Discourse Analysis in Adults With and Without Communication Disorders

A Resource for Clinicians and Researchers

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7 Clinical Application of Conversation Analysis in Aphasia

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Introduction

Traditionally, assessment of aphasia has focused largely on words, sentences, and monologues such as describing a picture, retelling a story, or describing a procedure. In other words, the language of the individual with aphasia has been the focus. However, an ultimate therapy goal for most people with aphasia is to be able to engage *with others* in conversation. Conversation is the most familiar and widespread of all discourse genres. People with aphasia, like all of us, want to socialize, share information, and reveal who they are through conversation. Goodwin (2003) describes conversation as "the site where language emerges as action in the lived social world, and the place where the results of brain damage become both visible and consequential for people's lives" (p. 3). Therefore, analysis of conversational discourse is an important objective in meaningful management of aphasia. But what is required to converse? What makes a successful conversation? How is conversation different from other discourse genres? Answers to these questions are of critical importance to assessing and managing aphasia.

Understanding Conversation

An understanding of conversation is the first step toward assessing conversational discourse in aphasia (see the companion website). Some elements of conversation are obvious to all of us. For example, conversation requires interaction between two or more people. Conversation requires a cooperative give and take among participants to achieve an orderly and meaningful exchange. Even an argument requires cooperation as participants take turns and observe conversational conventions. Conversation is synchronous; that is, participants are present and engaged at the same time. Conversation entails both the exchange of messages and the management of social relationships. "Conversational situations are never just conversational. They are governed by social rules as well as conversational rules" (Bach & Harnish, 1979, p. 105). Although we typically think of conversation as spoken, multiple channels convey information and social meanings. Channels such as voice, speech, gesture, body movement, silence, and gaze are layered into an interaction to assist in the fulfillment of conversational goals.

Conversation includes obligatory as well as optional actions. For example, although turn taking is a required element of conversation, there are several methods for shifting turns and, although participant turns are not always equal, all participants have the "right" to participate and collaborate on the actual distribution and length of turns.

Obvious Elements of Conversation

- Involves two or more people
- Interactive/entails give and take
- Cooperative
- Synchronous
- Involves both message exchange and social management
- Involves multiple communication channels
- Includes obligatory as well as optional actions
- The "right" to participate is distributed across or among participants

In addition to the obvious elements of conversation, there are a variety of less obvious features that are essential for successful conversation. The sequential organization of conversational interaction is a key feature. Sequential organization is the way that individual utterances or actions are embedded within orderly sequences of talk (Sacks et al., 1974). Adjacency pairs are components of sequential organization. An adjacency pair is a two-part sequence in which the second utterance is dependent on the first. For example, a question calls for an answer (e.g., 1: "What is that?" 2: "A pen"); a greeting calls for a return greeting (e.g., 1: "Hi Jane." 2: "Hi"); and a conversational closure calls for a subsequent closure (e.g., 1: "Bye Claire." 2: "Bye Laura"). In other words, the first part of the adjacency pair determines what happens next. If person 1 says "Hi," and person 2 fails to return the greeting, the result is likely to be social awkwardness; the expected adjacency sequence has not been observed. There are also three-part sequences such as the familiar teaching sequence (request-response-evaluation) in which the clinician makes a request ("Tell me the name of that"), the client responds ("A coat"), and the clinician evaluates the response ("Good!").

An appreciation of conversation requires understanding the concept of preference organization, a notion closely tied to sequential organization. Preference organization is based on the principle that certain actions in conversation constrain what follows in a discourse sequence (i.e., sequential organization) and within these sequential constraints, certain actions tend to be favored or *preferred* because they promote affiliation (i.e., a positive relationship), while other actions are not favored since they are more likely to promote disaffiliation. For example, if one speaker invites the other to dinner ("Would you join me for dinner tonight?"), the next speaker might choose to agree ("Yes, I'd love to"—a preferred response) or decline the invitation ("No"—a dispreferred action). The companion website includes examples of preferred and dispreferred responses to conversational acts. Preference management is important in fostering and maintaining relationships and establishing a desired public image.

The concept of face is closely related to preference organization and is important to the social management of conversation. Face is the public image that people wish to project in a social situation. During conversation participants strive to maintain face and protect the face of others. Conversation

often involves potentially face-threatening actions such as disagreements, requests, or criticisms. "The goal of face work is to maintain the 'ritual equilibrium' of everyday social life through ceremonial rules and expressions" (Treviño, 2003, p. 38). These rules and expressions might include elements such as compliments and apologies as well as less obvious practices designed to maintain face. For example, expressing disagreement might result in the speaker being evaluated as disagreeable or rude. To mitigate such face threats, speakers employ politeness strategies. The use of hedging or moving a disagreement further from the source of disagreement are typical strategies to soften a disagreement. Consider the different image projected by these two disagreements: "No, you're wrong" versus "I can see your point, but I rather disagree." The second uses an introduction that establishes common ground, and then hedges with "rather" to weaken the disagreement. Depending on the context and the goals of participants, speakers modify utterances to manage face. Imagine the difficulty encountered by people with aphasia in attempting to layer politeness strategies and face work on to the raw content of an utterance. In analyzing conversation in aphasia, it is important to remain sensitive to novel methods used to manage face.

Another key feature of conversation is the drive for progressivity; conversationalists continuously work to move the conversation forward. For example, in Western communities, if a speaker pauses for 2 or more seconds, another participant might take over talk to keep the conversation going. Repair of conversational breakdown is particularly relevant to progressivity issues in conversation. Speakers in conversation sometimes experience problems; these "trouble sources" typically entail problems in speaking, hearing, or understanding. When a speaker has trouble, participants strive to repair or fix the problem quickly and progress forward. When one of the participants has aphasia, repairs can be lengthy. In conversation there is a difficult trade-off between attempting to get it right and moving the conversation forward. It might be preferable for the person with aphasia to opt for an agrammatic utterance rather than interrupting progress with a slow or repaired attempt at accurate syntax. Additionally, a lengthy repair signals that something is wrong (e.g., the speaker is not fulfilling the conversational imperative; is not competent). Thus, failure to fulfill a conversational preference such as progressivity not only impedes communication, but also has implications for the person's identity and social standing.

Related to progressivity is the drive for economy or least collaborative effort (Clark & Wilkes-Gibbs, 1986). Participants in conversation prefer to progress forward with the least amount of effort. Thus, natural conversation is often not well formed; it is rife with ellipses, sentence fragments, repetitions, omissions, discourse markers ("you know," "well") and other characteristics not representative of grammatically complete utterances but that serve other purposes, such as managing the progress of discourse and reducing burden of effort.

Another important consideration in conversation is the role of context. Utterances and social actions are shaped by the immediate context and create context as conversation unfolds (Heritage, 1984). Moment-to-moment events and unfolding talk have significant influences on the conversation. Context often contributes significantly to communication in aphasia. For example, Goodwin (2003) describes a man who utters only three words yet embeds these words along with finely tuned gestures into the turns of others to create meaning

that can only be understood in the immediate context.

Co-construction is an important characteristic that distinguishes conversation from monologic discourse. Co-construction refers to the joint activity by which conversational participants collaborate to create meaning. Co-construction of talk is particularly apparent in word searches as demonstrated in the following excerpt of conversation between a man with aphasia (Ed), his wife (M), and a third party (from Oelschlaeger & Damico, 2003, p. 216).

Example 7–1.

01	Ed	Well, I was a (pause) I'm the—uhm how should I say it? (pause) I'm:::
02		Can't think of the name of it.
03	M	Draftsman?
04	Ed	Draftsman.

Participation of speaking partners during word searches is a frequently observed joint action in both aphasic and standard conversation. Verbal as well as nonverbal behaviors (e.g., gaze, body lean, pauses) serve as invitations to partners to participate in word searches.

Conversational discourse requires multilevel management. Conversation is a social act embedded in a larger social situation. That is, conversational contributions not only require semantics, phonology, and syntax, but also require titrating verbal and nonverbal behaviors to prevailing social norms, the immediate context, and the speaking partner. A good example is the difference in a linguistic task requiring the retelling of a story by someone with aphasia (e.g., the *Cinderella* retell often used in aphasia research) and the telling of a story within the flow of a conversation. In a structured story retell, there is a focus on the orderly, accurate production of content. However, when a story is told in conversation, it requires careful attention to the interactional and sequential context. The potential storyteller must first establish an audience for the story and gain permission for the story to begin. This is typically accomplished with a story preface, a turn in which the speaker proposes (possibly indirectly) to tell a story. The listener then either agrees to hear the story or not. A story sequence and related actions from a typical conversation in partners without aphasia can be seen in Example 7–2.

Example 7–2 (from Hutchby & Wooffitt, 2008, p. 131).

01	Story preface	L:	Oh: .hh Yi—m—You know I—I—I'm broiling about
02			something hhhhheh ⌈heh. hhhh
03	Request to tell story	J:	⌊Wha::t.
04	Story begins	L:	Well that sa:le (0.2) At—at the vicarage.
05			(0.6)
06	Recipient accepts	J:	Oh ye:s
		L:	(story continues)

The storyteller uses multiple modalities to identify an entry moment for the story. Often this requires quickly entering the flow of talk and offering a story preface to gain permission to tell the story (line 1). The listener either requests that the speaker continue and tell the story (as in line 3 above)

or declines to hear the story (e.g., changes the topic, refers to earlier talk). The story preface sets the tone and the context for the hearer's interpretation of what is to come. Then as stories unfold, listeners provide comments, questions, or acknowledgments that become part of the sequential organization of the story. Listener responses that do not demonstrate alignment or affiliation can effectively shut down the storytelling. In other words, stories in conversation typically require multiple turns and involve the listener(s) as well as the storyteller. As the story is told, the timing, word choice, intonation, accompanying gestures and body language, gaze, and other elements are carefully adjusted by teller and hearer(s) to co-construct the story *in situ*. In addition, the telling of the story is designed specifically for the current hearer(s), a characteristic called *recipient design*. If the story is retold to other listeners, it is likely that the telling will be different with elements added or changed to suit the new audience. Finally, the goal of conversational story telling is multidimensional. Storytellers not only recount events but also tell stories to complain, boast, tease, blame, explain, or justify (Schegloff, 1997).

Additional Features of Conversation

- Sequential organization
- Preference management
- Face work
- Progressivity
- Economy (least collaborative effort)
- Lack of linguistic well-formedness
- Use of context
- Co-construction
- Multilevel management

Conversation Analysis

Assessment of conversation in aphasia is an important undertaking. A growing literature describes conversation analysis (CA) as a meaningful tool for understanding conversation in aphasia (e.g., Beeke, Maxim, et al., 2007). CA is a systematic approach to examining and understanding the workings of conversation and the resources involved in accomplishing social interaction (Goodwin & Heritage, 1990). Conversation analysts have developed a rigorous methodology for describing conversational machinery and orderliness. Naturally occurring conversation is the target of analysis, not artificial tasks such as describing a picture or a structured interview. Conversation is not judged in relation to a standard or norm since "different" or "impaired" speakers can be effective communicators and the goal is to discover what mechanics create effective communication. For example, elements such as pauses, repetitions, restarts, or filler words are not treated as problematic if they serve a functional purpose in the conversation and are not viewed by the participants as problematic.

CA conducted as research tends to be rigorous, systematic, and time consuming. As a routine clinical procedure, comprehensive CA is probably impractical. However, there are clear benefits for clinicians to gain an understanding of CA methods and learn to think like a conversation analyst while assessing and treating people with aphasia. By better understanding CA methodology, clinicians view conversation through a different lens and learn to appropriately target conversation in aphasia treatment. Therefore, the next section describes the mechanics of CA including collecting appropriate samples, making decisions regarding transcription of samples, and identifying

behaviors that either enhance or degrade interactions. Figure 7–1 includes each phase of CA, including example activities that occur in each stage.

Collecting Conversation Samples

Appropriate samples for analysis should be authentic conversation. While collection strategies might vary depending on the client's goal(s), there are a few basic considerations.

A conversation sample should capture natural conversation as opposed to a structured interview or monologue. Unscripted conversation is the most revealing context. For unscripted conversations, no topics or structure are suggested; rather, participants are asked to talk as they usually do about whatever they wish, preferably in their natural setting. However, the variability in conversations across topics, contexts, and partners is often cited as a barrier to reliable outcome measurement of conversation.

Considerations for Collecting Conversation Samples

- Unscripted conversation versus control methods
- Participants (e.g., family, friends, clinician, unfamiliar partner)
- Length of sample
- Number of samples
- Location of conversation (e.g., client's home, clinic, community)
- Video recording method

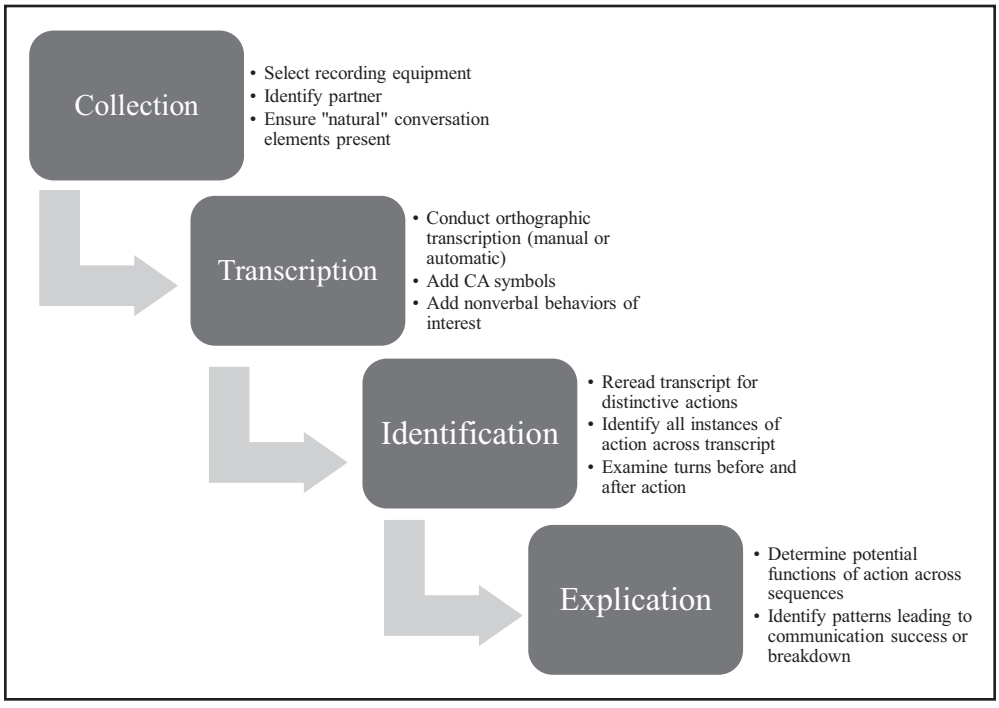

Figure 7–1. CA phases and example activities.

Therefore, a variety of methods that contribute some control have been suggested. For example, gathering multiple samples increases the likelihood of sampling representative behaviors of the individual. Employing standardized procedures for instructions, sampling, and analysis helps guard against variability and inconsistency of behaviors. Proposing specific topics of conversation (e.g., "weekend plans," "if I won the lottery") also provides some consistency across samples. Having participants watch a short video (e.g., a news clip, brief sequence from a TV series), then having participants discuss the recording is another method of partially controlling topic. Scripted conversations using standard partners and carefully designed questions and comments have also been suggested (Kagan et al., 2021).

Collecting a conversation sample between a person with aphasia and a routine communication partner may not be possible or appropriate. Not all people with aphasia have routine partners or partners may be unavailable in hospital settings. In such situations, clinicians may opt to serve as the conversation partner. This provides an opportunity to experiment with different supports such as written key words or pictographs.

Video recording of all parties in conversation is necessary for capturing multiple communication channels and collaboration involved in interaction. For example, improved use of multimodality communication after intervention would be missed if audio recording were used instead of video. Each sample should be approximately equal in length. Around 10 minutes of conversation is considered adequate. Since people with aphasia often use writing, pictures, or other resources, it is important to keep notes or collect artifacts for elements not clearly visible on the recording.

Transcription

CA in its purest form requires specific transcription procedures. Despite technological innovations, CA transcription largely remains a manual and labor-intensive process. Because the clinician or researcher is the main instrument for producing transcripts, transcription is often viewed as the first stage of data analysis. Damico and Simmons-Mackie (2002) suggest a valid, uniform, and flexible transcription process that includes multiple layers of transcription. The base layer consists of an orthographic transcription of all participants in the conversation along with descriptive symbols that have been used extensively in the CA literature. The most common system for annotating orthographic transcription includes a set of conventions first described by Gail Jefferson, one of the pioneers of CA, and is often referred to as the "Jeffersonian Transcription System" (e.g., Jefferson, 1996). Table 7–1 lists these transcription symbols. Readers interested in becoming more familiar with transcription conventions may visit the companion website.

Consider the following example adapted from Oelschlaeger and Damico (2000). Ed has moderately severe expressive aphasia and he is conversing with M, his wife. They are conversing about different items Ed has planted in his garden.

Example 7–3.

01	Ed	and there's one more there's a
02	M	okra
03	Ed	okra, that's it

A reader of this transcript could obtain a basic understanding of spoken words between Ed and M. Based on this simple transcription, it may be interpreted that M

Table 7–1. Common Symbols From Jeffersonian Transcription System

⌈ ⌊	A large left-hand bracket links an ongoing utterance with an overlapping utterance or nonverbal action point where the overlap/simultaneous nonverbal action begins.
⌉ ⌋	A large right-hand bracket marks where overlapping utterances/simultaneous nonverbal actions stop overlapping.
=	An equals sign marks where there is no interval between adjacent utterances.
(.)	A full stop in single brackets indicates an interval of less than one-tenth of a second in the stream of talk.
(0.6)	A number in single brackets indicates the length, in tenths of a second, of a pause in the talk.
oh:	A colon indicates an extension of the sound or syllable it follows (more colons prolong the stretch.
.	A full stop indicates a stopping fall in tone, not necessarily the end of a sentence.
,	A comma indicates a continuing intonation.
?	A question mark indicates a rising inflection, not necessarily a question.
!	An exclamation mark indicates an animated tone, not necessarily an exclamation.
but—	A single dash indicates a halting, abrupt cutoff to a word or part of a word.
↑↓	Marked rising and falling shifts in intonation are indicated by upward and downward pointing arrows immediately prior to the rise or fall.
<u>stress</u>	Underlining indicates emphasis.
°no°	Degree signs indicate a passage of talk that is quieter than surrounding talk.
TALK	Capital letters indicate talk delivered at a louder volume than surrounding talk.
heh	Indicates discernible aspiration or laughter (the more *h*s, the longer the aspiration/laughter).
>talk<	Less-than/greater-than signs indicate sections of an utterance delivered at a greater speed than the surrounding talk.
⌈yes ⌊*((nods))*	Italicized text in double parentheses represents a gloss or description of some nonverbal aspect of the talk and is linked to simultaneous talk with large brackets.
(dog)	Single brackets containing either a word, phrase, or syllable count (if utterance is very unclear) mark where target item(s) is/are in doubt.
→	Arrows alert the reader to talk that is discussed in the analysis.
XXX	Marks an unintelligible utterance.

"spoke for" Ed and finished his sentence. However, once CA conventions are added, readers may come to a different interpretation of the interaction:

Example 7–4.

01	Ed	and there's one more (1.3) there's a:::::::::=
02	M	=okra.
03	Ed	okra, that's it

In Example 7–4, we have included (a) lapsed time, which is symbolized by the length of the pause in parentheses; (b) sound prolongation, indicated by several colons (longer colons equal longer sound); and (c) latching, which is represented with an equal sign. A latching symbol is used when one speaker's turn is immediately followed by the next speaker's turn, without any silence between the two turns. These added symbols change the clinical interpretation of the interaction. We now understand that Ed likely had a significant word-finding problem in line 1, indicated by his long pause and incomplete turn. We also can interpret the end of Ed's turn in line 1 as a *request* for M to take over his speaking turn and supply the missing word, which is indicated on the transcript by the long sound stretch of *a*. Sound stretches are often a signal that a speaker wishes to end their turn and have been defined as turn-terminal items (Schegloff, 1996). M recognizes this sign and collaboratively completes Ed's turn for him, which is a type of completion strategy that the couple has discovered over the years of living with aphasia (Oelschlaeger & Damico, 2000). The fact that she recognizes this signal so quickly is noted by the latching that occurs from line 1 to line 2. This additional descriptive information is critical to identifying potential barriers and strategies in conversation, such as how a person with aphasia overcomes a word-finding problem or how a couple negotiates a repair sequence.

An additional layer of transcription is used in CA to include nonverbal aspects of communication such as gaze or gesture. This layer of transcription is usually located on a separate transcription line. Double parentheses (( )) are used as the symbol for the analyst to enter any comments that would describe the actions of participants. Not every eye or hand movement is included in the transcript. Instead, the analyst elects to include any obvious or symbolic movement impacting interpretation of the ongoing talk. In the example below, a man with severe aphasia and apraxia of speech communicates important information to his spouse through a combination of semiotic resources (contiguous talk, drawing, and gesture). The success of this exchange can only be demonstrated through the gesture layer of this CA transcription (Example 7–5).

Example 7–5.

01	Rudy	XXX I don't know XXX ⌈(here) ⌉XXX
02		⌊*((points to paper with pen))*⌋
03		⌈°XXX XXX XXX° ⌉⌈XXX
04		⌊*((draws <u>box with small circles in it</u>))*⌋⎸
05	Lila	⎸is this the shelf?
06		⌊*((taps on Rudy's drawing))*

07 Rudy no (0.4) ⌈ouwlet ⌉ (0.9) ⌈XXX
08 ⌊*((makes a circular shape with hands))*⌋ ⌊*((moves hands apart))*
09 (1.6) ⌈XXX XXX ⌉⌈(did em)
10 ⌊*((turns to wall and motions hand to wall))*⌋⌊*((pulls fist from wall))*
11 Rudy ⌈XXX XXX XXX heh heh heh °XXX XXX°
12 ⌊*((points at paper))((draws circle in box))((draws wavy lines to and from box))*
13 Lila is that the cor– (0.7) the plug in?
14 Rudy no
15 Lila the the cord outside the (0.6) did you have something plugged in to the uh
16 outlet outside and he ch– he pulled on ⌈↑it
17 Rudy ⌊oh yeah XXX ⌈suh suh see it
18 ⌊*((points to paper))*

Layers of the transcription may be done in steps, with orthographic transcription done first, followed by descriptive symbols and nonverbal actions. Researchers have begun to use automatic speech-recognition software as a first step in transcription, which appears reliable for capturing speakership, words, and pauses (Moore, 2015). Full automation of transcription, though, will likely never be attractive for the CA analyst of aphasic conversation, who would be interested in various nonverbal devices not captured in automated systems.

Analysis: Identifying Behaviors of Interest

The next step in the CA process involves a search of the transcript to identify behaviors of interest. In clinical applications of CA, these behaviors are conversational practices that are potential targets of treatment. The overarching goals of the clinician or researcher will influence this analysis but, in general, this stage should be data driven. That is, the analyst should immerse herself into the transcripts and identify a particular conversation practice that is distinctive or worthy of pursuit (Heritage, 2011). For example, lengthy or unresolved repair sequences following trouble sources could be a potential target of analysis. Once the target is identified (e.g., repair), the analyst can locate all points in a transcript where a trouble source occurs and can begin to examine the turns before and after the trouble. This part of the analysis focuses on identifying and explicating the sequential process of the practice. The analyst may ask, "What happens in the turn leading up to the trouble source?" and "What happens in the turns immediately after the trouble source?" Understanding the actions leading up to the source of trouble and what each speaker does sequentially to resolve the trouble will help identify what behaviors are similar or different across the sequences. From a clinical standpoint, this would elucidate any barriers to successfully repairing trouble or any strategies that the speakers use to help solve the problem.

In the following example adapted from Azios and colleagues (in press, 2021), Rudy is attempting to introduce a topic to his wife, Lila, but his word-finding difficulties and

Example 7–6.

01	Rudy	everyday boy ⌈XXX XXX XXX XXX ⌉
02		⌊*((opens hands in front of body, moves hands forward))*⌋
03		(0.4) one (.) two (.) gone *((raises arm, moves open hand quickly toward door))*
04	Lila	okay okay I don't know what buh buh buh buh buh is (.) so give me something (.)
05		give me some kinda clue of what this is
06	Rudy	*((puts pen to paper)) ((writes "Geme"))* XXX
07	Lila	(5.2) *((puts on glasses)) ((points to "Geme"))* Gene?=
08	Rudy	=yeah

unintelligible strings of speech create a trouble source (lines 1–3). Lila communicates to Rudy that she cannot understand and needs more information (lines 4–5). This prompts Rudy to repair the trouble source by writing "Geme" (line 6). While Rudy's written production is not spelled correctly, the conversational context enables Lila to correctly guess Rudy's target ("Gene"). Rudy confirms Lila's guess and the conversation progresses forward. Lila's request for a clue and Rudy's use of writing successfully and quickly resolve the trouble.

Alternative Methodology: Clinician Hacks

While traditional CA may not be realistic for the practicing clinician, many principles of analysis can be adapted so that they are feasible for clinical practice. In the following section, we discuss some alterations to CA helpful for clinicians.

Limited Transcription Analysis

Transcription of conversation provides important information about potential barriers and strengths. Unfortunately, most practicing clinicians have little time that can be dedicated to lengthy transcriptions. In these situations, clinicians may choose to conduct automated or manual transcription of small sections of the conversation that contain conversation behaviors of interest. As discussed in previous sections, trouble sources followed by repair are common in aphasic talk. The clinician may identify all areas where trouble is occurring between a person with aphasia and a partner and transcribe the turns around the trouble source. Having a transcription of the turn prior to the trouble source, the trouble source, and the turns directly following the trouble source would provide a description of what led to the problematic turn for the person with aphasia and the layered strategies that the partner and person with aphasia used to solve the breakdown. For example, after limited transcription, a clinician may examine several trouble sources that occur in turns following the closing of one topic and that appear to signal difficulty with a person with aphasia initiating a new topic in conversation. Treatment might then focus on more effective strategies for topic initiation.

Transcriptionless Analysis

Instead of transcribing the sample, clinicians may elect to use transcriptionless

methods to assess conversation (e.g., Armstrong et al., 2007). As part of the first visit and initial assessment, the clinician likely has some preliminary ideas of strategies and barriers the person with aphasia experiences in natural communication contexts. For example, when getting to know the person with aphasia and obtaining case history information, the clinician may note potential behaviors that aid in moving conversation forward (i.e., progressivity) and others that work to fix linguistic problems related to aphasia (i.e., repair). The clinician may ask herself, "Does the person with aphasia tend to gesture or write when there is a word-finding problem?" "Does he look to his wife to request help if the information is known to her?" "Does he fixate on the exact word or phrase and give up if he cannot access the word?" Once the clinician obtains the video-recorded samples, she can examine the conversation for these behaviors across a fixed time period, taking a simple tally of any facilitative or inhibitory actions of the person with aphasia or partner. This creates an inventory of strengths and weaknesses that can serve as baseline data and can also be used to create meaningful and measurable goals for the person with aphasia and potentially the partner. Another method might include brief qualitative descriptions of behaviors that help or hinder conversation (see the case example on the companion website for a checklist of conversation behaviors). These qualitative observations serve as targets of treatment and a basis for behavioral comparisons post treatment.

Application of Clinical CA to Assessment of Aphasia

When applying CA to clinical practice in aphasia, there are several general principles to consider. These include defining success in meaningful and functional change, taking a strength-based perspective, recognizing that traditional language measures often fail to capture important aspects of conversation, and appreciating the role of communication partners.

Meaningful and Functional Behavior Changes Are the Outcomes of Interest

Rather than comparing a person's communication to a norm or standard, CA teaches us to look for meaningful patterns of behavior that help or hinder interaction. By analyzing conversation and social interaction, we discover how a behavior impacts adherence to rules of social action and identify acceptable communication options. Relatedly, by avoiding a focus on standard linguistic forms, clinical assessment helps clinicians identify functionally important behaviors and capture meaningful change over time. The goal of assessment shifts from simply determining if language has improved, to determining if the **accomplishment of social action** has changed and, if so, in what way(s).

A Strength-Based Perspective

CA has enabled us to suspend notions that linguistic accuracy and completeness are integral to accomplishing social action. This strength-based perspective confirms Audrey Holland's (1977) well-known adage that people with aphasia communicate better than they speak. For example, people with agrammatic aphasia have been noted to use fronting or standard subject–verb constructions such as "I suppose" to overcome grammatical constraints caused by aphasia (Beeke, 2003). From the outside, these idiosyncratic behaviors seem unusual,

but CA has revealed that these actions serve an interactional function, namely that they allow conversation to move forward so speakers can reach a mutual understanding. Fronting occurs when a turn starts with a noun or temporal phrase to introduce a topic. In the following example from Beeke and colleagues (2003, p. 89). Connie, a woman with aphasia, is chatting with her friend. They have just ended one topic and Connie opens a new topic with the following utterance.

Example 7–7.

Connie: Last week (.) you go out?

The temporal phrase "last week" is dislocated to the left, allowing Connie to hold the turn, signal a new topic, and establish past tense without an accurately inflected verb. This method of turn management kept Connie active in the conversation without resorting to long pauses to construct a more standard grammatical turn. In traditional aphasia management, this fronting strategy might be considered a problem; from a CA perspective, it is considered a strength. People with aphasia are not always completely aware of these strategies or the consequences of their use. Thus, these actions serve as a potential untapped resource and could be exploited in therapy. They should be considered as both important targets and outcomes of strength-based interventions.

Difference Between Traditional Linguistic Tasks and Conversation

People with aphasia are able to creatively deploy all kinds of resources in conversation that are not showcased in impairment-level assessments. CA sensitizes us to the need to look at authentic conversation as significantly different from linguistic tasks. For example, Beeke, Wilkinson, et al. (2007) provide an example of natural conversation of a man with aphasia who used alternatives to standard grammatical structures (e.g., combining talk with mime, putting unexpected elements in the initial positions of turns) to achieve successful communication. The example highlights the fact that "conversation and sentence-level tests provide complementary but ***essentially different information*** about grammatical ability" (p. 256; emphasis added). Similar examples pervade the CA literature suggesting that people with aphasia employ a variety of strategies for engaging in conversation that are not apparent on traditional language tasks. In other words, assessing conversation is critical to fully understanding a person's natural communication.

Role of Conversation Partners

The International Classification of Functioning, Disability, and Health (ICF) (World Health Organization, 2001) and the Living With Aphasia: Framework for Outcome Measurement (A-FROM) (Kagan et al., 2008) have helped us recognize aphasia as a socially constructed disability. Aphasia is no longer seen as a deficit within the person with aphasia; instead, it is a disability acknowledged through the interaction of the person with aphasia with others in various communication contexts. This places an explicit responsibility on the communication dyad. However, outcomes in aphasia treatment studies generally focus on the (dis)abilities of the person with aphasia and rarely account for the impact of the communication partner. An understanding of CA orients us to the role of communication partners in co-constructing conversation and highlights the significant impact that communication partners have on the communication of the person with aphasia. In other words, language is not a static ability;

one's ability to effectively use language varies with the context and communication partner. Therefore, an analyst will often need to focus directly on the partner's conversational turns to obtain a full understanding of the impact of aphasia on conversation.

Quantitative Versus Qualitative Outcomes

Capturing outcomes in conversation is not straightforward. Conversation-based outcomes must orient toward the complexity of conversation without sacrificing the rigor required for psychometrically sound measures. While many studies have elected to use a more traditional CA approach to report qualitive changes from pretreatment to post-treatment (e.g., Wilkinson et al., 2011), other studies have used a CA framework to quantify different variables that may exhibit change. For clinicians and researchers interested in taking a quantitative approach, CA can be used to operationalize and track a number of outcomes sensitive to change. The companion website includes a list of quantitative measures based on CA principles. Practitioners may also consider selecting published outcome measures based upon CA principles such as the Conversation Analysis Profile for People With Aphasia (CAPPA) (Whitworth et al., 1997) and the Profile of Word Errors and Retrieval in Speech (POWERS) (Herbert et al., 2013).

There are many aspects of conversation that could be assessed; therefore, understanding the clinical or research goal at the outset is critical to narrowing the foci and determining targets of clinical analysis. The following sections describe examples of behaviors that occur frequently in aphasic conversation and may become targets of assessment and intervention.

Variety of Speech Acts

Although not an explicit aspect of traditional CA, identification of the variety and type of speech acts often provides an excellent snapshot of a person's level of participation in conversation. Speech acts are utterances that perform a function; that is, the act is identified by its functional intent rather than the grammatical construction. For example, a question may serve as a request for information or a request for performance. The companion website provides examples of speech act labels.

Clinical analysts should obtain a gloss of utterance functions and not necessarily follow rigid rules of utterance classification as defined by speech act theorists. The idea is to determine a client's use of varied and appropriate acts in conversation and look for successful or unsuccessful patterns. The transcript in Appendix 7–1 demonstrates a practical speech act analysis in which the person with aphasia has three minimal turns and three failed self-repair attempts.

Repair

Trouble spots are frequent in aphasic conversation. Therefore, attempts at repair are initiated to fix the trouble or conversational breakdown. There are several components of repair, including the original trouble source, the indication or signal that repair is needed (either by oneself or another), and the actual repair (either by oneself or another person). In conversations involving people with and without aphasia, speakers have demonstrated a preference for self-repair over other types of repair (e.g., repairing one's own error is preferred to a partner repairing it; e.g., Schegloff et al.,1977). Identifying who signals the need for repair and who fixes the trouble is a valuable target of clinical assessment.

In addition to who performs components of a repair, the mechanics of repair are of clinical interest. There are various means of repairing a turn, and the severity of a person's aphasia may impact the speed and strategies of repair. People with aphasia who are more verbally restricted may have to rely on a combination of verbal and nonverbal resources (e.g., partial utterances, gesture, pictures, drawing, eye gaze) for self-repair, while those with milder forms of aphasia may have more verbal repair mechanisms such as self-cueing systems (e.g., spelling part of the word, circumlocution). Regardless, the length of repair, methods used to negotiate repair (e.g., verbal and/or nonverbal strategies), and overall success (i.e., the trouble is resolved) are all important components of assessment.

To assess repairs, the clinician would locate all trouble sources that occur across the conversation sample and examine if and how repair sequences are negotiated in following turns. Narrowing the analysis to focus on each trouble source and ensuing repair sequence enables the clinician to recognize patterns that may serve as intervention targets. In the examples below, we see a *qualitative* difference in the conversation when writing is used to repair a trouble source.

Example 7–8.

	Dr. M	So where do you live?
Trouble	David	U:::h mostle (.) over here *((points to the right))*
Other repair attempt	Dr. M	Moss Park?
Self-repair attempt	David	No no (.) uh *((points to the right))* ba boss pa
Failure	Dr. M	I'm not getting that.

Example 7–9.

	Dr. M	So last time I wasn't sure where you lived. Can you tell me where you live?
Trouble	David	Ha hhh Over over U::h
Self-repair with writing		*((writes North))*
Success	Dr. M	Oh North York.
	David	Yeah yeah

Multimodal Communication

The use of multiple modalities (e.g., gesture, body language, gaze) is an example of efforts to communicate meaning or repair trouble. Therefore, an analysis of the frequency of multimodal strategies and the success of these for moving the conversation forward is a valid assessment target. Also important to note is the timing and strategic deployment of multimodal strategies. Some gestures may be used in the absence of speech to overcome a word-finding barrier in conversation, while others may be used in conjunction with speech as a means of repair. Consider the common clinical example of a person with aphasia who produces semantic paraphasias when attempting to verbalize numbers. Many people with aphasia will *say* an incorrect number and simultaneously gesture the correct (or intended) number. Examining how often this strategy occurs and its effectiveness in conveying meaning is critical to understanding strengths and weaknesses across language modalities.

Multimodal Strategies

Note frequency of occurrence, which speaker produces it, and its success.

- Symbolic gesture
- Pointing
- Mime
- Facial expressions
- Writing
- Drawing
- Photographs/pictographs/objects
- Assistive technology

Topic Management

Based on CA methods, Schegloff and Sacks (1973) have described topic initiation mechanics in standard conversation. New topics typically follow topic-ending actions such as pauses or summary remarks. Smooth introduction of a new topic tends to occur by using a cohesive device that ties the new topic semantically to the prior talk. New topics also frequently are preceded by an alerting device or topic preface such as a discontinuity marker (e.g., by the way, so, hey) to signal that the conversation is diverting to a new direction. Initiating new topics can be difficult for people with aphasia (see Leaman & Edmonds, 2020, for a review). Failure to offer new topics, abrupt topic change, or noncoherent topic initiation are often characteristic of speakers with aphasia. By reviewing samples of conversation, the clinician can identify the frequency and success of topic initiation and introduce topic management strategies as a treatment goal.

Turn Management

The organization of turn taking is fundamental to any analysis of aphasic conversation. Due to lengthy pauses or slow entry into the flow of talk, people with aphasia may have difficulty securing a turn in conversation. Likewise, partners may experience difficulty recognizing when a person with aphasia is ready to terminate a turn, which may cause periods of overlap where two speakers are talking at the same time. Examining how turns are organized and how both speakers orient to the transfer of speakership can be helpful in determining if a person with aphasia is able to successfully hold the floor to convey new ideas, elaborate on a topic, ask for a partner's opinion, and so on. Many people with aphasia develop a variety of discourse devices to help organize speakership and alert partners to important information contained in turns. For instance, people with aphasia may use gaze and nonverbal resources to alert a partner to take over the speaking floor. These actions usually serve as a means of shifting the burden of communication to the partner.

Some discourse devices for turn management are more atypical or idiosyncratic. For example, Simmons-Mackie and Damico (1996) discuss the use of the semantically meaningless word *is* (pronounced /ɪs/ with unvoiced sibilant) as an initiation marker used by a woman with aphasia to alert her listener to expect information. The same woman consistently produced *isy* (pronounced /ɪsi/ with stress on the second syllable) as a termination marker to mark the end of her own thought and signal a shift in orientation. Uncovering these individualized actions and their functions in assessment can arm the clinician with valuable information for identifying obstacles to or

facilitators of effective turn management and developing goals to improve participation in conversation.

Considering Communication Partner Behaviors

Clinicians will want to pay attention to some specific partner behaviors that facilitate or hinder conversational participation of the person with aphasia. Some partner actions have been described as inhibitory and negatively impact the ability of a person with aphasia to participate in the next conversational turn. For example, questions appear to be exceptionally influential in shaping future turn sequences in aphasic conversation (Beeke et al., 2013). Test questions—questions that the asker already knows the answer to—are particularly problematic for people with aphasia, both from an interactional standpoint and for issues related to social and linguistic competence. Because of sequential dependency, test questions require the person with aphasia to provide a specific response. Test-question sequences often involve marked word search behaviors and turns are often left incomplete (Beeke et al., 2015). Moreover, test questions expose the aphasic impairment, effectively diminishing the image of the person with aphasia. Clinicians may wish to train partners to eliminate test questions from their conversations and employ supportive behaviors that give a person with aphasia the opportunity to contribute.

Another example of inhibitory partner behavior can be seen in the transcript in the speech act analysis example on the companion website. The communication partner tries to compel the person with aphasia to say what he means rather than provide communication support to progress the conversation forward. By analyzing conversation, clinicians and researchers can identify inhibitory partner behaviors and their impact on turn sequences and devise intervention to improve conversational interactions.

CA is also critical to revealing facilitative behaviors used by partners of people with aphasia. Facilitative behaviors tend to open up possibilities for the next turn of a person with aphasia or provide some level of support that would enable greater participation in conversation. Questions, when used appropriately, can be incredibly supportive for future turns of persons with aphasia. For example, asking yes/no questions can help people with marked aphasia initiate topics and hold the speaking floor during group conversations (Archer et al., 2021). Clinicians and researchers interested in assessing how well people with aphasia can participate in group conversations may begin CA with identification and comparison of sequences that involve group mechanics such as sequential actions surrounding topic initiation and floor transfer. Comparisons across these sequences may reveal partner actions, leading to improved topic initiation or general participation.

Conclusion

This overview of CA in aphasia has introduced the mechanics of CA and described a variety of behaviors observed in conversation with a person with aphasia. For those who are interested in delving deeper into CA, there are texts that address CA methods and issues (e.g., Heritage, 2011; Hutchby & Wooffitt,

2008), and an ever-increasing number of excellent articles describing CA findings in aphasia. Armed with an understanding of CA, clinicians will better understand conversation in aphasia, capture socially valid assessment of communication, and contribute to functional and meaningful intervention to improve social interaction and conversation.

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