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Third Factors in Language Variation and Change

In this pioneering study, a world-renowned generative syntactician explores the impact of phenomena known as 'third factors' on syntactic change. Generative syntax has in recent times incorporated third factors – factors not specific to the language faculty – into its framework, including minimal search, labeling, determinacy, and economy. Van Gelderen's study applies these principles to language change, arguing that change is a cyclical process, and that third factor principles must combine with linguistic information to fully account for the cyclical development of 'optimal' language structures. Third Factor Principles also account for language variation around *that*-trace phenomena, CP-deletion, and the presence of expletives and Verb-second. By linking insights from recent theoretical advances in generative syntax to phenomena from language variation and change, this book provides a unique perspective, making it essential reading for academic researchers and students in syntactic theory and historical linguistics.

ELLY VAN GELDEREN is a syntactician interested in language change. Her work shows how regular syntactic change provides insight in the Faculty of Language. Elly is the author of eleven books and eighty or so articles/chapters, the editor of two book series and has herself edited or co-edited eleven books/special issues.

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Preface

Generative Grammar has undergone a paradigm shift from its early emphasis on Universal Grammar, e.g. Chomsky (1965), to a focus on factors not specific to the Faculty of Language, e.g. Chomsky (2007, 2015). The latter factors are known as third factor principles and "have the flavor of the constraints that enter into all facets of growth and evolution . . . Among these are principles of efficient computation" (Chomsky 2007: 3). Third factor principles include Minimal Search, Determinacy, and Economy and can be seen at work in specific syntactic structures and restrictions on them. In this book, I argue that they can also be detected in how language changes: because labeling {XP, YP} through Minimal Search is impossible, {X, YP} emerges instead, and the need for determinate derivations eliminates superfluous movement. In addition to cases where third factors are responsible for different choices by the language learner, i.e. for language change, there are also cases where third factor principles leave options for cross-linguistic variation: CP–TP sequences are problematic for determinacy, and some languages have restricted C-to-T-inheritance, or lack a T(P), or delete the C(P).

Language change involves a cyclical dynamic between economy and elaboration or, as von der Gabelentz (1901: 256) put it, language history moves between comfort and clarity. Innate, third factor principles bias the acquisition of a specific grammar in economical ways, but external factors, such as pragmatic strengthening, can complicate the grammar of a language. In this book, I mainly examine the comfort side of the linguistic cycle by considering the role of third factor principles in language change, in particular determinacy and labeling. The book offers a theoretical and empirical update to earlier work (van Gelderen 2004, 2011), where I consider structural Economy Principles, such as the Head Preference Principle, Late Merge, and Featural Economy as influencing change. Although third factor in nature, Structural and Featural Economy still depend on linguistic information and, if less emphasis is placed on these, they should be reformulated as nonlinguistic, i.e. genuine third factor principles. Although my previous work deals with linguistic cycles and some of the examples inevitably overlap, I have nevertheless tried to provide fresh examples of various cycles.

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The main emphasis is on the changes due to economy, but renewal of the 'eroded' elements will be discussed where relevant. This renewal reintroduces uneconomical structures and keeps cyclical change going.

Phrase structure rules of the 1970s to 1990s automatically label a phrase through the projection of a head and labeling is part of the operation merge. Since Chomsky (2013, 2015), labeling is argued not to be connected to merge but required when a syntactic derivation is transferred to the interfaces. Labeling requirements prevent phrases from remaining sisters to other phrases unless they share features. These requirements account for the EPP effect without having to postulate an EPP feature and stop *wh*-movement out of a criterial position. In structures with a head and a phrase, Minimal Search unproblematically determines the labeling and linguistic change is indeed in the direction of a head, as is shown in Chapter 2, and that feature-sharing is not an optimal resolution of the labeling paradox.

Determinacy rules out having more than one choice in the derivation (Chomsky, Gallego, & Ott 2019: 246) and is part of a broader principle, i.e. Restrict Resources (Chomsky 2019). If a phrase moves from one position to another without the phase being transferred, i.e. eliminated from the workspace, merge will face the dilemma of an indeterminate input and won't be able to decide which of the two copies will move to a higher position. Determinacy is responsible for the Subject Island Condition and the ban on Topicalization of the subject. It prohibits certain structures, e.g. *that*-trace, and accounts for different options languages have 'chosen' around the CP–TP cluster. For instance, it forces certain relative clauses to project just a TP, as discussed in Chapter 3. Diachronically, as shown in Chapter 4, it is responsible for the reanalysis of a topic to a subject, of a pronoun as a copula, and of a lower verb as a higher auxiliary.

If feature-sharing is problematic, why do TP expletives appear, e.g. in Modern English? There are two reasons, one is to avoid indeterminate structures (as in Stepanov 2007), and the other to 'expel' the expletive from the unlabelable specifier of the vP. Chapter 5 examines this tension between labeling and determinacy demands. Due to determinacy, if there is a TP, Verb-second (V2), i.e. V to C, is not possible because the movement has to go via T; TP expletives will be possible but they have to rely on <phi, phi> for labeling and only appear in certain existential constructions. Conversely, if there is no TP, V2 is possible but TP expletives aren't. Older stages of English lack a TP, and V2 and movement of the subject from the specifier of the vP to the specifier of the CP are possible. In this stage, the grammatical subject position and the expletive are optional. Later stages of English introduce a TP, which enables expletives in the TP but bars V2. The loss of V2 and introduction of expletives have not previously been linked, and the analysis in

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Chapter 5 offers a new perspective both on the data in English and in V2 languages and on the tension between the two principles.

Language change also casts some light on another issue in efficient computation, namely that the incorporation of adjuncts suggests that the mechanisms that have been used to account for the position of adjuncts are less than optimal. Chomsky (2000, 2001, 2004) distinguishes between arguments (subjects and objects) and adverbials in terms of ordered pair-merge and unordered set-merge, respectively. He also argues that adjuncts are invisible to normal operations. Pair-merge is invoked for adverbials because they are less integrated into a clause, evidenced by the fact that they are islands for extraction. Because pair-merge is to be avoided, adjuncts are reanalyzed either as part of a functional category or as an argument, as shown in Chapter 6. I advance the view that pair-merge is only relevant to a subset of adjuncts, namely VP and NP adjuncts. Adjuncts merged in the specifiers of the CP and TP layers are not pair-merged and undergo different changes.

The main aim of the book is to see what language variation and change contribute to current Minimalist thinking and vice versa. However, in the process, I also offer an empirical contribution in covering the lack of an Old English *that*-trace effect (Chapter 3) and Quantifier Float (Chapter 4) more than in earlier literature and in providing a novel account of the CP and vP expletive (Chapter 5).

This book assumes a basic familiarity with Minimalist syntax, e.g. the CP/TP/vP spine and some knowledge of feature-checking. Early formulations of this work have appeared as van Gelderen (2018a, 2018b, 2019), and I thank audiences at DGfS 2015, ICHL 2015, DIGS 2016, in Oslo in 2015, and the Geneva research seminar in 2020. I am very grateful to Johanna Wood for urging more clarity throughout the book and for commenting on flaws in the argumentation, and to William Kruger for sharpening many claims, suggesting relevant literature to look at, and talking through analyses. Thanks, as always, to the ASU Syntax Reading Group for wonderful suggestions and constructive criticism. The 2019/2020 group consisted of Mastourah Alazmi, Mansour Altamimi, Sakshi Jain, Mary ("Katie") Kennedy, Servo Patrick Kocu, William Kruger, Narin Loa, Sayantan Mukherjee, Fabián Ni, Hae Ryun Park, Gina Scarpete Walters, Angela Schrader, Jacob Willson, and Johanna Wood.

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Abbreviations

ABS	absolutive case
ACC	accusative case
AIP	Adjunct Incorporation Principle
ANT	anterior
ART	article
ASP	aspect
AUX	auxiliary
C	complementizer
CdES	Corpus d'entretiens spontanés
CI	Conceptual-Intentional
CLF	classifier
CNPC	Complex Noun Phrase Constraint
COCA	Corpus of Contemporary American English (http://corpus.byu.edu/coca/)
COHA	Corpus of Historical American English (http://corpus.byu.edu/coha/)
COP	copula
CSC	Coordinate Structure Constraint
CVC	Cape Verdean Creole
DP	Determiner Phrase
DEF	definite
DOE	Dictionary of Old English
EC	Extension Condition
ECP	Empty Category Principle
EM	External Merge
EPP	Extended Projection Principle
ERG	ergative case
F	feminine noun class
FUT	future
HC	Haitian Creole

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i-	interpretable feature
IC	Inclusiveness Condition
IL	Individual level
IM	Internal Merge
IND	indicative
IRR	irrealis
LA	labeling algorithm
LOC	locative
M	masculine noun class
MED	Middle English Dictionary
NEG	negative
NTC	No Tampering Condition
OED	Oxford English Dictionary
OM	Object Marking
OV	Object Verb
P	plural
PASS	passive
PIC	Phase Impenetrability Principle
PoP	Problems of Projection
PR	present
Pred	Predicate
PROG	progressive
Prox	proximate
PRT	particle
PST	past
Q	question-feature
RC	Relative Clause
RP	Root Phrase
S	singular
SAI	Subject Auxiliary Inversion
SL	Stage Level
SM	Sensory-Motor Interface
SMT	Strong Minimalist Thesis
SV	Subject Verb
T	Tense
t	trace
u-	uninterpretable feature
v	little v (used for unaccusatives and passives)
v*	little star v (used for unergatives and transitives)
V	big V
V2 (3 etc.)	Verb-second (third, etc.)

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Q	interrogative features
1	first person
2	second person
3	third person
α, β, γ	still unlabeled phrases

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