifests 'rigid designation effects' (cf. Longobardi 1996 for some relevant empirical evidence) and contend in fact that *casa*, contrary to the other common nouns, behaves semantically as a rigid designator. A way to technically implement this basic idea might consist in assuming that the lexical content associated with *casa* involves the presence of two free variables, whose interpretation can be syntactically or pragmatically governed (as proposed by Jackendoff and Culicover 1995), something along the lines of 'x where y *actually* lives' (cf. Stanley 1997 for the hypothesis that descriptive expressions endowed with indexical elements referring to fixed parameters of a context, like *actually* in the present case, amount in fact to a specific class of rigid designators). If we take this assumption for granted, we would be allowed to adjoin *casa* directly to $D°$ instead of raising it to spec-$D°$ (as is normally the case), as shown in (27b) (Longobardi 1994). Once in $D°$, *casa* lexicalizes this position turning it into a case assigner (in Longobardi's terms, the possessor will find itself in the internal domain of a lexicalized designated category, that is, $D°$). In this way, *casa* ends up filling the syncretic D/P head that is normally turned into preposition 'of' for the purposes of case assignment. It thus does not come as a surprise that *casa/chies* is turned into preposition 'chez' under the conditions investigated in Longobardi (2001*a*) (essentially, the loss of *chiese* as an independent noun in the lexicon of French). Given the analysis above, the rise of *chez* is simply a manifestation of the general phenomenon investigated by Kayne, that is, succinctly, preposition insertion in determiner position.

There are some interesting empirical consequences. In OI there are in fact many more cases of N-to-D raising. Some of them are exemplified in (28) below:

(28) a. appè   la   vigna
          at foot the   vineyard
          'by the vineyard'

      b. a   riva   un   fiume
          at   bank   a   river
          'on the bank of a river'

      c. in   boccha   la   porta
          in   mouth   the   door
          'at the entrance of the door'

      d. in   piede   la   finestra
          in   foot   the   window
          'close to the window'

      e. in   capo   la   scala
          in   top   the   stair
          'at the top of the stair'

The apparent requirement to be satisfied for this construction to be allowed is that it must be introduced by a preposition. The question is why this should be the case. Here is a possible answer. Remember that only *casa* is semantically licensed in $D°$ (qualifying as a rigid designator). If we adjoined other common nouns to $D°$, the resulting structure would not be semantically licensed. But there is a way out: incorporation of the N-D complex into a superordinate preposition. In this way, $D°$ is lexicalized but the raised N need not be interpreted in $D°$. This rescue strategy is illustrated in (29) below and arguably gives rise to an entirely new set of complex prepositions (*appè*, lit. 'at foot', tends in fact to be seen as a complex preposition by traditional philologists):

(29) a. $P°$ [$D°$ [[la vigna] [pè]]]
      b. $P°$ [[pè$_j$-$D°$] [la vigna t$_j$]]
      c. [[a-pè$_j$-D]$_k$ [t$_k$ [la vigna t$_j$]]]

Empirically, an interesting correlation has thus been detected between the rise of *chez* in French and the origin of a peculiar class of complex prepositions in Italian (cf. also the discussion in Longobardi 1997). Theoretically, the conclusion to be drawn is that the construct-state effects detected in Romance by Longobardi should be considered more as a side-effect of the JG than as a marked manifestation of the Semitic construct-state syntax. *Casa* overtly moves to $D°$—due to its referential properties—as a sort of marked alternative to the generalized movement of the head-noun projection to spec-

D°. There is thus no valued genitive feature in D° overtly attracting the complement noun, counter to what is arguably the case in Semitic construct state.

17.6 Conclusions

In this contribution, we examined some important aspects of the path of change from synthetic genitive morphology in (Late) Latin to prepositional genitive assignment in (early) Romance. We have proposed that this kind of change involves a specific mode of structural case assignment giving rise to a peculiar class of prepositionless genitives. More specifically, the availability of this mode of case assignment hinges on a subtle form of interaction between a well-defined configurational matrix and the realization of certain interpretable features (crucially including definiteness) in the determiner position. The present analysis confirms and significantly extends Kayne's and Longobardi's insight that the case-checking configuration responsible for genitive licensing may coincide with the internal domain of a dedicated head. This strengthens the prospects of a principled unification of superficially different classes of phenomena (including Semitic and Romance 'construct state') and paves the way for a syntactic analysis of a class of (deverbal) nominal compounds in (standard) Italian that are not attested in other Romance varieties and represent a serious challenge to the Lexical Integrity Hypothesis.

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18

Expletive pro and misagreement in Late Middle English*

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18.1 Introducing PFM

We take grammars to have the properties they do because they are solutions to the standard problem of language acquisition, of constructing a generative system founded on positive evidence only (Hornstein and Lightfoot 1981; see also Lightfoot 1999, among others). From this perspective, robustly attested regularities in a learner's language environment will mandate the adoption of one or another value among sets of parametrized choices made available by Universal Grammar. Interesting issues arise when the input data manifest optionality, that is, when learners hear input data compatible with more than one grammar—for example, in terms of head direction (Kroch and Taylor 2000*a*; Pintzuk 2002) or verb movement (Warner 2004). In such cases a common approach is to appeal to alternative grammars in competition (Kroch 1989), with differing parameter settings for the relevant traits. Clearly, however, grammatical forms are not limited to parametrized options across grammars, but are also attested when the lexicon provides alternatives; the lexicon of present-day English, for instance, contains full and reduced forms both of *are* and of *not*, allowing *Are we not going?* and *Aren't we going?* in apparently free variation.

In keeping with the lexicalist orientation of recent syntactic theory (Chomsky 1995, 2000), the coexistence in the lexicon of alternatively featured

elements can be used to account for surface optionality phenomena in cases that would otherwise pose a syntactic challenge, as shown by Martins (2000) for indefinites in Romance. Additionally, syntactic optionality can be accounted for by the variable presence of a lexical element in a numeration, as with the optional movement of negated objects to NegP in Late Middle English (LME), interpreted by Ingham (2000) as an alternation between the presence or absence in the numeration of a phonetically null Neg-operator (Haegeman 1995).

In this chapter we assess the possibility of using variable numerations as an analysis of a challenging problem that arises in LME, regarding variable subject-verb number agreement with postverbal subjects. Ingham (1997) observed that number agreement in LME was variable in clauses with *there*-expletive subjects and a plural associate DP:[1]

(1) a. *There* is laboryd [many menys] to intytill þe kyng in his good.

                                                            (Paston D 86, 17)

       'Many steps are being taken to give the king title over his property.'

     b. *Ther* is [gret spies] leid here at London.   (Paston D 71, 9)

       'Many spies are being planted in London.'

(2) a. And *there* were slayne on theyre parte [abowte xij xx].

                                                            (Paston D 712, 23)

       'and on their side about 240 were killed.'

     b. . . . that *there* were [iij men] com from Skeyton.   (Paston D 876, 35)

       '. . . that three men had come from Skeyton.'

To pursue this issue, we have deliberately kept the main source material strictly limited to a corpus of texts which are fairly uniform in their time and place of origin and in their genre. The scope of the investigation was subsequently extended to other fifteenth-century texts, focusing on those with substantial numbers of postverbal subjects, and the same phenomenon has been found to occur in them.

In addition, we have established that this pheonomenon—which we call Postfinite Misagreement (henceforth, PFM; see also Ingham and Grohmann, 2008)—occurs with *there*-expletive subjects, as in (3a), and also without, as in (3b):

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[1] We put all subjects in square brackets throughout. We also italicize expletive subjects, if there are any, and indicate the (from a modern perspective) unexpected absence of one with Ø.

(3)   a. This yere after alhalontyde *there* was [proclamacions] made in lon-
         don by the kingis commanndement.   (Gough 163 (1469))
         'This year after All Saints' Day proclamations were made in London
         by the King's command.'

      b. And the xx day of Janyver Ø was [certayne poyntys of armys] done in
         Smethefylde.   (Greg. 184 (1441))
         'And on 20th January various feats of arms were executed in
         Smithfield.'

When a plural subject precedes the finite verb, however, PFM is virtually
never found in these texts. We have observed that in the same sources where
PFM occurs, clause complement-taking verbs appear with and without a
formal subject:

(4)   a. And this yere *it* was ordeyned [that the sonday shold be hold].
                                                   (Vitell. 156)
         'And this year it was ordained that the Sunday should be held.'

      b. In this yere Ø was ordeyned by a common counseill [that . . .]
                                                   (Vitell. 187)
         'This year it was ordained by a general council that . . .'

Our aim in this study is to unify these phenomena, which have so far
received very little discussion in the previous literature, in terms of the
survival of a null pronominal with third-person singular φ-features [3SG]:

(5)   a. In this yere $pro_{[3SG]}$ was ordeyned by a common counseill that . . .
      b. And the xx day of Janyver $pro_{[3SG]}$ was certayne poyntys of armys
         done in Smethefylde.

(5a) is a revised representation of (4b), with the posited *pro* in place of Ø.
We will argue that (5b) in particular, our rendering of (3b), was an innovation
of the LME period. Previously, [Spec,TP] was not projected and number
agreement was overtly marked between a finite verb or auxiliary and a
postfinite plural subject.

In the next section we briefly review comparable phenomena in standard
and non-standard present-day English, in which *pro* is no longer generated.

18.2 Agreement in PDE

Present-day English (PDE) canonically expresses agreement for number
within a Spec-Head configuration in TP. There is also number agreement
in expletive-associate constructions, where the subject ('associate') and T°
are not in a Spec-Head configuration:

(6)   a. There remains a problem.
      b. There remain two problems.

That is, number features on T^o must be capable of entering a checking relationship with a DP associate subject that T^o c-commands and which may even be in a lower clause:

(7)   a. There remains to be explained one further problem.
      b. There remain to be explained two further problems.

Turning now to the PFM scenario, non-standard PDE commonly has a singular verb form with plural associate subjects:[2]

(8)   a. %There's three people outside.   (cf. *Three people's outside.)
      b. %There was three people outside.   (cf. *Three people was outside.)

In non-standard PDE[3] *there* takes a singular verb either as a default or because it has a singular number feature, as does the *it*-expletive. We may explicate the notion of default by saying that the (third-person) singular form is adopted when the associate DP is not in [Spec,TP] but positioned within VP as an argument of unaccusative *be*:

(9)   [TP there is [vP [VP three people outside]]]

The problem identified in (1)–(2) is that in LME, agreement is apparently variable between a finite verb and a postfinite subject DP, i.e. it is not the case that plural subjects regularly default to [3SG] if they stand in *v*/VP. For this reason, we reject an analysis in terms of the third-person singular verb as a default form.

18.3 Extending the LME dataset for PFM

The scale of the empirical phenomena observed by Ingham (1997) was not immediately apparent, partly because VS constructions are not particularly common in the kind of text analysed in that study (private correspondence). For the present study, ten fifteenth-century London chronicles were investigated as it was observed that they quite commonly displayed VS orders after an initial

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[2] The acceptability of the singular verb is clearly attributable to the presence of *there*, not to the fact of subject-finite inversion; consider, for example, the non-idiomaticity of the following:

(i)   a. ?*Why's three people outside?
      b. ?*Where's three people gonna sit?
      c. ?*How's three people gonna sit on that little sofa?

A reviewer nevertheless points out the acceptability of certain frozen routines (such as *How's things?*).

[3] It is not clear to us what the status of the locative inversion construction is in non-standard PDE, as in, for example, *??Outside was three people*. Accordingly, we leave this issue for separate treatment.

TABLE 18.1 Frequency of singular and plural *be* with plural subjects in 15th-century London chronicles

	Date range	Prefinite plural subj.			Postfinite plural subj.		
		PL	SG	Total	PL	SG	Total
Jul.	−1432	24	0	24	9	1	10
Bradf.	−1440	20	0	20	20	1	21
Cleop.	−1443	15	0	15	3	5	8
Bale	−1450	8	0	8	12	1	13
Vitell.	−1450	10	0	10	3	0	3
Lamb. 306	−1450	16	0	16	12	4	16
Greg.	−1451	48	0	48	39	5	44
Gough	1451–1470	6	0	6	1	4	5
Lamb. 306	1451–1465	4	0	4	3	8	11
Vitell.	1451–1503	73	2	75	21	26	47
TOTAL		224	2	226	123	55	178
			0.9%			30.9%	

adjunct, allowing the variable at issue here to be considered in quantitative terms. These texts were analysed for plural subjects in pre- or postverbal position, in clauses with a finite form of (copula or auxiliary) *be*; these subjects will be referred to as pre- or postfinite subjects. Coordinated subjects were ignored (unless each conjunct DP was itself formally marked as plural), as these could easily take singular verb forms in Old French and Latin, for example (Legge and Holdsworth 1934). The chronicles were compiled in English during the 1430–50 period and the 1460s–1470s; one chronicle that was started in the 1440s was continued into the first few years of the sixteenth century (Vitellius). The authors were all citizens of London, members of the merchant class, such as mayors and aldermen, rather than being professional scribes.

Table 18.1 shows the frequencies of subjects in pre- and postfinite position in clauses with auxiliary or existential *be* having an initial non-subject constituent in these chronicles; the columns 'PL' and 'SG' designate the relevant verb forms. It was found that cases of PFM—i.e. the failure of a finite verb form (in T^o) to agree with a postfinite subject (presumably in [Spec,vP])—represented over 30 per cent of plural subject clauses; prefinite subject misagreement was below 1 per cent.[4]

The 55 instances of PFM shown in Table 18.1 mostly fall into one of three types of postfinite syntactic environments. For convenience, we will refer to

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[4] Two such instances were uncovered in the later part of the Vitellius manuscript. They may be genuine instances of vernacular *is* for *are*, as discussed by Nevalainen (2006), or they may simply be performance errors. Given such a minimal level of prefinite misagreement, it is hard to discriminate between these two possibilities.

these here as Germanic Inversion, Romance Inversion, and Extraposition, respectively (see also Warner 2006, 2007 for a description of these patterns). They can be analysed descriptively as follows (see Sections 18.4 and 18.5 for finer-grained discussion):

(10)   a. T_{FIN} $[_{vP}$ DP_{subj} V_{pass} $]$ *Germanic Inversion*
       b. T_{FIN} $[_{vP}$ V_{pass} DP_{subj} $]$ *Romance Inversion*
       c. T_{FIN} $[[_{vP}$ V_{pass} $]$ $\ldots$ $DP_{subj}]$ *Extraposition*

In Germanic Inversion (10a), the subject was embracated by the finite auxiliary and the past participle, as in the following examples:

(11)   a. This yere Ø was [dyverse of the castelles in the northe] yolden a yene to Kynge Edwarde.   (Lamb. 78 (*c.*1462))
           'This year various northern castles were surrendered again to King Edward.'

       b. And the said nyghte Ø was [secret meanes] made vnto my lord Chamberleyn.   (Vitell. 214 (1497))
           'And the same night approaches were made in secret to the Lord Chamberlain.'

       c. And vpon Saterday next folowyng Ø was [their hedes] set vpon London Brigge.   (Vitell. 216 (1497))
           'And on the following Saturday their heads were placed on London Bridge.'

Romance Inversion (10b), where the subject stood immediately after the past participle, is illustrated below:

(12)   a. And anon *ther* was sent [certayn aldermen and comynes] for to...
                                                                (Lamb. 73 (1460))
           'And soon some aldermen ane commoners were sent to...'

       b. And *ther* was endited [many persones].   (Lamb. 74 (1460))
           'And many peole were indicted.'

Lastly, we give examples of what we take to be Extraposition (10c), where the subject stands at the end of the clause, separated from the past participle by an intervening adverbial element:

(13)   a. ...and *ther* whas hangyd round abowȝt him [all his instrumentes wich were take with him].   (Cleop. 148 (1441))
           'And round about him were hung all his instruments which were taken from him.'

TABLE 18.2 Finite auxiliary form with plural subjects in London chronicles up to 1450 inclusive, clauses with auxiliary *be* only

	was	*were*	TOTAL
Germanic Inversion	2	37	39
Romance Inversion	5	25	30
Extraposition	10	9	19
TOTAL	17	71	88
	19%		

TABLE 18.3 Finite auxiliary form with plural subjects in London chronicles 1451–1503

	was	*were*	TOTAL
Germanic Inversion	16	8	24
Romance Inversion	14	6	20
Extraposition	6	9	15
TOTAL	36	23	59
	61%		

    b. *There* was redde among theym [certeyne articles and poyntys that . . .]

            (Gough 161 (1461))

      'Certain articles and points that . . . were read amongst them.'

    c. And the same afternone folowyng Ø was made for a solempnytie [many ffires in dyuers places of the citie].   (Vitell. 212 (1496))

      'And the next afternoon many fires were laid for a celebration in different parts of the city.'

Briefly summarizing the three patterns, these data indicate that the mis-agreeing subject is not restricted to any particular subject position within *v*P.

It can be seen by comparing Tables 18.2 and 18.3 that PFM sharply increases in frequency in the London chronicles during the fifteenth century. Before 1450 it is quite rare, except with extraposed subjects.

18.4 Explanatory attempts

In the remainder of this chapter we seek a coherent formal account of the PFM phenomenon. The existing historical and theoretical linguistic literature provides various possible perspectives. Nevalainen (2006) pursues a socio-linguistic approach that takes the singular verb with a plural subject to be vernacular trait. Although vernacular usage showed a certain tendency to *was* for *were* in sixteenth-century English, as she convincingly shows, it seems

unlikely by itself to account for the very sharp asymmetry we have identified in the fifteenth-century data in the previous section. Thus in a seventeenth-century source such as the *Journal* of George Fox, who is generally taken to reflect vernacular English features, preverbal plural subjects taking *was* are quite common, as expected if *was* simply functioned as a vernacular variant of *were*, but to explicate the PFM phenomenon presented here, a syntactically sensitive approach is clearly required.

The psycholinguistic or performance account of these findings that could be envisaged is along the lines of the argument traditionally put forward by commentators on Shakespeare's PFM cases (Abbott 1870: 237), which is to say that it is a spoken language trait: at the point of utterance, the speaker does not know at the outset what the number of the subject is, hence *was* may be followed by a plural subject. The problem is that, as far as we are aware, there is no attestation of the reverse, where a plural verb is followed by an ordinary singular subject. This is surely predicted to occur if the speaker uses a verb form before s/he has decided on the number of the subject. There seems no way to block this except by arguing that the singular verb form is some kind of default—but then we have an explanation that goes beyond purely perform-ance matters, and needs to attribute a systemic property to the singular form.

In terms of contemporary morphological concepts, we might say that T^o is underspecified and defaults to the singular, as suggested in the brief discus-sion of (8)–(9). The problem is that this explains just the cases it covers, those with PFM (e.g. (1)), but it says nothing about why a non-default plural verb form appears in the other cases (e.g. (2)). We attempt here to avoid the simple stipulation that the singular form is a default by using syntactic elements already required for modern or pre-modern English syntax, in particular the existence of a null expletive *pro*, which we will present in the next section.

An important issue is whether the PFM phenomenon was not simply an archaism inherited from an older stage of the language. It is true that Old English exhibits a property that is at first sight reminiscent of what we are dealing with here. Van Gelderen (1997) has shown that agreement inflections in OE were often reduced when the verb raised to C^o, as in (14), for example:

(14)   For hwon   ahenge   þu   mec?
       why   hang   you   me
       'Why did you hang me?'   (Exeter Book, *Christ* 1.1487)

However, as discussed below, the fifteenth-century data cannot plausibly be analysed in terms of movement of the finite verb to C^o. They are all in

declarative clauses, involving passive or sometimes copular *be*, for which a TP structure appears entirely sufficient.

Alternatively, one might relate the PFM phenomenon to information structure. Manzini and Savoia (2007: ch. 2) look at subject agreement in Italian dialects and find that, especially in Northern Italian dialects and Sardinian, a phenomenon akin to PFM in LME appears, whereby a post-verbal plural subject appears with a singular verb: the postverbal subject in (15b) is interpreted as obligatorily focused (Rita Manzini, p.c.). The following data are from Urbino (Marche):

(15) a. ki   bur'dɛi   'dørme   de 'la
          those   children   sleep   there

      b. de 'la   'dørme   ki   bur'dɛi
          there   sleeps   those   children
          'Those children sleep there.'

An examination of our 15th century English data very quickly showed, however, that plural subjects of various types appeared indiscriminately with singular or plural finite verbs, leading us to abandon the possibility that PFM reflected the information status of postfinite subjects in Middle English.

The best-known analysis of postfinite subject misagreement concerns Modern Standard Arabic, where number agreement is required in SVO clauses, but not in VSO contexts (cf. Koopman and Sportiche 1988; Mohammad 1989; Aoun *et al.* 1994). Aoun *et al.* essentially argue that, under current structural assumptions, the subject is in [Spec,TP] in SVO clauses, but in [Spec,vP] in VSO clauses.

(16) a. l-ʔawlaad-u   jaaʔuu
          the-boys-NOM   came-3PL.MASC
          'The boys came.'

      b. jaaʔa   l-ʔawlaad-u
          came-3SG.MASC   the-boys-NOM
          'The boys came.'

Soltan (2006) has proposed a new analysis of Arabic subject-verb agreement (a)symmetry under which the overt number agreement required in SV order is mandated by the presence of *pro* in [Spec,vP], which must be fully identified, for which reason the verb's number features must not be left unexpressed. The apparent subject in this clause type is analysed as a kind of topic. In VS order in Arabic the subject DP is in [Spec,vP], there is no *pro*, and number agreement is not required. In the approach we

propose in the present study we find that certain aspects of Soltan's proposal can be usefully adapted to the Late Middle English PFM problem, notably his use of subject *pro* and the positioning of an overt DP subject in [Spec,*v*P], but something else has to be said for the grammatical subject position [Spec,TP].

18.5 Towards an analysis of LME agreement patterns

Let us now proceed towards a structural account of the PFM phenomenon. Given that it occurs almost always in inverted clauses, the issues have first to do with the structural characteristics of the initial zone of the clause, and secondly with the placement of the postposed subject DP in the body of the clause. As regards the initial zone, three possibilities are observed. We have the initial *there*-expletive type, where (17a) illustrates the agreement pattern and (17b) the misagreement pattern (PFM):

(17)   a. *Ther* were slayne and take [many gret lordis of Fraunce].

(Lamb. 23 (1338))

'Many great lords of France were slain or were captured.'

b. And *ther* was [new grotes and pensse] made.   (Lamb. 80 (1465))

'And new groats and pennies were made.'

Alternatively, the *there*-expletive can be preceded by an adjunct XP, as in (18a), or even two, as in (18b):

(18)   a. At the forseyd shrewed Parlement *there* were [meny treasons] ordeyned.   (Jul. 50 (1399))

'At the fore-mentioned shrewd Parliament many treacherous plans were drawn up.'

b. This yere after alhalontyde *there* was [proclamacions] made in London by the kingis commanndement.   (Gough 163 (1469))

'After All Saints' Day that year proclamations were made in London by the King's command.'

Lastly, we find the pattern with an initial adjunct XP but without an overt expletive, shown in (19):

(19)   a. Vpon the next day folowyng Ø were [proclamacions] mad through the citee.   (Vitell. 174 (1461))

'The following day proclamations were made throughout the city.'

b. And the xx day of Janyver Ø was [certayne poyntys of armys] done
in Smethefylde.   (Greg. 184 (1441))
'And on the 20th January various feats of arms were accomplished in
Smithfield.'

As Haeberli (2000) showed, LME exhibited some residual V2. The possibility that PFM in LME is a residual V2 matter can, however, be quickly dispatched, since PFM may also show up with V3 order, as in (18b). Furthermore, PFM occurred not only in main clauses, but also in subordinate clauses, where no V-to-C movement of the finite verb is countenanced:

(20)   a. ...in the north contree where Ø was [many men] slayn.

                                                           (Gough 158 (1454))
'...in the north country where many men were killed.'

b. ...by the which Ø was enlarged [dyuers actes made in the last
parliament].   (Vitell. 212 (1496))
'...whereby various acts passed in the last parliament were extended.'

Here the finite auxiliary is in T° in an embedded *wh*-clause. Since a V2 analysis will not encompass the relevant data, we take the main clauses with inversion to be TP structures to which the adjunct XP is adjoined, and where the expletive *there* stands in [Spec,TP].

That being so, the postposed subject remains within *v*P—certainly in non-extraposed cases. At least two positions must be envisaged within *v*P for this to be the case. One of them corresponds to the linear position immediately right-adjacent to the non-finite lexical verb. If the letter remains in V° (but see right below), the DP stands as its complement in VP.

The other structural position corresponds to the linear position between the finite auxiliary and the non-finite lexical verb. There is some evidence from adverbial placement as to the attachment position in question. Adverbial elements are observed to stand before the subject DP rather than interposed between it and the non-finite verb. This is indicated by underlining for a light (21a) and a heavy adverbial (21b):

(21)   a. And the same day Ø were <u>also</u> [iiij yomen of the Crowne] drawen
from Sowthewerk.   (Vitell. 192 (1483))
'And the same day four yeomen of the Crown were also brought
from Southwark.'

b. And *ther* was <u>by ij enquestis</u> [certain of the said yong men] endited.
                                                        (Vitell. 199 (1494))
'And by two inquests some of the said young men were indicted.'

This being so, we immediately revise our previous assumption that the non-finite verb remained in V^o in a passive clause, and posit that it raises to v^o, such that the DP subject in (21) is in the specifier of vP.[5] Hence the structures we are assuming for (both Germanic and Romance) Inversion in these passive clause data, with the finite auxiliary in T^o, are:

(22) a. *Germanic Inversion*
      [$_{TP}$ (Adv) [$_{TP}$ *there*/Ø Aux$_{fin}$ [$_{vP}$ (Adv) [$_{vP}$ Subj Verb$_{non-fin}$ [$_{VP}$...]]]]]

  b. *Romance Inversion*
      [$_{TP}$ (Adv) [$_{TP}$ *there*/Ø Aux$_{fin}$ [$_{vP}$ (Adv) [$_{vP}$ Verb$_{non-fin}$ [$_{VP}$ Subj...]]]]]

Note that in the absence of a *there*-expletive, the subject position contains no overt constituent. We take it that the structure of extraposed clauses requires separate treatment, which will not in itself bear on the position of merged subject positions in vP, and accordingly leave this issue to one side.

Now let us consider how agreement can operate within the configurations identified which may be summarized in the following structural representation:

(23)   [$_{TP}$ SU T^o [$_{NegP}$ Neg^o [$_{vP}$ EA v^o [$_{VP}$ IO V DO]]]]

Let us begin with the cases of overt plural number agreement. Where the subject DP has a full, interpretable φ-feature set, T^o enters into an Agree relationship with it (Chomsky 2000 *et seq.*). With the feature here relevant being number, specified for plural, we label the DP feature as [NUM:PL] and correspondingly the relevant uninterpretable φ-feature of T^o as [uNUM:PL], which gets valued and deleted by DP's [NUM:PL] under Agree by c-command. Agree ignores the presence or absence of a constituent in the specifier of TP (or adjoined to it). Or rather, since Agree applies to the complement domain of the probing head (here T^o), it becomes irrelevant. Whether [Spec,TP] is filled by an expletive (*there*) or phonetically empty (Ø), as in the a-examples of (17)–(19), thus does not play a role. Naturally, the same procedure takes place for PDE number agreement, as in (6)–(7), for example.

Turning now to the more interesting cases of PFM in LME, it seems that the converse must apply: agreement may not take place through Agree—otherwise the auxiliary would obligatorily be marked as plural, which, as we

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[5] One might then wonder whether subject DPs separated from the non-finite verb by an adjunct are indeed extraposed, as we have assumed. It might be supposed that they could stay as complement of VP, while the adjunct is left-adjoined to VP. For simplicity, however, we assume here that all adverbial adjunction is to vP, so that the DPs analysed here as Extraposition cases have left the complement-of-V^o position.

have seen, was not always the case with plural subjects in these fifteenth-century data. This would run counter to the guiding idea that all agreement relations are handled by the Agree mechanism. Space does not permit a more detailed discussion, but we will assume a Spec-Head configuration appropriate after all (*pace* Chomsky 2008).[6]

A natural step to account for this state of affairs would be to say that PFM arises because the auxiliary is agreeing with a singular element in [Spec,TP]. This appears legitimate since, in non-standard PDE, the *there*-expletive does indeed participate in singular agreement with a plural associate subject (cf. (8)), so no extra explanatory apparatus not already required to handle the development of English syntax is being adduced here.

To formalize this, the lexical entry for the expletive *there* in LME must bear a feature specification [NUM:SG], in common with the other English expletive element *it*, and also expletive *il* in French:

(24) Il   est arrivé hier   deux soldats du
      there is   arrived yesterday two   soldiers from-the
      front de l'Est.
      front of the-east
      'There arrived yesterday two soldiers from the eastern front.'

We assume that *there* had two lexical entries, one specifying [NUM:SG], the other failing to do so. It may be that the first was acquired under influence of Anglo-French during the period of intense French influence on English during the centuries preceding our data period. We leave this question for further research.

Finally we come to the PFM cases without an overt expletive. Again, we make use of a device already required, a lexical entry for a null element used with impersonal clause-complement taking verbs. We assume that this was *pro*, bearing a [NUM:SG] feature. Hence in examples such as that shown in (19b), repeated below as (25), agreement takes place in a Spec-Head relation between the finite auxiliary and $pro_{[\text{NUM:SG}]}$.

(25) And the xx day of Janyver $pro_{[\text{NUM:SG}]}$ was$_{[u\text{NUM:SG}]}$ [certayne poyntys of armys] done in Smethefylde.   (Greg. 184 (1441))

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[6] From an Agree-saving perspective, Richards (2004) already identified the obvious problems that expletive-constructions pose for Chomsky's (2000) Agree. One might thus adopt his approach and try to work it out for PFM. An alternative would be to follow the route of Zwart (2006) who makes the attempt to deduce agreement licensing from Merge, which is at the root of one of the most defining characteristics of the human language faculty, recursion (Hauser *et al.* 2002). In this sense, agreement licensing follows from more general properties of the language faculty, and does perhaps not require a specialized operation or mechanism.

On the basis of the data presented here, it could be argued that LME had not only an empty counterpart to the expletive *it*, but also a *there*-expletive counterpart. We thus propose the coexistence in the LME lexicon of the following range of options for null and overt expletives:

(26)   a.   *it*$_{[\phi:3\text{SG}]}$
       b.   *pro*$_{[\phi:3\text{SG}]}$
       c. (i)   *there*$_{[\phi:]}$
           (ii) *there*$_{[\phi:3\text{SG}]}$

In a numeration with *pro*$_{[\phi:3\text{SG}]}$, this element is merged in [Spec,TP]—or alternatively in [Spec,*v*P], since the relevant cases never involve an external argument—and the [ϕ:3SG] feature checks an uninterpretable 3SG feature on T$^{\text{o}}$. In the array without *pro*$_{[\phi:3\text{SG}]}$, [Spec,TP] is simply unfilled; either overt movement takes place to it, producing the regular SV order passive clause, or Agree checks the number feature on the subject left *in situ* in VP. We shall suggest in the next section that this was normally the case in Old and Early Middle English.

Our proposal might be considered controversial, since earlier research has indicated that expletive *pro* disappeared from English around 1400 (Haeberli 2002). However, this finding may simply reflect a corpus lacking the sort of texts investigated here: the Helsinki corpus, whose parsed version (Kroch and Taylor 2000*b*) was analysed by Haeberli, used no fifteenth-century chronicles except that of Capgrave, who usually avoids inversion constructions, using V3 where an adverbial is clause-initial. In the light of the evolution of English syntax it was Capgrave who represented contemporary trends, whereas the London chroniclers' preference for VS sequences could be deemed archaic (though see Warner 2006 for evidence that inversion in unaccusative and passive contexts remained productive in English well into the Early Modern period).

18.6 The status of null expletive *pro* in LME

Next we trace the evolution of the alternation between a null expletive and overt *there* which we argue in late Middle English underlay the PFM phenomenon. The following Old English (OE) example and an Early Middle English (EME) transliteration show an alternation with a null and a *there*-expletive:[7]

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[7] We take it that *ther* is not a locative expression in (29b), given the specification of place in the postverbal PP *wiðinne þere buruh of ierusalem*.

(27) a. þa wæron gegaderode binnan ðære byrig Hierusalem [eawfeste
          weras of ælcere ðeode].   (Aelfr I Thorpe 314, 11)
          'Then there were gathered within the city of Jerusalem true men of
          every nation.'

      b. þa weren *þer* igedered widhinne þere buruh of ierusalem [trowfeste
          men of elchere þeode].   (Lamb Hom IX 89, 28)
          'Then there were gathered within the city of Jerusalem true men of
          every nation.'

The *there*-expletive in (29b) was not an innovation of EME, however. In
OE we find existential sentences with expletive *there* (28a) and without (28b):

(28) a. þonne synd þær þry porticas emb þa ciricean utan geworht.
                                                        (B Hom 125)
          'Then there are three gates made around the church.'

      b. þonne syndon on þyssum Simone twa speda.   (B Hom 179)
          'Then there are in this Simon two powers.'

Existential clauses with an initial adverbial PP tended not to have an overt
expletive in OE and EME. Some examples follow:

(29) a. On þam æfteran dæge biþ gehyred mycel stefn on heofenum fyrd-
          weorodes getrymnesse.   (B Hom 91, 34)
          'On the next day there shall be heard in the heavens a great sound of
          the arraying of armies.'

      b. On þære tide wæs sum oðer witega on Iudea-lande.
                                                  (Aelfr I Thorpe 570, 32)
          'At this time there was another prophet in the land of Judah.'

      c. On þis niht beð fowuer niht weaches.   (Trin Hom 39, 33)
          'In this night there are four watches.'

The fourteenth-century revision of *Ancrene Riwle*, referred to as *Ancrene
Wisse* (probably executed in the third quarter of the fourteenth century),
shows an interesting tendency to fill in the missing expletive subjects after an
initial quantified XP:

(30) a. And vi enchesuns beoþ.   (AR (M) 232)
      b. Sex enchesuns þer beþ.   (AW (M) 232)
          'There are six reasons.'

(31) a. Moni cunne riwle beoð.   (AR (M) 232)
      b. Many dyvers reules þere ben.   (AW (M) 232)
          'There are many different rules.'

However, in the same text existential clauses with initial PP adjuncts remain without an overt expletive:

(32) a. To þe inre is neod wisdome.   (AR (M) 180)
          'To the inner there is a need for wisdom.'

      b. To þe utter temptaciouns is need patience.   (AW (M) 180)
          'To the outer there is a need for patience.'

(33) a. & in everichon beoð vif vers   (AR (M) 36)
      b. In vchone of þise psalmes ben fyve verses.   (AW (M) 36)
          '(and) in each one there are five verses.'

(34) a. Vor iðisse wildernesse beoð monie vuele bestes.   (AR (M) 198)
          'For in this desert there are many evil beasts.'

      b. In þis waie…ben yuel bestes many.   (AW (M) 198)
          'In this way…there are many evil beasts.'

Thus the context in which we are arguing for LME expletive *pro* is the one which exhibits a lag in developing an obligatory use of an overt expletive. Between this text and the fifteenth-century London chronicles, the absence of an expletive after an adverbial PP is a feature of late fourteenth-century English, as in Trevisa's *Polychronicon*, written in the 1380s:

(35) a. Aboute þat tyme in Gasquen Ø was a woman [departed and todeled
          vram the nauel opward].   (Trevisa, *Polychronicon* MET 52, 4)
          'About that time in Gascony a woman was cut apart from the navel
          up.'

      b. In þes Henry hys time Ø was [so gret strif in þe cherche of Rome].
                                        (Trevisa, *Polychronicon* MET 136, 104)
          'In this Henry's time there was such great conflict in the church of
          Rome.'

Thus we argue for continuity in the avoidance of overt expletives with initial XPs from OE into the late fifteenth century. At this point in our research we believe that misagreement was not, however, a feature of English prior to the fifteenth century, but came about thanks to the introduction into this context of *pro*, which previously was not generated in this position. That is, instead of a structure in which [Spec,TP] was not projected, it became obligatory for a structural element to fill this position. We relate this development to the shift from CP to TP as the root node of clauses having topicalized constituents (Hulk and van Kemenade 1995). It can be posited that in a CP structure, the EPP did not require [Spec,TP] to be filled, and that an initial adjunct in [Spec,CP]

satisfied the EPP. Hence OE clauses such as (27) placed the initial constituent in [Spec,CP], and did not project [Spec,TP].

In a TP structure, an adjoined adverbial does not satisfy the EPP, hence a constituent bearing a D-feature is inserted in order to do so. Either expletive *there* or *pro* could be selected for the Numeration to perform this function. If, as we have suggested, both *pro* and *there* could bear a singular number feature, we then derive the appearance of PFM at this point in the evolution of English syntax. Prior to this period, agreement was always under c-command, hence the postverbal plural subject could not co-occur with a singular verb.

18.7 Conclusion

The goal of this chapter was to present an account of postfinite misagreement in Late Middle English—the phenomenon we identified as PFM: a finite singular auxiliary form with a plural postverbal (or rather, postfinite) subject, which is found in expletive passive constructions in LME (mid to late fifteenth century). We have proposed that the expletive played a role in agreement which it has not retained in standard present-day English, and which it did not possess in earlier periods of the language, as far as we have so far been able to determine.

Numerous aspects of this proposal give rise to further lines of enquiry, such as the timing and triggering of the changes in question. It may be that a sociolinguistic dimension is not without importance, insofar as the vernacular process uncovered by Nevalainen (2006) may have helped to push the structural change further than it would have gone, especially at the very end of the LME period.

However, we believe that the formal account presented here is coherent in its own terms. We also consider that it is plausible as part of an approach to the representation of grammar change as a trade-off between properties of syntactic derivations and properties of the lexical elements that feed them. Seemingly recalcitrant phenomena, such as those explored here, may turn out to be amenable to treatment within a generative account if the properties that seem to cause difficulty are factored out between lexis and functional heads, as we have sought to do in this study.

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19

Morphosyntactic parameters and the internal classification of Benue-Kwa (Niger-Congo)*

VICTOR MANFREDI

19.1 How flat is BK?

Benue-Kwa (BK), main branch of the Niger-Congo language family, combines the subgroups earlier called Kwa and Benue-Congo (Greenberg 1963: 30–8; cf. Westermann 1927: 20). Spanning most of tropical Africa's population and area, BK has more than ten big clusters including mega-Bantoid; these can be arrayed roughly west-to-east under a duplex, *n*-ary tree (1).[1]

(1)

Niger-Congo

Atlantic, Mande, Gur, Adamawa, Iʒǒn, **Benue-Kwa**, Kordofanian…

Kru, Àkan, Gbè, Yorùbá, Nupe, Ìdomà, Èdó, Ìgbo, Cross, Plateau, Bantoid…

a. Greenberg (1963) | *Kwa* ———— | ———— *Benue-Congo*
b. Williamson (1989) | *n/a* *NewKwa* | *NewBenue-Congo*
c. Manfredi (2005a) | *BK1* (remnant) | *BK2* (innovation) | *BK1* (remnant)

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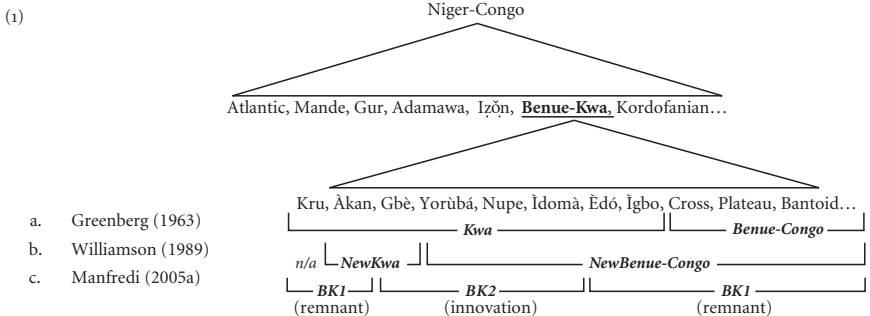
* Thanks to Ọ. Aboh, 'S. Adéṣọlá, O. Ajíbóyè, A. Akinlabí, G. Cinque, R.-M. Déchaine, 'N. Éménanjọ, Ụ. Íhìọ́nụ́, M.-E. Kropp-Dakubu, late K. Hale, late Marco Haverkort, G. Longobardi, J. Lowenstamm, P. Nwáchukwu, late J. Schindler, J. Whitman, Harvard Theory Group (10 April 2006) and two referees. Here I have the honour to disagree with K. Williamson (1935–2005), a kind mentor during my Nigerian trips of 1976–7 and 1980–4. *Ónye nwụ́rụ, zùrú iké!*

[1] For Greenberg '[t]he affiliation of Kru and Ijo [Iʒǒn] to the Kwa group is to be considered tentative' (1963: 39 n. 13, cf. Westermann 1927: 12). Williamson (1989) promotes both of them above BK in the tree, whereas Williamson and Blench (2000: 18) put Kru inside a coordinate branch. I assume

Given Greenberg's proof that the 'Bantu family' is coordinate with Kwa, transitivity brings along the intermediate languages of Plateau, Cross and the rest of Bantoid (1a), plus an old fragmentation zone 'in Nigeria and the Cameroons . . . more specifically the Central Benue valley' (1963: 38, cf. Meinhof 1899; Greenberg 1972).[2] The BK hypothesis was a pregnant afterthought: 'Kwa and Benue-Congo are particularly close to each other and in fact legitimate doubts arise concerning the validity of the division between them' (Greenberg 1963: 39n. 13). Elugbe and Williamson agreed that '[i]f Kwa and Benue-Congo can no longer be separated on the customary typological grounds . . . , then we conclude that, pending the production of new types of evidence, Benue-Congo and Kwa form a single subfamily of Niger-Congo' (1977, 351).[3] Williamson (1b) tried a new partition based on lexicostatistics plus 'lexical innovations' (1989: 249), but these data are equivocal (Armstrong 1983: 146f; Bennett 1989: 40) and Williamson and Blench eventually revived the null hypothesis of BK as a 'dialect continuum' also known as 'East Volta-Congo' (2000: 17f).[4]

This chapter restates the 'traditional' claim that typology holds the key to BK subclassification after all, but only on a particular view of morphosyntax. BK spans a range of diversity including (i) an east-to-west, affixing-to-isolating cline (Westermann 1927; Voorhoeve 1967; Hyman 1976, 2004; Winston 1970; Welmers 1973; Williamson 1985) and (ii) a correlated shift from quasi-free scrambling to rigid VO order, often analysed as E-language drift i.e. grammaticalized 'word order change' (Givón 1975; Hyman 1975; Lord 1977; Williamson 1986a). Scenario (ii) is dubious, because *finite* OV need not be reconstructed: in Niger-Congo it is limited to Ị̀zǫ̌n (Heine 1976, 1980: 109) while nonfinite OV strings are produced synchronically in several branches by leftward object shift (Manfredi 1997; Aboh 2004).[5] Scenario (i) is descriptively better grounded, but begs the question of smooth versus punctuated evolution. I propose that much of BK's diversity subvenes a single abrupt, large-scale innovation in I-language (Chomsky 1986: 20), namely a switch

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Kru is BK1 and Ị̀zǫ̌n is non-BK; what matters for this paper is that neither is BK2. BK1 tone-marking in this paper: no mark = same tone as previous mark; sequence of two H marks = downstep starting on the second H.

[2] I leave 'Bantu' in quotes because it's 'impossible to draw a clear line between Bantu, however defined, and non-Bantu Niger-Congo' (Nurse and Philippson 2003: 5, cf. Greenberg 1974; Marten 2006).

[3] Stewart (2002), echoing Mukarofsky (1965), does not foreclose the possibility that the nearest common ancestor of the BK languages is Proto Niger-Congo itself.

[4] (1b) persists in the Bantuist handbook, in a family tree misleadingly labeled as 'adapted from Williamson & Blench (2000)' (Schadeberg 2003: 154).

[5] Other synchronic possibilities can be dismissed: extraposing non-finite V (Marchese 1984) or V2 fronting of finite V from underlying OV (Koopman 1984).

from late to early timing of phase-based Spell-Out (Chomsky 2001). This yields the partition in (1c).

(1c) rests on descriptions of four interface traits—two semantic, two phonetic—listed in (2) and mapped to clusters in (3). The subset defined by all positive specifications of (2a–d) is a contiguous area (BK2) comprising Gbè, Yorùbá and probably also Nupe and Ìdọmà (3b), while negative values of the same features hold in a *non*-contiguous area (BK1) including the Àkan, Ẹ̀dó, Ìgbo, Cross, Plateau, Bantoid and probably also Kru clusters (3a). The discontinuous, negative set is more likely to diagnose a conservative or remnant area, from which BK2 subtracted itself thanks to contraints of language acquisition for which the BK 1/2 speciation event becomes, in turn, a source of evidence.

Mixed plus and minus feature values for the four traits in (2) are attested in few-to-none of the hundreds of BK languages, i.e. set (3c) is effectively empty. Unless this skewed outcome is illusory, it points to a single I-language parameter as the motor of BK2's emergence. An anonymous reviewer suggests that 'any of the features used to define the family tree [in 1c] is a plausible candidate for areal diffusion under conditions of bilingualism', but I assume that the semantic traits (2a–b) are not directly learnable from primary language data—indeed (2a) has to my knowledge never been previously observed, even by speaker-linguists, and (2b) on its own would be an unmotivated complication of grammar. As for the phonetic traits (2c–d), there's no contradiction if one or both of them spread via borrowing in early BK—as in Meillet's (1922) wave model of early Indo-European—but the fact that that they now hold quasi-uniformly across the large and heterogeneous BK2 population and area entails that at some was triggered a shift to non-gradient, inherited status. The question is how that occurred.

(2)   a. A finite eventive predicate with minimal inflection is either present-perfect or past.

     b. Aspectually unrelated events are excluded from a single clause.

     c. Minimal finite inflection is an auxiliary/proclitic particle, not a suffix or root-borne tone pattern.

     d. At least three surface tones contrast on roots of the same category.

(3)   a. *4 minus settings*: {[Kru (?2a)], Àkan, Ẹ̀dó, Ìgbo, Bantoid...}=BK1

     b. *4 plus settings*:   {Gbè, Yorùbá, [Nupe (?2a)], [Ìdọmà (?2b)]...}=BK2

     c. *mixed settings:*   { $\simeq \emptyset$ }

In sum, a historical, I-language event is inescapable in the origin of BK2. It remains to check if such a scenario is compatible with known E-language changes e.g. sound shifts (Section 19.2), to examine I-language properties on each side of the BK2 line (Section 19.3) in the hope of finding a necessary and sufficient E-language trigger for their quantum shift (Section 19.4), and to consider why the appearance of BK2 should follow from BK initial conditions, under a plausible theory of diachrony (Section 19.5).

19.2 Compatible sound laws

Comparing root-initial consonants of 'Akanic' (the immediate protolanguage of the macro-Àkan cluster) and some version of 'Proto-Bantu', Stewart (1973, 1993, 2002) reconstructs four sets of regular sound correspondences, contrasting in two orthogonal manner features and covering roughly 100 roots in all. (4) gives coronal examples; cthe labial, velar, and labiovelar series receive parallel treatment.[6]

(4)
$$\text{“Proto-Bantu-Potou-Tano”}$$
$$[\pm\text{voiced}, \pm\text{glottalized}]$$
$$*\{t, d, \text{'}t, \text{'}d\}$$

"Akanic" *{s, θ, t, d}   "Proto-Bantu" *{t, d/t, t, d/l}

┌─BK2─┐
Akuápem Nkonya   Gbè   Yorùbá   […] Ìgbo […]

	Akuápem	Nkonya	Gbè	Yorùbá	Ìgbo	
'ear'	-sɔ̋	-sɔ́	-tó	-tí	-tʰì̤	*-tʊ́
'stopup/close'	-sìw	-tì̀	-tú	-tì	-chí	*-dìb/-tìb
'roast/burn'	-tɔ̋	-tɔ̀	-tɔ̀	-jó	-rú	*-tùmb
'eat'	-dì	-jì	-ɗù	-jɛ́	-lí	*-dí

Stewart remarks that '[i]t has proved extremely difficult to find regular sound correspondences across Èwè and Àkan...It has in fact proved much less difficult to find regular sound correspondences across Àkan and Proto-Bantu...' (1994: 176; cf. Capo 1985; Stewart 2001). This observation in itself doesn't disprove (1b) because it refers to archaism, but I've added Gbè, Yorùbá, and Ìgbo reflexes in between Stewart's forms in (4), showing that

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[6] Williamson and Blench (2000: 35) and Schadeberg (2003: 156) note that 'Proto-Bantu' reconstructions vary depending on how much of the 'wide' north-west is included. Stewart's 'Akanic' data are not tone-marked; I've added citation tones from Kotey (1998).

BK2 collapses the reconstructed four-way distinction among onset consonants into only two outcomes, whereas at least three distinct reflexes are found in BK1. If BK2 restructured roots, consistent with the silence of Stewart's Law in those languages, this is a plausible concomitant of innovating a three-way prosodic contrast on roots (2d), potentiated by phonation effects (Hyman 1973) as is still the case in modern Gbè (Stahlke 1971).

Direct evidence disproving (1b) includes a velar-to-labial shift shared by Gbè and Yorùbá:[7]

	BK2			BK1			
	Gbè	Yorùbá	Nupe	Ìdọmà	Àkan	Igbo	Èdó	"Proto-Bantu"
(5) 'hunger (v.)'	-wù		-gùn	-ŋmú		-g(ḥ)ú		*-guid 'seize'
'hunger (n.)'		ebi			òkọ́m	ág(ḥ)ụú/ọ́		
'journey'		ebi	ezì	èyè		íj(ḥ)è		*-gend
'bend/bent'	-bọ̀	-wọ́			kòtów	-gọ́	-go	*-gòb
'needle/thorn'	àbí	àbébé	èkin	ìgyé		àg(ḥ)ị g(ḥ)á		
'pierce/split/sew'		-bẹ́		-gá	-chwá	-g(ḥ)á	-gia	

Counterevidence to (1c), such as a soundshift crosscutting the BK1/2 divide, has not been found.

19.3 I-language outcomes

The partitioning in (1c) and (3) has a quantum nature, as shown by the synchronic status of each of the correlated I-language features in (2). The following examples contrast all four at once.[8]

	Yorùbá(BK2)		Ìgbo (BK1)
(6)	a. Ǹgìgè-é bi Ìgè (*jádèe).	(7) a.	Ǹgige jụ-rụ Ige (fụ-ọ́).
	N.-FIN ask I. exit		N. ask.FIN-CL I. (exit-AFF).
	'Ǹgìgè (has) asked Ìgè		'Ǹgige asked Ìge (and then left)'
	(*and then left)'		
	LLL-H M LL (HLM)		LLL L-L LL (L-H)

---

[7] Here dotted -gh- denotes aspirated [gh], whereas dotless -gh- is fricative [ɣ], and the non-roman vowel symbols of Gbè and Àkan orthographies have been Nigerianized with subdots. All Gbè data in (5) are Èwè. The Àkan devoicing is regular (Stewart 1993: 34; 2002: 219), as is the palatalization in the Nupe and Ìgbo forms of 'journey' and the Ìdọmà form of 'thorn'.

[8] In <Yorùbá> MLH, tonally unmarked syllables are mid. The H tone glossed FIN is normally written on the last syllable of the subject, thus in (6) <Ǹgígé> LLH, but this is not phonetically distinct from the more analytic transcription [ǹgìgè-é] LLL-H, thanks to regular tone spread (Akinlabí and Liberman 2001). In the BK1 tone-marking convention adopted here, an unmarked syllable has the same value as the previous mark, thus in (7) <Ǹgige> represents [ǹgìgè] LLL. A downstep precedes the second H mark in sequence, thus in (13e) below, <Ọ́bọ́...> represents [ọ́!bọ́...] H!H.

b. Ìgè-é gbé agbọ̀n (báàyìí).   b. Ìge vu-ru   ábọ (*ùgbú à).
   I.-FIN lift basket thus   I. lift.FIN-CL   basket now
   'Ìgè (has) lifted [a/the]   'Ìgè lifted [a/the] basket (*now)'
   basket (now)'
   LL-H H ML (HLLH)   LL L-L HH (LH L)

As stated in (2a), BK languages differ in the tense outcomes of a minimally inflected clause: (6) but not (7) allows a present-perfect reading in addition to simple past (Awóyalé 1991: 201). The extra option in (6) can be foregrounded by adverbs (*báàyìí* 'thus', *ní ììsìn yìí* 'right now') or preverb particles (*sẹ̀sẹ̀* 'just', *ti* 'from') of temporal deixis (Abraham 1958: 99, 320, 614, 639f.).[9] For an accomplishment like 'lift a basket', (6b) is true even if the basket remains held aloft ('Ṣ. Adéṣọlá, Ọ. Ajíbóyè p.c.), but the same entailment is blocked in (7b) where inclusion of *ùgbú à* 'now' yields ungrammaticality (Ụ. Íhìọ́nụ́, C. Úchèchúkwu p.c.).

The difference just described eludes a syntax-free, E-language analysis of similar sentences in these two languages, whereby '[p]erfective forms (simple nonstative verb) are interpreted as referring to the past' (Comrie 1976: 82, citing Welmers 1973: 346f). Short of entertaining a 'semantic parameter' of *Aktionsart*, the contrast proves that the mapping from aspect to tense is not a direct default to semantics (Comrie *après* Reichenbach) nor to pragmatics (Dowty 1986). Neither is it possible to appeal to a crosslinguistic difference in tense-marking, because the suffix pronounced -*rụ* in (7) lacks temporal content: as is well known, it fails to deliver a past interpretation in case the lexical predicate is static, e.g. adjectival -*vù ívù* 'fat' or psych -*kpọ́ asị̀* 'hate'.[10]

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[9] In (i), *ti* has been described as marking 'perfective tense' (Bám̄gbóṣé 1966a: 94f., cf. Abraham 1958: 639), however a homophonous item shows up obligatorily with certain adjuncts (Abraham 1958: 640; Carstens 1986), be they *in-* or *ex- situ* (ii, iii), suggesting an analogous structure for (i) with a null deictic reference time foregrounding one of the readings described in (6).

(i)   Ǹgìgè-é ti$_i$ lọ   ["now"]$_i$.
      N.-FIN TI go
      'N. has already gone'

(ii) Ǹgìgè-é [ti Èkó   ] lọ.
      N.-FIN TI Lagos go
      'N. left from/via Lagos'

(iii) [Ní ìgbà wo]$_i$ ni   Ǹgìgè-é   ti$_i$ lọ [t]$_i$?
      at time which COMP   N.-FIN   TI go
      'When did N. go?'

[10] To label the item glossed CL in (7) a past-tense suffix (Green and Ígwè 1963: 54; Nwáchukwu 1976) is to posit a homophonous non-past item in complementary distribution. Much easier is a non-tense analysis of this morpheme, either as null aspect (Welmers and Welmers 1968: 76; Éménanjọ 1978; Manfredi 1991), affirmative polarity (Carrell 1970; Williamson 1983; Ùwaláàka 1988; Déchaine 1992) or an aspectually active argument-type clitic (Déchaine 1991; Manfredi 2005b).

I conclude that the only relevant, audible asymmetry between (6) and (7) is scopal: (6) but not (7) is auxiliated, cf. (2c). In standard Yorùbá, the auxiliary element glossed FIN is pronounced as a pitch accent (lexically spurious H tone) on the right edge of a non-clitic subject (Abraham 1958: xix, Awóbùlúyì 1975).

Linearization of FIN suffices to explain the tense difference at hand, as shown by an independent fact also cited by Comrie: in Yorùbá as well as (northern) Ìgbo the bare durative auxiliary is compatible with either past or non-past topic time. The items in question are Yorùbá *ń* and Ìgbo *nà* (Abraham 1958: 433 ex. le; Éménanjọ 1978: 174).[11] However, many southern Ìgbo dialects form progressives with a suffix not an auxiliary, and these unauxiliated progressives are *never* ambiguous as to tense (Éménanjọ 1985: 122–5; Déchaine 1991). Conclusion: ambiguity if and only if auxiliation (2c).[12]

The H glossed FIN in (6) is indeed an auxiliary, not a quirk of phonology, and counts as a scope-taking element, because it stands in complementary distribution with the set of irrealis auxiliaries including future and clausal negation (Awóyalé 1991; Oyèláràn 1989; Déchaine 1992, 1995). In Standard Yorùbá the same irrealis auxiliaries which block auxiliary H also trigger 3sg subject *pro-drop*, perhaps diagnosing a Case split since 3sg accusative happens to be segmentally null (Manfredi 2003a).[13]

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[11] In Yorùbá, Awóyalé (1991: 201f) reports that any past reading of bare *ń* must be habitual, not progressive, but this does not alter the auxiliary's basic durative meaning, on which habitual is parasitic. A second example of the same effect is the element *máa*, which in a non-finite context suffices to denote a habitual eventuality, but which in a non-finite context cannot occur without accompaniment of an explicitly durative auxiliary, yielding either [*a máa*] or [*máa ń*] (Oyèláràn 1989).

[12] Relying on Comrie's summary of Welmers, Hornstein (1990: 216 n. 25) imagines that 'in some languages the same morpheme marks the past and the present tense' and takes this to support Reichenbach's rich temporal meaning postulates, but that's mistaken: real tenselessness (temporal ambiguity) in BK requires auxiliary scope, i.e. it's a configurational property not attributable to morphological 'marking' by itself. Perhaps recognizing this, Comrie's second draft on 'tenseless languages' (1985: 50–2) drops all Niger-Congo data.

[13] Overt FIN is blocked, in the Yorùbá examples in (8), by the overtly nominative subject clitic. After a non-clitic subject, Yorùbá orthography usually glosses over the presence of FIN, whose phonetic linearization is subtle and requires instrumental study: for example, after non-clitic subjects of certain tone patterns such as ML, it may be less audible on the subject to its left than on the predicate root to its right (F. Adékéyè p.c.)—perhaps as an effect of foot structure (Manfredi 1995). Another example could be the 'optional' (Bám̄gbóṣé 1966a: 35) occurrence of FIN before *á*, the prospective auxiliary:

(i) Èrò/Èró   á   pọ̀.
     crowd   PROS   plentiful
     'There will be many people'

(ii) Wọn/Wọ́n   á   pọ̀.
     3P   PROS   plentiful
     'They will be numerous'

Affirmative FIN takes prosodic shape also in Ìgbo, but its position and pronunciation are opposite from what was just described for Yorùbá: Ìgbo FIN synchronizes with the predicate root itself, and its effect is suppression of root H, not addition of non-lexical H. This difference can be understood as Ìgbo deaccenting of the roots -*jʊ́* 'ask' and -*vú* 'carry', versus Yorùbá accenting the head of TP.[14] In this way, (2c) captures the fact that Yorùbá but not Ìgbo locates the clause's point of greatest morphological redundancy (Kaye 2003) to the predicate's left, causing Yorùbá- but not Ìgbo-learning infants to conclude that the minimally inflected clause contains a tense-related auxiliary—an 'extra' scopal position which can freely anchor to topic time, even though the verb's event is construed in the past.

(2d) is uncontroversial (Green & Ígwè 1963; Bám̄gbóṣé 1966b; Akinlabí 1985), setting aside asymmetries in toneme distribution (Manfredi 1993, 1995, 2003b, 2004).

(2b) refers to the ungrammaticality of the parenthesized serial predicate in (6), versus its counterpart in (7) which is fine. Bám̄gbóṣé (1974: 28) was the first to discuss this difference, observing (8a). (8b) is parallel with the second predicate transitive. The Ìgbo equivalents of both are fully grammatical (9a–b), and no less 'serial' (Ùwaláàka 1982; Manfredi 2005a) despite the E-language label of 'consecutive construction' (Hyman 1971; Lord 1973; Stewart 1998; Baker and Stewart 2002).

	Yorùbá			Ìgbo	
(8) a.	Mo ta iṣu (*wá).	(9) a.	Ḿ rè-re jí (wè-é) bya.
	1SG sell yam come			1SG sell.FIN-CL yam take-AFF come.AFF
	'I('ve) sold [the] yams			'I sold [the] yams and
	(*and came)'			(then) came'
	b. Mo se e.ran (*ta bàtà).		b.	Ḿ shì-ri ánu̧ (wè-é)
	1SG boil meat sell shoes			1SG boil.FIN-CL meat take-AFF
				re-e shuù.
				sell-AFF shoe
	'I('ve) boiled [the] meat			'I boiled [the] meat and (then)
	(*and sold [the] shoes)'			sold [the] shoes'

'Ṣ. Adéṣọlá (p.c.) finds 'no obvious [semantic] difference between each pair' above, so I'm inclined to invoke phonetic spread of the lexical H from the onsetless mora of *á* within its phase i.e. leftward; the alternative is to assume that Oyèláràn's [± realis] feature is simply undefined for this auxiliary. The picture in dialects is different (Fresco 1970) but thus far has not been analysed.

[14] The analysis of FIN's lowering effect in Ìgbo as phonology somehow triggered by the clitic -*ru̧* (Goldsmith 1976, following Welmers 1970: 51) can't be true because the distributions are independent: the appearance of CL is compositionally determined by predicate *Aktionsart* and sentential aspect, whereas FIN marks a non-auxiliated, finite indicative affirmative with any aspectual content, so there are unlimited examples of FIN-lowering in the absence of CL.

(3) claims that all BK languages sort themselves into one or the other camp, Yorùbá-like or Ìgbo-like, with respect to (2). This is true, to the limit of available descriptions. (2a) holds in Ìdọmà (Armstrong 1963: 143f.). It's unclear in standard Nupe, but seems to hold in the north of the cluster in Gbagyi ('Gwari'), where 'yesterday' and 'before yesterday' forms are built on a morphological present perfect (with object shift) plus modifying auxiliaries (Hyman and Magaji 1970: 57). In BK1, by contrast, the recent/remote past distinction is orthogonal to the difference between past and present perfect in Àkan, Èdó and Ìgbo, and probably also in traditional 'Bantu' (Welmers 1973: 348).

(2b) holds in both Fɔ̀n-Gbè (da Cruz 1997: 31) and in Nupe (Stewart *et al.* 2000: 3):

Fɔ̀n-Gbè

(10) Kɔkú sɔ̀ asɔ̀n lé yi axi mɛ.
     K. take crab PL go market interior
     'K. has brought the crabs to
     the market'
     [*'...took the crabs somewhere
     & then went...']

Nupe

(11) Musa du etsi (*gi nakàn).
     M. cook yam eat meat
     'M. has cooked [the] yams
     (*& ate [the] meat)'

(2b) has the BK1 value throughout the macro-Àkan cluster (Christaller 1875; Stewart 1963; van Leynseele 1979; Dolphyne 1988; Campbell 1988; Sáàh 1992, 1995; Larson 2005), and the same goes for 'all [Bantu] languages for which there is adequate data' thanks to a 'consecutive tense'—comparable to the non-initial predicates in (7) and (9)—with the requisite properties of being a finite 'dependent form' (morphologically distinct from an infinitive) in which 'tense distinctions are neutralized' i.e. supplied by the preceding verb (Nurse 2003: 101f.).

(2c) is challenged in Gbè by a range of suffixed main verbs (Fabb 1992; Kinyalolo 1992; Aboh 2004), but on second thought all these are either overtly auxiliated progressives (Mínà-Gbè, Fɔ̀n-Gbè), or else generic/nonreferential (Gɛ̀n-Gbè, Èwè-Gbè). To refer to either past or future, the generics need a suppletive auxiliary—a stative modal lexically related to a predicate meaning 'remain' (Westermann 1930: 75f.)—but such suppletion is absent in the suffixless generics of Yorùbá. Overall, the fact that Gbè sentences can have zero overt inflection—prosody included—is more consistent with a positive value for (2c) than a negative one, assuming that infants allow null finite inflection as a last resort, localized by scopal considerations in the Middle Field. Apparently this bias can be undone by slight audible counterevidence like the Ìgbo version of FIN described above, or the 'final

vowel' which is 'part of [Bantu] inflectional morphology' (Schadeberg 2003: 71) in complementary distribution with finite aspectual *-ile* (Meinhof *et al.* 1932: 45). In sum, Gbè shows that the unmarked value of (2c) is the one chosen by BK2.

Potential counterexamples to (2d) are few and unconvincing. Mambila (Bantoid) is called 'a language with four level tones' (Connell 1996), but uninflected roots of predicate type choose from only two distinct pitch values (Connell 2000: 167). Similarly, Kamba and Chaga (of 'narrow Bantu') possess 'four tone levels' only by counting '*secondary* superhigh and superlow' (Kissebirth and Odden 2003: 59, my italics). In Gbè, the M/L distinction is fully reducible to phonation type, but only if syntactic phrasing is taken into account (Stahlke 1971; Manfredi 2004). In BK2, 'tones' are more typically underspecified relative to position (Yorùbá onsetless prefixes can't bear H, Gbè prefixes don't contrast M and L) than they are to lexical category (as is the norm for BK1, see above). Such asymmetries matter, because the generalization in (3) cannot hold unless paradigmatic properties like tone contrasts are systematically related to morphosyntax.

Absent synchronic evidence for mixed values of (3c), I conclude that BK contains only two parametric states, BK 1/2. Given the large population of BK languages, such a result is beyond the coincidence of drift, and is irreducible to gradient borrowing. The remaining possibility is common origin.

19.4 Speciation of grammar—rare and catastrophic

As noted in passing above, the hypothesis of singular historical origin for the asymmetric, bimodal distribution in (3) poses issues of learnability and markedness. Two out of the four distinctive I-language features of BK2 are purely semantic, not easily detectable in primary acquisition data: a secondary reading of default tense which is often doubled and masked by a temporal adverb (2a); and a missing aspectual class of serial verbs easily effable in a multiclause alternative (2b). A third feature of BK2—a three-way pitch contrast over roots (2d)—is phonetically robust but is *a priori* difficult to connect to clause-level semantics. The remaining feature is more promising as a speciation trigger: synchronization of FIN exclusively before the predicate (2c) is scopal and thus potentially semantic. FIN is usually audible in Yorùbá, but never in non-auxiliated sentences of Gbè, thus it's learnable in Gbè only with the help of a UG bias which points children towards BK2 by default.

Following earlier generative studies of Niger-Congo languages (Koopman 1984; Baker 1985), the differing morphological profiles of (2c) have been

analysed in terms of head movement or its checking-theoretic equivalent (Manfredi 1991; Déchaine 1992; Stewart 1998), but this approach to linearization foundered on conceptual and empirical problems (Lasnik 1995; Hyman 2003) and led to dubious results. Stewart (1998) appealed to Baker's Mirror Principle in order to group Èdó together with Yorùbá versus Ìgbo, based on a claimed correlation between finite affixation and the typology of serial constructions, but both sides of this equation are mistaken (Manfredi 2005a). So far as I-language is concerned, and setting aside traditional construction labels, Èdó is more like Ìgbo than like Yorùbá: its minimal finite form of an eventive predicate does not span past and present-perfect (2a) and the so-called 'consecutive' serial is freely available (2b). Nor is suffixation a reliable inflectional cue in Èdó; that job is primarily done by prosody (Melzian 1942; Ámayo 1976; Aikhiọnbare 1988). As shown directly below, facts of inflectional prosody support (2c) and group Èdó with Ìgbo not with Yorùbá.

If so, the superordinate question remains, how can prosody determine syntactico-semantic type? An answer is available in a phase framework, with two further assmptions: Spell-Out domain is parametrized and inflectional prosody tracks cyclic accentuation. The former idea seems inevitable if any category variation can be registered in syntax; the latter is supported by the Minimalist derivation of Nuclear Stress effects in Germanic (Wagner 2005). Cyclic accentuation is not improbable in BK languages, so long as one is prepared to drop the taxonomic assumption (Pike 1948; Welmers 1959) that 'grammatical tone' enters the computation as phonology (Goldsmith 1976; Hyman 1979, 1989; Odden 1988). If prosodic inflection is phrasal *syntax* (Manfredi 2006), (2c) entails that in BK1 the derivation 'waits' before spelling out the predicate until after merging the main Tense-related head, whereas BK2 languages pronounce the lexical predicate (roughly, the bare VP) before that point.[15]

Given the parameter, the next question is the direction of the parameter resetting event. Theory-neutral E-language evidence reviewed above suggests that late (TP) Spell-Out was the archaic/initial state of BK, with early (VP) Spell-Out the innovation: BK1 languages are non-contiguous, separated by the large but territorially unified BK2 area, hence a singular innovation is demographically more likely to have affected BK2 than BK1. A historical analysis of (3) then requires two more steps: (i) identify the trigger which reset cyclic Spell-Out from TP to VP, and (ii) show how this resetting leads simultaneously to all four I-language properties of BK2.

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[15] As noted by Déchaine (2001b), this parameter contradicts both uniform (e.g. Late) Lexical Insertion (Halle and Marantz 1993) and Lexical Uniformity (Reinhart 1997).

As Greenberg (1963: 37) observed, the dichotomy 'Sudanic=isolating, Bantu=agglutinative became fundamental for African linguistics' already since Westermann (1927). Thereafter, evidence accumulated that western BK shows 'an advanced state of decay and the extensive loss of affixes' (Greenberg 1963: 37), but this E-language observation leaves two problems. (i) The gradual cline of 'decay and loss' across BK says nothing about which restructuring cues account for the sharply discontinuous emergence of the BK2 type. (ii) These 'decay and loss' effects are typically described in segmental terms, with tonal phenomena set apart as 'stable' in 'floating' phonology (Hyman and Tadadjeu 1976; Williamson 1986b), but on the contrary, the comparative evidence shows that BK2 underwent radical prosodic restructuring.

Èdó is a paradigm of both (i) and (ii). Stewart (1998) could save the Mirror Principle and group Èdó parametrically with Yorùbá (BK2) rather than Ìgbo (BK1) only by two E-language assumptions: enshrining a privileged relation between suffixation and tense while arbitrarily discounting tonal inflection; and resorting to definitional *fiat* to escape the serial nature of so-called 'consecutive' constructions (following Hyman 1971 and Lord 1977). But from the I-language perspective in (2), Èdó remains with Ìgbo in BK1, despite the dramatic surface effects in Èdó of consonant lenition and vowel elision in both synchronic and diachronic terms (Wescott 1962; Ọmọzùwa 1989; Elugbe 1989).

Consider (12). Comparison of (12a) and (12b) shows that the segments pronounced -(*r*)*è* appear only in the absence of a phrasal complement, and that tense is coded adequately by pitch alone when the object is *in situ* (12c–d). Far from -(*r*)*è* being a tense-marker *à la* Stewart, (12) shows it to be a footing device which fits the H in (12b) as a branching trochee (*sw* = HL), as opposed to the H in (12d) which does not fall. In Èdó, inflectional prosody is more easily parsed because predicate-type roots do not display 'any minimal tonal contrasts…independently of their grammatical contexts' (Ámayo 1976: 230). Ìgbo on the other hand does possess at least a few minimal tone pairs in lexical roots, nevertheless prosodic inflection remains possible in various ways: either deaccent the root as in (13a–b), or else make the subject clitic accentually dependent on the root. The latter option is shown by a minimal pair in Ágbò (at the western edge of the Ìgbo cluster), where the lexical pitch contrast between -*jén* 'go' (H) and -*bò* (L) is pronounced in a finite context, not on the roots themselves which are both realized H, but on the accentually 'opposite' subject clitic pronounced respectively L (13d) and H (13e). In between, both geographically and typologically, is the Ìsele Úku dialect (13c) described by Ọnwụeméne (1984: 6), which extends root deaccenting *à la* Ìgboúzò (13b) to the auxiliary domain *à la* Ágbò (13d). The interest of the

paradigm in (13) is that in all the variations, the predicate root and the Tense domain are prosodically *inter*dependent, just as required by (2c). This situation is parametrically identical to (12).[16]

<table>
<tr><td colspan="2">Ẹ̀dó (BK1)</td><td colspan="2">north & west Ìgbo (BK1)</td></tr>
<tr><td>(12) a.</td><td>Ọ̀ bọ́ (ò)wá.
3SG build.H house
'S/he built [a] house'
[L H !H]</td><td>(13) a.</td><td>Ó jè-lụ áfịa.　　　(Ọ̀ nị cha)
3SG go.FIN-CL market
'S/he went to [the] market'
[H LL HH]</td></tr>
<tr><td>b.</td><td>òwa n-ọ bọ́-(r)è.
house DEF-3SG build.FIN-AFF
'the house that s/he built'
[L L L H-L]</td><td>b.</td><td>Ó jè áshịa.　　　(Ìgboúzò)
3SG go.FIN market
'S/he went to [the] market'
[H L HH]</td></tr>
<tr><td>c.</td><td>Ọ̀ bọ (o)wá.
3SG build.L house
'S/he is building [a] house [now]'
[L L (L)H]</td><td>c.</td><td>Ó-ò je áfịa.　　　(Ìsele Úku)
3SG-FIN go.FIN market
'S/he went to [the] market'
[H LL HH]</td></tr>
<tr><td>d.</td><td>òwa n-ọ bọ́
house DEF-3SG build.H
'the house that s/he is building [now]'
[LL L H]</td><td>d.</td><td>Ò jén afịá.　　　(Ágbọ̀)
3SG.FIN go market.GEN
'S/he went to [the] market'
[L H H!H]</td></tr>
<tr><td></td><td></td><td>e.</td><td>Ọ́ bọ́ anụ́　　　(Ágbọ̀)
3SG.FIN butcher animal.GEN
'S/he butchered [an/the] animal'
[H !H H!H]</td></tr>
</table>

So, what dissuaded the learner of any BK language from spelling out Tense and the predicate root *together*? Although suffix erosion is complete in western Ìgbo, it nonetheless remains BK1, so some additional factor must have compelled the shift to early Spell-Out in BK2 languages. The only

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[16] As flagged in the glosses of (13d-e), Ágbọ̀'s 'capture' of the subject clitic into the domain where root tone contrasts appear, leads to loss of Accusative case-marking with finite verbs. Thus the tonal inflection of the notional object in these sentences is Genitive [H!H], versus citation/Accusative [HH] as found in the other dialects. This is Burzio's generalization without A-movement. Another E-language factor nudging prosody leftward in Ágbọ̀ is phonetic contraction of the vowel of the verb root before a V-initial direct object. In this, Ágbọ̀ resembles Ẹ̀dó, its neighbour, as well as Yorùbá. But Ẹ̀dó unlike either Ìgbo or Yorùbá maintains a length contrast between CV and CVV roots, compensating for the lack of lexical verb tone contrasts (Ámayo 1976).

remaining possibility, on current knowledge, is (2d), thus I claim that a three-way lexical tone contrast pushes prosodic inflection over the edge to aggressive (early) root Spell-Out. Such an inference sounds absured if tone is mere phonology, but is possible and indeed inescapable, if tonemic contrasts are epiphenomena of accentual footing (Liberman 1995; Idsardi and Purnell 1997; Manfredi 2004). Thus I claim that a three-way lexical pitch contrast rules out a prosodic dependency between Tense and VP—the primary cue of late Spell-Out—because no foot can be constructed spanning both positions. Any E-language change introducing a third lexical tone in a BK grammar is sufficient to produce the I-language outcome of BK2, starting with (2c).

It remains to account for the semantic traits (2a–b). As argued in Section 19.3, temporal ambiguity is independently correlated with auxiliation, in other words (2c) directly accounts for (2a). As for (2b), I have proposed (14), supported by (15).

(14)   A sequence of aspectually unrelated events cannot be expressed in a single clause... unless each root is either local to Tense or audibly tense-marked.

(15)   a. A (quantized) event must be tense-marked (Enç 1987; Verkuyl 1993).
        b. Non-local tense-marking must be overt (morphological head-marking).
        c. A complex event is tense-marked if any of its segments is.

19.5 Hegelian diachrony

> '[P]er [Hegel] non si tratta di avere belle e pronte le idee per poi vedere come esse si manifestino, si svolgano e si applichino, ma lo svolgimento stesso della storia nella sua realtà e concretezza è la rivelazione del fine ideale umano.'[17]

Even assuming that (2a) and (2b) were somehow directly learnable as 'semantic parameters' (Chierchia 1998), their historical linkage to each other, and to the phonetic cues in (2c–d), show that the four changes in BK didn't happen separately or coincidentally. The need for a quantum analysis along these lines is perceived by Hyman (2004), despite his preference for incremental grammaticalization. I claim that the *Primum Movens* of the historical

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[17] 'Hegel didn't treat ideas as ready made or as merely something to watch how they'd later turn out, unfold or be applied. Rather, it is the unfolding of history in its concrete reality that reveals the ideal human *telos*' (Labriola 1871: 130).

clock—grammar-external (E-language) phenomena of segmental erosion in affixes and roots—led to lexical restructuring via tonogenesis (2d), which forced a shift to early Spell-Out (2c), with direct semantic effects (2a–b). Most speakers of BK2 languages may agree with Koster (1986: 376; cf. Zeeman 1972) that this kind of evolution is a 'happy accident'.

The large-scale restructuring event that created BK2 sits uneasily with current views of both macro and micro parameters (Baker 1996; Kayne 2005; cf. Newmeyer 2004). A lone micro change can't plausibly explain the huge contrast in (3), and if several micro changes had been additively involved, more than two I-languages ought to appear in the very large sample. An improvement could be to correlate several micro outcomes together by appealing to implicational universals (Greenberg 1966), except that none of the structural generalizations in (2) seems to be valid outside the BK universe. Since it's unlikely that UG knows specifically about BK, I suggest it is sufficient for UG to know about cyclic Spell-Out, even though this parameter in itself is too abstract to describe the grammars of BK1 and BK2 in descriptively adequate detail.

Fortunately, typology can be studied in conjunction with history (Greenberg 1970) just as Labriola taught in the epigraph to this conclusion. In Heglian style we can run the BK movie 'forwards in time' (Watkins 1962: 7) and sort many small E-language differences among the BK daughters according to the UG *telos* of one large I-language difference. Segmental erosion opened the prosodic door that let BK2 cross the threshold of (2d). (2d) set off a 'catastrophic' reset of BK grammar, analogous to 'radical creolization' (Bickerton 1981; cf. Oyèláràn 1982) but limited to one parameter, the choice between TP and VP for cyclic Spell-Out. Standard objections to Bickerton (Muysken 1988; Mufwene 2001) don't apply to the markedness account of BK2 being proposed here. (i) The suggested triggering condition for BK2 is not a vague 'heterogeneity' of primary data, but a narrowly defined class of monolingual E-language inputs. (ii) The unmarked quality of a Bickertonian 'radical creole' is grammar-wide, but the unmarked property of BK2 in comparison to BK1 is limited to clausal inflection—leaving many other I-language properties which are shared between BK1 and BK2, and which erosion didn't touch.[18]

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[18] Instead of the metaphor of 'decay' (Greenberg 1963; Keenan 1998, 2002, this volume), I prefer *erosion* because it fits the specific process at work here, incremental loss of material at edges; because it avoids the Romantic degeneration trope; and—*pace* the anonymous reviewer mentioned in 19.1— because it matches BK2 ontogenetic myths like the verses from *Ogbègúndá* (Abímbọ́lá 1975: 19f).

20

On the Germanic properties of Old French

ERIC MATHIEU

20.1 Introduction

This chapter shows that a certain cluster of properties found in a subset of North Germanic languages (e.g. Icelandic, and possibly Faroese) can also be found in Old French. In addition to V2 configurations, all the following properties are available: (i) Stylistic Fronting; (ii) Quirky Subjects; (iii) Object Shift; and (iv) Transitive Expletive Constructions.

Building on work by Cardinaletti and Roberts (2002), Dupuis (1989), Roberts (1993), previous of work of mine (Mathieu 2006*a*) has already established that Stylistic Fronting (SF, henceforth) was part of the inventory of grammatical constructions of Old French, while in a recent paper I also show that Old French had Quirky Subjects (Mathieu 2006*b*). In the latter paper, a correlation is established between the two constructions in that, if a language has SF, then it also has Quirky Subjects (though the opposite may not be true, e.g. the case of modern German).[1]

Other correlations of the sort have been made in relation to Germanic languages. A case in point is Hiraiwa (2001) who shows that Germanic languages allowing SF also allow Object Shift (OS, henceforth) while Bobaljik and Jonas (1996)—following Bures (1992)—show that Germanic languages allowing Transitive Expletive Constructions (TECs, henceforth) also allow OS. In fact, it can easily be shown that Germanic languages allowing SF also allow TECs. The prototypical language belonging to that group is Icelandic, an Insular Scandinavian language (there is dialectal variation for the case of

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[1] Although, Moore and Perlmutter (2000) argue that German does not have Quirky Subjects, but inverted objects, Eythórsson and Barðdal (2005) make a good case for the idea that German has Quirky Subjects after all. Whether German does or does not have Quirky Subjects is, however, orthogonal to the point that I am presently making.

Faorese).² Mainland Scandinavian languages, on the other hand, do not tolerate SF, Quirky Subjects, OS (of full-NPs), or TECs.

Since Old French has SF, the typological prediction that is made is that it should also have both TECs and OS. The aim of this chapter is to show that this prediction is indeed borne out. Whereas in Mathieu (2006*a*) and Mathieu (2006*b*) I concentrated on SF and Quirky Subjects respectively, the present study therefore focuses on TECs and OS in Old French, introducing not only new data, but also a new comprehensive analysis that accounts for the distribution of all properties aforementioned, namely SF, Quirky Subjects, OS, and TECs. These are argued to be possible constructions in the grammar if the pronominal features of the verb are capable of checking the [D] feature of T^o independently of the [P] feature associated with the preverbal position (cf. Holmberg's 2000 split EPP) and if a special Topic position (dubbed Top + P to differentiate it from the topic phrase to which topicalized elements raise in V2 configurations) is available/accessible. If the EPP becomes unsplit, the special topic position is no longer available/accessible and all the constructions under review become obsolete. While the idea that OS might be productive in the grammar of Old French has been put forward before by Zaring (1998), the facts about TECs in Old French are not well known. Although I introduce new data that strengthen Zaring's original insight, I nevertheless show that many of the examples that she introduces are cases, not of OS, but of scrambling (of the kind found in West Germanic languages).

The influence of Germanic on what was to become French may have been through contact, first through the invasion of Gaul by the Francs, and second, by the Normans in the North-West. The initial causes for the splitting of the EPP and the creation of a special Topic position above TP might thus be external. The reason why SF, Quirky Subjects, OS, and TECs disappeared from the grammar of French is because the EPP mutated from a complex form (a bundle of two organized features, [D] and [P]) into a simple form (where [D] and [P] are one).

20.2 Object Shift

The aim of this section is to show that Old French had Object Shift.

First, it is important to point out that Old French is a VO language (like Icelandic), not an OV language (like German). Although Latin was an OV

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² For example, not all speakers accept TECs (cf. Jonas 1995). There are also differences between Icelandic and Faroese with regard to SF. Whereas DPs can be SFronted in Faroese (Barnes 1987), only abstract denoting DPs can undergo the stylistic operation in Icelandic (Holmberg 2000). Finally, whereas Quirky Subjects are still very productive in Icelandic, they are in the process of being lost in Faroese (Eythórsson 2000, 2002).

language, Old French lost that feature very early on. This does not mean of course that OV orders were not possible, but it must be the case that they were derived from an underlying VO order. The example in (1), from around 1180, shows that the default order is VO. The object is underlined.

(1) Et   cil   respont   que il   ne   quiert
     and   this-one reply-3SG that he   not   ask-3SG
     Avoir   mie   <u>desaventure</u>
     have-INF FORC   misfortune
     'And he replies that he does not seek to have his own misfortune.'
                                        (*Le Chevalier à la Charrette* 2650–1)

When the object has shifted to the left, it is thus a case of OS. The claim that Old French had OS is not new. Zaring (1998) is the first author to have given an analysis of such a process in the language. She bases her conclusions on the behaviour of *ce* 'this'. In order for her argument that *ce* 'this' can undergo Objet Shift in Old French, Zaring first establishes that *ce* in Old French is not a clitic element. We know that it is not a clitic because it can appear in first position in V2 constructions as shown by examples such as (2).[3]

(2) Li   rois   respont: '**Ce** sai   ge   bien…'
     the   king   answer-3SG this   know-1SG I   well
     'The king answers: "This, I know well."'   (Zaring 1998: 320)

Next, Zaring reports that if a lexical verb is infinitival, direct object *ce* never follows that verb. Rather, it precedes the infinitive and follows any matrix material as (3) shows.

(3) Mes   la   reine   ne   peut   **ce**   croire…
     but   the   queen   not   can-1SG this   believe-INF
     'But the queen could not believe this, …'   (Zaring 1998: 321)

If the lexical verb is a past participle, *ce* immediately precedes the participle as shown by (4).

(4) Sire,   por   coi   avés   vos   **ce**   fait ?
     Lord   for   what   have-2PL you   this   done
     'Lord, why have you done this?'   (Zaring 1998: 321)

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[3] Further evidence for the idea that *ce* 'this' is not a clitic is provided by the facts that: (i) it can also occur in isolation; (ii) it can be modified by *tout* 'all'; (iii) it can be conjoined. All these properties are known to be impossible for clitic pronouns.

If the lexical verb is finite, *ce* (or its dialectal variant *çou*) occurs either in a postverbal position (as expected) or in a preverbal position, following the subject, giving SOV order, as exemplified in (5). This pattern is attested almost exclusively in embedded clauses in Zaring's corpus.

(5)   ...et   quant li   rois **çou** entendi,   sus est saillis,...
         and when   the   king this hear-PAST.3SG up   is   leapt
      '...and when the king heard this, he leapt up...'   (Zaring 1998: 322)

The problem with the examples introduced by Zaring is that, on the one hand, they involve compound (3) and infinitival tenses (4), and on the other, embedded clauses (5). These contexts are not possible OS environments in Scandinavian languages. These facts have been captured under Holmberg's (1999) generalization: OS is only possible when the verb has moved to C^o. In view of these facts, I suggest that most, if not all, of the examples introduced by Zaring are cases of scrambling.[4] Scrambling is very similar to OS in that an object has been raised passed a negative adverb. However, contrary to OS, it is possible to scramble an object when the verb has not raised to C^o. In sum, since Object movement in Old French is possible in embedded clauses and when the verb has not raised to C^o, it appears that the examples introduced by Zaring (1998) are not clear cases of OS.

Another problem for Zaring's analysis is that she only gives examples where an object has shifted to the left but with no adverb present in the structure. Therefore, it is not easy to check whether the object has in fact remained within the VP or whether it has actually undergone movement to the edge of the VP. Clearer examples would need to involve VP adverbs. Finally, in the examples that she gives, the object has often undergone long Object movement (she does in fact make a distinction between *short* OS and *long* OS), that is, the object has raised past the finite verb. These cases do not appear to be cases of OS either.

This does not mean, however, that the operation dubbed OS was not available at all in Old French. In view of examples such as (6a and b), introduced by Arteaga (1998), I would like to argue that Old French did have OS. In (6a) the object *sa poverte* 'his poverty' appears to the right of the adverb while in (6b) the object *un hannap* 'a goblet' surfaces to the left of the adverb. What (6b) thus clearly shows is that the object has been moved to the edge of the VP.

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[4] There is an alternative proposal according to which left dislocation of objects in Old French compound and infinitival clauses is a case of SF. This is what I argue in fact in Mathieu (2006*a*). However, in that paper I do not deal with scrambling or OS, and the solution that is provided in the present chapter in terms of scrambling stems from the logic developed here.

(6) a. Iloc deduit   <u>ledement</u> **sa**   **poverte**
        there live-PAST.3SG joyfully   his-F.SG.OBL poverty-F.SG.OBL
     'There he joyfully lived his poverty.'
                    (*La vie de Saint Alexis*, year 1050, line 261, in Arteaga 1998)

     b. Son   compaignon   donna   **un**
        his-M.SG.OBL companion-M.SG.OBL give-PAST.3SG a
        hannap   <u>lieement</u>
        goblet-M.SG.OBL joyfully
        'He joyfully gave his companion a goblet.'
                    (*Dits C*, line 233, in Herslund 1980:10 and Arteaga 1998)

Additional examples collected via *Frantext* by myself can be found in (7) and
(8). In (7) the nominal *home* 'man' is below the adverb *laienz* 'here' whereas
in (8) the nominal appears above *laienz*.

(7) a. il   n'avoit   <u>laienz</u> **home**   qui
        there not-have-PAST.3SG here   man-M.SG.OBL who
        poïst   parler
        can-PAST.3SG speak-INF
        'there was no man here who could speak.'
                    (*La Quête de Saint-Graal*, year 1220, p.15)

(8) Mes   il n'ot   **chevalier**   <u>laienz</u>
     but   it not-have-PAST.3SG knight-M.SG.OBL here
     qui   seust   par   ou   il i   entra
     that know-PAST.3SG by   where he there enter-PAST.3SG
     'but there was no knight here who knew from where he had come in'
                    (*La Quête de Saint-Graal*, year 1220, p. 7)

One might object that these examples are expletive constructions with postverbal
subjects, rather than involving objects. However, note that the nominal is in the
oblique, not the nominative case. Old French showed two types of expletive
constructions: one in which the verb agreed with the postverb nominal, with
that nominal surfacing in the nominative (the case of modern English), as
illustrated in (9), and another in which the verb agreed with the expletive, while
the postverbal nominal is in the oblique case (the case of modern French).

(9) a. Mais ill   i   sont   venu   serjanz
        but   EXPL there be-3PL come servants-M.PL.NOM
        et   escoier
        and   riders-M.PL.NOM
        'But there came servants and riders.'
                    (*Parise*, 2009–10, in Buridant 2000: 324)

b. Il   morront   maint vaillant chevalier
   EXPL die-FUT.3PL many   brave   knights-M.PL.NOM
   'There will die many brave knights.'

<div align="right">(Gaydon, 8327, in Buridant 2000: 324)</div>

c. Il   i   corurent   .vii.   roi
   EXPL there run-PAST.3PL seven kings-M.PL.NOM
   et   .xv.   duc
   and   fifteen dukes-M.PL.NOM
   'There ran there seven kings and fifteen dukes.'

<div align="right">(Le Couronnement de Louis, AB, 631, in Buridant 2000: 324)</div>

To summarize Section 20.2: I have shown that, in addition to SF and Quirky Subjects, Old French has OS, and thus patterns with Icelandic which has all the properties just mentioned. Old French also had scrambling. The idea according to which Old French had both Object Shift and scrambling is in line with the view that OS is attested not only in Scandinavian languages, but also in languages like German and Dutch, except that German and Dutch allow scrambling as well, while Scandinavian languages allow only OS (Bobaljik and Jonas 1996). In the next section, I add one more property that Old French shares with Icelandic: Transitive Expletive Constructions.

20.3 Transitive Expletive Constructions

TECs are available in Icelandic and in German, (10a) and (10b) respectively, but not in languages like English and Danish, (10c) and (10d) respectively.[5] TECs are constructions where an expletive appears in the subject position while both a subject and an object appear in the postverbal position.

(10) a. það   hafa margir jólasveinar   borðað búðing. (Icelandic)
      there have many   Christmas.trolls eaten   pudding
      'Many Christmas trolls have eaten pudding.'

<div align="right">(Bobaljik and Jonas 1996: 209)</div>

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[5] Although, if the subject is shifted to the right edge of the clause, the sentence is improved as shown in (i)—this observation is attributed to Richard Kayne by Chomsky (2001), but see also n. 17, p. 208, in Bobaljik and Jonas (1996):

(i) ??There ate a pudding many Christmas trolls.

b. Es   gessen einige Mäuse Käse   in der Küche. (German)
   there eat   some   mice cheese in the kitchen
   'There are some mice eating cheese in the kitchen.'

(Bobaljik and Jonas 1996: 209)

c. *There ate many Christmas trolls a pudding.   (English)

d. *Der har nogen   spist et   æble. (Danish)
   there has someone   eaten an   apple
   'Someone has eaten an apple.'   (Bobaljik and Jonas 1996: 208)

A popular analysis of TECs and the parametric variation behind them comes from Bobaljik and Jonas (1996). These authors argue that languages with obligatory verb raising in non-V2 environments have a split IP structure (Icelandic, German, Dutch) and that conversely languages in which the verb remains in the VP have a simple IP (mainland Scandinavian). Split-IP languages have more specifier positions in the IP complex than languages with a simple IP. OS is made possible because by raising to AgrO° a specifier is created for the object to move to. If the verb does not move to AgrO°, then no specifier for the object can be licensed, therefore OS is not possible (this is thus the way Holmberg's generalization is accounted for/derived). The correlation between the availability of TECs and OS is made to follow from the fact that the verb has raised to AgrO° in the first place. Once the verb raises to AgrO°, it can raise further to T°. Therefore, two subject positions are created: Spec-AgrSP and Spec-TP. Because Spec-TP is licensed by movement of the verb to T°, TECs are possible: all TECs require is two subject positions. In languages where the verb has not raised to T°, only one subject position is accessible and thus TECs are not possible.

Bobaljik and Thráinsson's analysis (Bobaljik and Thráinsson 1998) is even more radical in that they argue that clauses in Icelandic and mainland Scandinavian languages contain a different number of functional projections. For example, Danish realizes tense and agreement in a single projection, whereas Icelandic projects separate tense and agreement phrases. This is correlated to the fact that in Danish there are no separate morphemes for tense and agreement whereas in Icelandic, there is one morpheme for tense and another for agreement (Thráinsson 1996).

Although Bobaljik and Jonas (1996) and Bobaljik and Thráinsson (1998) address the correlation between V to I movement and the grammaticality of TECs, they do not discuss the relevance of V2. V2 appears to be a crucial factor for an account of the difference between languages that allow TECs and OS, on the one hand, and those, on the other, which do not. If all that is needed for a language to have TECs and OS is V to I movement, then modern

French should exhibit both operations, since that language has V to I movement (Pollock 1989), when in fact TECs are clearly not available in its grammar. One could argue that what is really needed for the licensing of specifiers is rich agreement (modern French has poor verbal agreement). However, the theory will face problems with languages like Italian and Spanish which clearly have V to I movement *and* rich agreement. Yet, these languages do not have TECs or OS.

Another problem for Bobaljik and Thráinsson is the following. If, as they argue, rich agreement correlates with two separate morphemes for tense and agreement (with thus two separate specifiers created), then not only languages like Italian, Spanish, but even modern French will qualify. The modern French future, for example, shows that one morpheme denotes tense (*-er*) while another denotes agreement (*-ai*), thus we get *je parlerai* 'I will speak'. Pollock's (1989) analysis, whose two subject positions thesis is adopted by Bobaljik and Jonas (1996) and Bobaljik and Thráinsson (1998), should automatically qualify French as a TEC and OS language.

In sum, French shows that it cannot be the sole presence of TP as an extra subject position that allows TECs to be licensed. It cannot be the sole presence of CP either, because of the fact that mainland Scandinavian languages do not have TECs. I want to adopt Koeneman and Neeleman's (2001) proposal according to which only if both projections are present is it possible to generate TECs. At least two projections are required and these can be taken to be Spec-TP and Spec-CP. In order to have TECs and OS, a language thus needs not only V to I, but also I to C movement. As Vikner (1990, 1995) observes there is a correlation between verb movement and the grammaticality of TECs in languages that have both V to I and V2. Old French fits the bill: it has both V to I and V to C. Therefore, it is expected that Old French has TECs and the prediction is borne out as (11) and (12) show. On the other hand, Modern French only has V to I movement, therefore it is expected that the language does not have TECs, as (13) shows.

(11) Il   nel   gari   ses   osbers
      EXPL   not-him   protect-3SG his-M.SG.NOM   hauberk-M.SG.NOM
      blancs
      white-M.SG.NOM
      'His white hauberk didn't protect him.'
           (*Le Brut de Munich*, 1775, in Arteaga and Herschensohn 2003: 5)

(12) Li   chastiaus   dont   il   parloient
      the   castle-M.SG.NOM   of-which   EXPL   spoke-3PL

tantes   gens
many-F.PL.NOM   people-F.PL.NOM
'The castle that many people spoke about.'
          (*Montreuil*, line 9312, in Arteaga and Herschensohn 2003: 5)

(13)   *Il   mangèrent   deux   enfants   un   gâteau   au   chocolat.
        it   eat-PAST.3PL   two   children   a   cake   at-the   chocolate
        'Two children ate a chocolate cake.'

In (11) and (12), the verb agrees with the nominative postverbal logical subject, not with the expletive. This is clear in (12). The fact that the postverbal subject is in the nominative case in (11) also shows that agreement is with the verb, since in later stages of French, the postverbal logical subject shows up in the accusative.

To summarize so far: we have established that not only SF and Quirky Subjects are available operations in the grammar of Old French (Mathieu 2006*a* and *b*), but so are OS (and scrambling) and TECs. A parametric account is needed to explain these facts and to differentiate Old French from modern French, the latter not allowing any of these constructions. This parameter will also explain the differences between insular Scandinavian languages, on the one hand, and mainland Scandinavian languages, on the other.

20.4 The analysis

Based on the fact that SF in Old French can target two elements, one XP and one head (in that order), I proposed in Mathieu (2006*a*) that SFronted elements in Old French move to a special projection dubbed Top + P. The SFronted XP raises to the specifier position of Top + P while the SFronted head raises to Top + $^{\circ}$. I thus argued that SF is not movement *to* (Holmberg 2000), but *through* Spec-TP. In order to reach Spec-Top + P, an XP must pass through Spec-TP, which must in that case be empty in order to function as an escape hatch. This is how the connection between the possibility of SF and subject gaps is accounted for. The solution avoids the inconvenience of postulating movement of phonological matrices *into* Spec-TP as in Holmberg (2000). Moreover, we avoid movement of heads to specifier positions, an operation that violates one of the central tenets of generative grammar.

My proposal nevertheless relies on the idea first proposed by Holmberg (2000) that the EPP can undergo feature fission between [D] (a categorial feature) and [P] (a feature requiring visibility, i.e. a specifier to be filled), with the added twist that: (i) the EPP need *not* undergo fission (to account for the optionality of SF); (ii) the features [D] and [P] may not necessarily come

packaged as a bundle, [D] can appear on T^o while [P] can be on Top + (this builds on work from Ritter 1992, 1993, 1995; Taraldsen 1994; Sigurðsson 1996; Bejar 2003 where φ-features do not come packaged as unorganized bundles, but follow a feature hierarchy instead). (14a) gives the structure for Old French main clauses while (14b) introduces the configuration for Old French embedded clauses. Following Roberts and Roussou (2002), I assume that in V2 contexts the fronted XP is in the specifier of a Topic position, the verb in Fin^o and the subject in Spec-TP.[6] In embedded clauses, FinP is not present (the verb does not raise to C^o in such environments in Old French). Instead, complementizers appear in Force^o.[7]

(14)   a. [TopP [Top + P [FinP [TP]]]]   Main clauses
     b. [ForceP [Top + P[TP]]]   Embedded clauses

Turning now to the correlation between the availability of SF and the availability of Quirky Subjects, I follow previous work of mine (Mathieu 2006*b*). In that article, I account for the fact that oblique non-pronominal subjects in Old French are in complementary distribution with SFronted elements by assuming that they both target the Spec-Top + P position. Consider (15).[8]

(15)   a. *que [de la   honte] [a sa   mere] ne   chaut
            that of   the   shame to his mother not matter-3SG

     b. *que [a sa mere] [de la honte] ne chaut

     c. ✓que [de la honte] ne chaut [a sa mere]

     d. ✓qu'[a sa mere] ne chaut [de la honte]
        'that the shame doesn't bother his mother.'

The proposal is thus that if Top + P is not available then Quirky Subjects are not possible in a given language (the relevant case features of Quirky Subjects are not enough). Language change can lead to a situation where both SF and

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[6] Although Old French is not explicitly discussed in Roberts and Roussou (2002), it is clear that the ideas they develop for V2 languages can be extended to Old French (see Labelle and Hirschbühler 2005 for such an extension).

[7] It must be noted that the Top + P position is not associated with presupposed, but asserted topics. The process behind SF is one that allows an element to simply get out of the way, as it were, so that the most embedded element becomes focalized. The process is thus akin to what Zubizarreta (1998) calls P-movement, except that according to the analysis developed here movement of Stylistic elements happens in the narrow syntax, not at PF. There is independent evidence that SF is relevant for narrow syntax from the behaviour of auxiliaries. Although these are potential candidates in terms of c-command for raising to Top + ^{o}, they nevertheless remain *in situ* leaving other elements to be SFronted. I follow Holmberg (2000) in viewing this fact as evidence that narrow syntax is where SF is derived.

[8] The situation with pronominal Quirky Subjects is different: since they are clitics they adjoin to T^o (and possibly further up to Top + ^{o}) directly and thus do not move to any specifier position.

Quirky Subjects disappear. Fischer (2004: 208) has recently argued that in mainland Scandinavian languages oblique subjects and SF disappear roughly at the same time as a consequence of the loss 'of the extra functional material', namely the higher projection that hosts both SFronted elements and Quirky Subjects. French corroborates this idea, since the older stage of the language had both SF and Quirky Subjects, but the modern alternative does not have any of these constructions.

Next, I would like to argue that the special position I have postulated for SFronted elements and Quirky Subjects is where expletives are merged in Old French. This is a claim I have not made before and which is therefore one of the new central hypotheses of the present study. Rather than being directly merged in Spec-CP (i.e. Spec-TopP), expletives are first merged in Spec-Top + P and only then are they raised to Spec-CP (i.e. Spec-TopP). Old French *il* is thus a kind of 'expletive topic' (see the discussion about Icelandic in Section 20.3). As in the case of SFronted elements, the expletive is an asserted topic while the element that has remained behind (here the contentful subject) is focused. This is the effect an impersonal construction with an expletive usually has. This is uncontroversial. What is new, however, is the conclusion that stems from the logic followed presently: TECs have the same format as SF constructions. Consider (16).

(16) $[_{TopP} Il_i \text{ Top}^o [_{Top + P} t_i [_{FinP} \text{Fin}^o \text{ } nel + gari [_{TP} ses osbers blancs \text{ T}^o]]]]$
        Il nel gari ses osbers blancs (cf. 35)

Expletives can never appear postverbally when an element other than the expletive appears in Spec-TopP (the same generalization holds with Quirky Subjects). Generally, impersonal *il* in matrix clauses is left unexpressed if not found in CP in Old French (Arteaga and Herschensohn 2003). (17) is thus ungrammatical.

(17)   *Dans   leur   chambre   mangèrent   **il**   deux   enfants
         in   their   bedroom   eat-PAST.3PL   EXPL   two   children
        un   gâteau   au   chocolat.
        a   cake   at-the   chocolate
        'Two children ate a cake in their bedroom.'

There are cases, as witnessed by (18), however, where impersonal *il* appears postverbally with Spec-CP filled by another element. However, as Arteaga and Herschensohn (2003) correctly point out, these examples involve agreement of the verb with the pronoun. Therefore, the construction is rather different from those introduced in (9) where the postverbal subject does not

appear in the nominative, but in the accusative. What we do not find is equivalents of (18) with the associate of the expletive in the nominative.

(18) Si   ot   **il**   assez en la   place barons   et
     thus have-PAST.3SG EXPL many in the place barons-M.PL.OBL and
     chevaliers   qui la   voldrent   retenir
     knights-M.PL.OBL who her want-PAST.3PL retain-INF
     'Thus there were many barons and knights in the place who wanted to
     retain her.'
     (*La Quête de Saint Graal*, year 1220, p. 106, 16, in Vance 1997: 234 and
     Arteaga and Herschensohn 2003: 12)

Since Vance (1989) and Roberts (1993), the postverbal pronouns in cases such as (18) have been treated as clitics adjoining to C^o. They considered nominative pronouns (they agree with the verb), while the expletive surfacing in constructions where the postverbal subject is nominative and the verb agrees with that postverbal subject instead of the pronoun, is not a nominative pronoun.

So far, I have accounted for the availability of three out of the four properties that Old French and Icelandic share, namely, SF, Quirky Subjects, and TECs. These constructions are all made possible because a special position in a split CP layer is made available. That special position is Top + P, a special topic position in the left periphery of the clause that seems to be available if V2 is available (the reverse is not necessarily true, since mainland Scandinavian languages, as has already been mentioned, have V2, but no SF). The other crucial factor involved in the constructions under review is the splitting of the EPP, with the scattering of the two features that make up the EPP on two different heads.

The remaining property to account for is the case of OS. We cannot assume like Bobaljik and Jonas (1996) that the object raises to the specifier of AgrOP since agreement projections are no longer part of the theoretical apparatus of Minimalism. On Bobaljik and Jonas's account, movement of the verb to AgrO^o forces the creation of a specifier (hence the availability of OS), and since the verb has raised to AgrO^o in the first place, it can raise further to T^o, creating another subject position by way of Spec-TP in addition to Spec-AgrSP independently available. Chomsky (1995) abandons AgrSP and AgrOP for the simple reason that they have no relevance at LF, agreement on the verb being on this view devoid of meaning. In order to account for OS, he argues that $v^\star$ can have more than one specifier. $v^\star$ is thus assigned an EPP feature, but only if this has a semantic effect on the outcome (optional rules are outcome-dependent).

On this view of OS, it is not clear how the correlation between the availability of SF, Quirky Subjects, and TECs on the one hand and OS on the other can be made to follow. I would like to propose that the correlation in question stems from the fact that after movement to the outer specifier of v^*, the object further raises to the specifier position of TP (this movement in essence thus replaces the operation DISL proposed by Chomsky for Icelandic). When the EPP has been split into [D] and [P], recall that [D] probes from T^o while [P] appears on a different head, namely Top + ^{o}. Suppose the shifted object satisfies the peripheral feature associated with T^o (recall that TP is a strong phase in Old French), but that the subject or another potential goal raises to the specifier of Top + P (which is basically another subject position, in the large sense of the term) satisfying the [P] feature associated with T^o.

Finally, let us turn to the question as to why SF, Quirky Subjects, OS, and TECs are no longer possible in modern French. I would like to tie the disappearance of SF, Quirky Subjects, TECs, and OS to a change in the feature make-up of the EPP. Old French had a split EPP while this was lost at some point. The loss of the split EPP goes hand in hand with the loss of strong agreement. This idea is connected to the popular view about the loss of SF in mainland Scandinavian. It has often been claimed that in languages like Old Swedish the loss of V to T movement and the loss of SF took place simultaneously in the sixteenth and seventeenth centuries (Falk 1993: 184). The generalization is that languages like Danish and Swedish do not have V to T movement, thus SF is not available whereas Icelandic has V to T movement, thus SF is a possibility in that language. According to Holmberg (2000), once the verb does not raise to T^o, it cannot check the [D] feature associated with T^o, thus SF is no longer possible. Instead, the subject of the sentence checks both the [D] and the [P] feature of T^o. The problem with this idea is that since modern French has not lost V to T movement (Pollock 1989), but crucially lacks SF, this account needs a slight revision.

What appears to be essential for SF is that, regardless of whether the verb has raised to T^o, the verbal agreement should have the relevant pronominal properties so that null subjects are possible. Once verbal agreement lost its pronominal properties (null subjects are not possible in modern French), SF was no longer available. Since the [P] feature of EPP + is dependent on [D] when both features are scattered on different heads, it becomes no longer possible for the EPP to be split. Since Quirky Subjects and TECs rely on a split EPP and a Top + P position, these two constructions also disappeared form the grammar of French once the EPP could no longer be split.

The absence of V to I movement has also been called for by Bobaljik and Jonas (1996) as an explanation of the lack of TECs in mainland Scandinavian.

In Section 20.3 we adopted Koeneman and Neeleman's (2001) proposal according to which only if both TP and CP are present is it possible to generate TECs (cf. Vikner's Generalization). In the present theory, this can be translated as tying the split of the EPP together with the availability of TopP with the availability of V2. For SF and for the other constructions under review in this study to be operative in a given language, it is not sufficient to have the possibility of [D] feature checking by the verb. What a language must have at its disposal is the availability of the EPP + feature, i.e. the case where [D] and [P] are not packaged as an unorganized bundle. This option together with the creation of Top + P only seems possible if CP is not only split, but accessed via verb movement and topicalization (i.e. V2).

20.5 Conclusion

This article has shown that Old French shared with insular Scandinavian languages, not only V2 configurations, in addition to Stylistic Fronting and Quirky Subjects (as shown in previous work of mine), but also Object Shift and Transitive Expletive Constructions. A proposal was given for this cluster of properties: in Old French the EPP was split between a [D] and a [P] feature and a special Topic position was available above TP. The split EPP became unsplit through time and the special Topic position responsible for all the constructions under review was no longer available/accessible in later stages of the language.

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21

A parametric shift in the D-system in Early Middle English: relativization, articles, adjectival inflection, and indeterminates*

AKIRA WATANABE

21.1 Introduction

This chapter proposes that a handful of apparently unrelated changes during the Early Middle English (EME) period should receive a unified account in terms of parametrization of feature classification. More specifically, I claim that quantificational and definiteness features were formal features in Old English (OE) but became semantic features in Middle English (ME).

What does it mean to say that certain features are classified as formal in some languages but are semantic in others? To understand this, it is necessary to outline the theory of features. I adopt Chomsky's (1995: ch. 4) proposal that there are two types of features that contribute to semantic interpretation, namely, semantic features and interpretable formal features. Semantic features are inert during narrow syntax, whereas formal features can enter into agreement once appropriate conditions are met. Furthermore, interpretable formal features can have uninterpretable counterparts, which do not make semantic contributions and therefore must be transferred to the PF branch of computation by entering into agreement. I also adopt Chomsky's (2000) assumption that UG makes available a fixed set of features, which are subject to parametrization. My proposal is that one type of parametrization is feature

classification. Thus, certain features take part in agreement as formal features in some languages but not in others.

One might even entertain the possibility that the feature classification parameter is a relic of the birth of human language. If agreement is an essential, defining property of human language, formal features must be made available to the computational system. One conceivable scenario is relocation of some semantic features to the agreement system as formal features. The feature classification parameter can then be viewed as fossilization of this relocation process.

The proposal is based on the observation that the direct contribution of formal features at the interfaces is limited to the conceptual-intentional side. In other words, there are no formal features like $[\pm \text{nasal}]$. Uninterpretable formal features need to be converted to phonological feature bundles when they are sent to PF. Interpretable features, on the other hand, receive semantic interpretation as such. Thus, there is a fundamental asymmetry between LF and PF with respect to the role that formal features play, which suggests that there must have been a tight connection between semantic and formal features during evolutionary stages.

Applied to the various diachronic changes that took place in the transition from OE to ME, my proposal amounts to saying that there is a non-trivial set of them that can be characterized as due to loss of agreement. I show that a single parametric shift lies behind the changes in relativization strategies, the birth of the definite article, the loss of indeterminates, and the loss of the weak-strong distinction in adjectival inflection.

This chapter is organized in the following way. Section 21.2 provides an analysis of OE phenomena that involve agreement in terms of features having to do with quantification and discourse tracking. Section 21.3 gives an overview of the changes that took place in EME. Section 21.4 explains how these changes follow from loss of agreement. Section 21.5 concludes.

21.2 The OE system

It is well known that the choice between weak and strong adjectival inflection in OE is sensitive to definiteness. Thus, Mitchell (1985: 65) summarizes it by saying that the weak form is used after a demonstrative, possessive, or noun genitive (group), whereas the strong form appears otherwise. An example of the weak form is given in (1).

(1) þone   halg**an**   lichaman
     that-M.SG.ACC holy   body   (*Lives of Saints* XXXII.175)

The paradigm of the weak and strong forms, from Mitchell and Robinson (2002), is shown in (2).

(2)   paradigm for *til* 'good'
   a. weak declension

	sg.			pl.
	m.	n.	f.	
Nom	til-a	til-e	til-e	til-an
Acc	til-an	til-e	til-an	til-an
Gen	til-an	til-an	til-an	til-ra, -ena
Dat	til-an	til-an	til-an	til-um

   b. strong declension

	sg.			pl.		
	m.	n.	f.	m.	n.	f.
Nom	til	til	til-u	til-e	til-u	til-e, -a
Acc	til-ne	til	til-e	til-e	til-u	til-e, -a
Gen	til-es	til-es	til-re	til-ra	til-ra	til-ra
Dat	til-um	til-um	til-re	til-um	til-um	til-um

There are two agreement relations involved in cases like (1). I claim that the adjective itself agrees with a null D head with respect to the definiteness feature, resulting in the weak form, as in (3a), where the D head has an interpretable version whereas the feature of the adjective is uninterpretable (see Danon 2002 on definiteness as a formal feature in Modern Hebrew).

(3)   a.   [_DP D [AP NP]]

      b.   [_DP Dem D [*t* NP]]

As for the demonstrative, I follow recent works such as Brugè (2002) in assuming that it is raised to Spec of DP from below, as in (3b).[1] Agreement in definiteness lies behind this movement, the demonstrative's feature being uninterpretable. Thus, (1) is an instance of multiple agreement (Hiraiwa

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[1] Crisma (1999) argues that the demonstrative *se* is in fact the article located at the D head, on the basis of the alternation between *se Ælmihtiga God* and *God Ælmihtig*, claiming that the latter is derived by N-to-D movement of *God*. I take this evidence as indicating that *se* is raised to D as proposed by Bernstein (1997), but not to Spec of DP. One might construe the head-movement option of the demonstrative as a preliminary step to the development of the full-fledged definite article, a topic to be discussed in Section 21.4. See also Wood (2003) for related discussion.

2005). It is controversial whether the original position of the demonstrative is higher than that of the adjective. See Bernstein (1997) and Brugè (2002) for opposing views. I do not take a stand on the issue, except to note that the demonstrative must be merged in a higher position than the adjective if minimality forces the demonstrative rather than AP to raise.

Another interesting property of OE is that it has an indeterminate system of the Japanese type. In other words, OE builds various quantifiers by adding a particle to a *wh*-phrase (Mitchell 1985), as illustrated in (4).

(4) OE indeterminate system

wh	some/any	some	every	every/any
hwa	(a)hwa	nathwa	æghwa	gehwa
hwæt	(a)hwæt	nathwæt	æghwæt	gehwæt

The *wh*-part is called an indeterminate. A couple of examples are given in (5).

(5) a. Hi   eodon   þa   secende   ealle   endemes   to   þam   wuda,
         they   went   then   seeking   all   together   to   the   forest
         secende **gehwær**   geond   þyfelas   and   bremelas
         seeking   everywhere   through   bushes   and   brambles
         gif   hi   **a-hwær**   mihton   gemeton   þæt   heafod.
         if   they   anywhere   might   find   the   head
                                            (*Lives of Saints* XXXII.142–4)

     b. ác   hi   wát   **gehwá**
         but   them   knows   everyone   (*Lives of Saints* XXXII.249)

Extending Watanabe's (2004*b*) proposal concerning the Japanese system to OE, we can say that quantificational particles such as *ge-* and *a-*, located under D, undergo agreement with the indeterminate, as in (6).[2]

(6) [_DP_ [_D_ ge] hwa]]

The feature in question is quantificational in nature. That of the particles is interpretable, whereas that of the indeterminate is uninterpretable, given that it is the individual particles that determine the quantificational force such as universal and existential.

The major reason for regarding the relation between the particle and the indeterminate as an instance of agreement is that a very similar system in Japanese provides clear evidence that it is subject to locality. The Japanese indeterminate system is shown in (7).

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² See Kayne's (2005: 83) suggestion that *where* in Modern English has the structure [_DP_ D *where* NP].

(7)   Japanese indeterminate system

	wh	some	every	neg concord	free choice
'who'	dare	dare-ka	dare-mo	dare-mo	dare-demo
'what'	nani	nani-ka	(nani-mo-ka-mo)	nani-mo	nan-demo
'when'	itsu	itsu-ka	itsu-mo	——	itsu-demo
'where'	doko	doko-ka	doko-mo	doko-mo	doko-demo

Takahashi (2002) observes that even though the particle and the indeterminate allow long-distance association, an intervening particle disrupts it, pointing to the contrast in (8).

(8)   a.   [[**Dare**-o hihanshita hito]-o   taihoshita keikan]-**mo**
           who-ACC criticized   person-ACC arrested   policeman-MO
           basserareta.
           was-punished
           'For every person x, the policeman who arrested a person who criticized x was punished.'

      b.   *[[**Dare**-o hihanshita dare-**ka**]-o   taihoshita keikan]-**mo**
           who-ACC criticized   who-KA-ACC arrested   policeman-MO
           basserareta.
           was-punished
           'For every person x, the policeman who arrested someone who criticized x was punished.'

The culprit in (8b) is the particle *ka*, which is associated with another indeterminate. The problematic configuration is shown schematically in (9).

(9) $[_{DP} \ldots [_{CP} \ldots [_{DP} \ldots [_{CP} \ldots \text{indeterminate} \ldots] \ldots D] \ldots] \ldots D]$

This is an instance of defective intervention, caused by the quantificational feature of the intervening particle *ka*.

No example of long-distance association is reported for OE, as far as I know. I speculate that this is due to the affixal nature of the particle in OE, which requires an indeterminate as its host. If this is so, the absence of long-distance association in OE does not preclude the possibility that the OE indeterminate also employs agreement.

There is an additional phenomenon in OE which should be regarded as forming part of the indeterminate system: *wh*-based free relatives, illustrated in (10).

(10) a. Fæder and moder moton heora bearn to **swa hwylcum**
father and mother must their child to so which-DAT
cræfte gedon **swa** him leofost byð
occupation put as him liefest is
'Father and mother must put their child to whatever occupation
is most pleasing to him.'

(*Homilies of Ælfric* (Pope) XIX.54–5; Allen 1980*a*, *b*)

b. Ond **on swa hwelcre stowe swa** min þrowung awriten
and in so which-DAT place as my passion written
sy ond man þa mærsige, afyrr þu, drihten, from
is and one it celebrates drive you Lord from
þære stowe blindnesse
that place blindness
'And whatever place my passion is written in and is celebrated,
drive, O Lord, blindness from that place.'

(*OE Martyrology* 116.8–10; Allen 1980*a*, *b*)

These types of free relatives take the form of *swa* WH *swa* TP. Allen (1980*a*, *b*)
analyses the second *swa* as C. I propose that the first *swa* has the same
syntactic status as the particles in (4), agreeing with the *wh*-part with respect
to the quantificational feature as in (11).

(11) $[_{DP} [_D$ swa$]$ WH . . . $]]$

As will be shown later, the agreement analysis makes it possible to account for
the changes that this construction underwent in ME.

The last characteristic of OE that concerns us is the use of demonstratives
as relative pronouns, illustrated in (12).

(12) a. ond het getimbrian medomlic hus, on **þæt** nænig
and ordered to-build small house in which no
wer næfde ingang
man not-had admittance
'and ordered a small house built, in which no man had admittance'

(*OE Martyrology* 106.5–6; Allen 1980*b*)

b. ac gif we asmeagaþ þa eadmodlican dæda þa þe
but if we consider those humble deeds which that
he worhte, þonne ne þincþ us þæt nan wundor
he wrought then not seems us that no wonder

'But if we consider the humble deeds which he wrought, that will seem no wonder to us.'   (*Blickling Homilies* 33; Allen 1980*a*)

Though glossed as 'which', *þæt* and *þa* are demonstratives in form.

I leave open the issue of whether the raising analysis advocated by Kayne (1994) should be adopted here.[3] What matters is that the demonstrative used as the relative pronoun must undergo agreement with a higher probe, if it contains an uninterpretable definiteness feature. It is reasonable to assume that the probe is D associated with the head NP, since the constituent raised to Spec of the relative clause CP should not contain an interpretable definiteness feature. The semantic contribution of the relative clause is to provide a one-place predicate, with the relative pronoun itself functioning as the identity function. Definiteness has no semantic role to play there. I therefore propose that the demonstrative relative pronoun undergoes agreement with D outside the relative clause as in (13).

(13)   [$_{DP}$ D NP [$_{CP}$ dem C TP]]

The exact location of NP does not matter, as noted above. I speculate that the feature of the demonstrative relative pronoun can agree with the specificity feature of D in cases like (12a) where the head NP is not definite. In this respect, the manner of agreement is somewhat different from the case with the weak form of adjectives.

A similar reasoning helps explain why *wh*-pronouns were excluded from relativization in OE. Since *wh*-expressions must be associated through agreement with a quantificational particle (including a null particle used in *wh*-questions), the *wh*-pronoun raised to Spec of the relative clause would function as a generalized quantifier there. It follows that the relative clause as a whole would function as a closed complete proposition, which could not be semantically combined with the head NP. Hence the impossibility of *wh*-expressions as relative pronouns.[4]

To summarize, OE employs agreement with the features on D in the weak adjectival inflection, the indeterminate system, and the demonstrative system including relativization.

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[3] The simple [D CP] structure cannot be adopted for (12b), if the demonstrative is raised to Spec of DP from below. More structure is needed between D and CP. The relation of the head NP to the demonstrative used as the relative pronoun must also be worked out.

[4] Polish, which has an indeterminate system of the Japanese type, uses *który* 'which' as the relative pronoun (Citko 2004). We may regard it as the *wh*-counterpart of the demonstrative, which somehow escapes the requirement that it be associated with a quantificational particle. Significantly, Polish does not use *kto* 'who' in headed relatives.

21.3 Changes in the transition to ME

The OE properties discussed in the previous section underwent rapid changes at an early stage in ME. Let us review them in this section.

First, the indeterminate system got lost rather quickly. Kahlas-Tarkka (1987, 1994) observes that universal quantifiers based on *wh*-expressions were not found except in such OE rewritings as *Lambeth Homilies*, MS Bodley 343, and MS Cotton Vespasian Dxiv.[5] *Wh*-based existentials were also confined to OE rewritings like *Lambeth Homilies* and Vespasian Dxiv, according to Rissanen (1997).

Similarly, the first *swa* in *wh*-based free relatives had completely disappeared by the beginning of the thirteenth century, according to Allen (1980*a*: 207). At this stage, these free relatives took the form illustrated in (14).

(14) a. **Wa**   se   seið   þet   he bo   hal   him solf   wat
          who   so   says   that   he is   healthy   himself   knows
          best   his   smirte
          best   his   pain

          (*Poema Morale* (Lambeth) 114; Allen 1980*a*)

      b. Luue   ðine   nexte   al swa   ðe   seluen,   **hwat manne swo**
          love   thy   neighbour   also   thy self   what   man   as
          he   aeure   bie!
          he   ever   is

          (*Vices & Virtues* 67.5; Allen 1980*a*)

Phonological weakening cannot be held responsible, because it occurred even in those dialects where *swa* did not weaken phonologically, as observed by Allen. More significantly, a simple-minded phonological weakening account cannot distinguish between free relatives and equatives. Equatives took the form *swa* AP *swa* in OE. In contrast to free relatives, equatives maintained the first *swa*, as in (15).

(15) ʒif   ðu   wære   **swo forʒilt**   al so   he
        if   thou   wert   as   guilty   as   he   (*Vices & Virtues* 67.8–9)

There must have been a specific syntactic force that targeted free relatives, making them vulnerable to change, but not equatives.

Another change was the loss of the demonstrative relative pronouns by the end of the twelfth century, as noted by Allen (1980*a*) and Fischer (1992). *Wh*-expressions started to be used as relative pronouns as in (16), but they were still rare at this stage.

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[5] 39 examples of *iwhillc, iwilch* in *Ormulum* were on their way to becoming *each*.

(16) muchel wes þa   sunne for **hwam** alle þolieð deð   þe
      great   was the sin   for which   all   suffer death who

      comen of hore   cunne
      come   of their kin

<div align="right">(*Poema Morale* (Lambeth) 201–2; MED)</div>

Relativization in the EME period features the complementizer *þat*.[6]

The weak form of adjectives started to disappear in EME, even though its residue still lingered in Late ME. Thompson (1958) summarizes the situation in the *Wooing* group texts from the early thirteenth century by saying that consonant-final adjectives add -*e* in the weak form while adjectives ending with *i* do so only sometimes and those ending with *e* never do. Thompson also mentions that the -*e* ending is sometimes omitted from the weak form of consonant-final adjectives, too. More or less the same seems to be true in *Vices and Virtues*, as can be seen from the examples in (17).

(17) a. Scal   ic   luuiʒe ðane euele mann?
        Shall I   love   the   evil   man?   (*Vices & Virtues* 67.3)

     b. Wolden hie   hlesten   ðane hali   apostel
        would   they listen (to) the   holy   apostle
                                                (*Vices & Virtues* 67.13–14)

     c. ðan holie watere ðe   ʒiede ut   of ðe   riht   side
        the holy   water   that came   out   of the right side

        of ðine hali   temple
        of thy   holy   temple

<div align="right">(*Vices & Virtues* 83.2–3)</div>

As for the Late ME situation, Minkova (1991) observes that the weak inflection -*e* is mostly limited to monosyllabic adjectives and that its appearance is prosodically conditioned. Minkova notes that the -*e* ending is sometimes found in adjectives after an indefinite article, which means that -*e* no longer functions as the weak inflection.

Finally, the definite article, which was absent in OE, came into existence at some point in the history of English. Exactly when is a tricky question.

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[6] In fact, the OE complementizer *þe* specialized for relativization continued to be used, though somewhat differently. Dekeyser's (1986) data concerning the *Peterborough Chronicle* indicates that *þe* got restricted to subject extraction in the First and Second Continuations. According to Jack's (1975) data on *Ancrene Wisse*, subject extraction occupies about 90% of the use of *þe*. The optional *da-die* alternation in West Flemish (Bennis and Haegeman 1984; Rizzi 1990) comes to mind, given that *þat* was also allowed in subject extraction. I am inclined to think that the change in the nature of *þe* should be explained in the same way as the other changes dealt with in this chapter.

Crisma (1999) claims that *se* functioned as the definite article already in OE (see n. 1). Philippi (1997) points to the Late ME period, assuming that the obligatory presence in contexts that expect the definite article in Modern English is the criterion to use. Instead, I follow Wood's (2003) suggestion that the impossibility of the pronominal use is a good indicator of the birth of the definite article, though ME texts are not examined by Wood.

From this perspective, *Vices and Virtues* turns out to be very interesting. The OE distal demonstrative paradigm from Mitchell and Robinson (2002) is shown in (18).

(18)

	sg.			pl.
	m.	f.	n.	
Nom	se	seo	þæt	þa
Acc	þone	þa	þæt	þa
Gen	þæs	þære	þæs	þara
Dat	þæm, þam	þære	þæm, þam	þæm, þam

In the transition from OE to ME, the change from the initial *s-* to *þ-* took place. In *Vices and Virtues*, both *se* and *þe* are used as nominative singular. Significantly, the pronominal use is allowed only for *se*, as indicated by the data in Millar (2000), who reports that there are 35 instances of the pronominal *se*. Millar further remarks that the pronominal *se* mostly appears in combination with a relative clause, as in (19).

(19) Se   ðe   luueð   me
      that   who   loves   me   (*Vices & Virtues* 91.20; Millar 2000)

It is remarkable that no such use is found in the 92 examples of the nominative singular masculine, feminine, or neuter *þe*.

A reasonable interpretation of Millar's data is that the appearance of the *þe* form marks the birth of the definite article, which took place during the EME period. Simply invoking analogical levelling would not explain why the change from *s-* to *þ-* took place at this stage of the history nor why *se* and *þe* are used differently in *Vices and Virtues*. As will be shown in the next section, however, the establishment of the definite article at this point receives a theoretical account. Furthermore, it is plausible to suppose that differentiation in syntactic function lies behind differentiation in form in this case.[7]

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[7] From this perspective, the disappearance of the *s-* forms from the demonstrative paradigm should be treated as a separate change. It should also be noted that in Northumbrian texts, the *þe* form started to appear, though sporadically, as early as in the tenth century (Millar 2000). This suggests that the change probably spread from the north.

21.4 A unified account of the diachronic changes

By way of summary, let us look at the syntactic configurations that are affected by the changes reviewed in the previous section.

(20) a. [$_{DP}$ [$_D$ ge] WH]]   =>   impossible

    a'. [$_{DP}$ [$_D$ swa] WH...]]   =>   impossible

    b. [$_{DP}$ D NP [$_{CP}$ dem C TP]]   =>   impossible

    c. [$_{DP}$ D [AP N]]   =>   impossible

(20a) is the structure of the indeterminate. (20a') corresponds to the *wh*-based free relative. (20b) shows the demonstrative relative pronoun. (20c) has to do with the weak adjectival inflection. All these structures became impossible.

The development of the definite article has been treated as due to 'reanalysis' of the distal demonstrative (Lyons 1999 and Philippi 1997). The change can be depicted as follows:

(21)
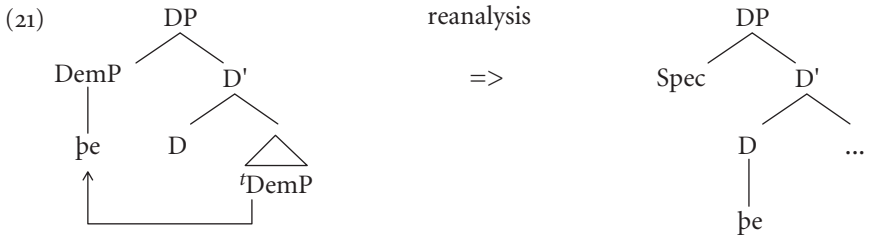
This is exactly the analysis proposed by Giusti (2001) for the development of the definite article in Romance.[8]

21.4.1 *The nature of the changes*

I claim that all these changes are due to the loss of agreement with the features of the D head. The relevant features used to be formal in OE, but are no longer formal but semantic in the ME system, unable to enter into agreement. Let us consider the changes one by one.

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[8] Though Philippi (1997) also proposes the Spec-to-head 'reanalysis', movement of the demonstrative to Spec of DP is not taken into account.

Assuming that agreement is one of the defining properties of the indeterminate system, the loss of agreement directly leads to the collapse of the indeterminate system. Note also that once *wh*-pronouns are freed from the quantificational job due to the loss of agreement, it becomes possible to use them as relative pronouns. Of course, that they can be so used does not entail that they are indeed used in that way. The productive use in later periods must be made possible by another parametric shift, though exploration of that point goes beyond the scope of this chapter.

Things are somewhat different in the case of *wh*-based free relatives, for which there is an alternative structure that does not make use of agreement with the feature in D. That is why the first *swa* was dropped but the rest was kept in EME. Furthermore, the fact that equatives did not lose the first *swa* means that the first *swa* in equatives does not involve the agreement relation that holds between a *wh*-expression and a quantificational particle.

The demise of demonstratives as relative pronouns can also be explained as due to the loss of agreement, or the shift in the status of features. The proposal that I would like to put forward here is that there are two types of demonstratives as far as agreement is concerned. The type used in OE must agree with D with respect to the definiteness feature, which is formal in this parametric option. Semantically, the OE type of demonstratives can serve as the identity function, making it possible to pass the one-place predicate represented by the relative clause on to further semantic composition. The new type introduced in EME, on the other hand, does not trigger agreement with D, nor can it serve semantically as the identity function. For this reason, the new type of demonstratives cannot be used in relativization. In the parametric choice which treats definiteness as a semantic feature, the OE type of demonstratives simply cannot exist, by definition. Thus, ME cannot use demonstratives as relative pronouns any more. I will have more to say about the new demonstrative system in the next subsection.

The loss of the weak-strong distinction in adjectival inflection is a straightforward consequence of the loss of agreement in definiteness. The data is admittedly messy, to the extent that the residue of the weak form with the final -*e* survived into Late ME. But if Minkova (1991) is correct in claiming that the primary role of the final -*e* in singular adjectives[9] in Late ME is to increase the eurhythmy of speech, it is justifiable to point to EME as the date of the loss. Retention of the final -*e* can also be due to orthographic conservatism in many cases.

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[9] The final -*e* also marked the plural form.

The development of the definite article from the distal demonstrative is a prime example of grammaticalization (van Gelderen 2004*a*, Osawa 2003, and Roberts and Roussou 2003). What is important for our purposes, though, is that the 'reanalysis' shown in (21) presupposes loss of the agreement relation that lies behind raising of the demonstrative to Spec of DP, since *þe* is merged directly as the D head after 'reanalysis'. Once the definiteness feature becomes semantic, the string generated by movement to Spec of DP must receive the structural representation that does not rely on movement, which means direct merger at D. Hence the birth of the definite article.

It is quite remarkable that all these changes took place at about the same time in EME. Were it not for a common grammatical mechanism, the synchronicity of the changes would have to be left as a miraculous coincidence. Thus, the parametric syntax reasoning applied to this array of diachronic changes leads us to the conclusion that there is a parameter that changed its value at this juncture of the history. That parameter has to do with classification of the definiteness and quantificational features. They were formal features in OE, but became semantic features in EME. The set of more or less simultaneous changes discussed so far is nothing but a reflection of this single parametric shift.

One might object that the shift from formal to semantic runs counter to the tendency of grammaticalization to turn lexical items into functional categories, as noted by Elly van Gelderen (p.c.). The development of modals in English, for example, is a case of lexical verbs becoming functional elements (van Gelderen 2004*a*, and Roberts and Roussou 2003).[10] If the role of formal features is to induce agreement, it seems at first sight to be the business of functional categories.

The analogy between formal features and functional categories, however, does not hold. There is nothing wrong with assigning formal features to lexical categories. In fact, to the extent that uninterpretable formal features are responsible for inflectional morphology, we would expect lexical categories to carry formal features. Furthermore, it should be noted that the phenomenon in which phonologically related items are treated as lexical categories in one lexicon but as functional in another has no theoretical status in UG. They are simply different items in the lexicon. The category status of phonologically related items is not a matter of parametrization. The feature classification which I am advocating, on the other hand, is intended to be one of the parameters provided by UG. Assuming the universal set of features as Chomsky (2000) does gives rise to the possibility that feature

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[10] The development of the definite article, however, does not fall under this case.

classification can be a source of parametrization. The case study presented in this chapter lends support to this idea.

21.4.2 *Other consequences of the parametric shift*

More needs to be said about the development of the definite article. In Section 21.3, I mentioned that the birth of the definite article is linked to differentiation in form. Something similar happened in the development of the Romance definite article, of which *ille* in Latin is the source. As recalled e.g. in Giusti (2001), when the definite article was established, a new demonstrative system was created by adding extra material to *ille*, as in (22a). The resulting demonstrative in Italian is given in (22b).

(22) a. eccum ille   (reconstructed form)
      b. quello

Addition of extra material helps to differentiate in form. Intuitively, it makes sense to expect differentiation in form when the article and the demonstrative go separate ways, but what does it precisely mean at the theoretical level? This question is also related to why *þe* (with the *s-* to *þ-* change) was chosen as the form of the article among the other possible forms from the older demonstrative paradigm.[11]

The answer lies in the manner in which the new demonstrative system works in narrow syntax. The establishment of the definite article means the loss of agreement in the definiteness feature (see Watanabe 2004*a* for discussion of Romance). At the same time, the evidence discussed in Bernstein (1997) and Brugè (2002) indicates that the surface position of the demonstrative is derived by movement in Romance. Putting aside the landing site of this movement for the moment, we are led to conclude that as a prerequisite to movement, the new demonstrative enters into agreement with respect to a formal feature other than definiteness. In other words, the new demonstrative has a formal feature that the article does not have. Let us call it the deictic feature. Suppose the deictic feature of the demonstrative is uninterpretable, so that it can receive morphological realization after Spell-Out. It then becomes possible to understand why extra material was added in the formation of the new demonstrative in Romance. The extra material corresponds to the morphological realization of the feature in question.

The choice of *þe* for the article, as against *þat*, follows from the same logic; the article is phonologically smaller than the demonstrative *þat*, a situation

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[11] Thanks are due to Fuyo Osawa (p.c.) for asking this question.

that makes sense if it is assumed that the demonstrative has an uninterpretable formal feature that the article lacks. Let me add that the new demonstrative does not have to pick *þat*, as long as there is a weight difference. The fourteenth-century Kentish system in *Ayenbite of Inwyt*, described by Gradon (1979), confirms the significance of morphophonological weight in an interesting way. (23) gives Gradon's summary of nominative and accusative singular forms of the definite article and the demonstrative in *Ayenbite*.[12]

(23) a. article: Nom *þe, þet*; Acc *þe, þane, þet*
      b. demonstrative: Nom *þe ilke*; Acc *þe ilke, þo*(?)

Note that the demonstrative adds *ilke* to *þe*.

Differentiation in form, seen in *Vices and Virtues*, is another way of expressing the difference in featural content, though it is not as dramatic as differentiation by weight. Since *se* is maintained in *Vices and Virtues*, the minimal change from *s-* to *þ-* probably suffices for the birth of the article. With the *s-* forms gone in *Ayenbite*, however, the difference in weight must be counted on.

As for the landing site of the new demonstrative, it remains to be seen whether we can adopt for ME and the subsequent periods Watanabe's (2004*a*) suggestion that the demonstrative is raised to Spec of a projection on top of DP. What is significant for our purposes is that if the deictic feature of the new demonstrative is an uninterpretable formal feature that enters into agreement, the probing head must have an interpretable counterpart. The head in question could be D, or something else. I leave its identity open.

21.5 Conclusion

To conclude, a series of changes related to the properties of nominals in EME are shown to be accounted for by the parametric shift in the classification of the definiteness and quantificational features. Zeijlstra (2008) proposes that the classification of the negative feature as formal or semantic accounts for the variation in the domain of negative concord. Thus, it is expected that feature classification forms a significant area of parametric variation.

One important aspect of the proposed account in this chapter is that a single parameter is responsible for a cluster of what at first sight appear to be heterogeneous properties in the domain of definiteness and quantification.

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[12] Since *Ayenbite* is a translation from French, the definite article and the demonstrative can be distinguished by looking at the French text.

The coupling of definiteness and quantification should be taken as an indication that they are important ingredients of the D-system. The very fact that multiple properties underwent change almost simultaneously challenges us to seek a unified account. Positing a single parameter is the best possible account imaginable. This has a consequence that one key change in the designated set forces all the other properties to undergo change as well, other patterns of change being ruled out by the UG system of principles and parameters. What is the key change, then? This question is related to the real cause of the parametric shift.

Comparison with Japanese is instructive here, since it has an indeterminate system and therefore is another language where the definiteness and quantificational features are formal.[13] Given that Japanese does not have the weak/strong distinction in the adjectival form nor relative pronouns, the absence (or loss) of these properties should not force the option of treating the features in question as semantic. This leaves only the birth of the definite article and the loss of the indeterminate system as candidates. Further narrowing down must be left to future research. Hints may come from investigation of the nature of the definite article in Modern Germanic languages other than English, since they still keep the indeterminate system (as well as the weak/strong adjectival forms), which implies that the definite article of these Germanic languages differs from the English counterpart in some important respects.[14]

At the level of diachronic changes in the history of English, I should add that the precursor to *every* started to appear productively in EME, as the result of prefixing *æfre* 'ever' to *ælc* 'each'. The form of *ælc* itself also started to change. See Kahlas-Tarkka (1987, 1994) for details. It is not obvious whether these changes are reducible to the feature classification parameter proposed in this chapter. But the parametric syntax approach leads to the possibility that there is a related parameter, if not feature classification. Since the loss of the indeterminate system means a major reorganization of the quantifier system, one would expect some other change(s) in that system. What we need is a theory of parametric space for the quantifier system, an uncharted territory at present, as everybody is aware (see Kayne 2005: ch. 12 for an acute appreciation of the depth of the problem and Kayne 2006b for the parametric significance of analysing *every* as *ever* + *y*).

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[13] The typology of the D-system receives crosslinguistic support. See Watanabe (2004a).
[14] See Leu (2007) in this connection.

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