

REVIEW OF LEDGEWAY & ROBERTS (EDS.) (2017),
CAMBRIDGE HANDBOOK OF HISTORICAL SYNTAX

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Ledgeway, Adam & Ian Roberts (eds.). 2017. *Cambridge Handbook of Historical Syntax*. Cambridge: Cambridge University Press. 746 pp. <https://doi.org/10.1017/9781107279070>. Hardbound: ISBN 978 11 070 4960 4 | £105.00 · e-Book: ISBN 978 11 072 7907 0 | \$134.00

Among the innumerable handbooks in linguistics that have appeared with various publishers over the last few years, Adam Ledgeway and Ian Roberts' is the first one dedicated entirely to the field of historical syntax. The addition of this domain to the list of handbook topics is undoubtedly to be welcomed. Given the extensive and diverse research that has been carried out in historical syntax over the last four decades or so, it seems to be timely to publish an up-to-date survey of the main issues and findings that is accessible to a wider readership.

1 CONTENT

1.1 *Part I: Types and Mechanisms of Syntactic Change*

The 729-page volume contains 31 chapters that are grouped in six main parts. These are preceded by a (regrettably short) three-page introduction, in which the editors situate the field and its contributions within current linguistics and they present the main features of the volume. Part I includes eight chapters under the heading 'Types and Mechanisms of Syntactic Change'. The first chapter, by Heiko NARROG and Bernd HEINE, introduces the notion of grammaticalization, commonly understood as the development of a morpheme from a lexical to a grammatical or from a less grammatical to a more grammatical status. The authors provide a good overview of different approaches to grammaticalization that can be found in the literature. In the 1970s to the 1990s, the study of grammaticalization developed as an alter-

native to contemporary models of grammar and as such can be considered as a framework of its own (grammaticalization theory). Narrog and Heine illustrate the contributions this approach makes to the study of syntactic change by focusing on the development of clausal subordination and discussing different grammaticalization paths and generalizations that have been proposed in the literature. An alternative that has become increasingly common recently is to consider grammaticalization simply as a phenomenon that can be treated within a particular grammatical theory. Narrog and Heine present and compare approaches developed within Minimalism, Functional Discourse Grammar and Construction Grammar.

Much work suggests that the process of grammaticalization is fundamentally unidirectional, and alleged cases of the opposite diachronic path have often met with scepticism. Nevertheless, as David WILLIS points out in chapter 2, “a stubborn core of examples remains” (p29) that are best treated as cases of degrammaticalization, a process whereby grammatical items acquire lexical status or bound morphemes gain greater freedom. Willis lists examples from a range of languages that seem to involve reverse grammaticalization, e.g. a preposition meaning ‘after’ giving rise to a verb meaning ‘fetch’ in the history of Welsh, or the development from the genitive suffix *-s* to the phrasal affix *'s* in the history of English. With the discovery of an increasing number of cases of degrammaticalization, the phenomenon has become the focus of more systematic investigation. As Willis shows, this has led to a classification of different types of degrammaticalization and to hypotheses concerning the pathways and processes involved in this phenomenon. These pathways and processes then provide a possible basis for explanations as to why degrammaticalization seems to occur significantly less frequently than grammaticalization. Willis concludes by observing that the very existence of degrammaticalization “suggests a view of syntactic change in which various processes ... come together in different combinations, sometimes going in unexpected directions, to produce a variety of outcomes” (p45).

John HAIMAN (chapter 3) examines a different type of change that is relatively infrequent and that immediately supports Willis’ conclusions. The process Haiman focuses on is exaptation, which he defines as “the promotion of meaningless or redundant material so that it does new grammatical (morphosyntactic or phonological) or semantic work” (p52). Haiman provides a number of illustrations. Some of them are more of a morphological or phonological nature, but cases of exaptation in syntax are identified as well. One example is *do* in English, which could occur in any type of clause (including non-emphatic affirmative clauses) in 16th-century English but did

not seem to make any semantic contribution. This meaningless item then developed two new grammatical roles according to Haiman: one as the grammatical auxiliary required in negative declaratives and interrogatives if no other auxiliary is present, and one as prohibitive *do* (co-occurring with *be*, among other distinctive properties). The second main syntactic example Haiman discusses is the emergence of initial placeholders in contexts of second position phenomena, as found for instance in Serbo-Croatian and in V2 languages (clause-initial expletives). In his conclusion, Haiman compares exaptation to degrammaticalization as a process that is “largely stochastic and opportunistic” and the results and outputs of which “are *a priori* unpredictable” (p66). As a consequence, “except in hindsight there is no real telling what creative uses may be made of junk [i.e. meaningless and redundant material – EH] from one language to the next” (*idem*).

Chapter 4, by Nerea MADARIAGA, discusses reanalysis, a process that has played a central role in many accounts of syntactic change and that is typically defined as the emergence of a new linguistic structure. Madariaga starts by presenting the ‘classic’ view of reanalysis on the basis of an example from Finnish, where certain DP arguments have undergone reanalysis from object of a matrix verb to subject of an embedded verb. The source of this reanalysis has been argued to be the emergence of a case syncretism which led to a situation where a certain surface string could be analyzed in terms of more than one underlying grammar. In this account, reanalysis involves the change from one structural analysis of ambiguous surface data to another one. This process may be followed by an extension of the new analysis to cases that were not ambiguous, i.e. in the Finnish example to cases where no case syncretism existed. In the remainder of this chapter, Madariaga explores the status of reanalysis in different theoretical frameworks, in particular usage-based and formal models. What both approaches share is the view that the notion of reanalysis does not have an explanatory role but simply describes the way in which change takes place. As for the treatment of reanalysis in the two frameworks, Madariaga observes that researchers working within usage-based frameworks tend to aim to reduce reanalysis to more general explanatory cognitive principles such as analogy and grammaticalization. Within formal approaches, reanalysis is a central notion for accounts of syntactic change. Given the role that is attributed to child language acquisition in formal models, reanalysis is understood as the situation in which language learners attribute a new structural analysis to an item or a surface string that does not correspond to that of the grammar that generated the learner’s input. As Madariaga points out, in this sense of ‘new analysis’, “‘reanalysis’ is often used as a cover term for ‘syntactic

change” (p79), and even a phenomenon like grammaticalization is viewed as a type of reanalysis. As for the causes of reanalysis, Madariaga distinguishes two types of approaches. On the one hand, there is what Madariaga calls the ‘contingent’ view: the triggers of the reanalysis occur in language performance (or E-language) and reanalysis thus becomes “unpredictable and contingent, requiring a local, case-by-case explanation” (p81). On the other hand, we have what Madariaga labels the ‘universality’ view, which tries to identify certain regularities in reanalysis. These tend to be related to acquisitional biases towards optimal structures. As we will see below, this dichotomy is found repeatedly in later chapters even though, as Madariaga points out, the two perspectives “do not exclude each other, and are often complementary” (p81).

Alice HARRIS’ chapter 5 focuses on change through analogical extension. Analogy is a core aspect of human cognition and of language. As Harris points out, “[l]inguistic rules of all kinds are compact statements of analogy” (p93). In a diachronic context, analogy is the source of changes in which a pattern or construction initially limited to one part of the grammar starts appearing more generally or throughout the grammar. As the notion of analogy has a long tradition in diachronic morphology, Harris starts with a short overview of analogical extension in the context of morphological change, pointing out that most cases can be expressed as the removal of conditions from a rule or the loss of a minor rule leaving intact a major rule. This can also be argued to be the case for certain analogical extensions in syntax. Harris provides illustrations from a diverse range of languages, including Kartvelian ones (case patterns), a Nakh-Daghestanian one (case/agreement with psych-verbs), Georgian (the extension of head-final word order from PPs to DPs as manifest in the ordering of nouns with respect to adjectives and genitives) or Greek (the emergence of a new future marking). Given the important role of analogy in human cognition, Harris concludes by proposing that the effects of analogy in diachronic syntax may go well beyond extension and that processes like borrowing and reanalysis also involve analogical reasoning.

Chapter 6, the first of four chapters written by David LIGHTFOOT, deals with restructuring and adopts a purely formal approach. As Lightfoot points out, in such a framework, the prefix *re-* is somewhat misleading as it is not the case that an earlier structure is somehow directly affected by a change. Instead, children acquiring a language simply postulate a new structure that is different from what was postulated by speakers at an earlier point in time. Hence, “[i]n a sense, ‘restructuring’ is syntactic change: new structures are assigned to expressions as new I-languages develop” (p113,

italics Lightfoot's). This very much corresponds to how Madariaga describes formal approaches to reanalysis. So the contribution of this chapter mainly seems to consist in expanding on chapter 4 rather than in introducing a truly distinct type or mechanism of change. Lightfoot leaves what he considers as the two best-understood instances of restructuring (the recategorization of modals and the loss of verb movement in English) for later chapters, and instead presents an interesting range of phenomena illustrating different aspects of restructuring. For example, Lightfoot discusses the history of the Chinese *ba* construction, which has traditionally been analyzed as a recategorization from V to P but more recently as a change in theta-marking properties with *ba* losing its ability to assign a thematic role to the NP beneath it in the structure. Lightfoot also discusses more radical cases of restructuring as found for example in a new 'mixed' language like Light Warlpiri, which emerged from Warlpiri, different varieties of English and Kriol. With children drawing selectively from elements of the source languages, Light Warlpiri developed a new system with constructions not attested in any of those ambient languages. Finally, Lightfoot also discusses the development of psych verbs such as *like* as an illustration of morphological and syntactic restructuring leading to semantic change. Lightfoot concludes by observing that more work will be needed for a richer understanding of the cases discussed in this chapter since for none of them can we point to new primary linguistic data (PLD) which could trigger the new analyses in a convincing way.

Reanalysis within a generative framework is further explored in Theresa BIBERAUER and Ian ROBERTS' chapter 7, entitled 'Parameter Setting'. Within generative syntactic theory over the last forty years, the notion of parameter plays a central role in the account of cross-linguistic variation. In terms of such a framework, "syntactic change involves the 'resetting' of parameter values", a process that is generally thought to occur "in the course of first-language acquisition, presumably on the basis of reanalysis of PLD by language acquirers" (p134). The central question for this scenario is how the 'resetting' of parameters can happen. Once again, from an acquisitional perspective, the prefix *re-* is misleading since, diachronically, we are simply dealing with instances of parameter setting over time. What becomes of crucial importance then is how parameters are set. Biberauer and Roberts start by providing an overview of the kind of approaches to parameter setting that have been pursued in the literature, including degree-0 learnability, cue/trigger-based approaches, grammar competition, and the Subset Condition. The authors then turn to their own current view of parameter setting, a view that they call emergentist. The central idea is that, in contrast to

earlier Principles-and-Parameter (P&P) approaches, “the parameters of UG are *not* pre-specified in the innate endowment” (p143, italics and bold print by the authors). Instead, they emerge from the interaction of the three factors of language design that Chomsky (2005) identifies: (i) The innate endowment: Universal Grammar; (ii) Experience: the primary linguistic data; (iii) Non-domain-specific cognitive optimization principles. What Biberauer and Roberts maintain is the standard characterization of parameters as variation in formal features, but their idea is that this variation arises from underspecification for the relevant features (“UG simply ‘doesn’t mind’” (p143)). The authors leave the nature of this underspecification somewhat open but they suggest that a radical emergentist view, according to which the features themselves are emergent and UG simply specifies the general format for them, would be more parsimonious than alternative options. An important innovation compared to earlier P&P accounts is that the emergentist approach explicitly attributes an important role to third-factor principles, which are non-domain-specific cognitive principles. Biberauer and Roberts propose two conditions of this type which “amount together to a general strategy of making maximal use of minimal means” (p145): (a) Feature Economy (“Given two structural representations R and R’ for a substring of input text S, R is preferred over R’ iff R contains fewer formal features than R’” (p145)); (b) Input Generalization (“If a functional head sets parameter p_j to value v_i , then there is a preference for similar functional heads to set p_j to value v_i ” (p147)). Biberauer and Roberts then explore some consequences of their proposals, focusing in particular on the conception of parametric change that emerges from their view. They point out that the learning procedure they outlined creates parameter hierarchies and an associated typology of parameters distinguishing macroparameters, mesoparameters, microparameters, and nanoparameters, with diachronic stability decreasing from macro to nano. Finally, Biberauer and Roberts examine the consequences of their approach for the Inertia Principle, the role of contact, nanoparametric change and the gradual nature of change. Overall, the emergentist view of parameters that Biberauer and Roberts sketch is highly appealing in many ways, an important one of them being that it “is compatible with minimalist assumptions, as well as being in certain respects more compatible with functionalist views on language acquisition and change’ (p142) as the role of the innate endowment is considerably reduced and the role of non-domain-specific factors increased.

The final type and mechanism of syntactic change included in part I of this handbook is presented by Tania KUTEVA under the title ‘Contact and Borrowing’ (chapter 8). In contexts where languages come into con-

tact, linguistic material may be transferred from one contact language to the other. Kuteva's aim is to outline a comprehensive model (ComMod) of contact-induced linguistic transfer and to establish the place syntactic and morphosyntactic change has within this model. Before doing so, the author briefly presents some aspects of traditional work on borrowing, which is based on a very general definition according to which borrowing is the adoption by one language of any linguistic element (both lexical and structural) from another language. Such studies have come up with a number of universals and principles of borrowing. Kuteva focuses on three of these (transfer occurs to fill structural gaps in the replica language (RL); transfer of morphemes involves replacement/renewal in RL rather than the creation of a new morphological category; transfer leads to simplification) and shows that the situation is generally more complex than suggested by such principles. For example, even though simplification can indeed be observed in particular in contexts involving adult second language learning, contact can also lead to diversification and complexification in scenarios of long-term contact and childhood bilingualism. Kuteva then turns to the discussion of ComMod and its taxonomy of contact-induced change. In ComMod, the notion of borrowing is defined more narrowly as the transfer of sounds or form:meaning pairings. Under this definition, borrowing always concerns phonetic substance/phonological material. Four subtypes of borrowing are distinguished: lexical, phonological, morphological and morphosyntactic borrowing. Hence, borrowing only plays a minor role in the context of the topic of this handbook, as it is limited exclusively to morphosyntax ("it is a self-contradiction – in the present terminology – to speak of 'syntactic borrowing'" (p180)). What is more important from a syntactic point of view is another type of transfer, i.e. the transfer of meaning and the structures associated with them independently of phonetic/phonological form. This is referred to as replication, a process that is further subdivided into lexical replication (calquing) and grammatical replication. The latter is a process whereby RL creates a new grammatical structure on the model of some structure in the Model Language (ML). Kuteva distinguishes three types of grammatical replication: contact-induced grammaticalization (CIG – a grammaticalization process resulting from influence of a contact language), polysemy copying (direct replication of a more lexical and a more grammatical version of the same linguistic expression, no grammaticalization process in RL), and restructuring (existing structure is rearranged or lost). It is the latter that is of primary relevance for the study of syntactic change.

1.2 *Part II: Methods and Tools*

Part II of the handbook deals with 'Methods and Tools', which are presented in four chapters. Chapter 9, by James CLACKSON, focuses on the comparative method (CM) and comparative reconstruction. To what extent reconstruction of the syntax of a language is possible is an issue that has been controversially discussed in the literature. Clackson's contribution provides an excellent introduction to this debate. Its aim is to examine the operation of CM step by step and at each stage to compare the situation between phonological and syntactic reconstruction. The first step of the CM is the creation of correspondence sets. In phonology, this step is relatively straightforward even though processes like borrowing or semantic change may disturb the picture. For syntax, it is considerably less clear what should be compared. Clackson discusses a range of solutions that have been proposed in the literature to address this correspondence set problem, but he concludes that "[t]he correspondence set problem remains one of the major difficulties for the CM as a tool of syntactic reconstruction" (p197). The second step Clackson considers is the elimination of the effects of language contact. In the context of phonological reconstruction, a sufficiently large number of items contained in the comparison combined with the knowledge that borrowings are more common with open-class words and less common in certain semantic fields (e.g. kinship terms, numerals) generally allows researchers to separate borrowed words from inherited ones. Once again, the situation is more problematic in syntax as it is not clear how contact-induced change could be distinguished from changes caused by other causes. The third step is to form a hypothesis of what is the most likely ancestor to explain the correspondence sets. The plausibility of this hypothesis is determined by the plausibility of the sound changes that must be postulated to get from the reconstructed form to those found in the correspondence set, by the plausibility of the reconstructed phonemic system and by the efficiency of the model. A problem that has often been raised for syntactic reconstruction in this connection is that it is much less clear what plausible syntactic changes are. However, given the growing body of work in historical syntax and the increased knowledge we have gained from it with respect to the nature of syntactic change, the situation is improving somewhat in this respect. The final step of the CM is to refine the reconstructions on the basis of an evaluation of the reconstructed system as a whole. Once again, this step cannot be straightforwardly extended to syntax as no reconstruction has so far been proposed for the entire syntax of a proto-language. In sum, a comparison based on the CM shows that syntactic reconstruction and phonological reconstruction are two fundamentally different enterprises.

But the fact that syntactic reconstruction cannot simply rely on the tools developed for phonological reconstruction does not necessarily entail that it is entirely impossible. Drawing attention to what seems to be a case of relatively accurate syntactic reconstruction, Clackson ends on a positive note: “Syntactic reconstruction through comparison of related languages and the formation of explanatory hypotheses for the structure of the parent language seems to work. Perhaps it is time to leave the arguments about methodology to one side, and concentrate on reconstructing syntax” (p204).

More on reconstruction can be found in Gisella FERRARESI and Maria GOLDBACH’s chapter 10. Their focus is internal reconstruction, a method used in traditional historical linguistics to recover information about a language’s past on the basis of its properties at a later stage without the use of the cross-linguistic considerations that are crucial for the CM. In the first part of the chapter, the authors present the method of internal reconstruction with examples from morphology and identify certain shortcomings. Their assessment of this method is highly critical, leading them to conclude that “[t]o us, thus, it seems that the field of Internal Reconstruction abandons the standards and realms of good empirical science” (p212). So what about internal reconstruction in syntax then? Ferraresi and Goldbach observe that most discussions of syntactic reconstruction in the literature rely on the CM rather than on internal reconstruction. They nevertheless mention a study that they consider as a case of successful internal reconstruction. The study they refer to examines the occurrence of *ne*-dropping in negative clauses at various stages of the history of French and it identifies three factors that favour the use of *ne*-dropping. However, the method applied here seems to be a simple variationist one, and it remains unclear why the discovery of factors influencing the use of a variant in a case of variation should fall under the heading of reconstruction as the authors suggest (the “study reconstructs these three syntactic factors just mentioned which trigger *ne*-dropping” (p213)). In the concluding section, the authors mention a different way in which the term ‘internal reconstruction’ could be used in syntax. Within the Principles-and-Parameters framework, certain parameters have been argued to be linked to a cluster of properties (cf. e.g. the pro-drop parameter). Thus, once a syntactic property that depends on a certain parameter setting can be identified in a given language, other properties that are linked to the same parameter setting can be reconstructed for that language. Although this point is undoubtedly correct, one may wonder whether it is sufficiently substantial to deserve a separate chapter in a handbook and whether it would not have been more appropriate as the topic of a section in a chapter on the Principles-and-Parameters framework.

Susan PINTZUK, Ann TAYLOR and Anthony WARNER discuss aspects of ‘Corpora and Quantitative Methods’ in chapter 11. Throughout the chapter, the authors stress the importance of the interaction between corpus-based work and linguistic theory: “In order to properly collect, analyse and interpret corpus data, we need a theory of grammar and theory of language change. Without such a basis, it is impossible to know what data to collect and how to analyse and interpret them appropriately” (p218). After some initial observations on the empirical basis of historical syntax and the benefits of (parsed) electronic corpora, the authors present three case studies that nicely illustrate the contributions that quantitative corpus-based studies can make to historical syntax. The first case study deals with the change from OV to VO in the history of English and, more specifically, the distinct developments of different types of objects during this change (negative vs. quantified vs. non-negative/non-quantified objects). Pintzuk, Taylor and Warner present two possible analyses of this change, and they show that quantitative data provide strong empirical support for one of them. In the absence of native speaker intuitions for past stages of a language, quantitative evidence can thus be of great interest for the theoretical analysis of a given phenomenon. The second case study, based on the loss of V-to-T movement in Scandinavian, shows how a quantitative approach allows the testing of formal models of language acquisition with documented cases of language change. Finally, the authors turn to a case where detailed quantitative analysis sheds light on how syntactic change proceeds. The empirical basis is the rise of *do* in questions in Early Modern English, and it is observed that individual speakers use *do* with increasing frequencies over their lifetime. This suggests that the rise of *do* in questions is a case of what has been referred to as a ‘communal change’ (all members of a speech community change their frequencies over time) rather than a ‘generational change’ (younger speakers use higher frequencies than older ones). Thus, in contrast to the traditional generative accounts of change, which crucially depend on acquisition as a locus of change, the quantitative evidence discussed by Pintzuk, Taylor and Warner suggests that adulthood also plays a role. Even though this evidence concerns language use (i.e. E-language rather than I-language), it is nevertheless essential for a full understanding of the nature of syntactic change. As the authors point out, “the real strength of corpora is that they enable us to quantify and track variation over time. This, in turn, if properly interpreted can provide evidence for underlying changes in I-language, and for the nature of change itself” (p222).

In chapter 12, Giuseppe LONGOBARDI and Cristina GUARDIANO present the ‘Parametric Comparison Method’ (PCM), which they argue to be a novel

tool for studying the historical evolution and classification of languages. Based on the notion of parameter as developed in generative syntactic theory rather than on simple surface patterns, the PCM aims at formally measuring grammatical diversity and at reconstructing language phylogenies by examining how parameter values are distributed in space and time. According to Longobardi and Guardiano, parameters have several properties that are desirable for phylogenetic linguistics. Like genetic markers in biology, they form a universal list of discrete options that allow mass comparison and lend themselves to precise calculations. Furthermore, parametric values are to a large extent beyond the grasp of speakers' consciousness and therefore, in contrast to other culturally transmitted properties, less likely to be subject to deliberate individual decisions. Finally, syntactic parameter values seem to be more stable diachronically than lexical semantic or phonological properties. As a consequence, the PCM may allow reconstruction with a bigger time depth than the traditional comparative method. Longobardi and Guardiano present the experiments that have been implemented so far using the PCM, and they describe the phylogenetic computational procedures that have been used. The experiments are based on a parametric database of 40 languages and over 80 binary parameters related to the internal syntax of nominal constituents. The authors observe that the results so far are encouraging in that "the PCM succeeds in empirically detecting historical signals within well-established families" and that "isolates are kept distinct from the core groups and from each other" (p260). They therefore conclude that "the PCM promises to make a new tool for the investigation of our linguistic past, hopefully able to overcome the limits of the classical comparative method and the issues raised by Greenberg's mass comparison, potentially joining traditional comparative linguistics, archeology and genetics in the 'New Synthesis' approach to the study of human history and prehistory" (p266).

1.3 *Part III: Principles and Constraints*

The next six chapters form Part III of the handbook, which focuses on 'Principles and Constraints'. Anders HOLMBERG's chapter 13 is entitled 'Universal Grammar'. It starts with a brief discussion of the cross-linguistic generalizations and typological universals identified in the Greenbergian tradition. But the major part of the chapter focuses on Universal Grammar (UG) as conceived in the generative tradition. Starting with the traditional 'poverty of the stimulus' argument that has played a crucial role in motivating UG, Holmberg then provides an overview of the development that this theoretical construct has undergone from its inception in Chomsky's work in the 1960s to today, with current frameworks proposing to view UG as a

less rich and less specified system than traditional Principles-and-Parameters theory. Holmberg also refers to evolutionary issues in connection with UG. Overall, the chapter provides a clear and concise overview of the concept of UG. Surprisingly, however, no attempts whatsoever are made to explicitly link the chapter to the topic of the handbook.

In chapter 14, Henning ANDERSEN discusses abduction, a form of reasoning that leads to the inference that something *may* be the case and that therefore has the properties of being fallible and being able to introduce ‘new ideas’. The notion of abduction has often (but not uncontroversially) been considered as being of relevance for linguistic change, with flawed abductions in the acquisition process being identified as the source of language change. After a discussion of the use of the notion in logic, Andersen discusses the role of abduction in language. He stresses the creativity of speakers as manifest in neologism, extension, reanalysis and adoption and argues that “these are aspects of language transmission that would not be possible without the speakers’ innate capacity for abductive inference” (p307). Andersen suggests that the importance of this creativity for language change can only be appreciated by what he calls a close-up view, which identifies subchanges and thus allows one to “logically form hypotheses about the rational bases of speakers’ contributions to the initiation and advancement of changes” (p313). Andersen illustrates this approach on the basis of a change in the morphosyntax of Polish and of the reanalysis of certain DP arguments from object of a matrix verb to subject of an embedded verb in Finnish, as discussed also in chapter 4.

In chapter 15, David LIGHTFOOT provides an interesting historical overview of the Transparency Principle (TP), a principle of the theory of grammar that he put forward in his early work. According to the TP, structural analyses need to be transparent and accessible to the language learner. But transparency may be reduced in certain contexts due to the emergence of exception features. Once such exception features become too substantial, the TP can provoke a syntactic change resulting in a structure that is more transparent again. Besides some fundamental weaknesses (the TP was never formalized, no precise method was established to quantify degrees of exceptionality), Lightfoot views the main cause for the demise of the TP in a paradigm shift that occurred in the 1980s with Chomsky introducing the distinction between E-language (the mass of language out in the world that people hear) and I-language (mental systems that have grown in the brains of individuals). According to Lightfoot, the TP emerged in the context of earlier formal approaches in which languages were viewed as group phenomena developing in an idealized homogeneous speech community. But, as Light-

foot points out, the introduction of the E-/I-language distinction facilitated new explanations for syntactic changes. I-languages are acquired on the basis of the E-language children are exposed to. But since no two people have identical E-language exposure, there is always the possibility for new I-languages to emerge and then, under the right circumstances, to spread. As a consequence, new individual I-languages can emerge without appealing to notions like exception features and, hence, to the TP. Lightfoot makes similar observations on what he considers as modern analogues to the TP, such as fitness metrics or least effort strategies. He argues that the main problem of all these approaches is that if there are limits to the complexity of grammars or the effort involved in certain representations, one may wonder why a previous generation had I-languages that tolerated that degree of complexity or effort. Lightfoot concludes by inverting what is sometimes described as the roles of prophylaxis and therapy in historical linguistics: "... UG imposes limits on biologically possible systems and therefore performs a kind of prophylaxis, preventing logically possible but biologically disfavoured systems from emerging in the first place. If biologically disfavoured grammars are precluded by a good theory of UG, there is no reason for therapeutic principles like Transparency or its more recent analogues" (p335).

In chapter 16, Ian ROBERTS discusses the notion of uniformitarianism, the hypothesis that the languages of the past are no different in nature from those of the present and that therefore also the patterns of language change must have remained stable over time. Roberts starts by reviewing the history of the Uniformitarian Principle (UP) in western linguistic thought and in other disciplines. The largest part of the chapter is then devoted to a discussion of the UP and linguistic prehistory. Roberts shows how the UP has allowed scholars to make plausible inferences for what must be the greater part of human linguistic history, from the emergence of the modern language faculty to our earliest reliable reconstructions. Finally, Roberts explores some consequences of the UP for formal syntactic theory, contrasting the traditional principles-and-parameters theory and the more recent emergentist view described in chapter 7. Given that it is only in the former version of the theory that parameters are pre-specified in Universal Grammar, the two approaches may lead to somewhat different views of the relation between the grammatical systems of the present and those of the past. Furthermore, Roberts argues that the emergentist view may allow for informed inferences about the nature of prehistoric typological/parametric variation.

Markedness is the topic of chapter 17 by Anna ROUSSOU. Although the notion of markedness has received many interpretations in many different

frameworks, it generally refers to some sort of asymmetry among features, rules/constraints, constructions, or uses. The bulk of Roussou's chapter deals with markedness within generative grammar. It identifies three different types: formal markedness with lexicalization choices (Internal Merge vs. Agree), markedness related to different parameter settings within a given grammar, and markedness from the perspective of the language learner. Roussou then shows very briefly how these different types may play a role in syntactic change.

David LIGHTFOOT's third contribution is a chapter entitled 'Acquisition and Learnability' (chapter 18). It aims at presenting an approach "that links the explanation of syntactic changes to ideas about language acquisition, learnability and the (synchronic) theory of grammar" (p382). Coming back to issues raised in chapter 15, Lightfoot observes that this linkage can be made in two ways, one viewing change as externally driven and the other viewing it as, at least in part, internally driven. Under the view that change can be internally driven, UG includes 'biases' that prefer certain grammars over others despite roughly the same PLD. The main problem that Lightfoot identifies for this type of approach is that "[i]f there is a built-in preference for certain I-languages, one needs something more to explain why relevant changes took place at particular times and under particular circumstances and why they did not take place in languages where they are not attested, and why they did not take place in some speech community one or more generations earlier" (p383). The alternative possibility, which Lightfoot prefers, is that change is externally driven. The logical problem of language acquisition has typically been described as one of identifying the elements of the triplet: primary linguistic data (PLD) – UG – a particular grammar. Children seek the simplest and most conservative grammar compatible with both UG and the PLD. According to Lightfoot, there can then only be one way for syntactic change to happen: "a new grammar will emerge when children are exposed to new PLD such that the new PLD trigger the new grammar" (p382). Changes in the E-language (PLD) can occur for various reasons such as change in another area of the language (e.g. morphology) or change in the frequency of occurrence of certain phenomena. Such changes may then have the potential of triggering I-language changes. Lightfoot illustrates this approach on the basis of a sequence of three I-language changes affecting the verbal syntax in the history of English: the recategorization of modals from V to I, the loss of V-to-I movement, and a change in the morphosyntactic status of forms of *be*. Lightfoot argues that this sequence of events can be understood through language acquisition since the interaction between E- and I-languages in the acquisition process can lead to diachronic domino

effects. An initial change in the ambient E-language led to an I-language change. Then, the new I-language produced a new E-language, which in turn gave rise to another I-language change. Once again this had effects on the E-language, and the new E-language led to yet another I-language. The main task in this approach is then to identify shifts in I-languages along with prior shifts in the ambient E-language that plausibly triggered the new I-languages. In this context, Lightfoot stresses the important general contribution that diachronic work can make as it “keys grammatical properties to particular elements of the available PLD in ways that one sees very rarely in work on synchronic syntax” (p382).

1.4 Part IV: Major Issues and Themes

Under the heading ‘Major Issues and Themes’, Part IV of the handbook includes four chapters. The first one, chapter 19 by George WALKDEN, focuses on the actuation problem, i.e. the question why a certain change in the structural feature of a language occurs in a language at a particular time and not earlier or later, and why the same change does not occur in other languages with the same feature. Walkden starts by considering properties of individual language users (speakers, hearers, learners), or what we may call internal factors, as potential causes of change. More precisely, he examines the roles of reanalysis, first language acquisition pressures, and functional pressures. Very much in line with Lightfoot’s view, he concludes that “internal approaches to motivations for language change – whether rooted in acquisition, cognition, or language use – are unable to provide satisfactory answers to the actuation problem” (p413). The only alternative is to turn to external factors, which may cause different sets of PLD to be available to different acquirers. One plausible actuation scenario involves language contact, which may lead to transfer of linguistic features or to the emergence of new properties that cannot be attributed to the grammars of the languages in contact. Walkden then turns to sociolinguistic explanations. Two main aspects are stressed: the potential importance of attempts by adults to replicate linguistic features, which have been shown to be highly inaccurate, and the role of the strength of social network ties. Although external explanations can be promising, Walkden rightly points out that we remain in the realm of plausible hypotheses since “with regard to particular changes in the historical record, the specific details ... we would need in order to achieve a confidence approaching certainty are essentially always unavailable” (p420) – with the details having to correspond to the full PLD for any given acquisition situation that is relevant for the change. But given what *can* be known about language acquisition and population dynamics,

“we may not ultimately be successful in pinpointing the solution to the actuation problem for any specific change, but we may be able to narrow down the search space with a reasonable degree of confidence” (p420).

Ian ROBERTS’ chapter 20 discusses the notion of inertia as put forward by Keenan and, subsequently, Longobardi. Longobardi proposes that syntactic change does not occur unless the PLD for language acquisition are disrupted by some other event such as language contact or any other linguistic change. After a discussion of some issues that have been raised with respect to inertia, Roberts concludes that “the Inertia Principle may be useful as a methodological principle” and that “[t]he exclusion of purely endogenous syntactic change is desirable” (p431). He suggests, however, that the Inertia Principle need not be postulated as an independent principle but that, instead, its role may derive from the interaction of the three factors UG, PLD, and non-domain-specific cognitive principles. More than half of the chapter is then devoted to inertia in relation to Sapir’s notion of ‘drift’, which refers to long-term changes tending in the same overall typological direction. It has often been pointed out that, in terms of an acquisition-based account, it is problematic to think of syntactic change as having an inherent direction since language learners cannot know which way a change is heading purely on the basis of the PLD they are exposed to. Roberts argues that drifts can be accounted for in terms of sequences of parametric changes where each change skews the PLD in such a way that the next is favoured. Thus, we get a cascade of changes, a kind of domino effect, in the parametric system (as essentially also proposed in Lightfoot’s chapter 18). This scenario is compatible with inertia since each of these changes (with the exception of the initial one) is caused by another linguistic change. The question that remains then is what determines the natural direction of such changes. Roberts suggests that third factors, such as feature economy and input generalization (cf. chapter 7), play a crucial role here. The effects of these factors, according to Roberts, may explain why “grammatical systems ... clump together synchronically in certain areas of [the parameter space defined by UG] and ... drift towards those areas diachronically” (p435).

‘Gradience and Gradualness vs Abruptness’ is the title of chapter 21 by Marit WESTERGAARD. According to the traditional view, syntactic change generally proceeds gradually, with a new option emerging and then spreading through the speech community over a certain amount of time until the change comes to completion. The abruptness of change, on the other hand, has been stressed in generative approaches since change is viewed as an abrupt structural innovation emerging in the transition from one generation to the next. Hence, as Westergaard points out, “the question of gradualness

vs abruptness in diachronic development is to some extent dependent on our object of study" (p447). Westergaard then presents two generative approaches to change. First, Lightfoot's cue-based acquisitional approach is discussed, in which the abruptness of change features most prominently. The main claim is that E-language changes (e.g. the frequency of a cue falling below a certain threshold) can lead to a new I-language (abruptly) postulated by language learners. Second, Kroch's grammar competition approach is discussed, which suggests that values of syntactic parameters can co-exist within individuals as a form of diglossia and that this accounts for the gradual transition from one parameter setting to another. Westergaard then reviews several syntactic changes that have been analyzed (mostly in Lightfoot's work) as having occurred abruptly: the recategorization of modals in English, the loss of V-to-I, the change from OV to VO, and the loss of Verb Second. In each case, Westergaard points out that 'non-abrupt' accounts have been put forward as well. For example, for the recategorization of modals it has been suggested that the change did not affect all modals at the same time, or for the ongoing decline of V2 in *wh*-questions in Norwegian dialects, it has been proposed that the change spreads from one linguistic context to another. Westergaard also mentions analyses referring to competing grammars even though those are not true alternatives to abruptness as understood by Lightfoot, as the latter readily integrates grammar competition as a part of his accounts (p331, p395, pp526f.). Westergaard concludes her discussion of previous approaches by pointing out some of their shortcomings and she notes that "[s]ince generative theories of language change rely heavily on language acquisition, it is important to investigate whether there is any support in the child language data for the proposed concepts, e.g. parameter setting, grammar competition, cue-based learning, or the suggested input threshold for language acquisition" (p458). Reporting on some research that considers such issues, Westergaard observes that children master linguistically conditioned variation from early on and they also acquire infrequent structures both easily and early. In connection with the acquisition of variation, Westergaard introduces the notion of micro-cues that are meant to account for small-scale variation that is linguistically conditioned. This, she argues, has diachronic consequences as change might be expected to proceed in small steps, affecting one micro-cue at a time. Hence, "there is not necessarily a conflict between gradual and abrupt changes, as gradualism may be considered many small I-language changes in succession" (p461).

Elly VAN GELDEREN's chapter 22 provides a concise overview of linguistic cyclicity. Van Gelderen defines cycles as regular patterns of language change that take place in a systematic manner and direction and involve the disap-

pearance of a particular word and its renewal by another. She distinguishes two main types of cycles: microcycles and macrocycles. The former refer to individual linguistic developments affecting for example tense or negative markers (e.g. English *ne* > (*ne*) ... *not* > *n't* > colloquial *n't* ... *nothing*) whereas the latter term is used for changes that are more typological in character such as the change from analytic to synthetic and back to analytic again (as postulated for example for Egyptian). As the status of macrocycles is somewhat controversial, van Gelderen's discussion focuses on microcycles. Explanations given for cycles in the literature traditionally involve notions like comfort/ease and clarity: a form is weakened due to comfort, but the original concept is then strengthened for the purposes of clarity. However, more recent work identifies a wider range of factors that set cycles in motion: phonetic and pragmatic ones as well as various sociolinguistic ones (e.g. contact, attitudes). Van Gelderen presents two cycles in some more detail that are found in a wide range of languages: the agreement cycle (pronoun > agreement marker) and the copula cycle (demonstrative > copula). She concludes by providing a Minimalist account of cyclicity, albeit one involving "a departure from standard assumptions" (p481) with respect to the role different types of features play. Van Gelderen's analysis is based on an economy principle according to which semantic features can be reanalyzed as interpretable and interpretable features as uninterpretable (Feature Economy – same label as in Roberts' chapters but different content). However, it remains somewhat unclear how distinctions in feature type (e.g. interpretable vs. uninterpretable) can be related to economy. As for the starting point of cycles, van Gelderen suggests that "[t]he urge of speakers to be innovative may introduce newly, loosely adjoined elements into the structure and that may provide evidence to the language learner to reanalyze the older form as uninterpretable" or that "[s]peakers may want to be explicit and therefore choose full phrases rather than heads" (pp484-485). She concludes by observing that "languages change in systematic ways" and that "[t]he only plausible reason for this is that the learners have principles guiding these changes" (p485).

1.5 Part V: Explanations

The topic of part V of the handbook is 'Explanations'. The opening chapter 23 by David WILLIS focuses on endogenous and exogenous theories of syntactic change. The main issue that is addressed here is essentially the same as in chapter 19 (actuation), but Willis' chapter adds a few interesting further aspects. Willis starts by considering spontaneous innovation as the endogenous scenario *par excellence*. Here, what is needed is that certain pre-

conditions for reanalysis or analogical extension are met, but this potential for innovation does then not necessarily lead to actual innovation (immediately or at any later time in the future). Dialect splits may provide support for such a scenario since, as Willis suggests, it is unlikely that such splits can always be related to the differential impact of syntax-external factors or to limits imposed on diffusion by social or geographic boundaries. Although approaches referring to spontaneous innovation tend to be criticized for their failure to explain why a change happens when it does, Willis observes that this failure may not be unexpected if misparsing by children (and hence innovation) is distributed randomly in the population and the diffusion of the innovation then depends on the right sociolinguistic environment. As a possible example for spontaneous change, Willis mentions the reanalysis of the *for ... to* construction in Middle English. Willis then turns to approaches grounded in language typology, which deal with phenomena such as cross-categorial word order harmony and the connection between case and word order. These changes at first sight seem to be of the endogenous type, but since typological generalizations do not offer any genuine form of explanation, they may turn out to involve exogenous factors (cf. Hawkins' processing accounts). Furthermore, the fact that certain typological changes (drifts) may take place over extremely long periods of time suggests that individual changes occur spontaneously rather than by necessity, otherwise one would expect cross-categorial harmony, for example, to be established very quickly. Willis then turns to language use as a factor in syntactic change, which may be considered as endogenous or exogenous, depending on one's conception of language. The main phenomena mentioned are cases of grammaticalization (frequent use of certain expressions leading to entrenchment, conventionalization and loss of structure – e.g. *a lot of*) and changes in frequencies of use leading to more fundamental changes in the underlying grammar (e.g. certain accounts of the loss of V2). A further type of explanation that Willis mentions relates syntactic change to changes in other areas of the language (phonology, morphology, semantics or pragmatics). These are exogenous from the point of view of syntax but endogenous from the point of view of the linguistic system as a whole. But since the changes at other linguistic levels require explanations of their own, the ultimate cause may very well be exogenous. The last two sections of Willis' chapter deal with exogenous changes. First, language contact as the main type of exogenous change is discussed. As Willis points out, although no linguist would deny the possibility that some syntactic changes are the consequence of language contact, the importance attributed to this factor varies considerably, ranging from 'last resort' (only when no endogenous account is plausible) to 'all core

syntactic change is exogenous'. Finally, Willis discusses Longobardi's Inertia Principle, which can be considered to be an exogenous approach if we define the term as "exogenous to the syntactic feature undergoing change". Inertia essentially excludes spontaneous innovation. Coming back to the topic of the initial section and providing a different example, Willis shows, however, that changes that look spontaneous do seem to occur. The case he cites concerns the single argument in the presentational/existential construction with *haber* in Spanish. This argument generally has the status of an object, but in many varieties it functions as a subject and therefore determines verbal agreement. Since the non-subject status is stable in some varieties of Spanish, there does not seem to be any necessity for this change to have happened in others. Willis therefore considers this example as "a classic instance of the actuation problem ... with no solution" and concludes (p509):

"We are left considering a probabilistic model of actuation of precisely the type that Longobardi (2001: 278) specifically rejects. On such a view, differences in the frequency with which various structures were used (whether systematic or due to random variation in the experience of individual acquirers) would have led a very small proportion of acquirers (independently) to innovate the new grammar. Once one acquirer establishes the new grammar and actualizes it by producing innovative sentence types compatible only with the new grammar ... the probability that other acquirers will acquire the new feature will rise sharply (a 'snowball' effect), since there is now positive evidence in its favour. The random distribution of primary actuators and the snowball effect combine, leading to the creation of clusters of innovative usage. If there is an acquisitional bias towards the new grammar (because it is simpler or in some sense default), it is certain to spread unless some counteracting bias (such as social stigmatization) outweighs the acquisitional bias."

The starting point of this scenario are "differences in frequency". Hence, the innovation would be related to differences in the PLD (in line with Lightfoot, chapter 18 and the following one). In the particular case that Willis discusses, however, these changes may be subtle and probabilistic, which may make it impossible to observe the exact context of actuation as we cannot have access to enough details concerning the PLD in each context of acquisition (cf. also Walkden, pp419-420). As a consequence, the account of the change observed in Spanish has to remain speculative.

David LIGHTFOOT's fourth and final contribution is entitled 'Imperfect Transmission and Discontinuity' (chapter 24). Here, Lightfoot deals with the paradox, addressed also by Westergaard in an earlier chapter, that "[c]hange is often gradual to the point of being imperceptible but, when we use a wider-angle lens, we see major discontinuities" (p515). After discarding some alternative approaches, Lightfoot focuses on what he calls his cue-based discovery approach to language acquisition, as outlined already in chapter 18. The essential ingredient of this approach is the distinction between E- and I-language. I-languages are invented afresh in each generation and each individual, and changes in E-language (e.g. frequency changes, loss of morphology) can trigger new I-languages. Discontinuities are therefore not the result of imperfect learning or imperfect transmission, as in certain other approaches, but simply responses to new E-language. Lightfoot illustrates this approach with two phenomena introduced in chapter 18, the recategorization of the modals and the loss of V-to-I movement in the history of English. Lightfoot then returns to the paradox of gradualness and discontinuity. While changes in I-language are instantaneous events, a certain impression of gradualness of syntactic change may arise for various reasons. For example, certain phenomena may have been studied in terms of units of analysis that are not sufficiently fine-grained (cf. also Westergaard). Furthermore, frequency changes may simply be the effect of changes in I-language use rather than true change in I-language. Finally, Lightfoot stresses the relevance of Kroch's notion of two (or more) coexisting I-languages in an individual and, at the level of the population, the observation made by different authors that a new I-language may spread analogously to what has been observed in population genetics and evolutionary change, with the speed of the spread of a change depending on non-grammatical factors.

These non-grammatical factors are then considered in Suzanne ROMAINE's chapter 25, 'Social Conditioning'. Work in sociolinguistics has shown that synchronic linguistic variation is not random but structured along a number of internal linguistic and external social dimensions (e.g. linguistic context, age, gender, social status etc.) and that the analysis of such variation can provide important insights into the nature of language change. However, as Romaine points out, "due to differences in goals, theoretical assumptions and working methods, the study of variation, in particular externally conditioned variability, has had limited impact on the development of syntactic theory" (p535). In her overview of social conditioning as a mechanism of syntactic change, Romaine starts by discussing some factors that have played a role in the relative neglect of syntactic variables as compared to phonological or lexical variables: the relative rarity of syntactic variables;

some uncertainty as to whether abstract linguistic structures as found in syntax are subject to social influence; some further uncertainty as to whether the notion of variable itself can be applied to syntax as it is not always clear whether apparent variants preserve semantic equivalence. Looking at variation with respect to French *wh*-interrogatives, Romaine provides an excellent illustration of the complexity that can characterize the study of syntactic variation. As she observes, at least eight different variants can be identified, but questions remain as to whether they can all be considered as true variants of the same variable and what determines the use of these different options. Romaine then focuses on some simpler variables that nicely illustrate social conditioning and the role of the main social factors in syntactic change: social status, network, gender, age, style and region. The phenomena examined include relativization strategies in English, two-verb clusters in German subordinate clauses, the English genitive, and null subject pronouns in Spanish. Romaine concludes by raising some major open issues such as the theoretical account of variation and by pointing to future directions that could lead to a fruitful alliance between variationists and syntacticians.

In chapter 26, entitled ‘Non-syntactic Sources and Triggers of Syntactic Change’, Laurel J. BRINTON and Elizabeth Closs TRAUGOTT provide another perspective on the (non-syntactic) reasons for syntactic change or, as Brinton and Traugott call them, the “enabling factors”, a term that is based on their observation that the circumstances leading to change “are not deterministic since change does not have to take place” (p556). Focusing on usage-based approaches in this chapter, Brinton and Traugott summarize what they consider to be the main differences between generative and usage-based frameworks as follows (pp556-557): In the former, what changes is grammar, and acquisition relevant to syntactic change occurs in early childhood and is essentially passive. In the latter, usage, not grammar, changes and acquisition relevant to syntactic change takes place throughout a speaker’s lifetime, with speakers and hearers actively engaging in negotiated communication. Furthermore, acquisition is conceptualized as part of cognitive development in general, and as a consequence, analogical thinking and parsing play a central role in accounts of change (analogy, reanalysis). Brinton and Traugott review a wide range of sources of syntactic change. Semantic-pragmatic and discursive factors are discussed most extensively, in particular in connection with grammaticalization, where pragmatic and/or semantic change precedes syntactic reanalysis (e.g. the *be going to* future, binominal quantifiers like *a lot of*). Brinton and Traugott provide a concise and insightful presentation of grammaticalization that can be recommended as a supplement to the handbook’s chapter 1 on grammaticalization. Brinton and Traugott also

discuss morphology-driven change (e.g. the loss of recipient passives in English), phonology-driven change (e.g. the possible role of prosody on word order change), and contact-driven change (e.g. preposition stranding in Prince Edward Island French; extreme contact situations leading to creoles; introduction of new literary traditions leading to calques in translations). Brinton and Traugott conclude with some observations on the notion of inertia, pointing out that the enabling factor for a syntactic change can lie within the syntax. They reconsider the case of the change affecting the status of the single argument in the presentational/existential construction with *haber* in Spanish (subject vs. object), a change that Willis considers as a case of the actuation problem with no solution. Although Brinton and Traugott do not provide a solution to this problem, they point out that what may have made the change possible is a clash in syntactic constraints, one requiring focal information to be coded as non-subject and the other requiring single arguments to be coded as subjects. Each of the two options fails to respect one of the two constraints, giving the construction the potential for change that can be realized in the right circumstances (cf. Section 2 below for more on this).

1.6 Part VI: Models and Approaches

The final part of this handbook, part VI entitled ‘Models and Approaches’, contains five chapters. The first one by Adam LEDGEWAY and Ian ROBERTS (chapter 27) presents the Principles and Parameters framework. After a brief historical introduction, the authors observe that most current approaches, in which “all parameters of variation are attributable to differences in the formal features of particular items (e.g. the functional heads) in the Lexicon” (pp582-583; the Borer-Chomsky Conjecture), emphasize a microparametric perspective as each functional head can have properties independently of others. The microparametric approach has three main advantages, according to Ledgeway and Roberts: First, it imposes strong limits on what can vary (and, of crucial importance in the present context, change). Secondly, parametrization is reduced to the part of language that must be learned anyway, i.e. the lexicon. And thirdly, parameters can be formulated in a very simple way in terms of whether a functional head has a feature or does not have it. However, in the literature, an alternative view has been put forward, according to which parameters are much more wide-ranging and profoundly impact on the overall nature of a grammatical system by determining properties such as head-directionality or polysynthesis (macroparameters). Ledgeway and Roberts accept that both micro- and macroparameters must be countenanced and they support this conclusion by showing how the transition from Latin to

Romance is best accounted for in terms of a combination of large, macroparametric steps as well as smaller, microparametric ones. The way these two views on parameters can be combined is by considering macroparameters as the surface effect of aggregates of microparameters acting in concert, with all functional heads selecting the same parameter value. Pursuing this approach further, parametric variation can be interpreted in a scalar fashion including further levels that Ledgeway and Roberts refer to as meso- and nano-parameters. The parametric hierarchy the authors end up with is summarized in (1).

- (1) For a given value v_i of a parametrically variant feature [F]:
- i. Macroparameter: all functional heads of the relevant type share v_i .
 - ii. Mesoparameter: all functional heads of a given naturally definable class, e.g. [+V], share v_i .
 - iii. Microparameter: a small sub-class of functional heads (e.g. modals) shows v_i .
 - iv. Nanoparameter: one/more individual lexical items has v_i .

Ledgeway and Roberts illustrate these different levels and their role in diachronic change on the basis of the intricate range of variation that can be found with Romance past participle agreement, Romance auxiliary selection, subject-clitic systems in northwestern Romance and inversion in the history of English.

‘Biolinguistics’ is the title of chapter 28 by Cedric BOECKX, Pedro Tiago MARTINS and Evelina LEIVADA. This short contribution essentially makes two main points. First, the authors argue that biolinguistic considerations lead to the conclusion that narrow syntax is invariant and therefore not subject to change. Instead, variation is confined to the margin of the faculty of language, i.e. the externalization component (‘post-syntax’, morphophonology). This view obviously differs for example from what Ledgeway and Roberts present in the preceding chapter, but Boeckx et al. do not explore any consequences this divergence may have for specific issues of analysis of diachronic change. The second point addressed by Boeckx et al. is the role of environmental factors. Given the first point mentioned above, the authors crucially distinguish between an invariant syntax and grammatical systems that vary and change. With respect to the latter, Boeckx et al. argue that they may vary in complexity and that this variation is due to the environment factor having an impact on the development of certain I-language properties. Support for this claim comes from recently emerged languages

such as Al-Sayyid Bedouin Sign Language, where a gradual development of complex grammatical markers can be observed over three generations. Based on cases like these and drawing a parallelism with other biological phenomena, Boeckx et al. conclude that there can be properties of I-language “that have come to be internalized, but encompass an interplay between innate, biological predisposition and the influences of the environment” (p636). The authors mention syntactic movement as a possible case of a previously “dormant linguistic operation”, the realization of which was triggered by environmental factors. More generally, such environmental factors may be an important source of variation and, hence, diachronic change.

In chapter 29, Kersti BÖRJARS and Nigel VINCENT provide an outline of Lexical-Functional Grammar (LFG). After briefly introducing the main features of LFG, the authors present three diachronic case studies. The first one deals with definiteness and the emergence of a configurational DP in North Germanic. In the literature, this change has generally been treated as a one-step process (emergence of a functional projection DP). However, Börjars and Vincent argue that three stages can be identified and that the change therefore takes place in two steps: (i) no category D, flexible word order; (ii) category D emerging, still relatively flexible word order; (iii) firm word order and definiteness marking associated with a structural position. The authors show that this sequence of events can be captured in terms of the different structural levels that LFG distinguishes. The different stages are the result of changes in the c-structure but also in terms of changes in the mappings to f-structure and i-structure. The second case study focuses on causatives in Romance and their development from biclausal structures in Latin to monoclausal ones in nearly all modern and earliest attested stages of Romance. The key changes in this case concern the way in which the f-structures and c-structures are linked. Finally, the third case study deals with what has been called ‘lateral grammaticalization’, i.e. a process where a marker in the nominal domain seems to shift sideways into the verbal domain. This phenomenon has been observed for example in Chinese, where the modern Chinese copula *shi* derives from a demonstrative in archaic Chinese. Within the minimalist framework, accounts of this type of change rely on syntactic heads and their categorial status. However, as Börjars and Vincent point out, the motivation behind the shift must lie in the semantic content and not the categorial status of the item involved, with a basic deictic/referential property being applied to a different domain. In LFG, such properties are located within f-structure. Lateral grammaticalization can therefore be analyzed as a realignment of the relevant feature from the nominal to the verbal part of the clause with no need to postulate any

categorial bearer of that feature. Börjars and Vincent conclude by presenting a brief comparison between LFG and other frameworks with respect to central issues of diachronic morphosyntax. Two main points emerge. First, as a grammatical model of the level-mapping type, LFG does not privilege any one level over others. Syntax has no special status and there is therefore no need for every property of a phrase or clause to be represented in syntactic terms (e.g. through functional heads or empty categories). The beneficial consequences of LFG's move away from a universal configurationality of structure for the analysis of diachronic change are, according to Börjars and Vincent, illustrated clearly by two of their case studies (North Germanic noun phrases and lateral grammaticalization). A second important point the authors raise concerns f-structure, which plays a core role in LFG. The term 'functional' in LFG is used in the sense of grammatical function but also that of mathematical function, but it does not imply 'functionalist' in the sense of external explanations for change (as in chapter 31 below). As Börjars and Vincent point out, "LFG is neutral on this question and thus demonstrates the misplaced nature of the debate to be found in the literature on formalist vs functionalist approaches to language and language change. LFG is a formal system in the mathematical sense of that term and can, but does not have to, be deployed as part of a functionalist explanation for a given change" (p659). The authors then show how the differences between LFG and other frameworks (both generative derivational ones as well as Construction Grammar) come to the fore in the context of the phenomenon of grammaticalization.

'Typological Approaches' are the focus of chapter 30 by Sonia CRISTOFARO and Paolo RAMAT. The authors observe that, even though diachronic syntax has never been a central focus of investigation in typology, there has always been a general idea in the field that the results of synchronic cross-linguistic investigation can provide important insights into syntactic change. First of all, there is an assumption that the patterns described by typological universals, in particular implicational ones, are manifestations of constraints on and motivations for possible changes. Furthermore, the fact that certain language types are more frequent than others has been interpreted as meaning that there are preferred types towards which languages tend to change. As for the source of these constraints and preferences, typological work based on synchronic evidence tends to refer to optimization of functional principles (e.g. optimization of immediate constituent recognition in Hawkins' work or the need to disambiguate co-occurring arguments in work on morphosyntactic alignment patterns). However, typological work that focuses on diachronic developments often leads to alternative explanations. Cristofaro and Ramat

stress in particular the importance of processes of context-induced reinterpretation of pre-existing constructions as well as extension of individual constructions from one context to another. The authors provide several illustrations of this phenomenon (e.g. direct object markers derived from 'take' verbs leading to SOV in several West African languages, or perfect constructions derived from possessive ones in Romance and Germanic), and they conclude that, in contrast to optimization approaches, such explanations imply that "the properties of the constructions resulting from a syntactic change play no role in triggering the change" (p672). Most importantly, certain typological universals can be related to such context-induced reinterpretation and extension. Cristofaro and Ramat mention the bidirectional implicational universal according to which the order of adposition and noun correlates with that of possessor and possessed item in possessive constructions (i.e. if prepositions then 'possessed item-possessor' and vice-versa). While this change has been related to principles of processing ease in the literature, diachronic work has shown that adpositions often originate from nouns referring to the possessed item in a possessive construction. As a consequence, we have a case of reinterpretation/extension of an existing construction, and the typological correlation can be motivated by the fact that the order of the two items is maintained throughout the change rather than by any more general processing preference. Similar observations can be made with respect to other typological generalizations (e.g. the order of relative clause/noun and possessor/possessed item; properties of alignment systems). As Cristofaro and Ramat point out, diachronic work on the syntactic patterns captured by typological universals is still in its infancy but promising. One of its advantages is that, as the authors stress in their conclusion, it may explain why universals are statistical tendencies rather than universals proper. For approaches trying to relate the properties of universals to optimization of grammatical structures, exceptions would not be expected as such factors would have to be assumed to drive change in all languages. However, if synchronic syntactic patterns arise through reinterpretation and extension of pre-existing source constructions, exceptions can result e.g. from the absence of the relevant source construction in a language, the failure of such a construction to undergo change or the subsequent loss of that source construction.

The 31st and final chapter, by Marianne MITHUN, presents 'Functional Approaches'. Mithun starts by observing that "[f]or most functionalists, synchrony and diachrony are tightly intertwined, each playing an integral part in shaping the other" (p687) and that "[e]xplanations for the grammatical patterns we find are ... couched in terms of the sequences of cognitive, social

and communicative processes which bring them into being and strengthen them" (*ibid.*). Mithun illustrates the functionalist perspective with examples from a wide range of languages and syntactic areas. The first domain is alignment. Mithun shows in particular that similar types of alignment splits (by gender, animacy, person, dependency or aspect) can be found in numerous unrelated languages and that they can be argued to be the results of common processes of language change such as reanalysis and routinization. Further topics include argument structure, word order and dependency. The latter two are discussed in some detail with special reference to word order in Mohawk and dependency in Yup'ik, and Mithun once again shows how certain properties in these areas can be understood as the result of common processes such as routinization, renewal and extension. In a section entitled 'motivation and teleology', Mithun argues that individual changes may be teleological as speakers may extend a pattern for greater expressivity, or automate a frequently recurring string of forms for ease of production. But sequences of changes may not show the same teleology. Each step is motivated, but the first step is not taken with a view towards a later endpoint. Mithun supports this view with the observation that ergative systems have developed with substantially different sequences of steps across languages, and she argues that these distinct developments provide evidence against views according to which syntactic change shifts around a finite set of universally available structures. Instead, the convergence of developments towards certain structures are accounted for by assuming that "constructions that serve useful functions in speech are more likely to be the target of innovating speakers, more frequent in speech and accordingly more stable over time" (p711). Mithun concludes by observing that "[u]ltimately, what may distinguish functional approaches to syntactic change is a greater focus on the common human cognitive, social and communicative factors which enter into the shaping of linguistic categories and structures" (p712).

The final chapter is followed by a 17-page index including keywords as well as authors and languages.

2 EVALUATION

Overall, this handbook provides an excellent overview of the current state of research on historical syntax. The contributions present a wide range of theoretical frameworks, empirical findings and issues those frameworks and findings raise. The chapters will undoubtedly be of great interest and use to students and scholars who are already familiar with the field as well as to those who are not. On a formal level, the contributions are generally well-written and the copy editing has been very careful.

Inevitably with a large enterprise like this, some aspects of the volume may be viewed more critically. For example, the editorial footprint is unusually large compared to other handbooks. Excluding the introduction, no fewer than four chapters are (co-)authored by one of the editors (Roberts). Add to this a further four chapters written by another author (Lightfoot), we get the result that more than a fourth of the volume are (co-)written by the same two authors (nearly 200 pages out of a total of a bit over 700). Although both Lightfoot and Roberts are among the leading figures in the field, who have made outstanding contributions to it, and although these contributions deserve to be acknowledged prominently in a handbook, one may nevertheless wonder whether this result is best achieved by attributing so much space to the two scholars themselves. Although the editors consider “the eclecticism of the present volume as a strength” (p3), there will undoubtedly be readers who would have wished an even stronger dose of that.

In the same vein, the treatment of different frameworks can be argued not to be optimal, either. Although the volume provides a good and stimulating mix of chapters with different theoretical backgrounds (more on which below), a certain misbalance can nevertheless be observed. While basic aspects of the Principles and Parameters framework are covered in much detail in chapters like ‘Principles and Parameters’, ‘Parameter Setting’ or ‘Universal Grammar’ corresponding to approximately 100 pages, diachronic Construction Grammar is strikingly absent. Although this framework is relatively recent, Construction Grammar was sufficiently established when the handbook was prepared for Narrog and Heine to consider it as “the current alternative to generative grammar” (p22). These authors provide a brief discussion of the status of grammaticalization within Construction Grammar, but that remains the only passage in the volume where aspects of this framework are discussed. Given its current status, diachronic Construction Grammar would undoubtedly have deserved a chapter in Part VI covering models and approaches.

Another potential issue that could be raised is the editors’ decision “to break away from a traditional format in which the foci are individual languages or particular grammatical phenomena” and instead “to divide the volume, parts and chapters along complementary thematic lines” (p3). One may wonder though whether this is an either-or issue. Although thematic complementarity is somewhat too ambitious an aim (e.g. Part V deals with ‘Explanations’ but explanatory issues feature prominently in virtually all other parts as well), it is certainly useful to have a good number of chapters dealing with major themes and the volume covers the thematic breadth of the field very well. But it could still have been interesting to add a certain

number of case studies on specific languages or specific grammatical phenomena (if necessary for reasons of space, at the expense of other chapters that make much more limited contributions to issues of historical syntax). Since discussions of changes in thematic overview chapters have to remain relatively concise at the empirical level, such case studies (the selection of which would admittedly have been a difficult task) could have combined empirically detailed discussions illustrating the complexity of syntactic change with references to general themes covered elsewhere in the volume. The empirical basis for the study of syntactic change has been considerably enriched with the emergence of electronic corpora, some of which are parsed. As Lightfoot points out, these corpora have “revolutionized work in diachronic syntax” (p395) and, more specifically, they “have revolutionized our capacity to test hypotheses about, say, thirteenth-century I-languages” (p331). However, with the exception of chapter 11, this revolution has left virtually no traces in this volume. Some case studies could therefore have made further contributions towards documenting these empirical advances.

Despite the points raised above, overall, the handbook succeeds in providing a good overview of frameworks and issues that have been central in work on historical syntax over the last few decades. In the remainder of this review, I will briefly discuss and evaluate some aspects of how the handbook covers three central and controversial issues discussed in the literature: (i) the theoretical framework that is best suited to account for syntactic change; (ii) why the syntax of a language changes; (iii) how the syntax of a language changes.

Discussions concerning theoretical frameworks are generally based on the dichotomy ‘formal, generative’ vs. ‘usage-based, functional’ approaches. Although the former type is represented more strongly in this handbook, there is also a substantial number of contributions by authors working within the latter. However, with some small exceptions (e.g. chapter 2 on grammaticalization, chapter 4 on reanalysis, chapter 29 on LFG), little is done in terms of actively comparing the way the different frameworks deal with specific syntactic changes. In this respect, the handbook does not provide any substantial new insights. For this to be possible, it would have been necessary to focus on some specific empirical domains (something the editors decided not to do) and compare the way different approaches account for them (as for example in [Fischer 2007](#)). Although the explicit comparison of frameworks does not feature prominently in this handbook, certain elements nevertheless emerge from reading the different chapters. In particular, there are various indications that a certain rapprochement between the generative and usage-based perspectives is possible. First of all, as discussed above, Biberauer

and Roberts' chapter 7 presents a recent development of the Principles and Parameters approach that the authors call emergentist and that is "in certain respects more compatible with functionalist views" (p142). This is because it reduces the role of the innate endowment and instead relies more on the PLD and factors that can be considered as non-domain-specific cognitive ones such as economy or input generalization. The emergentist approach to parametric variation is relatively recent and can therefore not be considered as the standard view in the generative literature at this point, but it certainly has some appealing properties that make it worth pursuing, one of them being precisely that it reduces the amount of innately determined linguistic properties.

Points of contact between generative and usage-based approaches can also be argued to be present in Lightfoot's contributions. For example, in chapter 24, Lightfoot observes that "[d]ifferent I-languages may be attained when children are exposed to different E-language" (p530) and that therefore "[n]ew E-language is the initial locus of change" (p521). In other words, changes in language use (E-language) are crucial for I-language changes to occur. Then, two chapters later, in Brinton and Traugott's contribution, we read that in usage-based frameworks "it is assumed that usage ... changes" (p556). Given this parallelism, at least certain usage-based accounts could find their way into Lightfoot's system as accounts of certain E-language changes that are needed to trigger I-language changes. When Lightfoot discusses the nature of the relevant E-language changes in his analyses, he generally focuses on changes in other areas of the grammar (e.g. morphology), on contact, or on frequency changes. However, it cannot be excluded that other factors play a role here as well such as "the common human cognitive, social and communicative factors" (Mithun p712) that are central in usage-based approaches. Of course, even by assuming that such an integration is possible, fundamental differences between the two frameworks remain, having to do with the nature and role of I-language in Lightfoot's approach. In particular, in Lightfoot's account I-language changes can be the source of further E-language changes, an option which would not be available in purely usage-based approaches. Such cases of domino effects could therefore provide useful testing grounds for evaluating the different frameworks.

Two further points can be added here to illustrate that certain alleged differences between the frameworks may not be as substantial as sometimes suggested. One point concerns the role of acquisition. As pointed out earlier, Brinton and Traugott state that, within the generative framework, acquisition relevant to syntax occurs in early childhood while it takes place throughout

a speaker's lifetime within usage-based frameworks (pp556-557). However, the important status that is attributed to child language acquisition within generative approaches does not exclude the possibility that later stages in life also play an essential role in syntactic change. Two chapters written by authors with a generative background indeed acknowledge the potential contribution of adults to change. A case study on the rise of *do* in questions in Early Modern English presented by Pintzuk, Taylor and Warner (chapter 11) indeed suggests that we are dealing with a communal change and that individual speakers use *do* with increasing frequency during adulthood. The authors point out that "[f]rom a theoretical perspective this is a 'mere' change in usage, rather than a change in I-language. But it is the process which links two I-language changes ... and which indeed means that the initial I-language change is not simply snuffed out. So it has real importance for the historian of syntax" (p235). Similarly, Walkden (pp417-418) mentions Labov's (2007) distinction between transmission and diffusion, where transmission refers to an "unbroken sequence of native-language transmission by children" (Labov 2007: 346) whereas diffusion "involves the attempted replication of linguistic features between adults, often highly inaccurate" (Walkden, p417). Walkden shows how the decline of V2 in English could be interpreted in terms of diffusion in Labov's sense and thus in terms of change at the level of adults.

Finally, consider the interaction of different areas of the grammar. Brinton and Traugott observe that "[i]n a Principles-and-Parameters model of grammar that treats syntax as the core module, and semantics as interpretative, semantic change appears most naturally to follow from syntactic change" whereas in usage-based models "semantics is easily seen as a potential trigger" (p557). Once again, the contrast does not seem to be as clear-cut as suggested given certain points made by authors working within the generative framework. For example, Lightfoot notes that "[s]ome construction type might become more frequent, perhaps as the result of taking on some expressive functions" (p526). As Lightfoot regularly points out, frequency changes can ultimately lead to I-language changes, so given the scenario mentioned, the ultimate source of an I-language change could be a semantic/pragmatic change. Similarly, no incompatibility with generative approaches is suggested when Willis observes that "[i]t has long been clear that syntactic change may be the by-product of changes in other parts of the linguistic system, whether phonological, morphological, semantic or pragmatic" (p499). Thus, it may very well be that semantic developments lead to the kind of E-language change that, according to Lightfoot, can lead to I-language change.

Overall then, the above observations suggest the possibility of a certain

rapprochement of generative and usage-based approaches. On the one hand, certain aspects of usage-based, functional accounts could correspond to the E-language changes that are central in generative analyses of syntactic change and they may therefore provide insights into how such changes occur. On the other hand, if the view of parametrization discussed by Roberts and colleagues gains acceptance, the much more limited role attributed to the innate endowment and the corresponding increase in importance of non-domain-specific cognitive factors might reduce the gap between the two frameworks further. From the generative perspective, important questions remain, as for example the exact status of E-language changes and how they are mentally represented (e.g. changes in adulthood, frequencies) but also what type of non-domain-specific cognitive factors can be integrated into an account of parameter-based language acquisition.

In the remainder of this review, I will briefly consider the way the handbook deals with what might be considered as the two fundamental questions that syntactic change raises: Why does the syntax of a language change? And: How does the syntax of a language change? As the overview of the chapters in section 1 has shown, the why-question is dealt with extensively in this volume in particular in chapter 19 and Part V (chapters 23 to 26) but also elsewhere. The different chapters have some overlaps but are also complementary. It can therefore be useful for readers to explore topics across different chapters.

To illustrate this, I will focus here on an aspect of the why-question that is debated somewhat controversially, namely the possibility of purely endogenous syntactic change, i.e. change that arises without any external influence or a preceding linguistic (syntactic or non-syntactic) change. According to Lightfoot (several chapters), syntactic change can indeed not be the result of purely internal factors, a conclusion that is also reached by Walkden (chapter 19). Similarly, according to Longobardi's (2001) Inertia Principle, which is referred to repeatedly throughout the volume, such change should not be found.

The discussions in this volume suggest that there are essentially two main 'threats' to the hypothesis that purely internal syntactic change cannot exist. First, Lightfoot observes that there are approaches "that ascribe to UG not only a means of linking PLD to I-languages but also 'biases' that prefer certain grammars to others independent of the PLD in such a way that they predict how I-languages change over time (Roberts & Roussou 2003; van Gelderen 2011) ... under this view, change is internally driven – a child might be exposed to roughly the same PLD as her mother but converge on a different I-language not because of external forces (new PLD)

but because UG has a built-in preference for certain I-languages” (p516). Lightfoot argues against such approaches on the following basis: “If there is a built-in preference for certain I-languages, one needs something more to explain why relevant changes took place at particular times and under particular circumstances and why they did not take place in languages where they are not attested, and why they did not take place in some speech community one or more generations earlier” (p383).

As to the current status of ‘bias-based’ approaches, the chapters written by the authors cited by Lightfoot give some indications. Van Gelderen (chapter 22) maintains a principle of Feature Economy that plays a role in linguistic cycles, and the citations given in Section 1 above indicate that language learners are assumed to play an active role in change (cf. “The urge of speakers to be innovative may introduce new, loosely adjoined elements into the structure and that may provide evidence to the language learner to reanalyze the older form as uninterpretable” or “Speakers may want to be explicit and therefore choose full phrases rather than heads” (pp484-485)). That van Gelderen considers internally-driven change as possible is also suggested by her conclusion that “languages change in systematic ways. The only plausible reason for this is that the learners have principles guiding these changes” (p485).

Roberts’ contributions, however, suggest that he avoids identifying biases as internal sources of change. Roberts continues to postulate certain biases (Feature Economy (FE), Input Generalization (IG)), and he relates them now to third-factor, i.e. non-domain-specific, principles. But crucially, he maintains that these biases only play a role if the PLD are ambiguous in such a way that the learner can choose between an option that is in line with the bias and another one that is not. If the PLD is in line only with the non-preferred option, that option is chosen – or as Roberts puts it, “[l]ike FE, IG is defeasible by the PLD” (p147). Biases are therefore not viewed as the source of a change. Instead some change in the PLD would have to precede. Roberts also mentions the role frequencies may play here in particular in connection with nanoparametric change. He proposes that, given a bias like FE, nanoparametric feature specifications of lexical items “can only persist if the items are sufficiently frequent in the PLD; otherwise, they will be lost, a form of analogical levelling” (p153). Viewed in this way, with the primacy given to the PLD, biases no longer raise the problems Lightfoot mentions. Bias-driven innovation is possible only when the PLD has been altered in the right way for the biases to kick into action (cf. also the citation in the discussion of Willis’ chapter 23 above for this scenario). Although Roberts does not mention this possibility, a further role that could be attributed to

acquisitional biases would be in the context of the direction of a change. If we assume that parametric options may coexist in a phase of change (cf. the discussion on the how-question below), the frequency changes of the two options could be argued to be determined by the biases Roberts postulates, with the preferred option driving the other one out over time.

Let us now turn to the second potential argument mentioned in this handbook against the hypothesis that purely endogenous syntactic change does not exist: actual changes for which there does not seem to be a clear triggering factor. The two chapters that mention this possibility (Willis (chapter 23) and Brinton and Traugott (chapter 26)) happen to cite the same example: the change in the presentational/existential construction with *haber* from non-agreement with the single argument to agreement in some varieties of Spanish (cf. the discussion of chapters 23 and 26 above for details). Since only some varieties have undergone this change, it remains unclear what may have triggered it and why other varieties remained unaffected. As the discussion in section 1 above has shown, the two chapters provide different accounts of this apparently unmotivated change. Willis' account is presented in the lengthy citation given in the discussion of chapter 23 above. Essentially, Willis suggests that there may be subtle probabilistic differences in the PLD of acquirers that can sometimes lead to innovations. These can then spread given the right sociolinguistic conditions and, possibly, given a certain acquisitional bias. This is in line with observations made by Lightfoot: "[N]o two people experience the same E-language and, in particular, no two children experience the same primary linguistic data. Since E-language varies so much, there are always possibilities for new I-languages to be triggered". Although plausible, this scenario has to remain speculative, as, for a full account, one would have to be able to compare the PLDs of different acquirers at the right time with an extremely high degree of detail – something which is simply impossible. It therefore remains unclear exactly what the relevant properties of the PLD could have been for example for the change with presentational *haber* to occur with certain acquirers. However, if we adopt this approach, it would mean that we are not dealing with a purely endogenous syntactic change as crucial reference to differences in the PLD is made. These could be randomly distributed rather than systematically available to all learners, but, from an acquisitional point of view, the change would not be spontaneous. Brinton and Traugott adopt an account that leads to a different conclusion. They refer to [Waltereit & Detges \(2008\)](#) who propose that the change originates in a clash of syntactic constraints, one requiring focal information to be coded as non-subject and the other requiring single arguments to be coded as subjects. Each of the two options found in varieties

of Spanish fails to respect one of the two constraints. As for how the change may have started, Waltereit and Detges “argue that the fact that the reanalysis of the presentational occurred primarily in the low-frequency site of past tense (Bentivoglio & Sedano 1989: 72) suggests that the change originates with speakers who are unsure of the conventionality of the construction” (p571). If this is the case, Brinton and Traugott argue that the change “may be thought of as a case of syntactic hypercorrection” (*ibid.*). According to this account, the behaviour of individual speakers would have played a crucial role in the emergence of the new option, and we would indeed have a scenario of truly endogenous syntactic change which does not arise from some external influence or a preceding linguistic (syntactic or non-syntactic) change. Thus, the two discussions of presentationals in Spanish lead to different conclusions with respect to whether purely endogenous change is involved.

Let me finish by adding another important point that Willis’ and Brinton and Traugott’s chapters raise. In connection with the emergence of *for* ... *to* infinitival clauses in English, Willis cites the standard account, which postulates a reanalysis of *for* preceded by some other changes. In this account, the earlier changes “serve to remove obstacles to reanalysis, reducing clear evidence in favour of the older structure”, so “once acquisitional ambiguity has arisen, reanalysis becomes a possibility at any time, but is never required” (p494). Similarly, Brinton and Traugott observe that the circumstances under which particular changes may arise “are not deterministic, since change does not have to take place” (p556). This is why Brinton and Traugott talk about enabling factors in the context of certain changes rather than about direct causation. A consequence of these assumptions is that there may be some delay (of uncertain length) between the moment when the enabling factors are in place and the moment a change takes place. This change may then appear to be of the purely endogenous, spontaneous type. As Willis points out, “[s]uch approaches are often criticized as lacking explanatory power in failing to explain why reanalysis actually happens and why it happens when it does” (p494). But that would not necessarily have to mean that they are incorrect: “if misparsing by children (leading to reanalysis) is distributed randomly in the population (perhaps with some social contexts, such as population mixing favouring it), it would be pointless to expect more” (p494).

Given the above observations, the conclusion must be that, although many authors are sceptical as far as the existence of purely endogenous syntactic change is concerned, this option cannot be entirely discarded yet. Our discussion has shown that the volume under review can be a very rich

and diverse source of information on specific topics even though that may occasionally require reading across different chapters.

Let us finally turn to the second central question that syntactic change raises, i.e. the question how the syntax of a language changes. Once again, a wide range of issues are covered in depth in this handbook, in particular in Part I on types and mechanisms of change (chapters 1 to 8) but also in other chapters such as 21, 22 or 25. The main points that are discussed in these chapters are summarized in section 1 above, so instead of returning to those, what I would like to do here is to focus on an issue that is central to the how-question but, in my view, would have deserved a somewhat more thorough treatment in a handbook. Once again, useful bits and pieces can be collected over the different chapters, however. The issue I am referring to is the inter- and intra-speaker variation that is characteristic of the transitional phase of change. When a linguistic property A is replaced by linguistic property B, the loss of A cannot occur overnight but is generally a drawn-out process over decades or even centuries during which B gradually replaces A and during which both options co-occur within a speech community or with a single speaker. The question that arises then is how this transitional period can be accounted for. This question is particularly important in frameworks of the Principles-and-Parameters type, where it is assumed that parameters as the source of variation provide binary choices and that language learners have to choose one of them. In a transitional phase of syntactic change, however, both parameter values seem to be realized. Related to the issue of variation during a period of change is the issue of the gradualness or abruptness of change. At the surface, syntactic changes seem to be very gradual, whereas in terms of parameter setting the change must be abrupt in that there is a community of speakers with I-languages with parameter setting A, in which parameter setting B emerges at a specific moment in time.

Various chapters discuss ways in which we might account for the transitional phase of a change when both the old and the innovative option are found. In recent generative work of the Minimalist type, it is generally assumed that grammars do not allow optional operations. Postulating such operations may also raise learnability problems (cf. Lightfoot p395, p527). As a consequence, alternative possibilities have been explored in the literature. A very influential proposal was made by Kroch (1989, 1994, 2001), who observes that “[g]iven the assumptions of generative grammar, variation in syntax which corresponds to two opposed settings for basic syntactic parameters must reflect the co-presence in a speaker or speech community of mutually incompatible grammars” (Kroch 2001: 720). This co-presence of parameter values can be considered as a form of diglossia or bidialectalism. It has gen-

erally been referred to as grammar competition since the transitional phase of a change can be viewed as a period of competition between an old parameter setting and a new one. Given furthermore the Borer-Chomsky conjecture, according to which parametric variation is attributable to differences in the features of particular lexical items (in particular functional heads), this competition is comparable to what is found with doublets in morphology (e.g. past tense *welk/walked* in Middle English). True doublets generally do not persist, a fact that Kroch attributes to the Blocking Effect, which suggests that the coexistence of functionally equivalent items is blocked (Kroch 1994). As for the question why in a transitional phase of a change two parametrically opposed versions of the same syntactic head can nevertheless co-exist, Kroch proposes the following (1994: 185): “[T]he best explanation for the occurrence of doublets is sociolinguistic: Doublets arise through dialect and language contact and compete in usage until one or the other form wins out. Due to their sociolinguistic origins, the two forms often appear in different registers, styles, or social dialects ... Speakers learn either one or the other form in the course of basic language acquisition, but not both. Later in life, on exposure to a wider range of language, they may hear and come to recognize the competing form... Over time, however, as dialects and registers level out through prolonged contact, the doublets tend to disappear.”

Lightfoot, in his contributions to this handbook, fully adopts Kroch’s notion of competing grammars in his accounts of syntactic change (p331, p395, p527). Other authors, however, raise some problematic issues with Kroch’s approach. What seems to me to be the most important one among these is Biberauer and Roberts’ (p140) observation that, in transitional periods of change, individual speakers/writers sometimes switch between grammars in consecutive lines of a single text without there being any indication for a register-related or sociolinguistic correlate, contrary to what the above citation from Kroch (1994) would suggest. This then raises the question of how such variation can survive, sometimes for relatively long periods of time, despite the doublets apparently violating the Blocking Effect (cf. also Westergaard, p458). Other concerns seem to be somewhat less well-founded, however. For example, Biberauer and Roberts observe that grammar competition is incompatible with acquisitional theories that postulate that acquirers are only able to target a single grammar. The citation from Kroch (1994: 185) above suggests a potential solution to this problem if a distinction is made between basic language acquisition (only one grammar is targeted) and later acquisition. Another issue is mentioned by Romaine (p549) and regularly found elsewhere in the literature: “Another problem is that variability is generally not limited to a single construction, but instead occurs in a range of

structures, not all of which are variable for all speakers. If there is grammar competition, then it is between a wide range of grammars, not just two (Henry 2002)". As Kroch (1994) shows, if we adopt an approach to parametrization in terms of the Borer-Chomsky conjecture, grammar competition corresponds to competition in the feature make-up of individual lexical items (e.g. a T-head that triggers V-movement and a T-head that does not). If there is more than one area of variation, it simply means that there is competition that goes beyond a single pair of lexical items. To talk about three grammars in a context of two areas of variation would be as justified as to talk about three vocabularies in the case of a lexicon containing two pairs of synonyms.

Some chapters suggest alternatives to Kroch's grammar competition approach. Romaine (p549) claims that "Construction grammars and other usage-based approaches ... are better able to handle variation". Unfortunately, however, no further details in this respect are provided. In order to compare the way different frameworks can deal with variation, it would be important to focus on identical empirical domains. Thus, for Romaine's claim to be supported, it would be interesting to see for example how alternative frameworks would deal with one of the main domains examined in Kroch's work, i.e. the variation between *do*-support and structures without *do*-support in negative and interrogative clauses.

Biberauer and Roberts (p141) suggest that approaches to word order change based on a Kaynian system without head parameters may allow new ways of analyzing variation and change that do not rely on grammar competition. However, even if this alternative were viable, it would seem to have too limited an empirical scope to be able to capture variation in general.

Finally, Westergaard (pp460ff.) proposes that the gradualness of syntactic change may merely be apparent and instead be the impression that we get from a sequence of abrupt micro-changes in succession (cf. also Biberauer and Roberts p154 for a similar proposal). Even though such a scenario would be conceivable, it is again unclear whether it can be applied to syntactic change in general and thus make grammar competition accounts superfluous. For example, it seems uncertain whether the loss of V-movement/rise of *do*-support, as discussed by Kroch, can be divided fully into discrete micro-steps. The empirical evidence provided by Westergaard mainly consists of observations related to variation and change with Verb Second (V2) in the history of English and in Norwegian *wh*-questions. How the former change can be accounted for in terms of discrete micro-changes is not described in any detail. As for the second phenomenon, a change that seems to be in progress, it nicely illustrates how change can indeed involve very small steps. Westergaard proposes a development "from V2 to non-V2, which (1)

starts with subject questions, (2) spreads to non-subject questions with short *wh*-elements, and then either (3) spreads to the phrasal *wh*-elements in some dialects, or (4) is restricted to short *wh*-elements in subject questions in other dialects" (pp456-457). However, it is by no means clear that developments of this type would make the notion of grammar competition unnecessary. To identify small-scale changes does not mean that non-deterministic intra-speaker variation, which grammar competition tries to account for, could not occur in the transitional phase from one step to the next. Thus, for example, Westergaard's scenario above could very well involve speakers who, in the transition from (1) to (2), use both V2 and non-V2 in non-subject questions with short *wh*-elements.¹ Grammar competition (or something having the same effects) would only become redundant as a concept if it could be shown that each micro-step is indeed abrupt in that individual speakers either adopt it or do not adopt it and that no speakers use both the old and the innovative option.

As the different contributions in this handbook illustrate, many questions still remain open with respect to how the transitional phase of change can be best accounted for. The issues that arise also include the relation between variation in a period of change and what may look like more stable variation. As Westergaard's discussion of Norwegian V2 suggests, interesting new insights are likely to be gained in particular from the synchronic study of syntactic variation and from the study of syntactic change in progress (cf. e.g. Henry 1997, Heycock, Sorace, Svabo Hansen, Wilson & Vikner 2012).

Let me now conclude by emphasizing that, despite some critical remarks made above, overall this is an excellent collection of papers that provides a good overview of the current state of research in historical syntax and reflects the richness and diversity of issues that work on historical syntax addresses. Many of these issues are of intrinsic interest, but others have more wide-reaching implications. As Lightfoot (p521) points out, "as in so many other domains, seeing how something changes often reveals properties of the object changing". As a consequence, this is a highly welcome new resource that will be of interest not only for students and researchers working in the field but also for those interested in syntax more generally.

¹ Westergaard (p456) suggests that in certain varieties of Norwegian, use and non-use of V2 with short *wh*-elements is a regular feature, but the two options are distinguished in terms of information structure, non-V2 being found with informationally given subjects. For these varieties, then, non-deterministic intra-speaker variation in the transitional phase of the change would involve use (old option) and non-use (new option) of V2 with informationally given subjects.

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