APHASIA

AND OTHER ACQUIRED NEUROGENIC LANGUAGE DISORDERS

A Guide for Clinical Excellence

Second Edition

Brooke Hallowell, PhD, CCC-SLP

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INC.

5521 Ruffin Road
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e-mail: information@pluralpublishing.com
Web site: https://www.pluralpublishing.com

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What Is Special About This Book?

Many books about acquired neurogenic disorders of language and cognition are replete with important information about neurological aspects and theoretical accounts of normal and disordered cognitive-linguistic processing. Many offer content on assessment and treatment. More and more have focused on biopsychosocial models of body structure and function, quality-of-life goals, multicultural matters, and evidence-based practice. The aim of this book is to do all of this, with additional special and important emphases.

An Emphasis on Person-Centered, Empowering Approaches to Life Participation

In many of the clinical contexts in which we work, there tends to be a greater focus on deficits than strengths, and a greater focus on specific areas of communicative challenge than on how people most want to participate in what is important to them. Throughout this book, we emphasize the Life Participation Approach to Aphasia (Chapey et al., 2008), while recognizing the importance of helping people regain specific cognitive and linguistic abilities. Many adults with neurogenic disorders struggle to be recognized as fully human and competent. Readers are encouraged to commit to strength-based approaches that heighten the self-efficacy of the people we serve. Throughout our work in assessment, treatment, advocacy, counseling, education, and research, we have ample opportunities—and a moral imperative—to foster empowering, affirmative means of considering and coping with chronic aspects of communication challenges.

A Focus on What It Takes to Become a Truly Exceptional Clinician

What does it take to become an excellent clinician? What can we do to become that person? What makes one clinician great and another not so great? It is not just knowledge and skill, although these are certainly crucial components of clinical excellence; it is also a host of other qualities. What are those qualities? How does one develop them? The intent is to motivate you, foster your learning, encourage you, lead you, and support you to gain not just all-important knowledge but to practice skills and challenge attitudes and values on your path to becoming the ultimate excellent clinical aphasiologist. Sometimes for efficiency, I will be directive. Do this. Do not do that. I offer an insider's view of what many experienced experts in this area think you need to know, what you should be able to do, and what you ought to appreciate and consider. In the end, each reader is the one best suited to define and become the ultimate best clinician.

Treatment of a Full Gamut of Acquired Neurogenic Cognitive-Linguistic Challenges

This book is meant for practicing clinicians as well as for students and others wishing to learn about clinical aphasiology. Students, faculty, and practicing clinicians we polled wholeheartedly requested a book that cuts across specific etiologies and diagnostic categories. The majority of us who teach in this area must combine multiple topics within single

courses or course sequences. Some texts in this arena address specific clinical syndromes, focusing exclusively, for example, on communication and aging, aphasia, right hemisphere syndrome, or traumatic brain injury (TBI). Those who have the luxury of more courses to cover content in this arena contributed ideas about how they divvy up content across courses. So in this book, with intention, we consider theories, causes, and neurological underpinnings associated with diverse neurogenic cognitive-linguistic disorders in Section II. Then, in Section III, we delve further into each of the distinct categories of aphasia syndromes, cognitive-communicative challenges associated with TBI, cognitive-communicative challenges associated with right brain injury, primary progressive aphasia, and cognitive-communicative challenges associated with dementia. We continue to build on that content within and across each of those categories as we engage more deeply in service delivery (Section IV), assessment (Section V), and general and specific approaches to treatment (Sections VI and VII). This complements the cycling approach, which we consider further in a moment.

This approach also helps us appreciate how what has been done to advance work within each specialty area can be shared across other areas. Examples abound. Great work on supported communication for people with aphasia can be embodied in our work on communication challenges associated with right hemisphere injury, TBI, dementia, and so on. Much work in interprofessional practice, individualized approaches, coaching models, and environmental systems models for supporting TBI survivors can be further extended to people with aphasia. Wonderful progress in focusing on reminiscence strategies, functional memory enhancement, identity support, and recognition of strengths in people with dementia can be applied to all people with all other types of neurogenic disorders. Principles of critical thinking applied to assessment and diagnostic problem solving in people with right hemisphere syndrome can be transferred to clinical challenges when working with people with any type of acquired neurogenic communication disorder. Many assessment tools and treatment methods can be applied across diagnostic categories. There can be great advantage in treating each diagnostic group specifically and also strengthening synergies in our understanding of and work with people from diverse diagnostic groups.

Appreciation for and Integration of Diverse Frameworks and Theoretical Perspectives Related to Neurogenic Disorders of Language and Cognition

Excellent clinicians do not adhere to a single theoretical framework alone and stick to that at all costs. Rather, they learn a great deal about multiple approaches based on multiple frameworks and integrate multiple theories in making clinical decisions. They are open to revising their favored theoretical perspectives based on new information. They constantly reflect on the results of published studies with results observed clinically in an ongoing way with every individual with whom they work. To this end, readers are challenged to grasp and integrate multiple perspectives at once and to think critically about their own preferences, biases, and needs for further learning.

Thoughtful Attention to Culturally Responsive Practice and Diversity, Equity, and Inclusion

In recognition that there is systemic bias and discrimination that affects all of our social systems, we take seriously the role of clinical aphasiologists as allies and accomplices in supporting the people we serve as well as our colleagues. Throughout the book, we promote means of addressing the many "-isms" (e.g., racism, ageism, ableism, sexism, heterosexism, cisgenderism, linguicism) that are inherent in the systems within which we work to promote access, equity, and human rights for the people we serve. This includes careful attention to terminology we use.

Global Perspectives for a Global Readership

The content in this book is intended to be relevant globally. Worldwide resources are provided, for example, in terms of related professional associations and resources to support people with neurogenic communication disorders and the people

who care about them. Where content is specific to particular regions, such as in sections addressing health care trends and cultural factors that affect clinical practice, this is noted, along with observations regarding general trends and national variations. Although content and resources are geared toward an English-speaking readership, numerous references point to further opportunities for clinical and research work and advocacy all over the world. Global and multicultural perspectives are infused throughout.

An Evidence-Based How-To Clinical Guide

Many of us who teach and/or supervise students and beginning clinicians are especially familiar with the disconnect between what clinical students learn in their academic programs and what they feel prepared to do when working as clinical professionals. Clear guidelines, along with references to theoretical principles and research-based suggestions, are provided for how to carry out over 50 different general and specific treatment approaches. The book's direct style and practical orientation will be useful to clinical students and professionals alike and will continue to be helpful to students long after they graduate from clinical programs.

Addressing What Instructors and Students Requested

A great deal of research on textbook needs was done before launching the writing of the first and second editions of this book. Student interns in business administration joined forces with students in communication sciences and disorders to help engage in multifaceted needs assessments. We polled hundreds of students in clinical speech-language pathology (SLP) programs, instructors at over 75 different programs who teach in related areas, plus leaders of clinical programs serving adults with TBI, dementia, and aphasia. We studied curricular requirements of over 200 academic programs to see what topic groupings are most commonly taught and in what combination. We reviewed existing textbooks and made lists of desired and undesired features from students' perspectives.

Here are additional requests from students and instructors that were considered in the development of this text:

- a useful clinical resource for years to come, not just for a course
- strong theoretical foundations
- an academically rigorous orientation, conveyed with a friendly and personal voice
- coverage of the broad spectrum of the science and art of clinical practice
- recognition of the importance of interdisciplinary and interprofessional education, research, and clinical practice
- thorough coverage of diagnostic processes, including extensive resources on assessment
- a process analysis approach for analyzing communicative performance and strategically interpreting results of ongoing assessment processes infused throughout intervention
- an evidence-informed how-to guide to treatment with clear guidelines on how to carry out treatment approaches as prescribed, all with an appreciation for practice-based evidence
- functional and practical approaches
- key terms bolded within each chapter and listed in a cumulative glossary
- diagrams, charts, illustrations, summary tables, and a detailed index
- substantial up-to-date references
- inclusion of multicultural and multinational content as well as content on counseling, ethics, and legal aspects of working with people with neurogenic communication disorders
- use of gender-attuned and person-first language, embracing and inclusive of readers, colleagues, and the people we serve clinically regardless of race, ethnicity, gender identity, gender expression, age, sexual orientation, and other attributes
- clear and concise clinical examples to ensure relevance of information based on realistic scenarios
- ancillary online materials with links to videos and other teaching/learning resources

- size and weight such that the book is not cumbersome to carry or impossible to fit in a backpack

In addition, many said that having multiple authors contribute to a single text, if it is to be used as a primary book for a course, can lead to inconsistencies in approach, rigor, and voice, such that a text by a single author who integrates the work of thousands of others has important advantages.

That's a tall order! We invite you to provide feedback on how we may do better in terms of any of these goals in future editions of this text.

Incorporation of Adult Learning Theory and Evidence-Based Pedagogy

Pedagogic approaches embraced in the design of this book consist of two broad categories: those directly implemented in the structure and content of the book and those recommended through learning activities, online resources, and suggestions to instructors. The book content incorporates means of guiding readers with intent, through levels of learning akin to the components of Bloom's Taxonomy (Bloom, 1956) and its more recent variations (e.g., Anderson, 1999; Laddha et al., 2021): conceptual development, synthesis, analysis, application to content already mastered, and fostering of broader understanding and perspectives on new applications. Here, the levels of learning are treated as interdependent, not linear and hierarchical, as if one must pass from one level to the next. A focus on the reader's own development as a clinician ("personal characteristics" within the adult learning framework; see Cross, 1981) is intertwined with potential "situational characteristics" for learning (e.g., independent study, online or in-person coursework, studies to complement clinical practicum).

Query-Based Approach and Enlivening of Learning Objectives

Any of us who study the complex relationships between cognitive-linguistic abilities and the brain, and between cognitive-linguistic challenges and quality of life, are aware that the more we learn, the more questions we generate for ourselves and others. There are few definitive or concrete answers to clinical questions in the world of aphasiology. Still, it is vitally important that we continue to ask questions and do our best to probe for answers. In this light, this book is organized around queries—probing questions that have varied levels of superficiality and profundity, of simplicity or complexity, and of definitiveness or open-endedness—with a vast array of possible answers. I hope that you will find it useful to pose these queries to yourself as an upcoming or established clinician. I hope you will find queries that tempt you further into an even deeper dive into this fascinating world.

Queries tend to make us contemplate and make associations related to our possible responses before we actually start to answer them; they foster reflection. "It is in the interstices between the questions and the answer that minds turn," observes Weimer (2014, p. 1). Any query ideally leads to new reader-generated queries, encouraging self-directed study so vital to adult learning and critical thinking (Brookfield, 2012; Knowles, 1984). A secondary benefit of the query structure is that it clarifies the learning objectives related to each content area. Readers may use the queries as opportunities for self-assessment as they study, reflect, and answer the queries in their own words.

And for instructors who tailor assessments to the contents, this structure may help address the age-old question from students, "What will be on the test?"

Engaged Learning

Many of the exercises in the Activities for Learning and Reflection sections are offered in a learn-by-doing rather than just a learn-by-reading mode. Although students certainly can learn through lectures and readings, means of ensuring active engagement with what they are learning helps to ensure better retention and likelihood of application (Fink, 2003; Kember et al., 2008). As readers attach personal relevance to what they are learning, they are more likely to take ownership of the corresponding content.

Cycling Approach

Engaging in a cycling approach to adult learning, we recognize the importance of presenting content with redundancy, not such that it is presented the same way over and over again, but such that one aspect of coverage of a topic complements another. One example of the cycling approach is the way that we continuously build upon knowledge related to specific diagnostic categories, extending that knowledge across varied acquired neurogenic conditions (as discussed earlier). Another example is that we start out exploring the life participation approach as an especially valuable framework for considering our work, not only with people who have aphasia but with anyone coping with a communication disorder; then, we revisit it from varied perspectives throughout the book. We consider its relevance to advocacy and to education of people with language disorders and the people who care about them. We also think about it as a model to use in contextualizing specific theoretical and evidence-based approaches to assessment and treatment.

Adaptability for Multiple Pedagogic Methods for Classroom-Based Courses, Independent Study, and Online Coursework

The book is organized to be adaptable for varied teaching and learning methods. A flipped classroom approach (Hoepner & Hemmerich, 2018; Keengwe et al., 2014) may be ideal for content that students need to study primarily on their own, such as terminology, basics of neurophysiology, and the blood supply to the brain, prior to integrating the related knowledge into in-class activities and discussions. It can also be optimal when students study about assessment and treatment methods before related hands-on activities and discussion. Using the learning activities sections in each chapter to prepare ahead of class sessions can also be effective in this regard and can be combined with collaborative learning methods.

Team-based and collaborative learning (Abdelkhalek et al., 2010; Barkley et al., 2014; Hoepner et al., 2021; Johnson & Johnson, 2009; John-Steiner, 2006; Michaelsen et al., 2008; Millis & Cottell, 1998; Strijbos & Fischer, 2007), case-based learning (Chabon & Cohn, 2011), and problem-based learning (Jin & Bridges, 2014; Lawlor et al., 2015; Prosser & Sze, 2014) are all directly amenable to teaching and learning related to the contents of this book. Service-learning approaches (Corless et al., 2009; Doherty & Lay, 2019; Kosky & Schlisselberg, 2013; Sabo et al., 2015; Stevens, 2009) are ideal for much of the practical content in this book. Examples of related projects include providing in-services at a health care agency, assisting with a caregiver support group, developing reminiscence projects for residents of a long-term care facility, or developing a respite volunteer program for adults with neurological disorders in your local community. Such activities are also amenable to study-abroad global health projects, if carefully designed with clear ethical principles in mind (Hallowell, 2012b; Hallowell, Combiths, et al., 2021).

Additionally, students engaged in interprofessional learning opportunities (Interprofessional Education Collaborative Expert Panel, 2011; World Health Organization, 2010; Zraick et al., 2014) may make use of several aspects of this book. For example, basic content will ideally lead to an appreciation for the types of interdisciplinary and interprofessional teams and collaborations through which much work in aphasiology is accomplished. Additionally, suggestions for outreach, advocacy, counseling, and global health experiences may be carried forth in planning interprofessional activities among students, academic and clinical faculty members, and community groups or agencies.

Online Materials

Supplemental materials include PowerPoints to guide discussions pertaining to content in each chapter, additional discussion points and learning activities, links to video examples and helpful online resources, and a test bank that includes multiple-choice, fill-in-the blank, matching, true/false, short-answer, and essay items, all cross-referenced to the content areas addressed. Visit the companion website and explore: http://www.pluralpublishing.com/publication/aoanld2e

If you have ideas you would like to share for the website for the next edition of this book, please be in touch.

Updates in the Second Edition

Updates in this second edition include the following:

- expansion of content to reflect important recent developments, with findings of over five hundred new studies integrated throughout
- enhanced foci on primary progressive aphasia and cognitive-communicative challenges associated with dementia, TBI, and right brain injury
- amplification of chapter content in chapter titles and introductions, while maintaining the order of chapters
- added content by and about people with the lived experience of neurogenic communication challenges
- many more images to support learning
- greater devotion to relevance for readers regardless of nationality
- updated attention to culturally responsive terminology, pronouns, and content throughout to promote diversity, equity, and inclusion, and advocacy for clinicians to support these values in tangible ways

About the Book Cover

The phoenix rising from a changed brain represents the human spirit moving onward and upward from neurological challenges. It is a symbol of honor and affirmation for people with neurogenic communication disorders and the people who care about them—all of whom ideally continuously heal and re-create themselves with the strengths they still have, even discovering new strengths along the way.

Cover design by Taylor Reeves.

Acknowledgments

Profound motivation for this book has come from numerous people who have shared with me deeply about their own experiences as phoenixes rising from challenges of changed brains; in this light I especially thank Seth Teicher, Jane Hamlin, and Deb Dakin. I acknowledge inspiration for this book from my precious friend Sadanand Singh, who convinced me that it had an essential purpose and that I would be the right vehicle for it. I thank, too, my longtime buddy and partner in global shenanigans, Angie Singh, for love and encouragement not to let that inspiration diminish. Since the first edition, my partner, James Latimer, has enlightened me greatly through our collaboration in work with couples coping with aphasia, and we have learned much together through wondrous life participation escapades and musical fun with people with neurogenic communication challenges and people who love them. This has added to new approaches and wisdom reflected throughout this edition. James has also been a vibrant champion for this book, especially during distractions and existential challenges.

I extend warm thanks to the amazing students who have helped with a great deal of background work, most especially Laura Chapman, Carley Moyher, and Lindsay LaClaire. I thank Taylor Reeves, the gifted artist who designed its cover and patiently worked with me through numerous iterations of illustrations in the book. Special appreciation goes to Nicole Linn and Seth Breitenstein for their extensive needs analysis that helped determine what it is that students and instructors most wanted in such a book. I also thank additional current and former students who helped with editing, literature updates, feedback, and development of companion website materials, including Fatimah Hani Hassan, Javad Anjum, Mohammad Haghighi, Sabine Heuer, and Maria Ivanova. I am indebted, too, to all of the students over the many years who have been fundamental in considering how to prioritize content, enhance active engagement with challenging material, and keep our focus on empowering people to communicate and engage meaningfully in life.

Throughout my work on this book, I continued to draw inspiration from colleagues dedicated to making life better for people with acquired neurogenic cognitive-linguistic disorders through my engagement with Aphasia Access, the National Aphasia Association, the Academy of Neurologic Communication Disorders and Sciences (ANCDS), the Clinical Aphasiology Conference, Special Interest Group on Neurophysiology and Neurogenic Speech and Language Disorders of the American Speech-Language-Hearing Association (ASHA), Virtual Connections for Aphasia, Aphasia Recovery Connection, and numerous additional networks across the globe.

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I thank my treasured friends who gave me fortitude and helped me see how I could use challenging experiences in my own life to enrich my voice as a writer and teacher. Many thanks especially to Michele Kaufman, Molly Morris, Mary Nossek, Kartini Ahmad, John Burns, Elle Morgan, Bob Berardi, Manon Floquet, Patty Mitchell, Dianne Bouvier,

Tim LaVelle, the Athens Friends Meeting community, the Llewellyn Beach community, the Valley Improv, Phantom Sheep Players, and the Lost in Lodi Arm-wrestling clan, all of whom help me stay grounded and refresh my inner joy.

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About the Author

Brooke Hallowell, PhD, CCC-SLP, brings to this book over 30 years of clinical, research, teaching, and advocacy experience to support adults with acquired neurogenic communication challenges. She serves on boards and committees of several national and international organizations, including Aphasia Access, the National Aphasia Association, the Academy of Neurologic Communication Disorders and Sciences, and the American Speech-Language-Hearing Association (ASHA). She is a founding representative of the Global Rehabilitation Alliance (GRA), an affiliate of the World Health Organization (WHO) in Geneva, Switzerland, and serves on the GRA's advocacy committee. She is an active consultant to the WHO on guidance regarding rehabilitation related to COVID-19, and she chairs ASHA's committee on ethics in global engagement. She is also an editorial board member and reviewer for many scholarly journals and granting agencies.

Hallowell has garnered over $15 million in funded grants, with extramural support from such agencies as the National Institutes of Health, the National Science Foundation, and the Health Resources Service Administration. She has mentored and supported others in winning over US$150 million in gifts, grants, and contracts. She is a pioneer in the use of eye tracking and pupillometry to study complex diagnostic issues related to cognition and language in adults with neurological disorders, and holds U.S. and international patents on related technology. Additionally, she has long been active in interdisciplinary research and advocacy related to aging and end-of-life care, support for caregivers of adults with disabilities, and technology to aid people with disabilities.

A former president of the Council of Academic Programs in Communication Sciences and Disorders (CAPCSD), Hallowell chaired the first-ever Global Summit on Higher Education in Communication Sciences and Disorders and is deeply engaged in helping to foster new academic and clinical programs, emphasizing cultural responsiveness and investment in local expertise, especially in underserved regions of the world. She has held appointments at universities in Korea, Malaysia, and Honduras and is involved in academic and clinical collaboration in Brazil, Cambodia, China, Honduras, India, Russia, and Vietnam. A Fellow of ASHA, Hallowell is also the recipient of the CAPCSD Honors of the Council, the Asia Pacific Society in Speech-Language-Hearing Association Outstanding Contribution Award, and the ASHA Certificate of Recognition for Outstanding Contributions in International Achievement. She is a former Fulbright Fellow, and U.S. national finalist for the Thomas Ehrlich Award for Service Learning. Hallowell serves as dean of the School of Health Sciences and professor in Communication Sciences and Disorders at Springfield College. She previously served as executive director of the Collaborative on Aging, associate dean for Research and Sponsored Programs in the College of Health and Human Services; director of the School of Hearing, Speech and Language Sciences; director of the Neurolinguistics Laboratory; founding co-director of the Global Health Initiative; founding coordinator of the Diabetes

Research Initiative; and co-director of the Appalachian Rural Health Institute at Ohio University. Passionate about interdisciplinary collaboration, she has held adjunct and affiliated appointments in family medicine, neurology, biomedical engineering, gerontology, and Asian studies. Her career history also includes employment as a professional musician, interpreter/translator, and French instructor. She holds an A.B. (magna cum laude) from Brown University, an M.S. from Lamar University, a Certificat d'Etudes Supérieures from the Conservatoire National de France, and a PhD from the University of Iowa.

Having had selective mutism as a child and having been an extremely shy person into young adulthood, she entered the realm of clinical aphasiology with a personal connection to those who have important things to say but are not able to express them fully. Being the mother of a child with a severe traumatic brain injury who is now a thriving and extremely competent adult, she has firsthand knowledge about what it is that people need and want throughout the course of rehabilitation. According to Hallowell, these experiences are a large part of what drives her passion to help clinicians and clinicians-in-training focus not only on gaining clinical knowledge and skills but also on wisdom, compassion, humility, and other characteristics that will propel them to become ultimate excellent clinicians.

To Jimmy and my marvelous family, with zealous gratitude for so much love.

SECTION I

Welcome and Introduction

In this section, we affirm the intriguing nature of neurogenic communication disorders and set the stage for key points and concepts to be affirmed in later sections of the book. In Chapter 1, we review basic content about the nature of neurogenic language disorders and consider the fascinating interdisciplinary nature of clinical aphasiology and the many associated career opportunities. In Chapter 2, we delve into the topic of what makes a clinician in this arena truly excellent, consider how we might best strategize to become such a person, and review key resources that will be useful along the way. In Chapter 3, we review basic yet critically important considerations related to the way we talk and write about people with ability differences, the people who care about them, and the professionals who work with them.

CHAPTER
1

Welcome to the Fantastic World of Research and Clinical Practice in Acquired Neurogenic Communication Disorders

I could not imagine any academic or professional pursuit more rewarding than diving into the amazing world of adult neurogenic disorders of cognition and language. I took my first dive as an undergraduate student, having no idea of the fabulous adventures and opportunities to which that would lead. Whether you are a certified speech-language pathologist (SLP), a clinician in a related field, a neuroscientist with clinical interests, a student, or an otherwise engaged reader, and whether you are immersing yourself or just getting your toes wet in this clinical arena, I hope that you find your experience with this book and with this topic informative, inspiring, and challenging.

After reading and reflecting on the content in this chapter, you will ideally be able to answer, in your own words, the following queries:

1. What are acquired cognitive-linguistic disorders?
2. Which neurogenic communication disorders are not acquired cognitive-linguistic disorders?
3. What is clinical aphasiology?
4. What is so fantastic about the world of neurogenic communication disorders?
5. What disciplines are relevant to aphasiology?
6. What is known about the incidence and prevalence of acquired neurogenic language disorders?
7. Where do aphasiologists work?
8. What is the career outlook for clinical aphasiologists?

What Are Acquired Cognitive-Linguistic Disorders?

When we talk about "aphasia and related disorders," we are typically referring to *acquired neurogenic language disorders* and *acquired cognitive-linguistic disorders*. These are any of a wide array of disorders of language formulation, comprehension, and cognitive processing caused by problems in the brain of a person who had previously acquired language. They are part of a larger category of acquired neurogenic *communication* disorders, which also includes neurogenic *speech* disorders, most commonly referred to as *motor speech disorders*.

The definitions, etiologies, and descriptions of specific types of acquired neurogenic language disorders are discussed in detail in subsequent chapters. As a means of introduction here, let's briefly consider which types of disorders constitute acquired neurogenic language and cognitive-linguistic disorders versus other types of communication disorders. **Aphasia** is by definition an acquired *language* disorder. Ever since the term *aphasia* was first coined in 1864 by Armand Trousseau (Tesak & Code, 2008), it has been defined in many different ways. Aphasia has also been examined from a multitude of perspectives or frameworks, each of which may lead people studying aphasia to focus on specific aspects of how it is defined. The wide array of perspectives from which we might consider, study, and theorize about aphasia need not distract us from clarity in defining

just what it is and is not. If you plan to work with people who have aphasia in any context, it is vitally important that you be able to clearly and succinctly define what aphasia is. A simple way to do this is to make sure that, however you define it, you include four elements in your definition:

1. It is acquired.
2. It has a neurological cause.
3. It affects reception and expression of language across modalities.
4. It is not a sensory, psychiatric, or intellectual disorder.

We consider each of these elements in more detail in Chapter 4. We also explore how, as individual scholars and clinicians, we might choose different words to define aphasia based on our preferred theoretical perspectives regarding aphasia.

Dyslexia is a reading disorder that may or may not be an actual *language* disorder per se. Deep dyslexia is a language disorder. This form of dyslexia and its varied manifestations entail problems of actual linguistic processing of written material, as opposed to more superficial visual processing of the physical characteristics of graphemes (any written representation, such as letters, words, and punctuation marks, and characters in non-Western scripts).

Dysgraphia is a writing disorder. Like dyslexia, it has deep and superficial forms; the deeper forms, which entail converting semantic content to graphemes, are those that qualify as true language disorders. Both dyslexia and dysgraphia may be congenital (present from birth or at the earliest stages when associated abilities are typically manifested during development) or acquired. Dyslexia and dysgraphia occur as symptoms of aphasia but may also occur as distinct acquired neurogenic language disorders in people without aphasia.

We consider the notion of literal, conventional, and recommended uses of the *a-* and *dys-* prefixes further in Chapter 3. For now, note that although the term *aphasia* is most often used instead of *dysphasia*, the term *dyslexia* tends to be used instead of *alexia* (the latter literally meaning the complete loss of reading ability).

Several other types of acquired cognitive-linguistic problems result from injuries to the brain that affect behavior, information processing, emotional regulation, perception, and other important aspects of everyday functioning in our information-rich and social world. Cases in which a language problem is secondary to a cognitive problem are broadly categorized as cognitive-linguistic disorders, not simply language disorders. Some categories of neurogenic cognitive-linguistic disorders are referred to according to symptom constellations; they have labels that are based on one or more impairments (e.g., dyslexia, dysgraphia). Others are referred to according to the associated cause. For example, one might refer to **cognitive-linguistic disorders associated with traumatic brain injury (TBI)** to capture any of a constellation of symptoms related to language and information processing that may occur due to TBI. Some have labels associated with an underlying cause, even though the etiology is not incorporated into the label. For example, a favored term for language problems resulting from dementia is **language of generalized intellectual impairment**. A favored term for language problems associated with transient confusional states is **language of confusion**. Still other categories of neurogenic cognitive-linguistic disorders are referred to according to the location of the injury to the brain that caused the loss (e.g., **right hemisphere syndrome [RHS]**, also called **right brain syndrome [RBS]**).

Which Neurogenic Communication Disorders Are Not Acquired Language Disorders?

Once you are clear about what acquired neurogenic cognitive-linguistic disorders are, you can distinguish them from other disorders that do not fit into this category. By general convention, any problem that a person is born with is not an *acquired* disorder. Neurological syndromes present from birth, including developmental language disorders associated with cognitive and learning disabilities or delays, are not acquired. Thus, we do not consider them within the scope of this book. This distinction is important. The result of losing a previously acquired cognitive or linguistic ability is remarkably different from not having ever developed such an ability in the first place. The result is different in terms of actual brain structure and function. It is also different in terms of the ways that people (and their caregivers and

others who are important to them) cope with their disabilities, the specific types of intervention that may be helpful, and the ways in which diagnostic and treatment services might be made available. Of course, people who have congenital disorders may also at some point have a stroke or TBI and may develop dementia.

In light of the crucial differences between congenital and acquired disorders, most experts agree that the term *child aphasia*, as used in the past to capture the notion of a congenital language disorder, is a misnomer. Aphasia, by definition, is acquired. The preferred term for a condition characterized by language deficits in the face of relatively age-appropriate cognitive abilities in children is **specific language impairment**. Certainly, a child may experience a stroke or TBI resulting in a true aphasia; in such cases, it is appropriate to classify the condition as an acquired language disorder. Still, the course of recovery and the means of intervention for children with aphasia are likely to be different in significant ways compared to people with adult-onset aphasia.

The most common acquired neurogenic motor speech disorders are **apraxia of speech** (a problem of motor programming for speech articulation) and **dysarthria** (a problem of innervation of the speech mechanism for articulation). Although many people with neurogenic language disorders also have motor speech disorders, knowing how to distinguish these general categories of disorders is vital to clinical excellence. Although motor speech disorders are addressed in this book in terms of clinical problem-solving and differential diagnosis in people who also have language disorders, they are not a primary focus of this book.

What Is Clinical Aphasiology?

Because of the overlapping areas of scientific and clinical knowledge and skill involved, and because of the contexts in which we tend to work, many professionals who specialize in research and/or clinical practice in aphasia (**aphasiologists** in the literal sense) are also expert in related neurogenic cognitive-linguistic, speech, and swallowing disorders in adults. When we use the term **aphasiology**, we tend to incorporate topics related to the vast clinical and scientific aspects of these varied areas, even though the literal sense of term is more restricted. For example, if you were to attend the Clinical Aphasiology Conference or a conference of the Academy of Aphasia (annual international meetings for research aphasiologists) or read the journal *Aphasiology*, you would be exposed to numerous topics reaching beyond the specific syndrome of *aphasia* per se. Keep this in mind as you continue to read this book, as the term *aphasiologist* (erring on the side of being too specialized) is sometimes used interchangeably with the term *SLP* (erring on the side of being too general, as not all SLPs are truly expert in working with people who have neurogenic cognitive-linguistic disorders).

What Is So Fantastic About the World of Neurogenic Communication Disorders?

There are many enticing aspects of working and studying in the realm of clinical aphasiology. I will describe a few of my favorites here in this list of things that we clinical aphasiologists get to do.

We Work With Wonderful People and Become Part of Their Rich Life Stories

People with acquired neurogenic cognitive-linguistic disorders and the people who care about them are diverse in every aspect: age, ethnicity, race, language, education, sexual orientation, gender identity, gender expression, life experience, personality, preferences . . . you name it. As we discuss in more detail later in this book, when people acquire aphasia or related disorders, all aspects of their lives may be affected, not just their cognitive-linguistic abilities. Thus, all aspects of a person's life are relevant to our work. Clinical aphasiologists do not simply learn about a medical diagnosis, treat it in some prescriptive way, and then discharge a person from treatment. We get to learn about people's assorted interests, beliefs, relationships, and life goals, and how language use is relevant to what is most important in their lives. We often become part of the fabric of life change and adjustment, helping consider alternatives and possibilities, listening to life stories, and nurturing fresh perspectives. We get to assist in

their career and educational considerations and help family members, friends, and professionals learn to best support them.

We Are Catalysts for Positive Change

A problem with communication affects every aspect of our lives and the lives of those around us. The fact that there is much that can be done to make a difference in people's everyday activities and interactions makes it especially gratifying to work in this arena.

We Enjoy Empowerment of Others Through Advocacy and Leadership

Beyond our direct clinical work, we also work to raise awareness of the importance of communication as a basic human right and of the need to support people with communication challenges in protecting that right. Many of us become leaders in our professional contexts as well as in local, national, and international professional organizations. Our roles as leaders can help us become powerful catalysts not only for awareness but also for social reform and policy changes.

We Enjoy a Great Deal of Humor and Fascination

The variety in the types of errors associated with linguistic structure and social language use in people with aphasia is vast. Some of the linguistic errors and communication mishaps we observe are not only fascinating; they can also be charming, quirky, and downright funny.

In some clinical situations, there is a fine line between enjoying humor about something a person has said or done and respecting their dignity as a person with a serious disability. In general, though, enjoyment of fun and laughter throughout rehabilitation and recovery is shared among all involved, especially people with communication challenges themselves. One of the delightful aspects of working with a primarily adult population is that there is much more tolerance for humor at a metalinguistic level than there can be when working with children. People with aphasia, for example, often have a wonderful sense of humor about their own unintended utterances—and about consequences of unintended aspects of communication—in their daily lives.

We Enjoy Fantastic Local and Worldwide Professional Networks

In light of the vastness of life consequences associated with acquired neurogenic communication disorders and the interdisciplinary nature of the work of aphasiologists, we depend on teamwork with a host of professionals in our local clinical and research work environments. Additionally, there are wonderful local, state/regional, national, and international organizations and networks that bring together and foster continuing education of aphasiologists. Information about some key professional organizations and how to get involved is given later in this chapter.

Our Work Is Multicultural and Multilingual

If you love working across languages and cultures, there are ample opportunities to work in the area of neurogenic communication disorders with diverse people throughout the world. There is a dire need for aphasiologists who are multicultural and speak more than one language or dialect to assist in furthering the development of assessment and intervention materials across languages and cultures. In many countries, the field of aphasiology is just now developing; there is a need for culturally and linguistically sensitive consultants and volunteers to assist in building new academic and clinical programs. Opportunities for cross-cultural learning and transnational collaborative adventures abound.

We Are Lifelong Learners

Given the vast scope of our work and the fact that our expertise crosses many disciplinary boundaries daily (as we discuss further in this chapter), there is no way for us to really master all that would be ideal for us to master as excellent aphasiologists. If you

enjoy studying, reading, and learning, you can find intriguing challenges to do this in your everyday life as an aphasiologist.

We Tap Into Our Most Scientific and Our Most Creative Selves at the Same Time

In our work to help foster recovery, we must be strong scientists. For example, we must be knowledgeable about neurophysiology and theories behind fostering brain changes as well as about neuroimaging, statistics, information processing, and psycholinguistic and neurolinguistic modeling. At the same time, we must be passionately creative artists, appreciating things that sometimes surpass scientific description and logical explanation. Our investment in supporting rehabilitation reflects wonder, creative listening, and incorporation of aesthetics, art, and music in our work.

We Have Rich Career Opportunities

There are ample career opportunities for clinical aphasiologists in terms of the availability of professional positions, as well as the number and diversity of employment contexts in which they may work. We explore these in an introductory way later in this chapter and then delve further into varied aspects of clinical practice settings in Section IV.

What Disciplines Are Relevant to Aphasia and Related Disorders?

There is no single field of study that "owns" aphasiology. The expertise of clinical aphasiologists depends on the integration of content across numerous disciplines. Examples of relevant fields are listed in Box 1–1. It is important that we respect the scope of practice of the professional disciplines in which we hold academic degrees, certification, and/or licensure. Still, recognizing the relevance of a multitude of disciplines to what any one aphasiologist has to offer is vital to our career-long development of expertise.

Box 1–1

Examples of Disciplinary Areas Relevant to Acquired Neurogenic Cognitive-Linguistic Disorders

- Actuarial sciences
- Anthropology
- Art
- Art therapy
- Audiology
- Bilingualism and multilingualism
- Biology
- Biomechanics
- Biomedical engineering
- Business and management
- Cognitive science
- Communication
- Computer science
- Counseling
- Education
- Electrophysiology
- Engineering
- Foreign languages
- Gender studies
- Gerontology
- Global health
- Health care administration
- Hospice and palliative care
- Law
- Linguistics
- Mathematics
- Multiculturalism
- Music therapy
- Neurology
- Neuroscience
- Occupational therapy
- Otolaryngology
- Pet therapy
- Pharmacology
- Philosophy
- Physiatry
- Physical therapy
- Physics
- Political science
- Public Health
- Psychology
- Rehabilitation
- Social work
- Social justice
- Sociology
- Software development
- Speech-language pathology
- Statistics

What Is Known About the Incidence and Prevalence of Acquired Neurogenic Language Disorders?

In the chapters addressing specific categories of neurogenic language disorders, introductory information is provided about the **incidence** (the likely number of newly diagnosed cases per specified unit of time) and **prevalence** (the proportion of specified populations that had or have the disorder at a particular time). Many such statistics are biased in terms of