

## The Neurolinguistics Of Bilingualism An Introduction 1st First Edition By Fabbro Franco Published By Psychology Press 1999

The relationship between language and thought in bilinguals is examined in the light of evidence from pathology."--BOOK JACKET.

This volume offers an in-depth description and discussion of research design for a large-scale investigation of bilingual development. It introduces and justifies a range of theoretical and methodological innovations, discusses some of the problems that come with these and proposes practical solutions. The present volume introduces a research design intended to capture a wide range of linguistic data, elicited by means of behavioral tasks, neuroimaging data and free speech from both second language learners and first language attriters of two languages (Dutch and German) representing a wide range of language combinations and ages of onset. Gathering and analyzing such a range of data comes with a multiplicity of problems, many of them linked to the fact that similar tests have to be designed across a range of languages and measurements will have to occur in various locations. The current volume presents a research design appropriate to these questions, discussing the methodological challenges of such a study. It offers advice on how to construct experimental materials which are parallel across different languages set up a protocol for additional measures which can be applied across a wide range of participants combine data from different labs when using different ERP equipment and different eyetrackers.

Profoundly influenced by the analyses, of contemporary linguistics, these original contributions bring a number of different views to bear on important issues in a controversial area of study. The linguistic structures and language-related processes the book deals with are for the most part central (syntactic structures, phonological representations, semantic readings) rather than peripheral (acoustic-phonetic structures and the perception and production of these structures) aspects of language. Each section contains a summarizing introduction. Section I takes up issues at the interface of linguistics and neurology: The Concept of a Mental Organ for Language; Neural Mechanisms, Aphasia, and Theories of Language; Brain-based and Non-brain-based Models of Language; Vocal Learning and Its Relation to Replaceable Synapses and Neurons. Section II presents linguistic and psycholinguistic issues: Aspects of Infant Competence and the Acquisition of Language; the Linguistic Analysis of Aphasic Syndromes; the Clinical Description of Aphasia (Linguistic Aspects); The Psycholinguistic Interpretation of Aphasias; The Organization of Processing Structure for Language Production; and The Neuropsychology of Bilingualism. Section III deals with neural issues: Where is the Speech Area and Who has Seen It? Determinants of Recovery from Aphasia; Anatomy of Language; Lessons from Comparative Anatomy; Event Related Potentials and Language; Neural Models and Very Little About Language. David Caplan, M.D. edited *Biological Studies of Mental Processes* (MIT Press 1980), and is a member of the editorial staff of two prestigious journals, *Cognition* and *Brain & Behavioral Sciences*, He works at the Montreal Neurological Institute. André Roch Lecours is Professor of Neurology and Allan Smith Professor of Physiology, both at the University of Montreal. The book is in the series, *Studies in Neuropsychology and Neurolinguistics*.

The Neurolinguistics of Bilingualism An Introduction Psychology Press

How does a human acquire, comprehend, produce and control multiple languages with just the power of one mind? What are the cognitive consequences of being a bilingual? These are just a few of the intriguing questions at the core of studying bilingualism from psycholinguistic and neurocognitive perspectives. Bringing together some of the world's leading experts in bilingualism, cognitive psychology and language acquisition, *The Cambridge Handbook of Bilingual Processing* explores these questions by presenting a clear overview of current theories and findings in bilingual processing. This comprehensive handbook is organized around overarching thematic areas including theories and methodologies, acquisition and development, comprehension and representation, production, control, and the cognitive consequences of bilingualism. The handbook serves as an informative overview for researchers interested in cognitive bilingualism and the logic of theoretical and experimental approaches to language science. It also functions as an instrumental source of readings for anyone interested in bilingual processing.

Adults tend to take language for granted - until they have to learn a new one. Then they realize how difficult it is to get the pronunciation right, to acquire the meaning of thousands of new words, and to learn how those words are put together to form sentences. Children, however, have mastered language before they can tie their shoes. In this engaging and accessible book, William O'Grady explains how this happens, discussing how children learn to produce and distinguish among sounds, their acquisition of words and meanings, and their mastery of the rules for building sentences. *How Children Learn Language* provides readers with a highly readable overview not only of the language acquisition process itself, but also of the ingenious experiments and techniques that researchers use to investigate his mysterious phenomenon. It will be of great interest to anyone - parent or student - wishing to find out how children acquire language.

CHRISTINA BRAIT PAULSTON There is an important difference between merely experimental and genuine experiment. The one may be a feeling for novelty, the other is rationally based on experience seeking a better way. - Frank Lloyd Wright Wright was talking about architecture, but the same difference can be applied to analyzing the relationship between standard and vernacular languages in bilingual education; surely we are also seeking a better way to handle bilingual education based on experience. How rationally based our efforts are, is another question. Works on this and similar topics can at times become the scene for very emotional-and very moving-presentations which sometimes are more utopian than rational. One can perhaps call this a very 'rational' text, because so few of the contributors are members of ethnic subordinate groups. Am I suggesting that minority group members are less rational? Of course not. I am suggesting that it is much easier to be calm, objective and scholarly about the lot of others than about your own. The most salient feature about the bilingual education of vernacular speaking groups is the social and economic exploitation of its members by the dominant group. The papers herein, treating bilingual education from a psychological perspective, agree at least on the issue that an understanding of the social and economic factors underlying bilingual education is crucial for understanding the psychological studies on bilingualism.

This book bridges the gap in the literature on Hispanic individuals for student clinicians and professionals in Speech-Language Pathology/Speech Therapy. It links empirical and theoretical bases to evidence-based practices for child and adult Spanish users. This volume provides both students and licensed professionals in speech-language pathology much-needed multidisciplinary bases to implement clinical services with Spanish speakers. Researchers and practitioners from Speech-Language Pathology, Neurolinguistics, Neuropsychology, Education, and Clinical Psychology provide theoretical and empirical grounds to develop evidence-based clinical procedures for monolingual Spanish and bilingual Spanish-English children and adults with communication disorders.

This book introduces the reader to both neurolinguistics per se and the neuropsychological aspects of bilingualism. Neurolinguistics may roughly be defined as a subset of neuropsychology, namely the study of the representation and processing of language in the brain. To this effect, the first chapters of the book focus on the basic neuropsychology of language processing and acquisition. The second half of the book addresses the issues of cerebral representation and processing of language in bi-or multilingual subjects. All aspects are systematically dealt with, namely the definition of bilingualism; an analysis of all the issues related to bilingual aphasia, i.e. patterns of recovery of the patients' various languages in diverse population; an investigation of the methodologies used in the study of the neuropsychological

aspects of the various linguistic functions, such as comprehension, production and translation; and lastly, the issues of cerebral lateralization and neuroanatomical localization of the numerous cortical and subcortical structures subserving the various language system components in multilingual subjects. It is an excellent introduction to both the neuropsychology of language and the phenomena related to bilingualism. This book will be of particular interest to students of language therapy, aphasiology, applied psycholinguistics, neurolinguistics and, in general, to students of medicine who wish to become more knowledgeable about the specific needs of patients in a multilingual society.

The Bilingual Aphasia Test is a comprehensive language test designed to assess the differential loss or sparing of various language functions in previously bilingual individuals. The individual is tested, separately, in each language he or she previously used, and then in the two languages simultaneously. The testing is multimodal -- sampling hearing, speaking, reading, and writing; and multidimensional -- testing various linguistic levels (phonological, morphological, syntactic, lexical, and semantic), tasks (comprehension, repetition, judgment, lexical access and propositionizing), and units (words, sentences, and paragraphs). The BAT is structured as follows: \* To test a bilingual aphasic, you will need the following testing elements: the stimulus books for each of the languages in which the individual was formerly fluent, the single-language tests for each of these languages, as well as the bilingual test that links them. For example, if you are testing an English-French bilingual aphasic, you will need an English stimulus book, a French stimulus book, an English single-language test, a French single-language test, and an English-French bilingual test. \* The BAT can also be used to test monolingual aphasics. To test for monolingual aphasia, you will need the stimulus book and the single-language test in the language in which the individual was formerly fluent. \* Professor Paradis' book, *The Assessment of Bilingual Aphasia*, provides the background material and serves as the manual for the test. The BAT is available in dozens of languages and language pairs. There are now 106 bilingual pairs available. Additional single-language and bilingual tests are being prepared continuously. If the language (or language pair) you need is not listed, please call LEA to find out if and when it will be available. Single-language materials are now available in: Amharic Arabic (Jordanian) Arabic (Maghrebian) Armenian (Eastern) Armenian (Western) Azari Basque Berber Bulgarian Catalán Chinese (Cantonese) Chinese (Mandarin) Croatian Czech Danish Dutch English Farsi Finnish French Friulian Galician German Greek Hebrew Hindi Hungarian Icelandic Inuktitut Italian Japanese Kannada Korean Kurdish Latvian Lithuanian Luganda Malagasy Norwegian Oryia Polish Portuguese (Brazilian) Portuguese (European) Rumanian Russian Somali Spanish (American) Spanish (European) Swahili Swedish Tagalog Tamil Turkish Ukrainian Urdu Vietnamese Yiddish Bilingual pairs are now available in: Amharic/English Amharic/French Arabic/Armenian Arabic/English Arabic/French Arabic/Somali Arabic/Swahili Armenian/English Armenian/Farsi Armenian/French Armenian/Russian Basque/English Basque/French Basque/Spanish Berber/English Berber/French Bulgarian/English Bulgarian/French Bulgarian/German Bulgarian/Russian Catalán/Spanish Chinese (Cantonese)/English Chinese (Mandarin)/English Chinese/French Croatian/English Croatian/French Croatian/Italian Czech/English Czech/German Czech/Russian Czech/Swedish Danish/English Danish/German Dutch/English Dutch/French Dutch/German Dutch/Hebrew English/Farsi English/Finnish English/French English/Friulian English/German English/Greek English/Hebrew English/Hindi English/Hungarian English/Icelandic English/Italian English/Japanese English/Korean English/Latvian English/Lithuanian English/Luganda English/Norwegian English/Polish English/Portuguese English/Rumanian English/Russian English/Serbian English/Somali English/Spanish English/Swahili English/Swedish English/Tagalog English/Turkish English/Urdu English/Vietnamese Farsi/French Farsi/Hebrew Finnish/French Finnish/Swedish French/Friulian French/German French/Greek French/Hebrew French/Hungarian French/Italian French/Japanese French/Malagasy French/Polish French/Rumanian French/Russian French/Serbian French/Somali French/Spanish French/Swahili French/Urdu French/Vietnamese Friulian/German Friulian/Italian Galician/Spanish German/Greek German/Hebrew German/Hungarian German/Italian German/Polish German/Russian German/Spanish German/Swedish Greek/Spanish Greek/Turkish Italian/Rumanian Italian/Spanish Portuguese/Spanish Russian/Swedish Somali/Swahili

The Handbook of Bilingualism provides state-of-the-art treatments of the central issues that arise in consideration of the phenomena of bilingualism ranging from the representation of the two languages in the bilingual individual's brain to the various forms of bilingual education, including the status of bilingualism in each area of the world. Provides state-of-the-art coverage of a wide variety of topics, ranging from neuro- and psycho-linguistic research to studies of media and psychological counseling. Includes latest assessment of the global linguistic situation with particular emphasis on those geographical areas which are centers of global conflict and commerce. Explores new topics such as global media and mobile and electronic language learning. Includes contributions by internationally renowned researchers from different disciplines, genders, and ethnicities.

Alongside an analysis of the theoretical and experimental contributions to the field of multilingualism, this title presents new data and analysis obtained from a multilingualism fMRI study and includes a longitudinal study of second and third language acquisition combined with extensive empirically valid language proficiency data of the subjects.

A collection of papers that explore bilingual children coping with two language systems.

The relationship between language and psychology is one that has been studied for centuries. Influencing one another, these two fields uncover how the human mind's processes are interrelated.

Psycholinguistics and Cognition in Language Processing is a critical scholarly resource that examines the mystery of language and the obscurity of psychology using innovative studies. Featuring coverage on a broad range of topics, such as language acquisition, emotional aspects in foreign language learning, and speech learning model, this book is geared towards linguists, academicians, practitioners, and researchers, seeking current research on the cognitive and emotional synthesis of multilingualism.

This volume presents a broad overview of current research and thought on aphasia in individuals who speak more than one language. The range of topics covered, and their in-depth treatment, should be of interest to researchers, clinicians, and students.

How do production and comprehension processes interact in the bilingual brain during language interaction? Most experimental and theoretical research in psycholinguistics to date has focused on investigating the mechanisms that underlie language production and language comprehension separately. Only recently have researchers started emphasizing the importance of reconciling the two modalities into a unified account through the investigation of possible connections between the two systems. Authored by key researchers in psycholinguistics, neuroscience, and language development, this volume encompasses state of the art research on the relation between production and comprehension processes in bilingual children and adults. Articles highlight the most recent methodological approaches, as well as a variety of language pairs and linguistic structures. Indispensable for students and researchers working in the areas of language acquisition and processing, neurolinguistics, and experimental linguistics, this volume will also appeal to educators and clinicians focusing on language development and processing in multilingual children and adults. Originally published as special issue of *Linguistic Approaches to Bilingualism* 9:4/5 (2019).

This book presents a comprehensive picture of reflexive pronouns from both a theoretical and experimental perspective, using the well-researched languages of English, German, Dutch, Chinese, Japanese and Korean. In order to understand the data from varying theoretical perspectives, the book considers selected syntactic and pragmatic analyses based on their current importance in the field. The volume consequently introduces the Emergentist Reflexivity Approach, which is a novel theoretical synthesis incorporating a sentence and pragmatic processor that accounts for reflexive pronoun behaviour in these

six languages. Moreover, in support of this model a vast array of experimental literature is considered, including first and second language acquisition, bilingual, psycholinguistic, neurolinguistic and clinical studies. It is through both the intuitive and experimental data linguistic theorizing relies upon that brings out the strengths of the modelling adopted here, paving new avenues for future research. In sum, this volume unites a diverse array of the literature that currently sits largely divorced between the theoretical and experimental realms, and when put together a better understanding of reflexive pronouns under the auspices of the Emergentist Reflexivity Approach is forged.

This volume is the outcome of the author's observations and puzzlement over seventeen years of teaching English and French as second languages, followed by 30 years of research into the neurolinguistic aspects of bilingualism. It examines, within the framework of a neurolinguistic theory of bilingualism (Paradis, 2004), the crucial and pervasive contributions made by declarative and procedural memory to the appropriation, representation and processing of a second language. This requires careful consideration of a number of concepts associated with issues pertaining to second language research:

consciousness, interface, modularity, automaticity, proficiency, accuracy, fluency, intake, ultimate attainment, switching, implicit linguistic competence and explicit metalinguistic knowledge. It is informed by data from a variety of domains, including language pathology, neuroimaging, and, from each side of the fence, practical classroom experience. This book introduces four further proposals within the framework of a neurolinguistic theory of bilingualism: (1) There are two sets of cerebral representations, those that are capable of reaching consciousness and those that are not; implicit grammar is inherently not capable of reaching consciousness. (2) The increased activation observed in neuroimaging studies during the use of a second language is not devoted to the processing of implicit linguistic competence. (3) Intake is doubly implicit. (4) Given the premise that metalinguistic knowledge cannot be converted into implicit competence, there can be no possible interface between the two."

The Psycholinguistics of Bilingualism presents a comprehensive introduction to the foundations of bilingualism, covering language processing, language acquisition, cognition and the bilingual brain. This thorough introduction to the psycholinguistics of bilingualism is accessible to non-specialists with little previous exposure to the field. Introduces students to the methodological approaches currently employed in the field, including observation, experimentation, verbal and computational modelling, and brain imaging. Examines spoken and written language processing, simultaneous and successive language acquisition, bilingual memory and cognitive effects, and neurolinguistic and neuro-computational models of the bilingual brain. Written in an accessible style by two of the field's leading researchers, together with contributions from internationally-renowned scholars. Featuring chapter-by-chapter research questions, this is an essential resource for those seeking insights into the bilingual mind and our current knowledge of the cognitive basis of bilingualism.

'Fascinating. . . This engaging book explores just how multiple languages are acquired and sorted out by the brain. . . Costa's work derives from a great fund of knowledge, considerable curiosity and solidly scientific spirit' Philip Hensher Spectator The definitive study of bilingualism and the human brain from a leading neuropsychologist. Over half of the world's population is bilingual and yet few of us understand how this extraordinary, complex ability really works. How do two languages co-exist in the same brain? What are the advantages and challenges of being bilingual? How do we learn - and forget - a language? In the first study of its kind, leading expert Albert Costa shares twenty years of experience to explore the science of language. Looking at studies and examples from Canada to France to South Korea, *The Bilingual Brain* investigates the significant impact of bilingualism on daily life from infancy to old age. It reveals, among other things, how babies differentiate between two languages just hours after birth, how accent affects the way in which we perceive others and even why bilinguals are better at conflict resolution. Drawing on cutting-edge neuro-linguistic research from his own laboratory in Barcelona as well from centres across the world, and his own bilingual family, Costa offers an absorbing examination of the intricacies and impact of an extraordinary skill. Highly engaging and hugely informative, *The Bilingual Brain* leaves us all with a sense of wonder at how language works. Translated by John W. Schwieter

*Studies in Neurolinguistics, Volume 2* provides information pertinent to the fundamental aspects of neurolinguistics, which represent a synthesis of the brain sciences, the behavioral sciences, and the clinical sciences. This book discusses the interesting problems of neurolinguistics. Organized into eight chapters, this volume begins with an overview of neurolinguistic analysis of a rare form of language impairment identified as mixed transcortical aphasia. This text then explains spoken language, reading ability, and writing ability in terms of both psychological and linguistic measures. Other chapters consider a theoretical discussion with supporting evidence which concludes that there is a common relationship between sequential movements of the upper limbs and verbal expression. This book discusses as well the linguistic properties of the right hemisphere and the nonlinguistic properties of the left hemisphere. The final chapter deals with analyzing evidence on cerebral localization and the linguistic features of the alexias. This book is a valuable resource for clinical neurologists, psychologists, and speech pathologists.

This language study's primary purpose is to use aphasic performance to understand language, rather than to use linguistic analysis to understand aphasia. Examining the detailed nature of linguistic performance of bilingual aphasics in a variety of "natural" and metalinguistic tasks, the book reports the results of a study of morphology and syntax among Spanish-English bilingual and monolingual hispanophones in Puerto Rico.

Integrating findings from bilingualism research with the study of endangered languages, this book gives new perspectives for both fields.

This edited book presents an detailed analysis of the experience of deaf people as a bilingual-bicultural minority group in America. An overview of mainstream research on bilingualism and biculturalism is followed by specific research and conceptual analyses which examine the impact of cultural and language diversity on the experiences of deaf people. The book ends with poignant personal reflections from deaf community members. The contributors include prominent deaf and hearing experts in bilingualism, ASL and Deaf culture, and deaf education.

This volume is the outcome of 25 years of research into the neurolinguistic aspects of bilingualism. In addition to reviewing the world literature and providing a state-of-the-art account, including a critical assessment of the bilingual neuroimaging studies, it proposes a set of hypotheses about the representation, organization and processing of two or more languages in one brain. It investigates the impact of the various manners of acquisition and use of each language on the extent of involvement of basic cerebral functional mechanisms. The effects of pathology as a means to understanding the normal functioning of verbal communication processes in the bilingual and multilingual brain are explored and compared with data from neuroimaging studies. In addition to its obvious research benefits, the clinical and social reasons for assessment of bilingual aphasia with a measuring instrument that is linguistically and culturally equivalent in each of a patient's languages are stressed. The relationship between language and thought in bilinguals is examined in the light of evidence from pathology. The proposed linguistic theory of bilingualism integrates a neurofunctional model (the components of verbal communication and their relationships: implicit linguistic competence, metalinguistic knowledge, pragmatics, and motivation) and a set of hypotheses about language processing (neurofunctional modularity, the activation threshold, the language/cognition distinction, and the direct access hypothesis). How are two or more languages learned and contained in the same mind or the same community? This handbook presents an up-to-date view of the concept of multi-competence, exploring the research questions it has generated and the methods that have been used to investigate it. The book brings together psychologists, sociolinguists, Second Language Acquisition (SLA)



researchers, and language teachers from across the world to look at how multi-competence relates to their own areas of study. This comprehensive, state-of-the-art exploration of multi-competence research and ideas offers a powerful critique of the values and methods of classical SLA research, and an exciting preview of the future implications of multi-competence for research and thinking about language. It is an essential reference for all those concerned with language learning, language use and language teaching.

Neurolinguistics is a young and highly interdisciplinary field, with influences from psycholinguistics, psychology, aphasiology, and (cognitive) neuroscience, as well as other fields.

Neurolinguistics, like psycholinguistics, covers aspects of language processing; but unlike psycholinguistics, it draws on data from patients with damage to language processing capacities, or the use of modern neuroimaging technologies such as fMRI, TMS, or both. The burgeoning interest in neurolinguistics reflects that an understanding of the neural bases of this data can inform more biologically plausible models of the human capacity for language. The Oxford Handbook of Neurolinguistics provides concise overviews of this rapidly-growing field, and engages a broad audience with an interest in the neurobiology of language. The chapters do not attempt to provide exhaustive coverage, but rather present discussions of prominent questions posed by given topics. The volume opens with essential methodological chapters: Section I, Methods, covers the key techniques and technologies used to study the neurobiology of language today, with chapters structured along the basic divisions of the field. Section II addresses the neurobiology of language acquisition during healthy development and in response to challenges presented by congenital and acquired conditions. Section III covers the many facets of our articulate brain, or speech-language pathology, and the capacity for language production-written, spoken, and signed. Questions regarding how the brain comprehends meaning, including emotions at word and discourse levels, are addressed in Section IV. Finally, Section V reaches into broader territory, characterizing and contextualizing the neurobiology of language with respect to more fundamental neuroanatomical mechanisms and general cognitive domains.

How do children develop bilingual competence? Do bilingual children develop language in the same way as monolinguals? Set in the context of findings on language development, this book examines the acquisition of English and Spanish by two brothers in the first six years of their lives. Based on in-depth and meticulous analyses of naturalistic data, it explores how the systems of both languages affect each other as the children develop, and how different levels of exposure to each language influence the nature of acquisition. The author demonstrates that the children's grammars and lexicons follow a developmental path similar to that of monolinguals, but that cross-linguistic interactions affecting lexical, semantic and discourse-pragmatic aspects arise in Spanish when exposure to it diminishes around the age of four. The first of its kind, this original study is a must-read for students and researchers in bilingualism, child development, language acquisition and language contact.

Describes how intellectual development of bilingual children differs from that of monolingual children.

Linguistic interaction between two people is the fundamental form of communication, yet almost all research in language use focuses on isolated speakers and listeners. In this innovative work, Garrod and Pickering extend the scope of psycholinguistics beyond individuals by introducing communication as a social activity. Drawing on psychological, linguistic, philosophical and sociological research, they expand their theory that alignment across individuals is the basis of communication, through the model of a 'shared workspace account'. In this workspace, interlocutors are actors who jointly manipulate and control the interaction and develop similar representations of both language and social context, in order to achieve communicative success. The book also explores dialogue within groups, technologies, as well as the role of culture more generally. Providing a new understanding of cognitive representation, this trailblazing work will be highly influential in the fields of linguistics, psychology and cognitive linguistics.

Presents state-of-the-art knowledge about languages in contact from individual bilingualism (or bilinguality) to societal bilingualism.

This volume provides a broad overview of current work in aphasia in individuals who speak more than one language. With contributions from many of the leading researchers in the field, the material included, both experimental work and theoretical overviews, should prove useful to both researchers and clinicians. The book should also appeal to a broader audience, including all who have an interest in the study of language disorders in an increasingly multicultural/multilingual world (e.g. students of speech-language pathology and linguistics). The areas of multilingual aphasia addressed in this collection include assessment and treatment, language phenomena (e.g. code-switching), particular language pairs (including a bidialectal study), and the role of cultural context.

A multidisciplinary approach to the study of bilingualism examines the dynamics of bilingual language processing from the perspectives of neurolinguistics, psycholinguistics and sociolinguistics.

This volume is the first handbook dedicated to language attrition, the study of how a speaker's language may be affected by crosslinguistic interference and non-use. The effects of language attrition can be felt in all aspects of language knowledge, processing, and production, and can offer unique insights into the mind of bilingual language users. In this book, international experts in the field explore a comprehensive range of topics in language attrition, examining its theoretical implications, psycho- and neurolinguistic approaches, linguistic and extralinguistic factors, L2 attrition, and heritage languages. The chapters summarize current research and draw on insights from related fields such as child language development, language contact, language change, pathological developments, and second language acquisition.

This introduction to neurolinguistics is intended for anybody who wants to acquire a grounding in the field. It was written for students of linguistics and communication disorders, but students of psychology, neuroscience and other disciplines will also find it valuable. The introductory section presents the theories, models and frameworks underlying modern neurolinguistics. Then the neurolinguistic aspects of different components of language – phonology, morphology, lexical semantics, and semantics-pragmatics in communication – are discussed. The third section examines reading and writing, bilingualism, the evolution of language, and multimodality. The book also contains three resource chapters, one on techniques for investigating the brain, another on modeling brain functions, and a third that introduces the basic concepts of neuroanatomy and neurophysiology. This text provides an up-to-date linguistic perspective, with a special focus on semantics and pragmatics, evolutionary perspectives, neural network modeling and multimodality, areas that have been less central in earlier introductory works.

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