Aspects of Multilingual Aphasia

COMMUNICATION DISORDERS ACROSS LANGUAGES

Series Editors: Dr Nicole Müller and Dr Martin Ball, *University of Louisiana at Lafayette, USA*

While the majority of work in communication disorders has focused on English, there has been a growing trend in recent years for the publication of information on languages other than English. However, much of this is scattered through a large number of journals in the field of speech pathology/ communication disorders, and therefore, not always readily available to the practitioner, researcher and student. It is the aim of this series to bring together into book form surveys of existing studies on specific languages, together with new materials for the language(s) in question. We also envisage a series of companion volumes dedicated to issues related to the crosslinguistic study of communication disorders. The series will not include English (as so much work is readily available), but will cover a wide number of other languages (usually separately, though sometimes two or more similar languages may be grouped together where warranted by the amount of published work currently available). We envisage being able to solicit volumes on languages such as Norwegian, Swedish, Finnish, German, Dutch, French, Italian, Spanish, Russian, Croatian, Japanese, Cantonese, Mandarin, Thai, North Indian languages in the UK context, Celtic languages, Arabic and Hebrew among others.

Full details of all the books in this series and of all our other publications can be found on http://www.multilingual-matters.com, or by writing to Multilingual Matters, St Nicholas House, 31–34 High Street, Bristol BS1 2AW, UK

Aspects of Multilingual Aphasia

Edited by
Martin R. Gitterman, Mira Goral
and Loraine K. Obler

Library of Congress Cataloging in Publication Data

A catalog record for this book is available from the Library of Congress.

Aspects of Multilingual Aphasia/Edited by Martin R. Gitterman, Mira Goral and Loraine K. Obler.

Communication Disorders Across Languages: 8 Includes bibliographical references and index.

1. Aphasia. 2. Language disorders—Treatment. 3. Bilingualism. 4. Multilingualism.

I. Gitterman, Martin R. II. Goral, Mira, III. Obler, Loraine K.

RC425.A85 2012

616.85'52-dc23 2012009137

British Library Cataloguing in Publication Data

A catalogue entry for this book is available from the British Library.

ISBN-13: 978-1-84769-754-7 (hbk)

Multilingual Matters

UK: St Nicholas House, 31–34 High Street, Bristol BS1 2AW, UK. *USA*: UTP, 2250 Military Road, Tonawanda, NY 14150, USA.

Canada: UTP, 5201 Dufferin Street, North York, Ontario M3H 5T8, Canada.

Copyright © 2012 Martin R. Gitterman, Mira Goral, Loraine K. Obler and the authors of individual chapters.

All rights reserved. No part of this work may be reproduced in any form or by any means without permission in writing from the publisher.

The policy of Multilingual Matters/Channel View Publications is to use papers that are natural, renewable and recyclable products, made from wood grown in sustainable forests. In the manufacturing process of our books, and to further support our policy, preference is given to printers that have FSC and PEFC Chain of Custody certification. The FSC and/or PEFC logos will appear on those books where full certification has been granted to the printer concerned.

Typeset by Techset Composition Ltd., Salisbury, UK. Printed and bound in Great Britain by the MPG Books Group.

To my mother, Leila, and the memory of my father, David Marty

To my parents, Ruth and Yitzhak Goral
Mira

To my students who become my colleagues

Loraine

And to all the people with aphasia who have contributed time and effort to our projects over the years

Marty Gitterman, Mira Goral and Loraine Obler

Contents

	Contributors Introduction Martin R. Gitterman, Mira Goral and Loraine K. Obler	XI XIX
	Part 1: Broad Considerations	
1	The Study of Bilingual Aphasia: The Questions Addressed Loraine K. Obler and Youngmi Park	3
2	Bilingual Aphasia: Neural Plasticity and Considerations for Recovery Daniel Adrover-Roig, Karine Marcotte, Lilian C. Scherer and Ana Inés Ansaldo	16
	Part 2: Assessment and Treatment	
3	What Do We Know About Assessing Language Impairment in Bilingual Aphasia? Swathi Kiran and Patricia M. Roberts	35
4	Morphological Assessment in Bilingual Aphasia: Compounding and the Language Nexus Gary Libben	51
5	The Clinical Management of Anomia in Bilingual Speakers of Spanish and English Maria L. Muñoz	69
6	Generalization in Bilingual Aphasia Treatment Kathryn Kohnert and Michael Peterson	89

7	Cross-Language Treatment Effects in Multilingual Aphasia <i>Mira Goral</i>	106
8	Language Deficits, Recovery Patterns and Effective Intervention in a Multilingual 16 Years Post-TBI Daly Sebastian, Usha Dalvi and Loraine K. Obler	122
	Part 3: Bilingual Language Phenomena	
9	Bilingual Aphasia and Code-Switching: Representation and Control Alessandra Riccardi	141
10	Grammatical Category Deficits in Bilingual Aphasia Yasmeen Faroqi-Shah	158
11	Language Choice in Bilingual Aphasia: Memory and Emotions Carmit Altman, Mali Gil and Joel Walters	171
12	Acquired Dyslexia and Dysgraphia in Bilinguals Across Alphabetical and Non-Alphabetical Scripts Maximiliano A. Wilson, Karima Kahlaoui and Brendan S. Weekes	187
	Part 4: Language Pairs	
13	Morphosyntactic Features in the Spoken Language of Spanish-English Bilinguals with Aphasia José G. Centeno	207
14	Non-Word Jargon Produced by a French-English Bilingual Nicole Müller and Zaneta Mok	224
15	Number-Processing Deficit in a Bilingual (Chinese-English) Speaker Nancy Eng	242
16	A Case Study of a Bidialectal (African-American Vernacular English/Standard American English) Speaker with Agrammatism Jean E. Jones, Martin R. Gitterman and Loraine K. Obler	257

Part 5: Cultural Context

17	Aphasia, Language and Culture: Arabs in the US Reem Khamis-Dakwar and Karen Froud	275
18	Towards Cultural Aphasiology: Contextual Models of Service Delivery in Aphasia Claire Penn	292
	Index	307

Contributors

Daniel Adrover-Roig is a Professor of Language Pathology and Intervention at the Balearic Islands University (Spain). He specialized in psychology at the Universities of Würzburg (Germany), Salamanca (Spain) and the Universitat de les Illes Balears. During his PhD studies, he explored the neuroelectrical correlates of cognitive control in healthy aging using electroencephalography under the supervision of Dr Barceló. Since beginning his postdoctoral stay at the Institut Universitaire de Gériatrie de Montréal (Canada), supervised by Dr Ana Inés Ansaldo, he has been most interested in the influence of bilingualism on cognitive control and neurodegeneration, especially on the relationship between the bilingual mind and cognitive flexibility.

Carmit Altman drafted this paper while she was a postdoctoral fellow at Lehman College and CUNY's Graduate Center. Her PhD dissertation from Bar Ilan University examined English-Hebrew, Russian-Hebrew and Georgian-Hebrew immigrants in a Bilingual Autobiographical Memory paradigm and served as a basis for the chapter in this volume. She holds positions at Bar Ilan University (in the School of Education) and at Hadassah Academic College, Jerusalem, in the Bilingual Masters Program of the Communication Disorders Department. Her current research involves healthy bilingual aging and narrative analysis in aphasia and cross-language effects in maturing multilinguals.

Ana Inés Ansaldo is a researcher and Assistant Professor in the Faculty of Medicine at the University of Montreal. She is also the Director of the Laboratoire de Plasticité Cérébrale, Communication et Vieillissement at the Institut Universitaire de Géraitrie de Montréal. Dr Ansaldo combines neuroimaging and behavioral approaches to disentangle the neural mechanisms underlying brain plasticity in normal and impaired language processing, studying monolingual and bilingual populations. Dr Ansaldo is funded by several national and international granting agencies and is a member of the Academy of Aphasia.

José G. Centeno, PhD, CCC-SLP, is Department Chair and Associate Professor in the Department of Communication Sciences and Disorders,

St John's University, New York. Dr Centeno, a bilingual speech-language pathologist, studies the theoretical and professional bases that support the services for monolingual Spanish/bilingual Spanish-English speakers with aphasia, a large clinical population in the United States. Dr Centeno's research areas include morphosyntactic expressive impairments in monolingual Spanish/bilingual Spanish-English speakers with aphasia, the clinical application of bilingualism principles to aphasia management in Spanish-English bilinguals, and issues in service delivery in culturally and linguistically diverse aphasia programs. Dr Centeno, a frequent invited presenter at national and international conferences, has participated in state, national and international professional committees on multicultural issues in communication disorders.

Usha Dalvi is a Senior Lecturer and Head of the Department of Speech Language Pathology at Ali Yavar Jung National Institute for Hearing Handicapped, Mumbai, India. She has worked for over 35 years in various domains of communication disorders. She is the first recipient of the International Bridge School/International Society for Augmentative and Alternative Communication (ISAAC) 'Teacher in Residence' award. She has been funded by UNICEF and by the Science and Technology Mission Mode Project from the Government of India. Her core research areas are child language disorders, neurogenic speech and communication disorders, swallowing disorders and augmentative and alternative communication. She has published many national and international research papers in these areas.

Nancy Eng, PhD, CCC-SLP, works with Chinese-English speakers who present with a range of communication disorders. She is currently an Associate Professor at Hunter College, The City University of New York and is on the doctoral faculty at the Graduate Center, CUNY. She teaches courses in language acquisition, psycholinguistics, bilingualism, as well as reading and dyslexia. Her research interests include language learning and language loss in both children and adults who are exposed to more than one language, reading ability and disability in biscript readers, neurogenic language loss in bilingual populations, and language attrition in internationally adopted children. She has presented lectures both nationally and internationally on these topics.

Yasmeen Faroqi-Shah, PhD, CCC-SLP, is an Associate Professor in the Department of Hearing and Speech Sciences, University of Maryland. She received her doctorate from Northwestern University, Illinois, and her Bachelors and Masters degrees from the All India Institute of Speech and Hearing, India. Her research focuses on mechanisms of language production in speakers who have aphasia and/or who are bilingual. She also conducts research on the effects of language training on brain activity.

Karen Froud holds a PhD in theoretical linguistics from University College London, and is currently Associate Professor of Speech-Language Pathology and Neuroscience & Education at Teachers College, Columbia University. She is the director of the Neurocognition of Language Lab at Teachers College, where she conducts research into the neural correlates of multilingualism and communication disorders across the lifespan. She trained as a speech-language therapist in the UK, and has held research positions at the University of London and Massachusetts Institute of Technology (MIT). Dr Froud has developed expertise in training graduate students to work with multicultural populations and has founded the Transcultural Speech-Language Pathology Program in Cambodia.

Mali Gil is head of the Speech and Language Department, Loewenstein Rehabilitation Center (Israel) with interests in aphasia, apraxia and most recently AAC (Augmentative and Alternative Communication) intervention. She has developed a language computerized program for intervention in aphasia and, with colleagues, has adapted the PALPA (Psycholinguistic Assessment of Language Processing in Aphasia) into Hebrew. In bilingual aphasia she has published work on cross-language effects of treatment.

Martin R. Gitterman is Professor Emeritus of Speech-Language-Hearing Sciences at Lehman College and The Graduate Center, The City University of New York and is currently Ombuds Officer (Visiting Professor) at the Graduate Center. He served for six years as Chair of the Department of Speech and Theatre at Lehman College and six years as Executive Officer of the PhD Program in Speech-Language-Hearing Sciences at the Graduate Center. He was elected to membership in The Academy of Aphasia in 1997. He has published in the areas of neurolingusitics, aphasia, second language acquisition, bilingualism and applied linguistics.

Mira Goral, PhD, CCC-SLP, is a Professor of Speech-Language-Hearing Sciences at Lehman College and the Graduate Center of The City University of New York. She also holds an appointment at the Harold Goodglass Aphasia Research Center of the Boston University School of Medicine. She completed her BA in Linguistics at Tel Aviv University and her PhD in Neurolinguistics at the Graduate Center, The City University of New York. She has published in the areas of multilingualism, aphasia, language attrition and language and cognition in aging. She has been an invited speaker at international conferences and has received National Institutes of Health funding for her research.

Jean E. Jones, PhD, CCC-SLP, TSSH, has 35 years of experience as a speech-language pathologist working with culturally and linguistically diverse populations. She received her PhD from the Graduate Center, The City University of New York. For the past 30 years she has worked as a consultant, therapist,

clinical supervisor and mentor. She has expertise in adult speech and language disabilities as well as in the area of preschool children with special needs. She has more than 25 years of experience as a clinical supervisor in mentoring and training undergraduate and graduate students seeking Clinical Competence Certification from the American Speech-Language-Hearing Association. Her special interest is in the area of African-American Vernacular English and bidialectalism, with a focus on enabling professionals and students to gain and maintain cultural competence in providing services. She is an active member of the New York State Speech-Language Hearing Association, the National Black Association for Speech-Language and Hearing and the American Speech-Language-Hearing Association.

Karima Kahlaoui holds a PhD in Psychology from Nice University, France. She has completed a postdoctoral fellowship at the Centre de Recherche de l'Institut Universitaire de Gériatrie de Montréal, University of Montreal, Canada. Her research focuses on the semantic processing of words across hemispheres and semantic memory and its relationship with aging. In order to investigate these topics, Dr Kahlaoui uses behavioral methods, event-related potentials (ERPs) and near infrared spectroscopy (NIRS) techniques. She is currently working as a clinical neuropsychologist at the Institut Philippe-Pinel de Montréal and as Assistant Professor at the Speech Therapy School of the University of Montreal.

Reem Khamis-Dakwar holds a PhD in Speech-Language-Pathology from Teachers College, Columbia University, and is currently Assistant Professor in the Department of Communication Sciences and Disorders at Adelphi University. Dr Khamis-Dakwar is the director of her Neurophysiology in Speech-Language Pathology Lab, where she conducts research into the neural correlates of linguistic processing and representation in specific sociolinguistic situations, such as in Arabic diglossia and understanding the neural correlates of functional changes related to speech-language pathology treatment and new learning. She is an expert in speech-language service provision for culturally and linguistically diverse populations, especially Arabic-speaking communities.

Swathi Kiran, PhD, CCC-SLP, is an Associate Professor in the Department of Speech and Hearing Sciences at Boston University. Her research interests focus on lexical semantic treatment for individuals with aphasia, bilingual aphasia and neuroimaging of brain plasticity following a stroke. Her papers have appeared in journals such as *Brain and Language, Aphasiology, Journal of Speech Language and Hearing Research* and *American Journal of Speech-Language Pathology*. Her work is funded by the National Institutes of Health and American Speech Language Hearing Foundation awards, including the New Investigator Grant, the New Century Scholar's Grant and more recently, the Clinical Research Grant.

Kathryn Kohnert, PhD, CCC, is a Professor in Speech-Language-Hearing Sciences at the University of Minnesota, Minneapolis. She is also a bilingual speech-language pathologist and has been a certified member of the American Speech-Language-Hearing Association (ASHA) since 1992. Dr Kohnert's research program is designed to advance understanding of language and cognition in diverse populations. Her publications include more than 70 articles, intervention curricula and review chapters as well as the recently published book Language Disorders in Bilingual Children and Adults. She is an ASHA Fellow, a past Associate Editor for the Journal of Speech, Language, and Hearing Research and the recipient of many research, teaching and service awards.

Gary Libben's research focuses on investigations of the representation and processing of multimorphemic words in the mind across populations and languages. His publications include The Representation and Processing of Compound Words (Libben & Jarema (eds), Oxford University Press, 2006), Core Perspectives on the Mental Lexicon (Jarema & Libben (eds), Elsevier, 2007) and The Nature of Language (Libben, Wiley Blackwell, forthcoming). He is a Fellow of the Royal Society of Canada, former President of the Canadian Linguistics Association and co-founder of the journal The Mental Lexicon. Libben was founding director of the University of Alberta's Centre for Comparative Psycholinguistics and director of the project Words in the Mind, Words in the Brain. He is currently Professor and Vice President of Research at Brock University, Canada.

Karine Marcotte graduated as a speech-language pathologist and began working as a clinician at Hôpital du Sacré-Cœur de Montréal with patients suffering from aphasia and other acquired communicative disorders. After three years as a clinician, she started her PhD in biomedical sciences at the University of Montreal and the Institut Universitaire de Gériatrie de Montréal, under the supervision of Dr Ana Inés Ansaldo. Her main focus of research as a doctoral student is the neural basis of recovery from chronic aphasia and primary progressive aphasia using fMRI, although she is also interested in second-language learning in healthy populations.

Zaneta Mok is a PhD candidate at the University of Louisiana at Lafayette in the Applied Language and Speech Sciences Program. Her primary research interest is in the area of neurogenic communication disorders, including both aphasia and dementia, particularly in the context of culturally and linguistically diverse populations. Her research focuses on using clinical linguistics to describe the functional and interactional consequences of language disorders, and she has authored several publications in this area in national and international peer-reviewed journals and conferences.

Nicole Müller is a Professor of Communicative Disorders at the University of Louisiana at Lafayette, and holds a Hawthorne Endowed Professorship. Among her research interests are bilingualism and neurogenic and aging-related impairments of cognition and communication, such as dementia and aphasia. She gained degrees at the Universities of Bonn (Germany) and Oxford (UK) and has been at University of Louisiana Lafayette since 2000. She co-edits (with Martin J. Ball and Thomas W. Powell) the international journal *Clinical Linguistics and Phonetics* and (with Martin J. Ball) the book series *Communication Disorders Across Languages* (Multilingual Matters).

Maria L. Muñoz, PhD, CCC-SLP, is an Associate Professor and Coordinator of the Emphasis in Bilingual Speech-Language Pathology at Texas Christian University. She received her doctorate from the University of Texas as a participant in the Multicultural Leadership Training Program and completed a post-doctoral fellowship at the University of Arizona. She teaches and supervises in the areas of neurogenic disorders of cognition and language and multicultural issues in communication sciences and disorders. She conducts research and publishes on topics related to pedagogy, treatment outcomes and aphasia, and aphasia in Spanish/English bilinguals.

Loraine K. Obler, PhD, is a Distinguished Professor at the CUNY Graduate Center, with appointments in both Speech-Language-Hearing Sciences and Linguistics. As well, she consults to her Language in the Aging Brain Lab at the Harold Goodglass Aphasia Research Center of the Boston University School of Medicine and to the Bilingual SLP MA program at Hadassah Academic College, Jerusalem where she heads the Steering Committee. She has co-authored articles and books on her areas of interest: neurolinguistics, bilingualism and the brain, cross-language study of aphasia and language in aging. Her books include: The Bilingual Brain: Neuropsychological and Neurolinguistic Aspects of Bilingualism (with Martin Albert, Academic Press, 1978), Bilingualism Across the Lifespan: Aspects of Acquisition, Maturity, and Loss (with Kenneth Hyltenstam, Cambridge University Press, 1989) and Clinical Communication Studies in Spanish Speakers: From Research to Clinical Practice (with José Centeno and Raquel Anderson, Multilingual Matters, 2007).

Youngmi Park is a doctoral student in the Program in Speech-Language-Hearing Sciences at the Graduate Center, The City University of New York. She is a speech-language pathologist who has worked with people with neurogenic communication disorders and dysphagia. She also teaches undergraduate courses and has supervised student clinicians at Queens and Lehman Colleges, CUNY. Her primary research interests include sentence comprehension, bilingualism, agrammatism and the efficacy of aphasia therapy. Specifically, Ms Park is interested in the production of different verb types in people with non-fluent aphasia and changes of verb production patterns after aphasia therapy. She is also researching effects of syntactic complexity and

temporal ambiguity on sentence comprehension in normal aging and people with neurogenic communication disorders using eye-tracking methods.

Claire Penn, PhD, is a researcher working at the University of Witwatersrand in Johannesburg, South Africa. She currently holds the position of Chair of the Department of Speech Pathology and Audiology and directs the Health Communication Research Unit which studies intercultural interactions in health care contexts. She is a member of the aphasia committee of the International Association of Logopedics and Phoniatrics and serves on the editorial board of *Aphasiology*. She has travelled and taught in a variety of countries and remains actively involved with clinical work.

Michael Peterson is a graduate student in the professional MA Program in Speech-Language-Hearing Sciences at the University of Minnesota, Minneapolis. His background in cognitive psychology and linguistics led to his focus on neurogenic communication disorders and bilingual issues in speech-language pathology. As a speech-language pathologist, his primary interests are in the assessment and treatment of acquired communication disorders in diverse populations.

Alessandra Riccardi holds a PhD in Linguistics from the University of Perugia, Italy (2004). She completed postdoctoral training at the Centre de Recherche de Gériatrie de l'Université de Montréal and the Center for Comparative Psycholinguistics of the University of Alberta (Canada). Her research interests focus on bilingual aphasia, language selection and control in multilinguals, and psycholinguistic aspects of morphological processing.

Patricia M. Roberts, PhD, SLP(C), CCC-SLP, is an Associate Professor in the School of Rehabilitation Sciences at the University of Ottawa (Canada). She obtained her PhD from the Université de Montréal and has also studied in the United States and France. Her research interests stem directly from her prior clinical career as a speech-language pathologist and include the impact of bilingualism on many aspects of assessment and treatment; treatment efficacy in aphasia, naming and how best to assess it, the verbal fluency task and the nature of semantic categories.

Lilian Cristine Scherer is an Associate Professor at the Pontifical Catholic University of Rio Grande do Sul (PUCRS) in the Language and Linguistics Department. She completed her PhD in Medicine at the University of Montreal and the Centre de Recherche de l'Institut Universitaire de Gériatrie de Montréal on Neuropsycholinguistics. She conducted her research on the cerebral correlates of aging and bilingualism on syntax and discourse processing. Her research interests are bilingualism, aging, second-language acquisition and the adaptation and elaboration of language assessment tools.