

Conversational Turn-Taking in Wernicke Aphasia

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INTRODUCTION

Imagine the following situation: A Japanese (or French, or Croatian) businessman, who did not speak or understand English, is seated in an airport lounge waiting for his flight home. Sitting within earshot of him are two "conversing" Americans, one of whom has Wernicke aphasia. Would the conversation sound unusual to him? Probably not. The businessman would most likely assume it was a "normal" conversation. His recognition that something was conversationally awry would probably be directly related to his ability to understand English.

This situation illustrates the possibility that aphasia does not impair a person's knowledge or use of the rules of conversation. It is remarkable that while a person with Wernicke aphasia may understand little of what he hears and may speak in a variety of patterns of neologisms, paraphasias, and jargon, he can still "go through the motions" of holding a conversation. The conversation may be a communicative failure but its format may be appropriate.

In the case of a normally speaking adult engaged in conversation with an aphasic person the normality of the conversation can be easily perceived. It is unclear, however, if the perception results from the act, the conversational repairs, and the degree of tolerance for ambiguity which is allowed by the normal member of the dyad or if the Wernicke patient himself is demonstrating structural competence even in the face of linguistic failure.

We chose, in this study, to explore whether Wernicke aphasic persons demonstrate one single aspect of normal conversation, that of turn-taking, in what we feel to be the limiting case. That is, we have analyzed the structure of conversation between two aphasic persons, each of whom demonstrate the fluent, paraphasic speech and impaired comprehension of language typical of Wernicke aphasia. Our working assumption was that if we could demonstrate the presence of a relatively normal conversational format when both conversationalists had a high likelihood of missing the interaction, being unable to repair it, etc., we would have strong empirical evidence for the argument that communicative competence is minimally impaired in aphasia. This, in turn, would link aphasic conversation to the emerging research on aphasic language conducted within the framework of language pragmatics.

This study addresses a second issue. One principle of PACE therapy states that the clinician and patient participate equally as sender and receiver of messages in therapy tasks (Wilcox and Davis, 1979). This principle is directly related to conversational turn-taking. By demonstrating relatively normal turn-taking in aphasic speakers one principle of PACE would have substantial support.

THE TURN-TAKING MODEL

Sachs, Schegloff, and Jefferson (1974) describe conversation turn-taking by developing two components and a set of rules which govern the interface between components. The first component is the "turn-constructional" component. In turn-construction the speaker attempts to evoke a specific response from the listener (i.e., to have the listener become the speaker). The speaker uses a unit-type of speech with the intention that the listener complete the unit-type. A unit-type of speech for English can include sentences, clauses, phrases, and words. The point at which utterances of those types can be completed is called the "transitional-relevance place." Examples from Sachs, et al., may clarify how the turn-constructional components act to transform the listener into the speaker.

- a) Desk: What is your last name // Loraine?
Caller: Dinnis.
Desk: What?
Caller: Dinnis.
- b) A: Was last night the first night you met Missiz Kelly?
B: Met whom?
A: Missiz Kelly.

"Turn-allocation" is the second descriptive component of conversational turn-taking. The rules that govern turn-taking are designed to effect transfer of the speaker role to minimize current-speaker and next-speaker overlap and gap. This is accomplished by the use of two rules. First, when the initial end of utterance is reached there are three options:

- 1a) The current speaker can select the next speaker ("Current speaker selects next" technique). The speaker selected is obliged to take the next turn. Further, he is the only party who has the right to speak next.
- 1b) If the "current speaker selects next" technique is not utilized then one of the listeners has the option of selecting himself as next speaker ("Self-selection" technique). The first person to exercise this option has the right to speak.
- 1c) If neither of the above techniques is utilized, then the current speaker has the option of continuing but need not do so. If this occurs the conversation reaches an end.

If the speaker chooses to continue, that is if he opts for 1c, the three options are then available and applied at the next end of utterance or "transitional-relevance place." This continues throughout the interaction.

METHOD

Subjects. Two male patients, ages 57 and 64 years old, known to each other by their joint participation in group therapy at the Aspinwall VAMC Speech Clinic served as subjects. Rating scale profiles of speech characteristics from the Boston Diagnostic Aphasia Examination were consistent with the profile for Wernicke aphasia.

Conversational Sample. Data consisted of a transcribed ten-minute segment of a 22 minute conversation held by the two subjects. A Sony video camera and microphone were placed in view of the subjects and they were informed that they would be recorded. The subjects were seated at a table in one of the clinic's therapy rooms. Before the conversation took place the two subjects were told to talk to each other about anything they wished to discuss.

The whole 22 minute conversation was examined for evidence of roughly equal participation; in some parts of the tape, especially near the beginning (approximately four minutes into the tape), one aphasic patient dominated the conversation. This early segment was therefore not chosen for analysis. Ten minutes of interchange from the remaining 18 minutes was randomly chosen for transcription and analysis. The decision to analyze 10 minutes was arbitrary, but in line with samples provided by Sachs, et al. During this 10 minute segment, 150 interchanges occurred, and are analyzed below. The sample was transcribed and diacritically marked by the senior author using a modification of the system described by Sachs, et al. As a reliability measure the sample was again transcribed by an undergraduate student at the University of Pittsburgh. There was 83% agreement between the two samples.

RESULTS AND DISCUSSION

Sachs, et al. list 14 features of conversation which are controlled by the rule-set. These features are summarized and applied to the present conversation in what follows. It is assumed that if the subjects exhibited aberrant turn-taking behaviors, these 14 conversational features would not be evident in the sample.

1) "Speaker-change recurs, or at least occurs." Evidence of this is abundant from the 150 changes noted above.

2) "Overwhelmingly, one party talks at a time" and 3) "Occurrences of more than one speaker at a time are common but brief." These two features are closely related. There were only 14 instances of simultaneous talking in the conversational sample. Instances of simultaneous talking occurred while the other person was talking in order to agree with, disagree with, or emphasize, what was being said.

M) Yeah yeah. I was downstairs I watched em // over there //

E) Oh yeah mmm::

A second instance of simultaneous speaking was at the beginning or end of a unit-type.

E) [UM hmm::

M) [No: I watch it over here at home.

M) Yeah dere all right // ()

E) They're liable to

jump on the son of a bitch.

4) Sachs et al. state that, "Transitions (from one turn to a next) with no gap and no overlap are common. Together with transitions characterized by slight overlap, they make up the vast majority of transitions." Of the 150 speaker changes, 67 of the changes (44%) were either immediate or overlapped slightly. Forty-four percent does not constitute the "vast majority" of changes, thus our data do not agree with Sachs, et al. on this point. However, transitions with no gap and no overlap are common in our sample.

5) "Turn order is not fixed, but varies." Obviously this feature is more apparent when three or more people are involved in conversation. However, in the present two-speaker case, variation in speaker order was present. Speaker change occurred in 150 cases when transition relevance places were reached. However, 11 cases of rule 1c (present-speaker continues) were employed by speaker M.

6) "Turn size is not fixed, but varies." Turn size in our case varied from one word to several sentences. The MLU's of speaker M and speaker E

were 4.52 and 3.42 respectively.

7) "Length of conversation is not specified in advance." In this case the length of conversation was arbitrarily determined by the authors.

8) "What parties say is not specified in advance." The investigator instructed the subjects to talk about anything they felt like talking about. These subjects switched topics approximately seven times during the ten minutes. Topics included: their strokes; the Pittsburgh Steelers (of course); speaker E's sister; speaker M's wife and business associates; the height and age of some people at the hospital; money; and the state lottery.

9) "Relative distribution of turns is not specified in advance." The rule-set allows several options concerning who is to be the next speaker which can result in an unequal distribution of turns. Subject M, for example, chose to ask questions and continue as speaker (rules 1a and 1c) more often than subject E, and thus had a greater number of turns as speaker (80 versus 70).

10) "Number of parties can vary." This feature is irrelevant to the present study.

11) "Talk can be continuous or discontinuous." Both continuous and discontinuous talk were evident in the sample. The next example contains both continuous and discontinuous speech, all from one speaker.

M) So- See I got mine when hurt was- third mont- uh first mont-
January Febuary March Jan::uary January

Continuous speech is demonstrated in the following sample.

M) They get so much on it. I never figga (how) make a damn
thing with the money- I could make money on those

Discontinuous speech is demonstrated in this sample.

E) Tha' were- that was the damn number I shoulda stayed on:-
That were- tha: er number. Two two (). Two twenty
six- That's right. I'm gonna- I shoulda even ca:::ll
that son of a bitch.

12) "Turn-allocation techniques are obviously used. A current speaker may select a next speaker (as when he addresses a question to another party); or parties may self-select in starting to talk." The current speaker may use rule 1a and ask a question of one of his listeners, thereby selecting the next speaker, who is obliged to complete the unit-type. This next example illustrates this point.

E) Didn the Steelers downtown the- at noonti"me?=
M) Yeah yeah. I was downstairs I watched em // over there //.

If rule 1a is not used, a party can select himself to be next speaker by employing rule 1b.

M) They (all er make) pretty good. They all pretty good.

E) Why'd y'at. What'd you say your wife is seventy? Thirtynine.

13) "Various 'turn-construction units' are employed; e.g., turns can be projectedly 'one word long,' or they can be sentential in length." Clearly, some turn-construction units function to keep the conversation going. Speaker E often used minimal encouragers to respond to speaker M.

M) I wasn't very long now=

E) No:::

M) I been not too long

A conversation may also be perpetuated by nonverbal means, such as by a head nod or with a gesture of the hand to continue. Speaker E, for example, often nodded his head while speaker M spoke. This head nod appeared to act as a minimal encourager for speaker M to continue with what he was saying.

However, the response may contribute new information or correct information given by the previous speaker and thus serve a more informative function. In the example below both subjects are talking about the lottery.

E) Fer one dollar=

M) For every hundred yeah. That isn't too bad=

E) NO No if ya hit it.

14) "Repair mechanisms exist for dealing with turn-taking errors and violations; e.g., if two parties find themselves talking at the same time, one of them will stop prematurely, thus repairing the trouble." Although the subjects' comprehension of speech was impaired, their conversational courtesy was still intact. The most common repair mechanism in the sample was when one or both parties stopped speaking after simultaneous speech occurred.

E) Yeah-

M) (tryin) to get the dollar=

A second type of repair occurred when current-speaker selected next-speaker, but speaker transfer was unsuccessful. The current-speaker then tried again to transfer the speaker role.

M) =(laughter) I got ones shonger en me:::

M) EARL

E) You what?

The ten minute sample analyzed here supports the notion that conversational turn-taking behavior remains intact in aphasia. There were no instances of violation of the rule-set in the sample. The one exception occurred with the feature which characterizes gap and overlap at transitions (feature 4). In the present case this feature was not violated per se but did not occur as frequently as in Sachs, et al's sample. It is possible that our results may have been an artifact of the sample used. A better possibility is that cases of wide speaker gap may reflect the need for extra processing time required to decode the present speaker's utterance. Extra processing time would prevent the next speaker from immediately responding, and thus larger gaps would be seen between turns. In spite of occasional longer gaps between turns, speaker changes typically occurred at transition-relevance places where the subjects employed one of the rules in the set.

The features present in the sample help build a case for the argument that turn-taking for conversation remains unimpaired in aphasia. For example, repair mechanisms (feature 14) were used by both subjects. Apparently the subjects realized that they were violating one aspect of conversation, i.e., one party speaks at a time. What is remarkable is that the subjects could recognize this violation in spite of their poor self-monitoring skills.

The study provides support for the PACE principle mentioned earlier. That is, turn-taking is preserved in aphasia and this aspect of conversation is exploited in PACE therapy by the clinician and patient taking turns sending and receiving messages. Basing therapy around a communicative function preserved in aphasia should increase the probability of carry-over of communication skills outside the therapy situation.

REFERENCES

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