Discourse Analysis in Adults With and Without Communication Disorders

A Resource for Clinicians and Researchers

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Preface

In the early 1980s, Carl Coelho was working as a speech-language pathologist in an acute rehabilitation hospital. There were 40 beds devoted to stroke rehabilitation and 20 beds for traumatic brain injury (TBI). It was a great environment to learn about adult neuro disorders. During this period, he became interested in the cognitive communication behavior of patients with TBI and struggled with how best to characterize their deficits. Fortunately, Carl worked close to the University of Connecticut, where he had completed his doctorate, and remained in contact with two of his mentors, Betty Liles and Robert Duffy. When they would meet, he often described patients he worked with. During one of these conversations, Betty suggested that he should make recordings of their narrative discourse. With her assistance, Carl began to analyze discourse samples from the TBI patients, which shed new light on the nature of their disrupted communication.

At about the same time, Leora Cherney was pondering how best to address the communication impairments of right hemisphere stroke patients she was seeing daily in the rehabilitation facility where she was working. She was struck by the relative paucity of information that these patients conveyed in the context of fluent, often verbose, language production. In some ways, this was not unlike the communication of patients with early dementia of the Alzheimer's type (DAT). So, for her doctoral dissertation, Leora decided to compare the discourse of these two groups of patients to begin to tease out the contribution of right hemisphere lesions to the language of DAT.

Meanwhile, Barbara Shadden was facing a different challenge. After moving to the University of Arkansas to pursue her research about the experience of living with aphasia, she discovered that access to individuals with aphasia was quite limited. There was, however, a large population of older residents, many retirees from other parts of the country. Barbara soon found herself fascinated by the limited information available about communication in typically aging adults. She began searching for ways to assess language in a more functional manner, particularly discourse in all its forms. Early research outcomes underscored the heterogeneity of discourse skills in her subjects, and the complex interaction of factors such as tasks, elicitation methods, cognitive challenges, and personal relevance. One intriguing finding was that the discourse of some of the outliers in these typically aging adults looked a lot like the communication of those with conditions such as dementia and right hemisphere disorders. It was quite clear that few discourse assessment clinical tools and measures were available to speech-language pathologists and that normative data were limited.

So how did we come together? Over the next years, other researchers were also studying the discourse of persons with acquired language disorders. More publications were appearing in research journals, but the clinical value of discourse analysis was not appreciated. There was a well-established

Education and Training Department at the Rehabilitation Institute of Chicago, where Leora was working. Aware of the gap in knowledge regarding discourse analysis, she sought out the opportunity to organize a 2-day workshop with the support of Don Olson, the Director of Education and Training. Leora and Barbara had already met at a conference where Barbara was presenting on discourse in the elderly. To complement their expertise, they invited Carl to join them, rounding out their experience with discourse in various neurologic patient populations to include TBI. The initial workshop in 1992 was so successful that, over the next 4 years, it was repeated several times not only in Chicago, but also in Dallas and San Francisco. The workshops focused on the clinical application of discourse analysis for adults with acquired language disorders. Subsequently, Don encouraged the three of us to write a book. The discourse manual was published in 1998 and became informally known as the "Green Book." It became a popular resource for many clinicians and researchers interested in discourse assessment.

In the past several years, interest in the use of discourse analysis has grown immensely and is now considered by clinicians to be a standard component of assessment batteries for acquired language disorders in adults. Still, there is a need for clinicians and researchers to have access, in one place, to information about discourse assessment methods and their application to various neurologic populations. This book confirms the widespread use of discourse analysis by clinicians and researchers, illustrates the myriad of analyses that are now being used, and focuses on what might be most helpful for the clinician, depending on their caseload. The book is organized into four topic areas: aging, aphasia, cognitive communication disorders, and neurodegenerative disorders. There is also a chapter on discourse resources. We are grateful to the topic chairs of each section: Heather Harris Wright, Mary Boyle, Leanne Togher, and J. B. Orange. The topic chairs have brought together an international group of authors who are experts in their fields and provide up-to-date information about each topic.

As indicated, we have known each other for more than 30 years. Each of us has had satisfying, independent careers. Our shared interest in discourse brought us together initially and now this second discourse book brings the trio together again. We work well together and have a great deal of mutual respect. We have enjoyed the process of creating this book and hope that you find it useful in your clinical practice and research endeavors.

Carl Coelho
Leora Cherney
Barbara Shadden

Acknowledgments

I would like to thank the colleagues I worked with in clinical settings for sharing their hunches about how communication unravels after an acquired brain injury. Those discussions were the basis for many of the questions I have sought to answer in my research. I was also fortunate to have mentors at the University of Arizona and the University of Connecticut who encouraged me to look beyond test scores and disordered behavior, and to focus instead on the individual with the disorder. That perspective reinforced the notion for me that there is no substitute for clinical experience particularly in the classroom. I am grateful for the many patients I had the opportunity to work with and learn from.

Finally, I want to acknowledge my wife, Elaine, for her constant support and endless patience. You are the best.

—Carl Coelho

I am deeply appreciative of the many opportunities that have been afforded to me over the years to learn and grow professionally. The chance to write the original 1998 discourse book is one such example, and it has been a joy to connect again with Carl and Barbara.

I am indebted to the many role models, mentors, colleagues, and collaborators who have shared their wisdom and experiences with me—sometimes unaware of the impact that they have made. I am also grateful to the patients and family members who have been the inspiration for the work that I do.

I would like to recognize my family, especially my husband, Marc, for their continued patience and understanding. Finally, I would like to acknowledge and thank my mother, who is now in her mid-90s and with whom I am lucky enough to share daily meaningful conversations. She is my biggest supporter.

—Leora Cherney

Acknowledgments are tough to write, because so many people make a difference in one's life. A big thank you to Carl and Leora, my collaborators in our collective efforts to highlight the importance of discourse analysis. They wouldn't let me say no to being part of this project, and it has been a great journey. The three of us are clinicians at heart, and I want to acknowledge how much I have learned from my clients and their family members over the years. They are the reason I know discourse matters. I am also grateful to my students for being generous in trying out new ideas and new techniques. Finally, to Pat, Marilyn, and Angela: a simple thank you for being there.

—Barbara Shadden

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Carl A. Coelho, PhD, CCC-SLP, BC-ANCDS, is professor emeritus and former head of the Department of Speech, Language, and Hearing Sciences at the University of Connecticut, where he also served as director of the Cognitive Science Program. Prior to beginning his academic career, he worked 18 years as a clinician and department director of speech-language pathology and audiology in rehabilitation hospitals. Dr. Coelho spent the next 27 years developing coursework and teaching about the management of communication disorders. He is past-president of the Academy of Neurologic Communication Disorders and Sciences and recipient of Honors of the Academy. Dr. Coelho also served as the vice president of the National Aphasia Association. His research on cognitive communication disorders in adults with acquired brain injuries has been published in more than 100 journal articles and chapters. Dr. Coelho is a Fellow of the American Speech-Language-Hearing Association and has received Distinguished Alumnus Awards from the University of Arizona and the University of Connecticut

Leora R. Cherney, PhD, CCC-SLP, BC-ANCDS, is the scientific chair of Think and Speak at the Shirley Ryan AbilityLab (formerly the Rehabilitation Institute of Chicago) and professor in both the Department of Physical Medicine and Rehabilitation and the Department of Communication Sciences and Disorders at Northwestern University. She has 40 years of clinical and research experience in adult neurologic communication disorders. She is the founder and director of SRALab's Center for Aphasia Research and Treatment, which conducts cutting-edge research and offers both an intensive comprehensive aphasia program (ICAP) and weekly aphasia community groups. Her innovative research has explored factors to enhance aphasia treatment outcomes for behavioral, pharmacological, and neuromodulatory interventions. Dr. Cherney has authored more than 100 journal publications and five books. She has received numerous prestigious awards, including:

Honors of the Association of both the Illinois and the American Speech-Language-Hearing Association; Honors of the Academy of Neurologic Communication Disorders and Sciences; the American Congress of Rehabilitation Medicine (ACRM) and National Stroke Association Excellence in Post-Acute Stroke Award; and the ACRM Women in Rehabilitation Science Award.

Barbara B. Shadden, PhD, CCC-SLP, BC-ANCDS, is university professor emerita in the Program in Communication Disorders and former director of that program and co-director of the Office for Studies on Aging at the University of Arkansas. She has published and presented on topics in aging, aphasia, and other neurogenic disorders, and discourse, including five textbooks and numerous refereed articles, invited journal articles, and book chapters, as well as more than 150 major presentations. She has also served on the editorial board of two journals; as editor of three journal issues; and as reviewer for seven journals, three publishers, and three funding agencies. Dr. Shadden has served in leadership roles in a number of professional organizations, including Aphasia Access, and her recognitions include: ASHA Fellow; Honors of the Association, Academy of Neurologic Communication Sciences and Disorders; University of Arkansas Alumni Distinguished Teaching Award; and Honors of the Association of Council of Academic Programs in Communication Sciences and Disorders.

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1 Discourse Analysis in Adults With and Without Communication Disorders: An Overview

Carl A. Coelho, Barbara B. Shadden, and Leora R. Cherney

Introduction and Rationale

We, the editors of this new book on discourse analysis, have been actively engaged in clinical care and research in the areas of aging, aphasia, traumatic brain injury, right hemisphere disorders, and other neurological communication disorders for more than 40 years. Together, we authored a book in 1998 entitled *Analyzing Discourse in Communicatively Impaired Adults,* otherwise known by some as the "Green Book." This book was organized around various discourse assessment approaches with only a brief annotated bibliography about discourse in different clinical populations. At the time, the literature on discourse in various clinical groups was rather limited. The book was well received and, although it has been out of print for many years, it continues to be a popular resource for clinicians and researchers interested in examining discourse in adults with acquired communication disorders.

Interest in discourse analysis has grown dramatically in recent years, as reflected by the steady increase in research publications and clinical applications. For example, new resources on discourse assessment and treatment include a textbook (Kong, 2016) and two special journal issues devoted exclusively to discourse in adult populations in the journals *Topics in Language Disorders* (Fromm, 2021) and *Seminars in Speech and Language* (Richardson, 2020). Among the topics addressed were: the selection of discourse outcome measures to assess clinical change, development of new discourse measures, use of nontranscription-based discourse measures, a systematic review of discourse interventions, and prediction of cognitive impairment in acquired neurogenic disorders using discourse production.

Consistent with this trend, clinical researchers globally have begun to identify common areas of interest and needs related to the applications of discourse analysis in adult populations with acquired brain injuries. For example, one such working group is addressing "the lack of standardization in methodology, analysis, and reporting" of discourse assessment in aphasia (Stark et al., 2021, p. 4367). In other words, clinicians and researchers are not only utilizing discourse analysis to better understand the

communication changes and disorders in new populations but are also striving to develop comprehensive discourse protocols with clear reporting guidelines (Stark et al., 2022). At the same time, clinicians and researchers can make use of advances in technology to facilitate the collection and analysis of discourse, resulting in richer data. With this in mind, we felt a new textbook organized around clinical populations and reviewing progress in the use of discourse analysis was timely.

The New Book

To accomplish this goal, we recruited four internationally renowned clinical researchers from the United States, Australia, and Canada, each with many years of experience using discourse analyses, to serve as topic chairs. These individuals, Drs. Heather Harris Wright, Mary Boyle, Leanne Togher, and J. B. Orange, coordinated the selection of discourse analysis topics across four population groups: (I) aging, (II) aphasia, (III) cognitive communication disorders (i.e., traumatic brain injury [TBI] and right hemisphere disorders [RHD]), and (IV) neurodegenerative diseases (i.e., primary progressive aphasia, dementia of the Alzheimer's type, Parkinson's disease, and amyotrophic lateral sclerosis). Each topic chair recruited experienced clinical researchers who are leaders in discourse research worldwide. The chapters identify the most important discourse genres, measures, and analyses for each population and illustrate their clinical value for the management of communication differences and disorders.

Definitions

In the new book, our definitions of pragmatics and discourse remain unchanged. Discourse is considered the most natural unit of language (Kemmerer, 2015). In our original 1998 discourse book, we defined discourse as "continuous stretches of language that convey a message" (Cherney, Shadden, & Coelho, 1998, p. 2). Discourse may be oral or written and involves both comprehension and production, with rules specific to the speaker and the listener. While the unit of discourse is typically longer than a word, in some instances, a word alone may express a message, as in aphasia. Therefore, a word may also be considered as discourse (Ulatowska, Allard, & Chapman, 1990).

There are several types of discourse, such as narrative, procedural, descriptive, persuasive, and conversational. Each serves a different function and has different characteristics. However, successful communication through any discourse genre requires complex interactions among linguistic, cognitive, and social elements that are each sensitive to even mild disruption (Cherney et al., 1998). Discourse may be considered a point of intersection between language and cognition (Ylvisaker, Szekeres, & Feeney, 2008), framed within social action and interaction (van Dijk, 1980) in which the speaker's intent and the communicative situation play a major role. As clinicians and researchers, choices must be made as to what type or genre of discourse is of interest and what specific measures are appropriate to the research question or clinical activity being targeted.

Caveats

We are aware that there is not 100% consensus across all definitions of discourse. There is a multitude of discourse analyses that may be classified in different ways. One common approach is to divide discourse behaviors and measures into microstructural, macrostructural, or superstructural levels. There is

not always agreement about the components of each of these levels, and some measures may cross these structural boundaries.

Microstructural analyses involve word and sentential levels of discourse and may include word choice, syntactic complexity and diversity, semantic structure, and verbal disruptions. The microstructural level also includes linking meaning within and across sentences as measured by cohesion ties. However, because cohesive links support the complex construction of meaning in the discourse as a whole, cohesion has been described as "sitting at the intersection of micro- and macrostructure" (see Chapter 15).

Macrostructural elements relate to the broader meaning(s) of discourse. For example, macrostructural analyses can examine the central theme or the gist of discourse by rating global coherence (Wright et al., 2014) or exploring main concepts and themes. Cohesion is not the only discourse behavior that crosses structural boundaries. Various measures of informational content may overlap these boundaries between micro- and macrostructure. Information analyses may even include superstructural elements that examine the structure, schema, and/or organization of different discourse genres. Van Dijk (1980) describes superstructure as global form in contrast to macrostructure as global meaning. Examples of superstructure include story grammar for narratives and the order of essential steps in a procedure.

It should be noted that some writers refer to micro- and macrostructural analyses as *micro-* and *macrolinguistic*. Typically, the focus on *linguistic* reflects an author's theoretical background. In this book, the terms microstructure and macrosructure are used most commonly, reflecting our focus on analyzing discourse elements. We believe the terms can be used interchangeably in this context. The different perspectives of the chapter authors in this book are reflected in their respective chapters.

It is important to remember that discourse is one element within the area of pragmatics. Pragmatics has been defined as the set of rules that govern the use of language in context (Bates, 1976) or the study of the relationships between language and the contexts in which language is used (Davis, 1986). There are three aspects of the communicative situation that determine the social appropriateness of language: the extralinguistic, paralinguistic, and linguistic contexts (Cherney et al., 1998). All of these influence discourse and need to be considered. Some of the chapters in the new book focus more specifically on the linguistic context, whereas other chapters address more broadly the extralinguistic (e.g., physical or temporal setting; communication partner) and paralinguistic (e.g., intonation, pauses) components of pragmatics.

Some other considerations influenced how this book was developed. It will be immediately apparent that most of the chapters are focused on the analysis of discourse production and not discourse comprehension. We acknowledge that comprehension is a critical component of functional communication. We did not intentionally exclude any chapters on discourse comprehension. Rather, the chapters that appear in the book reflect the current research on discourse in adult populations. Future research on discourse should also target discourse comprehension. Similarly, all of the chapters report on studies of spoken discourse with little on written discourse. More insight into the written narratives of adults with and without acquired neurologic communication disorders would be useful.

The title of the book also clearly indicates that its focus is on discourse assessment and its implications for treatment, rather than directly addressing specific interventions. This focus reflects two factors.

One is the expanding research on discourse across multiple disciplines that requires us to be selective about what we can include in a text. The other is the need to understand the nature of discourse in neurotypical and disordered populations and methods to assess and analyze discourse behaviors. This is necessary before identifying the best treatments to achieve optimal functional communication outcomes.

An additional topic that is not addressed broadly in the area of discourse analysis pertains to the measurement of reliability of discourse measures. A number of discourse papers have been published without considering the reliability of the discourse measure. This is an important issue if we intend to move discourse research forward. There are two primary objectives for increasing the reliability of discourse measures. One objective is to increase replicability of findings on promising analyses across research labs. The second is to encourage clinicians to consistently use reliable discourse analyses that are recognized by external agencies (e.g., insurance companies) as meaningful functional outcomes. Whether researchers are collecting data from 50 participants or a clinician is sampling discourse of a single individual, reliability is important. Researchers and clinicians should have more comprehensive protocols for examining inter- and intrajudge reliability that should be reported in publications. Many of the chapters in this book address the reliability of the measures that they describe.

Overview of Book Chapters

The book is organized into four topic sections pertaining to adult populations: aging, aphasia, cognitive communication disorders, and neurodegenerative diseases. Each topic section consists of three or four chapters that focus on the use of discourse analysis to assess adults from each population. The book concludes with a chapter that crosses disorders and provides discourse analysis resources including TalkBank. The topic sections are summarized briefly.

Aging

This first section was coordinated by Dr. Wright, who has studied language in normal aging for many years. The chapters in this section describe how normal aging impacts cognition and language and how those, albeit subtle, changes may alter some aspects of discourse production. These findings are important for clinicians who are called upon to evaluate and treat older individuals with suspected communication disorders. Clinicians must determine whether certain communication patterns are differences or deficits, and can use discourse to help make this differentiation.

Aphasia

Dr. Boyle, who has worked as a clinician and clinical researcher in aphasia throughout her career, oversaw the four chapters in the section on aphasia. The chapters in this section discuss discourse in aphasia from a variety of perspectives, including the analyses of words, sentences, narratives, and conversation. The final chapter in this section (Chapter 8) presents a powerful argument for the consideration of cross-cultural differences when interpreting discourse performance of individuals with aphasia. Many clinicians ignore or are not prepared to factor such information into their diagnostic summaries. Cross-cultural differences should be considered when interacting with our clients and their significant others regardless of their communication disorder. Therefore, this chapter is relevant for clinicians and researchers working with all clinical populations.

Cognitive Communication Disorders

The four chapters in this section were organized by Dr. Togher, who has a long history of clinical research in TBI. Discourse analysis is an important component of any assessment battery for cognitive communication disorders secondary to acquired brain injuries. Chapters in this section address the use of discourse measures to monitor recovery in TBI and the assessment of conversation in TBI. A chapter about RHD addresses the current status of discourse management in this population. A final chapter on the use of technology for discourse analysis and telehealth is presented. This is an important topic for clinicians who may be interested in adding discourse analysis to their assessment battery but do not feel they can invest the time.

Neurodegenerative Diseases

Dr. Orange, a longtime clinical researcher in neurodegenerative diseases, facilitated the chapters for this section. The communication disorders of four distinct populations are characterized through the use of discourse analysis: primary progressive aphasia (PPA), dementia of the Alzheimer's type, Parkinson's disease (PD), and amyotrophic lateral sclerosis (ALS). The authors offer insights into each condition, including the cognitive communication disorders present in PD and ALS. The use of discourse analysis emphasizes that these two diseases are not exclusively characterized by their neuromotor symptomology.

Data Sharing

The book includes an important final chapter on TalkBank, described by the authors as "the primary discourse databases currently available for adult populations with and without spoken communication disorders" (see Chapter 17). This resource includes discourse protocols and free access to numerous video-recorded and transcribed discourse samples for researchers working in areas such as aphasia, TBI, RHD, and dementia. Training materials on discourse analysis methods are also available on TalkBank's website. In addition, the chapter identifies other discourse databases available to researchers and clinicians.

Companion Website

A virtual companion website that includes supplemental materials from many of the chapters is available. This website is a dynamic resource that will be regularly updated. Examples of content include specific details on elicitation tasks, numerous discourse measures, case examples with analyzed transcripts, and other related resources.

Summary

This book builds upon the foundation established decades ago in *Analyzing Discourse in Communicatively Impaired Adults*. At that time, discourse analysis was being utilized by a much smaller group of clinicians and researchers as they studied individuals with aphasia or cognitive communication disorders. Our new book demonstrates that discourse can be analyzed in hundreds of ways and is being applied to many more adult populations. For example, discourse can be used to differentiate normal aging from communication disorders and to better understand the inherent nature of many communication disorders.

While the field of discourse analysis has expanded and continues to grow, a major challenge remains. Specifically, how do we get more clinicians to begin using

these assessments to increase their insight of their clients' communication disorders? A big factor in their hesitation is likely the substantial investment of time required for collecting and analyzing discourse samples. Although many clinicians appreciate the information gained from discourse analysis, they do not feel they can devote the time in a busy day to learning and using such analyses. More research focused on the development of time-saving analysis procedures is critical. A variety of such techniques are being trialed in various research centers, as mentioned in many of the chapters. Clinicians are responsible for familiarizing themselves with the nature of discourse deficits in the populations they serve and with the various approaches to discourse assessment and treatment. We hope this book assists clinicians with this learning process.

As we reflect on the 17 chapters in this new book, we are impressed with the breadth and depth of content generated by the diverse group of authors. The chapters illustrate how the study of discourse has grown. They underscore the importance of considering discourse in any clinical population and highlight promising new avenues of investigation. We are grateful to the topic chairs and chapter authors for their contributions. In particular, it is heartening that many of the authors are relatively young researchers who have interest and expertise in discourse analysis. If this trend continues, the field of discourse analysis is in good hands.

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