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Research Methods in Language Variation and Change

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MANFRED KRUG

and

JULIA SCHLÜTER



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Contents

<i>List of figures</i>	viii
<i>List of tables</i>	xiv
<i>List of contributors</i>	xviii
<i>Preface</i>	xxi
<i>Acknowledgements</i>	xxvi

Introduction: Investigating language variation and change	1
MANFRED KRUG, JULIA SCHLÜTER AND ANETTE ROSENBACH	

PART 1 Collecting empirical data	15
---	----

Part 1.1 Fieldwork and linguistic mapping	17
--	----

1 Collecting ethnographic and sociolinguistic data	17
DANIEL SCHREIER	

2 Using participant observation and social network analysis	36
LYNN CLARK AND GRAEME TROUSDALE	

3 Computer mapping of language data	53
WILLIAM A. KRETZSCHMAR, JR.	

Part 1.2 Eliciting linguistic data	69
---	----

4 Designing and conducting interviews and questionnaires	69
MANFRED KRUG AND KATRIN SELL	

5 Obtaining introspective acceptability judgements	99
THOMAS HOFFMANN	

Part 1.3 Alternatives to standard reference corpora	119
--	-----

6 Using historical literature databases as corpora	119
JULIA SCHLÜTER	

vi	Contents	
	7 Using the OED quotations database as a diachronic corpus	136
	GÜNTER ROHDENBURG	
	8 Using web-based data for the study of global English	158
	MARIANNE HUNDT	
	PART 2 Analysing empirical data	179
	Part 2.1 Corpus analysis	181
	9 Using ‘small’ corpora to document ongoing grammatical change	181
	CHRISTIAN MAIR	
	10 Using tag sequences to retrieve grammatical structures	195
	SEBASTIAN HOFFMANN	
	11 Categorizing syntactic constructions in a corpus	212
	NICHOLAS SMITH AND ELENA SEOANE	
	Part 2.2 Phonetic and phonological analysis	228
	12 Analysing phonetic and phonological variation on the segmental level	228
	ULRIKE GUT	
	13 Analysing phonetic and phonological variation on the suprasegmental level	244
	ULRIKE GUT	
	14 Reconstructing stress in Old and Middle English	260
	DONKA MINKOVA	
	Part 2.3 Combinations of multiple types of data	278
	15 Combining elicitation data with corpus data	278
	ANETTE ROSENBACH	
	16 Using convergent evidence from psycholinguistics and usage	295
	MARILYN FORD AND JOAN BRESNAN	
	17 Applying typological methods in dialectology	313
	LIESELOTTE ANDERWALD AND BERND KORTMANN	

	Contents	vii
PART 3 Evaluating empirical data	335	
Part 3.1 Basic statistical analysis	337	
18 Quantifying variation and estimating the effects of sample size on the frequencies of linguistic variables	337	
HEIKKI MANNILA, TERTTU NEVALAINEN AND HELENA RAUMOLIN-BRUNBERG		
19 Elementary statistical testing with R	361	
STEFAN TH. GRIES		
Part 3.2 Multifactorial analysis	382	
20 Analysing and interpreting variation in the sociolinguistic tradition	382	
SALI A. TAGLIAMONTE		
21 Identifying multi-dimensional patterns of variation across registers	402	
DOUGLAS BIBER AND BETHANY GRAY		
22 Computing linguistic distances between varieties	421	
APRIL MCMAHON AND WARREN MAGUIRE		
23 Analysing aggregated linguistic data	433	
BENEDIKT SZMRECSANYI		
<i>Bibliography</i>	456	
<i>Index</i>	501	

Figures

1	The deductive approach typically used in quantitative research and the inductive logic of research in a qualitative study	4
2	The empirical cycle	5
3	Types of linguistic data, arranged according to their degree of naturalness/monitoring	6
2.1	Aggregate network sociogram for WFHPB	42
3.1	Map of American dialects (Kurath 1949)	54
3.2	<i>Dragonfly</i> (Kurath 1949)	55
3.3	Graphic plotter grid for 'kindling' (1986)	60
3.4	Layers in a GIS display	62
3.5	GIS display with highlighted respondents	63
3.6	Density estimation for the response <i>pail</i>	64
3.7	Line segments indicating Delaunay Triangulation for LAMSAS	66
3.8	Levenshtein Distance displayed with MDS from www.let.rug.nl/~kleiweg/lamsas-old/results	67
4.1	Types of interviews and degrees of structuredness	72
4.2	The different levels of measurement and typical categories of answers	77
4.3	Likert scale	77
4.4	Histograms (spoken data) for <i>Do you want I get us some ice cream?</i> and <i>You want I buy a drink for you?</i>	87
4.5	Histograms (spoken vs. written data) for <i>Do you want I get us some ice cream?</i>	88
4.6	Histograms (spoken vs. written data) for <i>I like this painting, I prefer the other one, but.</i>	89
4.7	Bamberg questionnaire for lexical and morphosyntactic variation in English (Maltese English version, informant information sheet)	94
4.8	Bamberg questionnaire for lexical and morphosyntactic variation in English (Maltese English version, excerpt from auditory-based grammar part)	95
4.9	Bamberg questionnaire for lexical and morphosyntactic variation in English (Maltese English version, excerpt from lexical part)	96

4.10	Bamberg questionnaire for lexical and morphosyntactic variation in English (Maltese English version, excerpt from written grammar part)	97
5.1	Pied Piping across relativizers and PP types compared with fillers (British English speakers)	113
5.2	Pied Piping across relativizers and PP types compared with fillers (German L2 English learners)	113
5.3	Stranding means for all relativizers across PP types compared with fillers (British English speakers)	115
5.4	Stranding means for all relativizers across PP types compared with fillers (German L2 learners)	115
6.1	Standard Search window and Keyword Browse window in the EEPF database	124
6.2	Brief Summary of Matches window and Context of Matches window in the EEPF database	125
6.3	The distribution of <i>min(e)</i> and <i>my</i> in prenominal position as a function of the initial sound of the following word in PPCME2 and PPCEME	127
6.4	The distribution of <i>min(e)</i> and <i>my</i> in prenominal position as a function of the initial sound of the following word in (PPCME2 and) EEPF	128
6.5	The distribution of regular and irregular past tense and past participle forms of the verbs <i>burn</i> , <i>dream</i> , <i> dwell</i> , <i> kneel</i> , <i> leap</i> and <i> learn</i> in ARCHER (BrE only)	129
6.6	The distribution of regular and irregular past tense and past participle forms of the verbs <i>burn</i> , <i>dream</i> , <i> dwell</i> , <i> kneel</i> , <i> leap</i> and <i> learn</i> in EEPF, ECF and NCF	130
6.7	The occurrence of adverbs intervening between the negators <i>not</i> and <i>never</i> and attributive adjectives in ECF, NCF and EPD (1701–1903)	132
8.1	Search for potential combinations of the progressive passive with the present or past perfect in the Advanced Search mode of <i>Google</i>	164
8.2	Present progressive passives in stratified reference corpora and web-derived monitor corpora	176
9.1	Five matching corpora of twentieth-century written standard English	183
9.2	Specificational clefts (all types) in five corpora of twentieth-century written English	189
9.3	Specificational clefts – towards a constructional split	189
9.4	Four types of specificational clefts in two corpora of twentieth-century spoken English	190
10.1	Extract from a BNCweb query result for the query <code>_AT0 _{N}</code>	200

x	List of figures	
10.2	Extract from a BNCweb query result for the query <code>_DPS _{N}</code>	201
10.3	Extract from a BNCweb query result for the query <code>(_AT0 _DT0 _DPS)* _{A} _{N}</code>	201
10.4	Extract from a BNCweb query result for the query <code>(_AT0 _DT0 _DPS)* ((_AV0)* _{A} (_CJCN,_PUN))+ _{N}</code>	204
10.5	Extract from a BNCweb query result for the query <code>(_AT0 _DT0 _DPS)* ((_AV0)* _{A} (_CJCN,_PUN))* (_{N})+</code>	205
10.6	Extract from a BNCweb query result for the query <code>((longest)) (_AT0 _DT0 _DPS)* ((_AV0)* _{A} (_CJCN,_PUN))* (_{N})+</code>	206
10.7	Extract from a BNCweb query result for the query <code>((longest)) (_AT0 _DT0 _DPS)* ((_AV0)* _{A} (_CJCN,_PUN))* (_{N})+ (of (_AT0 _DT0 _DPS)* ((_AV0)* _{A} (_CJCN,_PUN))* (_{N})+)+</code>	207
11.1	Prominence hierarchies	214
11.2	Categorizing information status of long passives within corpus software (WordSmith)	218
11.3	An annotated database of the long passive, using Excel	220
12.1	The IPA transcription symbols for the cardinal vowels Reprinted with permission from the International Phonetic Association. Copyright 2005 by International Phonetic Association	231
12.2	Spectrogram of the vowels [i], [ɪ], [e], [æ], [ɐ], [ɔ], [o] and [u] with indication of the formants	233
12.3	Acoustic map for some American English vowels. Reprinted with permission from Gut (2009: 154)	235
12.4	A participant in an EMA experiment. Reprinted with permission from Draxler (2008: 73)	237
12.5	A speaker on a nasometer	237
12.6	The IPA transcription symbols for the pulmonic consonants Reprinted with permission from the International Phonetic Association. Copyright 2005 by International Phonetic Association	238
12.7	The IPA transcription symbols for phonetic details: the diacritics. Reprinted with permission from the International Phonetic Association. Copyright 2005 by International Phonetic Association	240
12.8	Measurement of the VOT of the /k/ in <i>came</i>	240
12.9	Palatograms of [t] and [d] for two speakers. Reprinted with permission from Gut (2009: 47)	242
13.1	Measurement of the pitch height and intensity at mid-point of the first vowel in <i>cassette</i>	246

	List of figures	xi
13.2	Power spectrum of the vowel /ɒ/ in <i>object</i>	247
13.3	Division of the utterance <i>Give her the post</i> into vocalic and consonantal intervals in Praat	250
13.4	Interlinear transcription of the intonation of the utterance <i>She didn't want to leave</i>	254
13.5	Example of a ToBI transcription of the utterance <i>a tiger and a mouse were walking in a field</i> with the waveform (top), spectrogram, in which the pitch movement (line) is plotted (middle) and three transcription tiers (bottom)	256
13.6	Pitch movement and points of measurement for wide and small pitch range according to Patterson (2000)	258
14.1	Pre-tonic syllable loss in English	264
15.1	Animacy versus weight in the experimental study: relative frequency of the <i>s</i> -genitive and the <i>of</i> -genitive	287
15.2a	Weight of the possessor with human possessors in the ICE-GB: relative frequency of the <i>s</i> -genitive and the <i>of</i> -genitive	290
15.2b	Weight of the possessor with inanimate possessors in the ICE-GB: relative frequency of the <i>s</i> -genitive and the <i>of</i> -genitive	290
16.1	The model formula for datives	298
17.1	eWAVE map for feature 155 (<i>ain't</i> as the negated form of <i>be</i>)	320
17.2	Accounting for gender diffusion in terms of Sasse's Individuation Hierarchy	321
17.3	Analyticity by syntheticity	325
17.4	Decrease in analyticity and increase in syntheticity in written vs. spoken varieties of English	327
18.1	Results given by the four different estimation methods for the frequency of (ing)	345
18.2	Results given by the four different estimation methods for the frequency of (you)	346
18.3	Scatterplots of the frequency of the (ing) variable at 40-year intervals, comparing the four estimation methods pooling, average of averages, Bayesian, and bootstrap	348
18.4	The Bayesian estimate and posterior interval as a function of the bootstrap estimate (a) (ing); (b) (you)	349
18.5	The Bayesian and bootstrap estimates and the width of the confidence interval for (ing) for samples ranging in size from 15 to 130 persons	351
18.6	(a) The standard deviation in the Bayesian estimate for samples of size 15, 30, and 50, as a function of the Bayesian estimate. (b) The standard deviation in the bootstrap estimate	

xii	List of figures	
	for samples of size 15, 30, and 50, as a function of the bootstrap estimate	352
18.7	(a) The standard deviation in the Bayesian estimate for samples of size 15, 30, and 50, as a function of the Bayesian estimate. (b) The standard deviation in the bootstrap estimate for samples of size 15, 30, and 50, as a function of the bootstrap estimate	353
18.8	(a, c) Bayesian estimates for the full data set vs. Bayesian estimates based on persons with at least 10 (a) or 5 (c) attestations. (b, d) Bootstrap estimates for the full data set vs. bootstrap estimates based on persons with at least 10 (b) or 5 (d) attestations	355
18.9	(a, c) Bayesian estimates for the full data set vs. Bayesian estimates based on persons with at least 10 (a) or 5 (c) attestations. (b, d) Bootstrap estimates for the full data set vs. bootstrap estimates based on persons with at least 10 (b) or 5 (d) attestations	356
19.1	Association plot for the relation between question and answer syntax	370
19.2	Boxplot for the relation between subordinate clause length and mode	373
19.3	Line plots and smoothers for the normalized frequencies of <i>in</i> and <i>just because</i> over time	377
19.4	Choosing a <i>U</i> test / two sample Wilcoxon test in the R commander	380
19.5	Performing a <i>U</i> test / two sample Wilcoxon test in the R commander	381
20.1	Overall frequency of consonant cluster simplification in York and Toronto	390
20.2	Frequency of consonant cluster simplification by individual in York	391
20.3	Frequency of consonant cluster simplification by individual in Toronto	391
20.4	Distribution of consonant cluster simplification by following phonological context by individual in York	392
20.5	Distribution of consonant cluster simplification by following phonological context by individual in Toronto	392
20.6	Distribution of consonant cluster simplification by following phonological context in York and Toronto	393
21.1	Mean scores of university registers along Dimension 1 – Oral vs. literate discourse	412
21.2	Mean scores of registers along Dimension 2 – Procedural vs. content-focused discourse	416

21.3	Mean scores of registers along Dimension 4 – Teacher-centered stance	418
22.1	Length comparisons for English vowels	424
22.2	NeighborNet of all modern English Typical varieties	426
22.3	Words contributing to the difference between Glasgow and Sheffield	427
22.4	All modern English Typical varieties; items with postvocalic /r/ excluded	428
22.5	NeighborNet for Newcastle and Edinburgh – Typical and Traditional varieties plus individual speakers	430
23.1	Visualization of the 34 x 2 index matrix: BNC macro registers – analyticity by syntheticity (in index points, <i>ptw</i>)	438
23.2	Link map – traditional British English dialects	443
23.3	Scatterplots – morphosyntactic distance versus as-the-crow-flies distance, least-cost travel time and Trudgill’s linguistic gravity index (<i>log</i> scale)	444
23.4	Two-dimensional multidimensional scaling plot – varieties of English worldwide	448
23.5	Dendrogram deriving from hierarchical agglomerative cluster analysis – varieties of English worldwide (clustering algorithm: Ward)	449

Tables

1	Survey of methods used in different linguistic subdisciplines, according to the information given in article abstracts in recent issues of relevant journals	8
2.1	Example of part of a binary matrix	41
2.2	Extract from the aggregate network	41
2.3	Social groups in WFHPB (summary of multiple clique analyses)	43
2.4	Linguistic factor groups for Varbrul analysis of (th)	46
2.5	Social factor groups for Varbrul analysis of (th)	46
2.6	Cognitive factor groups for Varbrul analysis of (th)	47
2.7	Multivariate analysis of the contribution of factors selected as significant to the probability of (th): [f]	48
2.8	Social groups which favour th-fronting in WFHPB	50
2.9	Social groups which disfavour th-fronting in WFHPB	50
4.1	Median, mean and standard deviation for <i>Do you want I get us some ice-cream?</i>	85
4.2	Median, mean and standard deviation for <i>You want I buy a drink for you?</i>	85
4.3	Median, mean and standard deviation for <i>Do you want me to get us some ice-cream?</i>	86
4.4	Median, mean and standard deviation for <i>You want me to buy a drink for you?</i>	86
4.5	Median, mean and standard deviation for <i>I like this painting, I prefer the other one, but.</i>	89
5.1	Token set-example <i>laugh at: You wouldn't believe the things . . .</i>	107
5.2	Counterbalanced material set sentence list	108
5.3	Repeated measures ANOVA for English L1 and German L2 informants	112
6.1	Details of three exemplary historical reference corpora	120
6.2	Details of six historical literature databases	122
6.3	Survey of the three case studies sketched in Sections 4.1–4.3	127
7.1	Intransitive and transitive particle verbs like <i>come in/let in</i> associated with and immediately followed by prepositional phrases containing the noun <i>door</i> and its hyponymic	

compounds like <i>back door</i> in the OED quotations between 1490 and 1988	139
7.2 The evolution of nominal and sentential complements governed by the noun <i>risk</i> in the OED quotations	140
7.3 Number of quotations and estimated words for the five centuries between 1500 and 1988	145
7.4 <i>in (the) event</i> governing NPs, gerunds and finite clauses in the quotations drawn from the OED	146
7.5 The rivals <i>in (Adj) hopes</i> and <i>in the (Adj) hope</i> governing NPs and sentential complements in the OED quotations (pmw = per million words)	147
7.6 The relativization of the standard of comparison by means of <i>than which/whom</i> in the OED quotations and a series of fiction databases	148
7.7 Fictional text collections to be compared with the OED quotations database	148
7.8 Selected constructions and expressions – regarded as relatively formal – in the OED quotations database and the narrative component of the BNC (=wridom1)	149
7.9 Selected constructions and expressions – regarded as relatively informal – in the OED quotations database and the narrative component of the BNC (=wridom1)	150
7.10 The rivalry between more or less explicit variants with selected constructions in the OED and the narrative component of the BNC (=wridom1)	150
7.11 Selected constructions assumed to be associated with communicative needs specific to fictional or non-fictional text types	151
7.12 The use of <i>thereby</i> (including <i>there by</i>) between 1600 and 1699 in the OED quotations and the EEPF	152
7.13 The rivalry between infinitival clauses and prepositional gerunds governed by <i>with a view</i> in the OED quotations and fiction databases	152
7.14 The type <i>that of NP/-ing</i> in the OED quotations drawn from the works of Defoe, Swift, Steele and Addison	153
7.15 The rivalry between the past participial forms <i>gotten</i> and <i>got</i> in the OED quotations drawn from the works of Defoe, Swift, Steele and Addison	154
7.16 Structures dependent on <i>in (the) event</i> in the OED quotations database	155
7.17 Objects associated with the (active) verb <i>attest</i> in the OED quotations database between 1800 and 1988	155
8.1 Potential progressive passives co-occurring with present/past perfect and modal auxiliaries (27 January 2009)	164

8.2a	Proportion of progressive passives combining with the perfect in sub-samples of 100 hits for ‘been being’	167
8.2b	Comparison of original results with re-run	167
8.2c	Proportion of progressive passives combining with the perfect in sub-samples of hits for ‘been being’	168
8.3	Number of hits for two exact phrase searches from different locations	172
8.4	Present and past tense progressive passives in Pakistani, Bangladeshi and Indian English – relative frequencies per million words	175
9.1	Specificational clefts (all types) in five corpora of twentieth-century written English	189
9.2	Four types of specificational clefts in two corpora of twentieth-century spoken English	190
10.1	Query strings matching various types of premodification	202
12.1	The standard lexical sets for the analysis of vowel inventories with keyword and example words	230
14.1	Stress doublets in <i>Troilus and Criseyde</i>	273
15.1	Factor correlation in English genitive variation	279
15.2a	Weight as a relative notion: example with 1-word possessor	284
15.2b	Weight as a relative notion: example with 3-word possessor	284
15.3	Genitive constructions: pre- and postmodification patterns	285
15.4a	Testing for the status of animacy: critical conditions	286
15.4b	Testing for the status of weight: critical conditions	286
16.1	Comparison of items 2 and 3	301
16.2	Random effect adjustments of US participants, using (4)	304
16.3	Model parameters for the ratings experiment	306
16.4	Model parameters for the reaction time experiment	308
16.5	Comparison of Australian and US participants in tolerance to dative structures with long first arguments	309
18.1	Number of informants in the CEEC with at least 1 attestation of the linguistic variables, both for the whole data and for London	343
18.2	Values of (ing) for the 20-year period 1460–1479 for those individuals for whom there is at least one occurrence of the variable	344
19.1	Table 2 (Appendix 2) from Hundt and Smith (2009), cross-tabulating tenses and corpora	363
19.2	Reorganization of Table 2 (Appendix 2) from Hundt and Smith (2009)	364
19.3	Fictitious frequencies obtained in a question-answer experiment	367
19.4	Lengths of subordinate clauses in two samples (of spoken and written data)	372

20.1	Three logistic regression analyses of the occurrence of zero in subject relative clauses in three communities	395
21.1	Composition of the T2K-SWAL Corpus	405
23.1	Correlation coefficients and R^2 values – morphosyntactic distances versus as-the-crow-flies distance, least-cost travel time, and Trudgill’s linguistic gravity index	444

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Preface

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Synopsis

For several decades, linguistic research has seen an increasing trend towards empirical methodologies. On the one hand, this has led to a shift in linguistic interest away from the study of single example sentences as manifestations of a monolithic grammar and towards an investigation of (synchronic) variation and (diachronic) change on all levels of linguistic organization. On the other hand, this evolution has transformed many strands of linguistics into branches of an objective science and increased the need for falsifiable and, in many cases, quantifiable data. Consequently, the spectrum of methodologies used in contemporary linguistics has considerably broadened and diversified; different strands of variationist linguistics have developed a wide range of useful techniques for data collection, analysis and evaluation. As a result, methodological know-how has become one of the key qualifications for linguists, both newcomers to the discipline and professional practitioners.

However, it is increasingly difficult even for professionals to keep track of the methodological advances in neighbouring fields of linguistic study: most of the discussion in publications and conference meetings revolves around the findings that have resulted from the successful application of research methods. Too little space and time, at least in our view, is devoted to making the methods explicit and to communicating them in a way that would allow others to replicate them. This lack of methodological transparency results in a situation in which empirical studies run the risk of failing to meet two fundamental principles of objective science: reproducibility and falsifiability. Advanced undergraduate and graduate students are faced with a similar problem: BA, MA and Ph.D. theses are expected to involve original research projects demonstrating their authors' ability to do empirical research, but many students receive little explicit guidance on questions of methodology – at least beyond the immediate field of their supervisor(s).

The present book aims to fill this niche by providing an overview of empirical research methods used in the field of language variation and change. It brings together chapters written by leading scholars and aims at a balanced and representative survey of many of the established and some more innovative methodologies in the field of empirical linguistics. The focus of the chapters is on the methodological issues involved, which are illustrated with exemplary

case studies of specific phenomena in the domains of language variation and change. Though the case studies are drawn from the English language, the methodologies discussed are not restricted to English linguistics, but are similarly used in the investigation of variation and change in different natural languages. Further resources, exercises, sample material for case studies, web links and downloads corresponding to each of the chapters can be found on the companion website at www.cambridge.org/krug_schluter.

Readership

The book is intended for readers from a wide range of levels and backgrounds. It is, we believe, of fundamental interest to advanced students of language and linguistics who are engaging in empirical work for the first time, as is generally the case when it comes to preparing a BA or MA thesis. It is highly relevant for Ph.D. students, who in our view should represent the primary readership of the book, because for doctoral theses, an informed choice of approach is as essential as an in-depth methodological awareness. Doctoral students may in addition wish to draw on more than one of the approaches outlined in the following chapters, for instance corpus analysis + experiment; standard reference corpus + worldwide web; OED + historical text databases; phonological analysis + multifactorial statistical testing.

The methodological steps involved in each of the analyses in the book chapters are made explicit and are thus reproducible for readers who have some basic knowledge of linguistics, but no prior experience with the methodologies outlined. Each chapter concludes with a juxtaposition of pros/potentials vs. cons/caveats characterizing each methodology, and is followed by suggestions for further reading for those seeking more detailed information on a certain approach.

This volume seeks to encourage a methodological discussion among experienced practitioners of linguistic research, since the field of linguistics has recently seen an unprecedented increase in the diversity and complexity of the methods employed. In this respect, the focus on methodological issues pursues a twofold aim: On the one hand, there is a real need for insights into the approaches used by other linguists in the field, to which other forms of publication (conference papers and journal articles) devote little space or time. Such insights are indispensable for a critical assessment of the findings obtained by colleagues and will eventually enhance the transparency within the field. On the other hand, we strongly believe that linguists can profit from a look beyond their horizons and can enlarge their own methodological repertoires by adopting or adapting the approaches chosen by others.

The chapters of this handbook have been specially commissioned from leading experts and practitioners in their fields, who share their experience with beginning researchers as well as colleagues. This multi-authored design has the

advantage of offering a more balanced, objective survey of methodologies, written by people with extensive first-hand experience with the approaches they describe. The design of this handbook, finally, reflects our firm conviction that the methodological pluralism prevailing in modern linguistics cannot be adequately represented by a single author or a small number of collaborators.

Structure

The book is introduced by a stage-setting chapter on linguistics as an empirical discipline and the importance of studying variation and change in present-day linguistic research. The main body of the book is subdivided into three parts, mirroring the major stages of an empirical research project: collecting, analysing and evaluating data. Each part comprises two or three sections, containing between two and four chapters each. Each of the sections is devoted to a fundamental approach to variation and change:

Part 1: Collecting empirical data

Unless a researcher decides to use a ready-made database, the first stage of a project involves the compilation of an appropriate dataset. Three major approaches are highlighted in this respect.

Part 1.1 Fieldwork and linguistic mapping: This part deals with ways of investigating unexplored terrain. Unknown language communities can be entered for purposes of linguistic research if the researcher takes certain conditions into consideration; he/she can observe linguistic features in a language community he/she is not part of; or he/she can become a member of such a community and monitor language usage for certain features he/she is interested in. Dialectal differences, isolated by questioning informants, can be represented in linguistic atlases.

Part 1.2 Eliciting linguistic data: Some very efficient ways of collecting linguistic data involve elicitation, i.e. getting informants to produce relevant utterances or judgements on given utterances. Linguistic questionnaires and interviews as well as highly controlled experimental settings are appropriate instruments for eliciting the forms and structures of interest or for investigating issues such as grammaticality/acceptability judgements. This method is especially useful for rarer phenomena. Rather than relying on subjective intuition (which may be biased towards the expected effect), the authors in this section introduce elicitation techniques from unstructured sociolinguistic interviews via purpose-built questionnaires to elaborate experimental settings that are designed to minimize the distorting effects of the participants' awareness of the research situation.

Part 1.3 Alternatives to standard reference corpora: In modern linguistics, corpus analysis is the most widely used methodology for studying

synchronic variation and practically the only one for quantitative analyses of diachronic change. If a researcher is interested in language use beyond what is documented in widely available standard corpora, he/she may consider resorting to other large-scale sources of computer-readable texts. In this way, he/she can access historical dialect data, employ the quotations included in the electronic version of the *Oxford English Dictionary* as a database, or even tap the internet as a source for lesser-known national varieties. This section discusses the methodological pitfalls inherent in these approaches and ways to sidestep them.

Part 2: Analysing empirical data

The second stage of a research project, subsequent to data collection, involves the analysis of the accumulated data. For semantic, syntactic and morphological purposes, (semi-)automated searches (usually in connection with manual post-editing) in standard or purpose-built databases are the most common choice, while phonetic and phonological projects require more specialized methods. In addition, it is possible, though still far from common, to fruitfully combine two or more approaches.

Part 2.1 Corpus analysis: Obvious sources of data on variation and change are the ever more numerous and increasingly comprehensive reference corpora. Although these are tailored to variationists' needs, their use poses a number of methodological problems, the most important of which are discussed in this section. Corpus size is a critical issue when exploring infrequent phenomena in a language. How far can one get using relatively small (one-million-word) corpora? Which corpus analysis tools are there and what are their assets and weaknesses? How does one go about retrieving and annotating concordance entries? Which amenities does a grammatically tagged corpus offer?

Part 2.2 Phonetic and phonological analysis: For the analysis of phonetic distinctions and phonological systems, as well as phonological features above the segmental level, analysts have a variety of auditory, acoustic and articulatory methods at their disposal. These are introduced in two chapters of this section, one focusing on segmental and the other on suprasegmental features. In the reconstruction of historical sound systems, more indirect evidence has to be adduced. An example of such an approach is provided in the third chapter.

Part 2.3 Combinations of multiple types of data: The division of the present volume into subsections may appear to suggest that the methodological approaches described should be used in isolation. However, it is possible and often desirable to combine different approaches so as to make up for the weaknesses of each and to enhance their reliability. The chapters in this pivotal section illustrate this with regard to the cross-over between a variety of elicitation techniques (such as are typically used in psycholinguistics and typology) and corpus-based data (the current pet method of variationist linguistics and dialectology).

Part 3: Evaluating empirical data

In many cases, it may not be sufficient in variationist research to simply count occurrences and compare frequencies or percentages. The chapters in this part explain some basic statistical techniques and provide an outlook on more advanced computational procedures for the evaluation of empirical data.

Part 3.1 Basic statistical analysis: Most linguists come from a background in which they have received linguistic training, but are less comfortable with basic statistical techniques for handling data. This section introduces simple procedures that every empirical linguist should master. Rather than pooling and averaging one's data, bootstrapping and Bayesian statistics allow the researcher to make better use of small datasets. In addition, it is nowadays common practice in empirical linguistics to subject one's data to basic statistical tests to ensure that observed effects are not simply due to chance. Readers are provided with both the know-how and (on the companion website) the software for doing this, and the need for further statistical elaboration is discussed.

Part 3.2 Multifactorial analysis: The final section of the volume concerns the possibilities opened up by complex statistical procedures for the evaluation of empirical data. There has recently been a profusion of rather advanced multidimensional approaches to variation and change, which entail certain advantages and disadvantages for the analysis. Some influential examples, their methodological and theoretical backgrounds as well as their applications to linguistic data are made explicit. Though not all readers will find themselves in a position to replicate them, most will be interested in learning about the rationale behind such techniques. The chapters in this section also serve to illustrate the almost unlimited possibilities of data analysis, to provide clues to identifying and combining appropriate methods for a given project, and to encourage researchers to develop their own approaches.

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