ELEMENTARY SYNTACTIC STRUCTURES

Most syntacticians, no matter their theoretical persuasion, agree that features (types or categories) are the most important units of analysis. Within Chomskyan generative grammar, the importance of features has grown steadily, and within minimalism, it can be said that everything depends on features. They are obstacles in any interdisciplinary investigation concerning the nature of language, and it is hard to imagine a syntactic description that does not explore them.

For the first time, this book turns grammar upside down and proposes a new model of syntax which is better suited to interdisciplinary interactions, and shows how syntax can proceed free of lexical influence. The empirical domain examined is vast, and all the fundamental units and properties of syntax (categories, Parameters, Last Resort, labeling, and hierarchies) are rethought.

Opening up new avenues of investigation, this book will be invaluable to researchers and students of syntactic theory, and linguistics more broadly.

CEDRIC BOECKX is Research Professor at ICREA (Catalan Institute for Advanced Studies) and a member of the Department of Linguistics at the University of Barcelona.

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Prospects of a Feature-Free Syntax

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PROSPECTS OF A FEATURE-FREE SYNTAX

CEDRIC BOECKX

ICREA/University of Barcelona

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For Youngmi,
my alpha and omega

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Preface

At the heart of this book lies a simple and fundamental question – rarely raised – concerning the human language faculty:

(i) How much does syntactic structuring depend on lexical information?

To facilitate the investigation of this question I propose we adopt the following idealization:

(ii) Assume that all units providing the input to syntactic structure building (call these 'lexical items' for now) have a common, minimal internal organization (i.e., lexically speaking, they are indistinguishable, and internally unstructured, atomic, 'flat').

Based on (ii), how much syntax, and of what kind, can we obtain? Put another way, can syntactic structure emerge in the absence of the usual suspects, the "words" and their varying properties?

The idea of a completely homogeneous lexicon feeding the syntactic component of our language faculty is likely to strike many as untenable, but I would like to make the rationale behind it clear from the beginning. It is generally assumed that, aside from relatively narrow phenomena such as haplology or semantic incongruence, the combinatorial possibilities available in natural language depend on the specific properties (lexico-syntactic 'features') of lexical items and their internal organizations (lexico-syntactic 'feature bundles'): verbs typically combine with nouns, and not with other verbs, because verbs require arguments to meet their lexical thematic requirements, and nouns have all the lexical ingredients to qualify as arguments, while verbs lack these. This 'Swiss cheese' or 'lego' model of syntax, where lexical items reach the syntactic component with 'holes' in them (aka subcategorization frames), which other lexical items have to fill with their own specifications, is widely shared across theoretical frameworks. Gottlob Frege and many other logicians thought of semantic composition in essentially those terms as well. But I will argue in the following pages that despite its near-universal adoption, this picture of the

relationship between the lexical and the syntactic components of natural language is mistaken. I will indeed call for an inversion of reasoning and claim that syntax is completely free of lexical influence, and that it is the lexicon that depends on syntax and not the other way around. As a reviewer of this book put it, in such a model, syntax is 'feature-free.' And although we are used to thinking that without lexical instruction syntax cannot even take place, I hope to demonstrate that in fact syntactic structure building can proceed unhindered.

This fact alone seems to me to be interesting enough to warrant attention, but I want to make clear the specific reason that pushed me to question the standard relation between the lexicon and syntax. For as noteworthy as the absence of lexical influence on syntax may be, if the shape of the feature-free syntactic component does not change much from the standard, lexically influenced picture, one may well ask, "Why bother?" In fact, behind the technical discussion of many of the pages of this book lies a more foundational consideration, which one might call the 'biolinguistic imperative.' The biolinguistic imperative has both a pragmatic and a more substantive side to it, which I will seek to clarify. By 'biolinguistics' I intend to refer to the general discipline aiming at uncovering what Eric Lenneberg called the biological foundations of our species-specific ability to develop a language. It stands to reason that this aim requires genuine and sustained interdisciplinary collaboration. Such an effort is doomed to fail if (among other things) linguists keep insisting on relying on fundamental properties that are (by definition) so domain-specific as to make interdisciplinary dialog break down. The pragmatic side of the biolinguistic imperative is to do everything one can (without, of course, sacrificing description and explanation) to facilitate cross-disciplinary interactions. In my experience, there is nothing as damaging as mentioning modular, informationally encapsulated features in the middle of an interdisciplinary exchange, and insisting on their traditional 'driver' role.

The more substantive side of the biolinguistic imperative derives from the fact that biological reflections on evolutionary novelties – and the human language faculty surely is one – strongly suggest that innovations do not find their origin in the appearance of *de novo* material. Innovations arise through recombinations of 'old' material, which sometimes give rise to unpredicted, 'emergent' properties, but which should never be mistaken for structures that require radically specific sources. It is generally agreed upon that within language syntax is the most innovative aspect, but I fear that the standard treatment of syntax in terms of something as domain-specific as lexical instructions moves us away from biologically plausible scenarios concerning not only the emergence of syntax, but also its implementation in the brain. In other words,

the lexicon as standardly conceived of prevents linguists from meeting their biology-oriented goals.

The main task of the first part of this book is to expand on the preceding paragraphs and show in detail how syntax is standardly taken to depend on lexical instruction (a theoretical position I dub 'lexicocentrism'), and how this has made it difficult, not to say impossible, for linguistically informed biolinguistic investigations to flourish.

The aim of the second part of the book is to contrast this state of affairs with the promises offered by a decidedly anti-lexicalist alternative for biolinguistics. This last qualification is important, for the 'prospects' referred to in the subtitle of the book are meant to be confined to the enterprise aiming at revealing the biological roots of the human language faculty. This is the descriptive and explanatory scope for the proposal to be developed in the forthcoming chapters. Crucially, the goal is not to account for the detailed properties of the grammars of specific languages – a valuable endeavor in its own right, but quite distinct, or so I will argue, from biolinguistic inquiry. To highlight this difference, I have entitled this book '*Elementary* Syntactic Structures,' which will be the target of investigation here, as opposed to what one might call '*elaborate* grammatical structures,' which are the focus of more philology-oriented approaches.

To articulate the argument just outlined at a reasonable level of explicitness, I have chosen to contrast the model I wish to put forth with the so-called Principles & Parameters (P&P) framework, with special emphasis on its minimalist articulation. There are several reasons why the P&P approach is a desirable foil to exploit. First, it has been developed in detail over thirty years, and as such it offers a rich body of doctrines to wrestle with. Second, the framework will be familiar to many readers, having been taken as point of departure for many popular textbooks in the field. Third, this is the model that I know best, which enables me to illustrate certain claims more readily than with other frameworks. And, fourth, the P&P approach is often portrayed as being concerned with problems of language development and design, oriented towards the sort of biological considerations that I am interested in. It therefore constitutes an ideal testing ground for my claim that lexicocentrism and biolinguistics are bound to be uneasy bedfellows.

Some readers may well wonder if the argument in the pages that follow is to be considered minimalist. This is a somewhat tricky – and from where I sit, rather minor – question. I certainly believe that the core proposal in this book converges with certain lines of minimalist investigation (especially the idea of 'approaching Universal Grammar from below'), but it also departs rather

sharply from standard minimalism, which is lexicocentric through and through. I should say that ultimately whether the approach pursued here is deemed minimalist or not is not a major concern of mine. What matters most is that it advances the biolinguistic enterprise.

Let me take this opportunity to let all the readers of this preface know that this is primarily a book about the syntactic component of the language faculty. Although I very much hope that scholars whose fields of expertise lie outside this particular empirical domain will read on and appreciate the arguments I make, perhaps even draw conclusions for their own research programs, I realize that some chapters, especially Chapter 2, will be demanding. Even if I have tried to make the discussion accessible to as many potential readers as I could think of, at times I have not been able to avoid getting down to the technical details. Inevitably, this has sometimes led me to add notes that ended up longer than one might wish. Because the central line of argument pursued in this book touches on many issues, I have also decided to relegate some material to appendices. A reviewer of this book urged me to incorporate all that material in the main text, as, according to him/her, readers tend not to read appendices. This would be a shame, as I think that the material discussed in the three appendices included here bears on central themes of this book. But because I could not find a satisfactory way of putting it all in the body of the book while at the same time keeping the main narrative as straightforward as I could, I am left to kindly ask readers not to ignore the considerations relegated to the periphery. Last, but not least, readers will find very few natural language examples in the pages that follow. It's not because I have a disdain for data, but, as I point out later on, the anti-lexicocentric stance I take forces me to focus on more elementary considerations than specific sentences in one language or another. As I wrote at the beginning of this preface, I am asking readers to study the language faculty before words come into the picture. Syntax is there.

Acknowledgements

The present book is the result of two converging lines of investigation I embarked on several years ago – the first one focused on the nature of the putatively primitive status of the combinatorial operation known as "Merge" (see, e.g., Boeckx (2009e)) and the second, on the nature of linguistic variation and the adequacy of parametric proposals (Boeckx (2011a, 2014c, forthcoming)). But the convergence did not crystallize into a coherent line of attack on lexicocentrism until I spent long hours talking to my former student Dennis Ott at Harvard. Conversations with my other students there, Hiroki Narita and Bridget Samuels, were also of critical importance at this early stage of 'book thinking.' The encouraging results of their own works also gave me confidence that the general approach I intended to pursue had at least a fighting chance of being on the right track, or at least that it was moving in an interesting direction. Equally important was my interaction with Paul Pietroski, who provided me with key insights from semantics that I have tried to take advantage of here, though I am sure insufficiently so. Marc Richards' work on phases also played an important role in making me reconsider the role of phases in grammar. A draft of his (2011) paper was very inspirational, as was his Ph.D. dissertation (2004) and his engagement with Boeckx and Grohmann (2007).

I also want to acknowledge my indebtedness to Dick Lewontin, Marc Hauser, Koji Fujita, Alec Marantz, Ray Jackendoff, Fritz Newmeyer, Juan Uriagereka, and, of course, Noam Chomsky, for many important discussions over many years. Massimo Piattelli-Palmarini deserves special mention for organizing interdisciplinary meetings where I've felt more at ease than in strictly linguistic gatherings, and where I've invariably learned a lot. Thanks, too, to Anna Maria Di Sciullo for counting on me in the context of her Biolinguistics International Network, and to all the members of the Biolinguistics Initiative Barcelona, especially my students Evelina Leivada and Pedro Tiago Martins.

The seed of the present work was planted as a talk delivered at the Program from Evolutionary Dynamics at Harvard University, led by Martin Nowak, in 2004. The talk was intended to be a reflection on the nature and role of Parameters in current linguistic theory (of a minimalist orientation), aimed at an audience consisting primarily of non-linguists. My focus back then was Mark Baker's parameter hierarchy, a concept which Baker had succeeded in making accessible to non-linguists in his *Atoms of Language* (2001). Since it dealt with the nature of variation at an accessible level, this was a perfect topic for biologists and other non-linguists in the audience. At the time I did not realize that this event would be the beginning of my questioning many of the key assumptions routinely made in syntactic theory (including in my own work), not only in the context of Parameters (variation), but, I later came to realize, also in the context of principles (invariance). Thanks to Martin for giving me this opportunity.

In writing this book I've come to realize in retrospect that the argument presented here is nothing more than my modest attempt to come to grips with Carlos Otero's assessment of the legacy of generative grammar ("we haven't yet appreciated Noam's revolution fully"), which he shared with me back in 2006. At the time I did not know my research would take me where I think Carlos had already gone a long time ago (see Appendix 1).

Several portions of the book have been presented at numerous conferences and workshops, too numerous to list individually here, so let me collectively thank all the organizers of these venues for the valuable opportunities they have offered me to present work in progress to audiences that never failed to respond constructively to what I had to say. Thanks, too, to two anonymous readers for Cambridge University Press, and to Helen Barton for her faith in this project.

Since I moved back to Europe I have come to realize the importance of funding agencies to sustain the sort of research I wanted to pursue, and it is with great pleasure that I acknowledge the unconditional support of my employer, the Catalan Institute for Advanced Studies (ICREA), as well as grants from the European Union (Marie Curie International Reintegration Grant PIRG-GA-2009-256413), from the Spanish Ministry of Economy and Competitiveness (FFI-2010-20634), and research funds from the Fundació Bosch i Gimpera.

Last, but not least, words of gratitude fall far short of what I'd like to be able to express towards my wife Youngmi, to whom this book is dedicated. All I can say is that I certainly don't deserve as much as she has given me, but she undoubtedly deserves much better. I love her deeply, and I'm very sorry for all the trials that this thing called academia gives rise to.

Abbreviations

C	Complementizer
CED	Condition on Extraction Domain
C-I	Conceptual–Intentional
CP	Complementizer Phrase
D	Determiner
DM	Distributed Morphology
DP	Determiner Phrase
EPP	Extended Projection Principle
FL	Faculty of Language
FLB	Faculty of Language – Broad Sense
FLN	Faculty of Language – Narrow Sense
GB	Government-and-Binding
HPSG	Head-Driven Phrase Structure Grammar
LCA	Linear Correspondence Axiom
LF	Logical Form
LFG	Lexical–Functional Grammar
LI	Lexical Item
MP	Minimalist Program
P&P	Principles-and-Parameters [framework]
PF	Phonological Form
PHON	Phonological Component
PIC	Phase Impenetrability Condition
QP	Quantifier Phrase
SEM	Semantic Component
S-M	Sensory-Motor
Spec	Specifier
T	Tense

TP	Tense Phrase
UG	Universal Grammar
V	Verb
VP	Verb Phrase