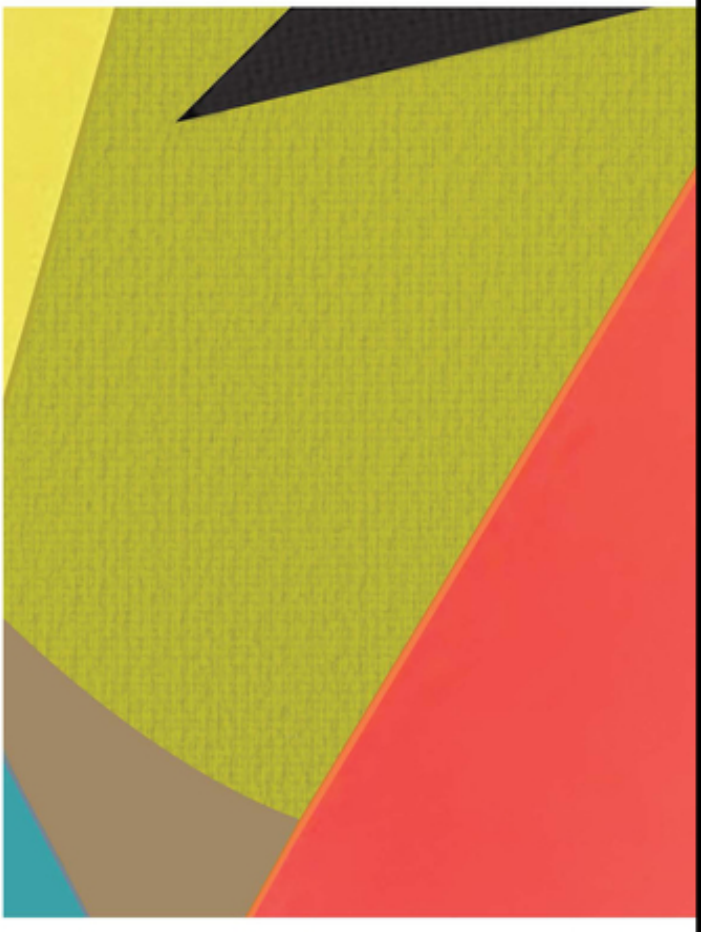
The Handbook of
Usage-Based Linguistics



Edited by
Manuel Díaz-Campos and Sonia Balasch

WILEY Blackwell

The Handbook of Usage-Based Linguistics

Blackwell Handbooks in Linguistics

This outstanding multi-volume series covers all the major subdisciplines within linguistics today and, when complete, will offer a comprehensive survey of linguistics as a whole.

The Handbook of Child Language
Edited by Paul Fletcher & Brian MacWhinney

The Handbook of Phonological Theory, Second Edition
Edited by John A. Goldsmith, Jason Riggle, & Alan C. L. Yu

The Handbook of Sociolinguistics
Edited by Florian Coulmas

The Handbook of Phonetic Sciences, Second Edition
Edited by William J. Hardcastle & John Laver

The Handbook of Morphology
Edited by Andrew Spencer & Arnold Zwicky

The Handbook of Japanese Linguistics
Edited by Natsuko Tsujimura

The Handbook of Contemporary Syntactic Theory
Edited by Mark Baltin & Chris Collins

The Handbook of Language Variation and Change, Second Edition
Edited by J. K. Chambers & Natalie Schilling

The Handbook of Language, Gender, and Sexuality, Second Edition
Edited by Susan Ehrlich, Miriam Meyerhoff, & Janet Holmes

The Handbook of Second Language Acquisition
Edited by Catherine J. Doughty & Michael H. Long

The Handbook of Bilingualism and Multilingualism, Second Edition
Edited by Tej K. Bhatia & William C. Ritchie

The Handbook of Pragmatics
Edited by Laurence R. Horn & Gregory Ward

The Handbook of Applied Linguistics
Edited by Alan Davies & Catherine Elder

The Handbook of Speech Perception
Edited by David B. Pisoni & Robert E. Remez

The Handbook of Speech Perception, Second Edition
Edited by Jennifer S. Pardo, Lynne C. Nygaard, Robert E. Remez, & David B. Pisoni

The Handbook of English Linguistics, Second Edition
Bas Aarts, April McMahon, & Lars Hinrichs

The Handbook of World Englishes, Second Edition
Edited by Braj B. Kachru, Yamuna Kachru, & Cecil L. Nelson

The Handbook of Educational Linguistics
Edited by Bernard Spolsky & Francis M. Hult

The Handbook of Clinical Linguistics
Edited by Martin J. Ball, Michael R. Perkins, Nicole Muller, & Sara Howard

The Handbook of Pidgin and Creole Studies
Edited by Silvia Kouwenberg & John Victor Singler

The Handbook of Language Teaching
Edited by Michael H. Long & Catherine J. Doughty

The Handbook of Language Contact
Edited by Raymond Hickey

The Handbook of Language and Speech Disorders, Second Edition
Edited by Jack S. Damico, Nicole Muller, & Martin J. Ball

The Handbook of Computational Linguistics and Natural Language Processing
Edited by Alexander Clark, Chris Fox, & Shalom Lappin

The Handbook of Language and Globalization
Edited by Nikolas Coupland

The Handbook of Hispanic Sociolinguistics
Edited by Manuel Díaz-Campos

The Handbook of Language Socialization
Edited by Alessandro Duranti, Elinor Ochs, & Bambi B. Schieffelin

The Handbook of Intercultural Discourse and Communication
Edited by Christina Bratt Paulston, Scott F. Kiesling, & Elizabeth S. Rangel

The Handbook of Historical Sociolinguistics
Edited by Juan Manuel Hernandez-Campoy & Juan Camilo Conde-Silvestre

The Handbook of Hispanic Linguistics
Edited by Jose Ignacio Hualde, Antxon Olarrea, & Erin O'Rourke

The Handbook of Conversation Analysis
Edited by Jack Sidnell & Tanya Stivers

The Handbook of English for Specific Purposes
Edited by Brian Paltridge & Sue Starfield

The Handbook of Spanish Second Language Acquisition
Edited by Kimberly L. Geeslin

The Handbook of Chinese Linguistics
Edited by C.-T. James Huang, Y.-H. Audrey Li, & Andrew Simpson

The Handbook of Language Emergence
Edited by Brian MacWhinney & William O'Grady

The Handbook of Korean Linguistics
Edited by Lucien Brown & Jaehoon Yeon

The Handbook of Speech Production
Edited by Melissa A. Redford

The Handbook of Contemporary Semantic Theory, Second Edition
Edited by Shalom Lappin & Chris Fox

The Handbook of Classroom Discourse and Interaction
Edited by Numa Markee

The Handbook of Narrative Analysis
Edited by Anna De Fina & Alexandra Georgakopoulou

The Handbook of English Pronunciation
Edited by Marnie Reed & John M. Levis

The Handbook of Discourse Analysis, Second Edition
Edited by Deborah Tannen, Heidi E. Hamilton, & Deborah Schiffrin

The Handbook of Bilingual and Multilingual Education
Edited by Wayne E. Wright, Sovicheth Boun, & Ofelia Garcia

The Handbook of Portuguese Linguistics
Edited by W. Leo Wetzels, Joao Costa, & Sergio Menuzzi

The Handbook of Translation and Cognition
Edited by John W. Schwieter & Aline Ferreira

The Handbook of Linguistics, Second Edition
Edited by Mark Aronoff & Janie Rees-Miller

The Handbook of Technology and Second Language Teaching and Learning
Edited by Carol A. Chapelle & Shannon Sauro

The Handbook of Psycholinguistics
Edited by Eva M. Fernandez & Helen Smith Cairns

The Handbook of Dialectology
Edited by Charles Boberg, John Nerbonne, & Dominic Watt

The Handbook of Advanced Proficiency in Second Language Acquisition
Edited by Paul A. Malovrh & Alessandro G. Benati

The Handbook of the Neuroscience of Multilingualism
Edited by John W. Schwieter

The Handbook of Historical Linguistics, Volume II
Edited by Richard D Janda, Brian D Joseph, & Barbara S Vance

The Handbook of Asian Englishes
Kingsley Bolton, Werner Botha, & Andy Kirkpatrick

The Handbook of Linguistic Human Rights
Edited by Tove Skutnabb-Kangas & Robert Phillipson

The Handbook of Usage-Based Linguistics

Edited by

Manuel Díaz-Campos and Sonia Balasch

WILEY Blackwell

Published by John Wiley & Sons, Inc., Hoboken, New Jersey.
Published simultaneously in Canada.

Library of Congress Cataloging-in-Publication Data:

Names: Díaz-Campos, Manuel, editor. | Balasch, Sonia, editor.
Title: The handbook of usage-based linguistics / edited by Manuel Díaz-Campos, and Sonia Balasch.
Description: Hoboken, New Jersey : Wiley-Blackwell, [2023] | Series: Blackwell handbooks in linguistics | Includes index.
Identifiers: LCCN 2023005903 (print) | LCCN 2023005904 (ebook) | ISBN 9781119839828 (hardback) | ISBN 9781119839842 (adobe pdf) | ISBN 9781119839835 (epub)
Subjects: LCSH: Language and languages–Usage. | LCGFT: Essays.
Classification: LCC P301 .H256 2023 (print) | LCC P301 (ebook) | DDC 400–dc23/eng/20230313
LC record available at https://lccn.loc.gov/2023005903
LC ebook record available at https://lccn.loc.gov/2023005904

Cover Design: Wiley
Cover Image: “Playing with Geometry” © 2022 Anna Díaz-Moreán and Victor Díaz-Moreán

Set in 10/12pt PalatinoLTStd by Straive, Chennai, India

For Paola Bentivoglio, whose professional career as a dedicated mentor and passion for linguistic research inspired us to study language use, variation, and change.

This volume is also dedicated to our dear friend Kimberly Geeslin, who was generous, open-hearted and understanding. As an intellectual and colleague, she was bright, outstanding, and always seeking transformational scholarship. You will always live in our hearts.

Contents

Notes on Contributors

Patrícia Amaral is Associate Professor in the Department of Spanish and Portuguese at Indiana University, USA. Her research focuses on issues at the semantics/pragmatics interface (typologies of meaning, focus particles, modality) as well as on syntactic and semantic change in the Romance languages.

Sonia Balasch is an Adjunct Professor of Spanish at Santa Fe Community College, Santa Fe, New Mexico, USA, and a staff member of Albuquerque Public Schools. Her research focuses on the study of language variation in Spanish—both in monolingual contexts and in language contact settings— and the roles of social and linguistic factors in language change.

Clay Beckner is an Assistant Professor of Applied Linguistics at the University of Warwick, UK. He holds a PhD from the University of New Mexico, and his research focuses on psycholinguistics, morphosyntax, and language change.

Juan Berríos is originally from Caracas, Venezuela. He is a doctoral student in Hispanic Linguistics in the Department of Linguistics at the University of Pittsburgh, USA. His research focuses on morphosyntactic variation and its acquisition, informed by usage-based approaches and methods from data science.

Earl Kjar Brown is an Associate Professor in the Department of Linguistics at Brigham Young University, Utah, USA. He obtained his PhD in 2008 from the University of New Mexico. His doctoral dissertation was published in the series LINCOM Studies in Romance Linguistics in 2009. His research centers on the quantification of linguistic variation, especially in Spanish and in English. The majority of this research makes use of corpus linguistics techniques, including searching for linguistic phenomena in large amounts of text, manipulating and visualizing data, and running statistical tests with the programming languages Python, R, and Julia.

Esther Brown is an Associate Professor in the Department of Spanish & Portuguese at the University of Colorado, Boulder, USA. She holds a PhD in Hispanic Linguistics from the University of New Mexico, Albuquerque. Her research focuses on usage-based phonology, language variation and change and the Spanish spoken in New Mexico.

Joan Bybee is a Distinguished Professor Emerita in the Department of Linguistics at the University of New Mexico, USA. She holds a PhD in Linguistics from the University of California at Los Angeles. Her most recent research focuses on usage-based approaches to phonology, morphology, and syntax. Her work has been published in several prestigious venues, including Cambridge University Press and Oxford University Press.

Melvatha R. Chee is an Assistant Professor of Linguistics at the University of New Mexico, USA. She holds a PhD in Linguistics from the University of New Mexico. Her work focuses on the acquisition, morphophonology, semantics, and morphology of Navajo.

J. Clancy Clements is a Professor Emeritus of Spanish & Portuguese and Linguistics at Indiana University, Bloomington, USA. He holds a PhD from the University of Washington, Seattle, and his research focuses on language contact, pidgins and creoles, sociolinguistics, and lexical semantics.

Molly Cole is currently an acquisition editor at Routledge. She holds a PhD in Hispanic Linguistics from Indiana University, Bloomington. Her research areas include sociolinguistics, language contact, and phonology. She is particularly interested in how sociolinguistic variables, such as age, linguistic identity, and dialect influence phonological variation in contact situations between Spanish and Indigenous languages.

Thaïs Cristófaro Silva is Associate Professor of Portuguese at the Federal University of Minas Gerais, Brazil. Her research focuses on the acquisition, phonology, and syntax of Brazilian Portuguese.

Danielle Daidone is an Assistant Professor of Spanish at the University of North Carolina, Wilmington, USA. She holds a PhD in Second Language Acquisition and Hispanic Linguistics from Indiana University, Bloomington. Her research focuses on L2 phonology, classroom instruction, and sociolinguistic variation.

Gibrán Delgado-Díaz currently teaches at Indiana University, Bloomington, USA. He holds a PhD in Hispanic Linguistics from Indiana University, Bloomington. His research focuses on language variation and change phenomenon and sociolinguistics, which he addresses from different perspectives, such as morphosyntactic variation, phonetic and phonology, and sociophonetics. He is interested in Caribbean Spanish and concentrates on Puerto Rican Spanish.

Guillaume Desagulier is Associate Professor of English Linguistics at Université Paris 8, France. He holds a PhD in Linguistics from Bordeaux University. He primarily researches cognitive linguistics, corpus linguistics, construction grammar, sociolinguistics, and language change.

Manuel Díaz-Campos is Professor of Hispanic Sociolinguistics at Indiana University, Bloomington, USA. His research appears in notable journals, such as *Language in Society*, *Probus*, *Lingua*, and *Studies in Second Language Acquisition*, etc. He is the editor of *The Handbook of Hispanic Sociolinguistics* (2011) and the author of *Introducción a la Sociolingüística Hispánica* (2014), and *Introducción y Aplicaciones Contextualizadas a la Linguistica Hispanica* (2017 with Professors Geeslin and Gurzynski-Weiss).

Dagmar Divjak is a Professor in the Department of Modern Languages and a Professorial Research Fellow in Cognitive Linguistics and Language Cognition at the University of Birmingham, UK. She holds a PhD from Katholieke Universiteit Leuven and is the editor-in-chief of *Cognitive Linguistics*. Her research focuses on cognitive linguistics and psycholinguistics.

Céline Dugua is a researcher in the Faculté de Lettres, Langues et Sciences Humaines at the Université d'Orléans, France. Her research focuses on language acquisition, corpus linguistics, and linguistic variation.

Jennifer Dumont is an Associate Professor of Spanish at Gettysburg University, USA. She holds a PhD in Hispanic Linguistics from the University of New Mexico. Her research focuses on syntax, sociolinguistics, and bilingualism.

Richard J. File-Muriel is an Associate Professor of Hispanic Linguistics in the Department of Spanish & Portuguese at the University of New Mexico, USA. He holds a PhD from Indiana University. His research focuses on how frequency of use impacts the production and perception of language, specifically the sound patterns that we observe in popular speech. He conducts much of his research in Colombia, for which he was awarded a Fulbright in 2013 at the Universidad Nacional de Colombia. His current research models individual variation in sound patterns, which is often overlooked in sociolinguistics research.

Susanne Gahl is a Professor of Linguistics and Cognitive Science at the University of California, Berkeley, USA. Her research focuses on psycholinguistics, aphasia, and language production and comprehension.

Iraida Galarza teaches at Indiana University, Bloomington, USA. She holds a PhD in Hispanic Linguistics from Indiana University, Bloomington. Her research focuses on sociolinguistics, phonology, and sociophonetics.

Jordan M. Garrett is a PhD candidate at Indiana University, Bloomington, USA. His research focuses on morphosyntax, L2 acquisition, and pedagogy.

Kimberly L. Geeslin was Professor of Hispanic Linguistics and Associate Vice Provost for Faculty & Academic Affairs at Indiana University. Her research focused on second language Spanish and the intersection of SLA and sociolinguistics. She co-authored *The Acquisition of Spanish as a Second Language* (Routledge, 2021) and *Sociolinguistics and Second Language Acquisition* (Routledge, 2014). Her edited volumes include *The Cambridge Handbook of Spanish Linguistics* (Cambridge, 2018) and *The Handbook of Spanish Second Language Acquisition* (Wiley Blackwell, 2013). She has published research articles in *Studies in Second Language Acquisition*, *Language Learning*, *Hispania*, *Spanish in Context*, *Bilingualism: Language and Cognition* and *Studies in Hispanic and Lusophone Linguistics*.

Michael Gradoville is an Assistant Professor in the School of International Letters and Cultures at Arizona State University, USA. He holds a PhD from Indiana University. His research focuses on usage-based models, sociophonetics, and quantitative research methods. His studies include data from spoken Portuguese and Spanish varieties from throughout the Americas. His work has appeared in *Lingua*, *Sociolinguistic Studies*, and the *Italian Journal of Linguistics*.

Stefan T. Gries is Professor of Linguistics at the University of California, Santa Barbara, USA. He holds a PhD in Linguistics from the University of Hamburg, and his research focuses on corpus linguistics, usage-based approaches to linguistics, construction grammar, and statistical methods in linguistics.

Mark Hoff has worked as an instructor at the Ohio State University and at Indiana University, USA. He holds a PhD in Hispanic Linguistics from the Ohio State University. His primary academic interests include morphosyntactic and pragmatic variation and sociolinguistics. He has published scholarly articles in *Language Variation & Change*, *Studies in Hispanic & Lusophone Linguistics*, *Journal of Pragmatics*, *Revue Romane*, and *Signo & Seña*, among others.

Chad Howe is an Associate Professor at the University of Georgia, USA, and holds a PhD in Hispanic Linguistics from the Ohio State University. His research focuses on Spanish/Quechua contact and variation and change in Spanish.

Dylan Jarrett is a Teaching Professor of Spanish Linguistics in the Department of Foreign Languages and Literatures at East Carolina University, USA. He holds a PhD in Hispanic Linguistics from Indiana University, Bloomington, and his research focuses on Spanish syntax and semantics.

Frances V. Jones is a PhD candidate in the Linguistics Department at the University of New Mexico, USA. She focuses on variation in the English spoken in northern New Mexico, dialect formation and attitudes toward New Mexican identity and culture.

Matthew Kanwit is Associate Professor of Hispanic Linguistics in the Department of Linguistics at the University of Pittsburgh, USA. His research on first and second language variation has appeared in *Language Learning*, *Studies in Second Language Acquisition*, *Modern Language Journal*, *Foreign Language Annals*, *Studies in Hispanic and Lusophone Linguistics*, *Spanish in Context*, *Sociolinguistic Studies*, and the *Cambridge Handbook of Spanish Linguistics*, among other venues.

Volya Kapatsinski is an Associate Professor of Linguistics at the University of Oregon, USA. He holds a PhD in Linguistics and Cognitive Science from Indiana University, Bloomington. His interests include psycholinguistics, corpus linguistics, and morphophonology in English and Russian.

Avizia Yim Long is an Assistant Professor of Spanish at San José State University, USA. She holds a PhD in Hispanic Linguistics from Indiana University, Bloomington, Her research focuses on the L2 acquisition of Spanish, phonology, and sociolinguistics.

Alexander McAllister is an Assistant Teaching Professor of Spanish at the Pennsylvania State University, USA. He holds a PhD in Hispanic Linguistics and Language Science from the same institution. His research focuses on bilingualism and language acquisition.

Petar Milin is Professor of Linguistics in the Department of Modern Languages at the University of Birmingham, UK. He holds a PhD from the University of Belgrade, Serbia, and his research focuses on word and lexical processing and the connections between memory and language.

Philippe Monneret is Professor of Linguistics at Université Paris-Sorbonne, France, and founded *Les Cahiers de Linguistique Analogique*. He is the founder of analogical linguistics, and his research focuses on French syntax and semantics.

Jill P. Morford is Professor of Linguistics at the University of New Mexico, USA. She holds a PhD in Psychology from the University of Chicago, and her research focuses on language acquisition, bilingualism in the Deaf community, and visual modality and its effects on language processing.

Jessie S. Nixon leads the Quantitative Linguistics Lab at the University of Tübingen, Germany. Her research focuses on speech perception and processing and cognitive linguistics.

Livia Oushiro is Professor of Sociolinguistics at the Institute of Language Studies at the University of Campinas, Brazil. She holds a PhD in Linguistics from the University of São Paolo, and her research focuses on language acquisition, speech production and perception, and computational models of language variation.

Florent Perek is Associate Professor in Cognitive Linguistics at the University of Birmingham, UK. He holds a PhD in English Linguistics from the University of Lille, and his research focuses on cognitive linguistics, corpus linguistics, and syntax.

Matthew Pollock is a PhD candidate in the Departments of Linguistics and Spanish & Portuguese at Indiana University, Bloomington, USA. His research focuses on sociophonetics, political discourse analysis, and linguistic identity.

Javier Rivas is Associate Professor of Spanish at the University of Colorado, Boulder, USA. His research focuses on language variation and change, grammaticalization, syntax, and usage-based approaches to linguistics.

Naomi L. Shin is Associate Professor of Linguistics and Hispanic Linguistics at the University of New Mexico, USA. Her primary interests include child language acquisition, bilingualism, language contact, and sociolinguistics. Her research focuses on patterns of morphosyntactic variation, examining how these patterns are acquired during childhood and how they change in situations of language contact. Her applied work has focused on developing a sociolinguistic approach to teaching Spanish grammar. Her articles have appeared in journals such as *Journal of Child Language*, *Cognitive Linguistics*, *International Journal of Bilingualism*, *Language Acquisition*, *Language Variation and Change*, *Language in Society*, *International Journal of the Sociology of Language*, *Foreign Language Annals*, *Spanish in Context*, and *Studies in Hispanic and Lusophone Linguistics*.

Megan Solon currently teaches at Indiana University, Bloomington, USA. She holds a PhD in Hispanic Linguistics from Indiana University, Bloomington. Her research focuses on the acquisition and phonology of Spanish.

Fabian Tomaschek is a researcher and linguist at the University of Tübingen, Germany. His research focuses on experimental and acoustic phonetics, speech language and processing and how statistical analysis can be applied to linguistics.

Rory Turnbull is a Lecturer in Phonetics and Phonology at Newcastle University, UK. His work includes phonology, phonetics and psycholinguistics and examines the relationship between the usage-based notion of frequency and sound structures.

Damian Vergara Wilson is Associate Professor of Hispanic Linguistics at the University of New Mexico, USA. He holds a PhD from the University of New Mexico. His main areas of research include sociolinguistics, historical linguistics, and Spanish as a heritage language in the United States.

Abby Walker is Associate Professor of Linguistics in the English Department at Virginia Tech University, USA. She holds a PhD in Linguistics from the Ohio State University, and her research focuses on speech production and perception and social evaluations of language, combining sociolinguistics, psycholinguistics, and phonetics.

Sara Zahler is Assistant Professor of Spanish at University at Albany, State University New York, USA. She holds a PhD in Hispanic Linguistics from Indiana University, Bloomington. Her research focuses on language variation and change and L2 acquisition of Spanish.

Introduction

Current Developments in Usage-Based Theory

MANUEL DÍAZ-CAMPOS AND SONIA BALASCH

The *Handbook of Usage-Based Linguistics* is a reference volume that provides a comprehensive overview of the fundamental aspects of usage-based approaches to linguistics, which take as their basis a relationship between usage and linguistic structure. This theory belongs under the wider umbrella of the cognitive and functional framework, although it does differ from these approaches in certain ways. Usage-Based Theory assumes that naturalistic data, taken from written and spoken sources, inform our understanding of grammar and phonological structure, helping account for the relationship between function and language structures. As an introduction and in-depth review of the framework, this volume begins by examining issues related to the origins of Usage-Based Theory, the relationship between this perspective and competing developments such as cognitive and construction grammar, as well as formal and functional approaches. Across six sections, the chapters in this volume provide a number of cross-disciplinary perspectives, ranging from usage-based methodologies, sociolinguistics, pragmatics, and historical linguistics to language acquisition, case studies applying Usage-Based Theory, and emerging debates in the discipline. Each chapter is composed of four sections: (1) a background describing the related literature; (2) a description of the current state of the field; (3) a list of theoretical challenges appearing in recent research; and (4) final remarks emphasizing contributions and noteworthy matters related to the topic at hand.

In the last three decades, linguistic research grounded in cognitive psychology and corpus data has provided new perspectives on the study of language. Usage-based approaches to linguistics conceive of grammar as the cognitive organization that individuals employ for their language experience (e.g., Langacker, 2008; Croft & Cruse, 2012). This conceptualization of grammar, as proposed by Bybee (2010), radically departs from traditional theories of universal grammar, in that the shape of language structure is seen as the product of general cognitive-domain processes (e.g., categorization, chunking, rich memory storage, analogy, and cross-modal association), as opposed to processes specific to language as a human capacity (see Chomsky, 1957). Bybee (2010: 7) explains that, in a usage-based approach, language is conceived as "a complex adaptive system," in which linguistic structure is considered not to be *a-priori*

The Handbook of Usage-Based Linguistics, First Edition. Edited by Manuel Díaz-Campos and Sonia Balasch.

but rather emergent, the product of language use and our cognitive response to our experience with it.

Bybee and Beckner (2010) explain that usage-based approaches rely on several sources of evidence for the construction of a theory of language, including corpora studies, sociolinguistic and historical data, experimental methods, comparative approaches, and language acquisition. This general notion of diverse sources of data is particularly relevant for linguistics, which focuses on variation and change, because Usage-Based Theory accounts for actual instances of language in particular social contexts, so that variation is not taken to be a marginal phenomenon. Furthermore, the assumptions of the theory imply a dynamic model of language, according to which mental representations are restructured on the basis of particular instances of language and frequency of usage. This volume includes cutting-edge theoretical perspectives, as well as research focusing on usage-based theoretical evidence, that describe core issues in the discipline and up-to-date theoretical discussions based on recent findings.

A distinguished roster of scholars is included herein, representing different areas of research (e.g., phonology, syntax, variationist sociolinguistics, pragmatics, semantics, and acquisition) and bringing together chapters by specialists from Europe, Latin America, and the United States. Altogether, the chapters in this volume present topics relevant to Usage-Based Theory, as well as discussions of future developments, given the advances in the creation and use of large corpora and statistical data analysis.

Structure of the volume

While there have been a series of investigations dealing with issues of frequency, and usage in general, this volume provides a coherent and up-to-date perspective of Usage-Based Theory, discussing historical, theoretical, and methodological issues, using empirical evidence. Overall, the volume is divided into six parts, comprising thirty-one chapters that describe usage-based approaches and recent advances in linguistic theory.

In Part I, five chapters offer an overview of Usage-Based Theory. Chapter 1, written by Joan Bybee, gives a concise historical overview of the linguistic research that gave rise to Usage-Based Theory, as well as the fundamental questions raised by it and future questions to be answered. Chapter 2, by Philippe Monneret and Guillaume Desagulier, offers a broad discussion of the place of pragmatics and semantics in the field of cognitive linguistics and how it differs with more traditional approaches. In Chapter 3, J. Clancy Clements and Jordan Garrett compare Usage-Based Theory with the formalist view of language. They focus on explanations offered by these two approaches with respect to the variable use of Spanish personal pronouns, distinguishing between formal and usage-based theoretical goals and identifying gaps in traditional theory. Next, in Chapter 4, Sara Zahler accounts for the contributions of corpus linguistics, psycholinguistics, and variationist sociolinguistics to Usage-Based Theory. She makes clear the need for interdisciplinary work in order to achieve a comprehensive understanding of language use and structure. Finally, in Chapter 5, Volya Kapatsinski stresses the need for more research that considers the effects of

token and type frequency in language use and structure. This call is supported by a detailed review of the effects of frequency on language structure.

Five chapters in Part II discuss the connections between phonology and the usage-based approach. In Chapter 6, Richard File-Muriel highlights the value of assessing patterns of language use in phonetics and phonology through a usage-based lens. He underlines the privileged place that researchers should give to corpus selection when studying the multimodal nature of the phenomena they are trying to explain. Earl Brown discusses the value of repetition and procedural knowledge of sound patterns in Chapter 7 to understand how mental representations of language are stored. He argues that researchers need to better understand the interaction between frequency of use and other variables present in language functioning. In Chapter 8, Rory Turnbull examines the effect of usage predictability on phonetic and phonological variation, studying perceiver-oriented, producer-oriented, and passive evolutionary models as a starting point to provide alternative explanations of variation. Jessie Nixon and Fabian Tomaschek, in Chapter 9, consider whether speech comprehension requires phonemes. Their detailed analysis suggests that, as there is a simultaneous intervention of speech, language, and communication, which goes hand in hand with language use in context, researchers must use models that explain more than just low-level phonetic effects using abstract and discrete units. Finally, in Chapter 10, Esther Brown describes the long-term accrual in memory of contextual conditioning effects, arguing that extralinguistic factors have a considerable impact on linguistic memory.

In Part III, six chapters highlight the correlation between morphosyntax and usage-based approaches. First, Mark Hoff highlights the role of frequency in morphosyntactic variation in Chapter 11 by presenting five cases as examples. He stresses the need for usage-based scholars from diverse linguistic backgrounds to employ the frameworks of construction grammar and production norms already in use in English, Dutch, and German research. Next, in Chapter 12, Florent Perek argues that, while the terms "Construction" and "Usage-Based Grammar" are sometimes used interchangeably, these two approaches should be viewed as distinct. In Chapter 13, Damian Vergara Wilson provides an overview of grammaticalization processes observed in multiword constructions, and discusses the commonality of these phenomena cross-linguistically. Vergara Wilson demonstrates that contact situations, which can be hybrid innovations, are ideal for revealing aspects of the nature of grammaticalization. In Chapter 14, Chad Howe discusses the implementation of corpora in usage-based linguistics, emphasizing the importance of selecting a corpus that fits the phenomenon being studied in terms of size, language, genre, and overall quality. Next, Matthew Kanwit and Juan Berríos delve into the close relationship between corpora, the study of cognition and usage-based approaches in Chapter 15. These authors offer examples of widely used corpora and argue for the importance of implementing quantitative methods to explain the nature of human cognition crosslinguistically. In Chapter 16, Céline Dugua uses French liaison (i.e., the phonological production of consonant sounds between two words) as an example to examine the relationship between Usage-Based Theory and Construction Grammar. Taken together, Dugua argues that Usage-Based Theory and Construction Grammar offer a robust framework to study the combination of determiners and nouns, not only in French, but across diverse languages.

Next, in Part IV, six chapters address aspects of psycholinguistics and language development in relation to usage-based approaches. In their description of computational cognitive modeling, Dagmar Divjak and Petar Milin argue in Chapter 17 that, while the incorporation of quantitative analysis has led to more reliable and replicable studies, the use of this type of modeling also improves our understanding of language systems. Next, in Chapter 18, Clay Beckner provides examples of approaches to quantifying the co-occurrence of multiword sequences, discussing how these methods of quantification correspond with relevant factors in cognition. Overall, he describes the important influence token and relative frequency have on the representation of multiword sequences. In Chapter 19, Kimberly Geeslin, Danielle Daidone, Avizia Long, and Megan Solon provide a comprehensive account of usage-based theoretical applications to the study of second language acquisition. These authors argue that researchers must better document specific contexts of token frequency found in input to understand learners' mental lexicon, as overall measures of frequency do not provide sufficient detail. Next, in Chapter 20, Molly Cole and Jennifer Dumont present findings relevant to usage-based studies of bilingualism, highlighting the importance of considering indexical fields as a means of unveiling ideologies and values integral to bilingual communities and speakers. In a discussion of child language development using examples from Navajo, ASL, and Spanish in Chapter 21, Melvatha R. Chee, Frances V. Jones, Jill P. Morford, and Naomi L. Shin emphasize the importance of employing usage-based approaches to track the linguistic development of heritage, bilingual, and minority first language learners. Finally, in Chapter 22, Susanne Gahl offers a detailed review of aphasia and other disorders affecting communication, including dementia and stuttering, through a usage-based lens.

In Part V, three chapters are dedicated to the topic of variation and change. The first of these, Chapter 23 by Livia Oushiro, presents computational resources for handling sociolinguistic corpora in a more reliable, replicable, and robust manner. She stresses the importance of conducting interdisciplinary research, paying special attention to data collection and handling protocols. Next, Dylan Jarrett and Patricia Amaral provide a comprehensive review of historical semantic change in Chapter 24, examining how research has unveiled diachronic paths and overarching tendencies across languages. The chapter discusses the diachronic connection between temporal overlap and contrast as well as causal and contrastive meanings. In Chapter 25, Thaïs Cristófaro Silva deals with sound variation and change through an analysis of phonological representation in Brazilian Portuguese. This chapter discusses cases of sound changes in Brazilian Portuguese to evaluate the direction of frequency effects and addresses the nature of phonological representations in the development of sound changes.

Finally, Part VI considers future developments of the usage-based approach across six chapters. In Chapter 26, Javier Rivas reviews old and new debates associated with the usage-based approach, presenting its main achievements, and suggesting future directions in linguistic theory. Specifically, Rivas argues that grammar emerges from the frequent iteration of combinations of words stored in memory and accessed holistically. Next, in Chapter 27, Abby Walker and Alexander McAllister explore how exposure to variability impacts speech perception, arguing that cognitive aspects of language are shaped by experience. In Chapter 28, Manuel Díaz-Campos and Matthew Pollock examine how past studies of linguistic variation inform the needs of future research in the field of sociolinguistics. They discuss how frequency has been evaluated

in sociolinguistic research at the lexical, typological, and contextual levels, emphasizing the need for more interdisciplinary studies that include diverse social and cognitive factors. Next, in Chapter 29, Michael Gradoville considers the future of exemplar theory with relation to its past and present use. He stresses the importance of integrating both the nature of abstractions and the effect of individual variation in contact situations in future exemplar-based research. In Chapter 30, Gibrán Delgado-Díaz and Iraida Galarza focus on advances in cross-linguistic corpus studies, using the case of priming in the Spanish narrative present as a case study to examine these approaches. In closing, Stefan Gries provides a detailed account of new analytical technologies in Chapter 31, describing recent advances in usage-based statistical approaches. Despite the degree of uncertainty associated with many corpus-based measures, Gries argues that promising statistical developments are underway in the usage-based field.

Based on the research examined in the chapters of this volume, we can see that new technologies and advances in statistical analysis in recent decades have taken usage-based research in a new direction. These new tools allow a more precise description of the impact of language usage in cognitive representation. In addition to methodological advances, definitions of key terms, conceptualizations of frequency, and challenges for the discipline across sub-fields are addressed in-depth by authors in the volume. Over the past 40 years, usage-based approaches to linguistic research have been influential in many areas of study, including language acquisition, historical linguistics, language change, pragmatics, semantics, and sociolinguistics (e.g., Bybee, 2006; Langacker, 1987; Tomasello, 2003). This handbook serves as a comprehensive manual that brings together usage-based scholars from across linguistics and cognitive psychology, presenting an interdisciplinary reference guide that ranges from the history of Usage-Based Theory to recent emergent issues.

Acknowledgments

The *Handbook of Usage-Based Linguistics* has been made possible through the contributions of numerous scholars who helped us to prepare the volume. We want to thank Matthew Pollock, our editorial assistant, for his dedication, professionalism, and outstanding job compiling these chapters and communicating with the authors throughout the various stages of production of the volume. Thanks also to Jamelyn Wheeler for her excellent job and help with copy-editing, and to the entire editorial team at Wiley Blackwell, who helped shape and review the volume. The many hours invested in the project have helped to shape an excellent handbook that will make a much-needed contributions to the field. In particular, we want to thank Rachel Greenberg at Wiley for her support throughout the revision process.

We also want to express our thanks to the many reviewers who did outstanding work reading the chapters and providing feedback for the authors. These reviewers include: Aarnes Gudmestad, Albert Backus, Alejandro Cuza, Alice Blumenthal-Dramé, Ana Maria Carvalho, Andreina Colina, Anna Lurito, Arne Lohmann, Arthur Samuel, Avizia Long, Beate Hampe, Ben Sienicki, Bret Linford, Céline Dugua, Chad Howe, Chase Tiffany, Clarence Green, Claudia Bruns, Concepcion Company Company, Damian Vergara Wilson, Daniel Erker, David Eddington, David Sankoff, Dirk Speelman, Dorit Ravid, Duccio Piccardi, Dylan Glynn, Dylan Jarret, Earl Brown,

Eliot Raynor, Erik Willis, Erin Conwell, Esther Brown, Hana Gustafsson, Hans-Jörg Schmid, Jacqueline Evers-Vermeul, Jakob Horsch, Jamelyn Wheeler, Javier Rivas, Javier Valenzuela, Jingyi Guo, Joan Bybee, John Paolillo, Jon Forrest, Juan Berríos, Julia Schlüter, K. Aaron Smith, Kamil Kaźmierski, Kris Heylen, Kyla McConnell, Laurent Fonteyn, Livia Oushiro, Maarten Lemmens, Margreet Vogelzang, María Fernanda Escalante Vergara, Martin Hilpert, Márton Sóskuthy, Matthew Kanwit, Matthew Pollock, Michael Gradoville, Mirjam Fried, Molly Cole, Nelleke Oostdijk, Nikolay Hakimov, Nofiya Denbaum, Patricia Amaral, Paul Ibbotson, Paul Olejarczuk, Pekka Posio, Petar Milin, Peter Harder, Rachel Hatchard, Ricardo F. Napoleão de Souza, Richard File-Muriel, Rocio Pérez-Tattam, Santi Arroniz, Sara L. Zahler, Silvia Martínez-Ferreiro, Soren Wind Eskildsen, Stefan Gries, Stefan Hartmann, Stefanie Jannedy, Susanne Gahl, Thomas Brunner, Ulrike Gut, Vittorio Tantucci, and Vsevolod Kapatsinski.

We hope that you find inspiration to carry on some of the suggested lines of research proposed in the pages of this volume, and to help develop the next stage of Usage-Based Theory.

REFERENCES

Bybee, J. L. (2006). From usage to grammar: The mind's response to repetition. *Language*, *82*(4), 711–733.

Bybee, J. L. (2010). *Language, usage and cognition*. Cambridge: Cambridge University Press.

Bybee, J. L., & Beckner, C. (2010). Usage-based theory. In *The Oxford handbook of linguistic analysis* (pp. 915–950). Oxford: Oxford University Press.

Chomsky, N. (1957). Syntactic structures. The Hague: Mouton.

Croft, W., & Cruse, D. A. (2004). *Cognitive linguistics*. Cambridge: Cambridge University Press.

Langacker, R. W. (1987). *Foundations of cognitive grammar*. vol. 1: *Theoretical prerequisites*. Stanford, CA: Stanford University Press.

Langacker, R. W. (2008). *Cognitive grammar: A basic introduction*. Oxford: Oxford University Press.

Tomasello, M. (2003). *Constructing a language: A usage-based approach to child language acquisition*. Cambridge: Cambridge University Press.

Part I Overview

1 What Is Usage-Based Linguistics?

JOAN BYBEE

Introduction

Usage-based linguistics asks the questions, why do languages have grammar and how does it arise? What form and shape does it take within and across languages, and how do domain-general processes create grammar? Moving beyond the limitations that structural and generative grammar put on language study, Usage-Based Theory looks at the way experience with language directly impacts the cognitive representation of language. Under its purview is usage of all types, including everyday social encounters, acquisition and learning, and changes in language use over time and space. Thus, a wide variety of hypotheses and methods are united in the goal of understanding how highly structured language emerges from human cognition and behavior. The results of language-specific analysis, language comparison and typology, laboratory experiments, conversation analysis, corpus studies, observations of first and second language acquisition, and studies of variation and change are considered to make valuable contributions to the general goals of the theory.

This chapter begins with a brief history of western linguistics in the twentieth century, demonstrating how various strands of linguistic research came to be united under the heading of Usage-Based Theory. The next section turns to some of the current approaches to the many facets of Usage-Based Theory, acknowledging that more detailed surveys of these approaches are contained in the chapters of this handbook. The foundational issues that Usage-Based Theory raises, how these questions have been approached and what further questions remain are discussed in the penultimate section. Finally, the chapter briefly addresses the sources of explanation in Usage-Based Theory.

The Handbook of Usage-Based Linguistics, First Edition. Edited by Manuel Díaz-Campos and Sonia Balasch.

Background

Precursors to Usage-Based Theory

Throughout most of the twentieth century, the dominant framework for linguistics in the United States was a structuralist approach aimed at providing language description. By mid-century, structuralism had become well established, with certain clear guidelines for description provided by scholars (e.g., Bloomfield, 1933; Hockett, 1958; Joos, 1957). This framework was based on the acceptance of several tenets intended to provide scientific rigor to the work of linguists, including (1) the separation of synchrony from diachrony, based on the goal of describing a language at a certain point in time; (2) the focus in description on what came to be called 'competence' (from Saussure's [1916] *langue*), the knowledge of the native speaker, and the complementary lack of interest in "performance" (roughly, Saussure's [1916] *parole*), or language use, and (3) the marginalization of the role of meaning and cognition by all but a few descriptive linguists (such as Sapir [1921] and Whorf [1941]), in an attempt to make linguistics more scientific by simply avoiding issues of linguistic versus encyclopedic meaning, as well as cognition.

The emphasis on structure, as adopted and adapted by Chomsky (see Clements and Garrett, in Chapter 3, in this volume), led to the centrality of syntax in generative theory, with semantics largely ignored, or relegated to an interpretative component (Chomsky, 1965). The goal of language description, when translated into generative terms, led to the notion of units and generalizations over these units, as expressed in underlying forms and derivational rules. This metaphor for the cognitive processes and abilities underlying language was so unlike that imaginable for other cognitive processes, that Chomsky proposed that the "language acquisition device" was unique to humans and to language, and had no parallel elsewhere in cognition. The remarkable feat accomplished by all normal children, of acquiring the postulated structures, would be so difficult that it could only be accomplished if children had certain innate structures already in place. These innate structures, then, determine the common features across languages, or language universals.

While generative theory became very popular in the US and some other parts of the world, there have always been linguists who proceeded with their work without buying into these premises. The work of one of the most influential and productive linguists of the twentieth century, Joseph H. Greenberg, rejected all the premises listed above. The aim of Greenberg's research was not to describe one language at a time, but rather to understand the range of variation present in the languages of the world in terms of how this variation is created by language change (Greenberg, 1969, 1978). Far from separating synchrony from diachrony, Greenberg sought explanation for the former in terms of the latter. Less well-known are his references to usage in terms of frequency effects, which he cited along with other criteria in his discussion of markedness (Greenberg, 1966). Greenberg also compared grammatical categories and constructions across languages, assuming comparable meanings and functions.

Other holdouts from the generative revolution were European typologists interested in the content and nature of grammatical categories, as exemplified by Bernard Comrie (1976, 1985) in his books on aspect and tense, which are based firmly on the idea that grammatical categories have meaning and function and these are

comparable across languages. Similar typological work using questionnaires revealed cross-linguistic similarities in the categories of tense and aspect (Dahl, 1985).

Other American linguists who were not convinced of the autonomy of grammar from meaning, function, and usage formed a functionalist group, including Wallace Chafe, Talmy Givón, Paul Hopper, Sandra Thompson, and others, including myself. Givón's (1979, 2018) *On Understanding Grammar* works in broad strokes to ground grammar in communication, cognition, and evolution and shows the clear influence of Greenberg. This tradition seeks to explain linguistic structure across languages through studies of the functions of grammar in language use, such as those influencing word order and the flow of new and old information (Du Bois, 1987), the discourse function of topics and subjects (Li, 1976), as well as verbal aspect (Hopper, 1982). A natural development from this research, as presaged by Greenberg and Givón, was a focus on the diachronic process by which new grammatical morphemes and constructions come into being—grammaticalization.

Intense cross-linguistic research into grammaticalization in the last decades of the twentieth century revealed a remarkable parallel between the evolution of meaning and function with change in phonological and grammatical form, as well as strong cross-linguistic similarities in paths of change from lexical to grammatical meaning (Bybee, 1985; Bybee et al., 1994; Heine & Reh, 1984; Lehmann, 1982; Vergara Wilson, Chapter 13, in this volume). The mechanisms of change driving this evolution provide crucial insights into how languages acquire grammar and why grammar takes the form it does.

Of course, researchers interested in language variation and change have had a less than peaceful co-existence with the emphasis on discrete structure prevalent in structuralist and generative theorizing, because discrete grammars cannot change gradually; instead, change takes place gradually amid extensive variation (see, in this volume, Brown, Chapter 7; Nixon & Tomaschek, Chapter 9). The strong empirical nature of the sociolinguistic paradigm established in the 1960s made it "usage-based" from its beginning, despite the canonization of the somewhat contradictory notion of a "variable rule" (Labov, 1969). The proposal that variation is part of competence (Cedergren & Sankoff, 1974) resonates with the usage-based notion that variation is reflected in cognitive representations.

Simultaneous with these developments in linguistics, the field of cognitive science was coming into being with considerable input from linguists, particularly those who viewed language as a part of general cognition. The role that categorization and metaphor play in the cognitive structures that underlie meaning was emphasized by both linguists and psychologists (see Geeslin et al., Chapter 19, in this volume; Lakoff, 1987; Lakoff & Johnson, 1980; Rosch, 1973) and led to a new understanding of the way that experience is shaped into linguistic categories. In addition, Langacker's decades-long focus on developing a system of Cognitive Grammar provides a direct connection between cognition and language, which grounds both grammar and meaning in cognition (Langacker, 1987, 2008). Fillmore's (1977) frame semantics similarly seeks the connections among lexicon, grammar, context, and cognition. These proposals of a direct relation between form (grammar) and meaning also found expression in the proposal of Construction Grammar, which provided an alternative model to generative syntax, one that lends itself to a better understanding of how

meaning is conveyed by morphosyntax and how the lexicon interacts with syntax (Fillmore et al., 1988).

A final strand of research that flows into the mainstream of usage-based work concerns the demonstration that frequency of use is a factor in the linguistic changes that create and modify phonological and grammatical constructions (Bybee, 1985). This means that repetition in experience has an impact on the cognitive representation of linguistic material, much as experiences of other kinds have an impact on other types of memory or routines. As highly practiced behavior, language use is subject to the cognitive effects that come with repetition. On the one hand, repetition leads to automatization of sequences of units of language, allowing for fluency in both production and comprehension. On the other hand, repetition leads to strengthened memories or entrenchment, as well as conventionalization within a community (Bybee, 1985; Langacker, 1987). These two effects are essential to the formation and evolution of both grammatical and phonological structure (Bybee, 2001, 2002a, 2003; Kapatsinski, Chapter 5, in this volume).

Another significant change occurring in the last decades of the twentieth century was the increased power of computation, which allowed the development of large corpora of both spoken and written language that were computer-searchable in the 1980s (see, in this volume, Howe, Chapter 14; Kanwit & Berríos, Chapter 15; Oushiro, Chapter 23; Gries, Chapter 31). Thus, the possibility emerged of studying many tokens of linguistic units in the contexts of spontaneous language use. The new methodology of corpus linguistics led to new understandings of the way lexical meaning interacts with context (e.g., Sinclair, 1991) as well as new means of studying the polysemy of grammatical markers, such as English modal auxiliaries (Coates, 1983). With access to such data, linguists could no longer justify relying only on their own intuitions about grammaticality and usage factors.

The usage-based perspective

The consolidation of Usage-Based Theory and its recognition as a set of assumptions and hypotheses became apparent in the 1990s when the term "usage-based" (coined by Langacker, 1987, p. 494) appeared in a publication from the 1995 symposium at Rice University (Barlow & Kemmer, 2000). Some time later, other statements about what constitutes Usage-Based Theory began to appear (Beckner et al., 2009; Bybee, 2001, 2010; Bybee & Hopper, 2001; Croft & Cruse, 2004; Diessel, 2011; Hoff, Chapter 11, in this volume; Tomasello, 2003). Here are some of the highlights of these statements.

Language is viewed as arising from the full context in which it exists, including both the wider social context (see, in this volume, Cristófaro Silva, Chapter 25; Díaz-Campos & Pollock, Chapter 28; Gradoville, Chapter 29) and general patterns of human cognition. Language would be impossible without a particular aspect of social cognition—the ability of humans to understand their fellows as agents with their own intentions, attentional foci, desires, and beliefs (Tomasello, 1999, 2003). Language also relies on particular aspects of general cognition, among them memory, categorization, inferential reasoning, and the ability to automate sequences of actions.

Thus, linguistic structure arises from the general properties of human cognition as manifest in communication; that is, the domain-general abilities of humans