

The Influence of Communicative Context  
on Aphasic Speakers' Use of Pronouns

Michael L. Kimbarow  
SUNY College at New Paltz, New Paltz, New York

R.H. Brookshire  
Veterans Administration Medical Center, Minneapolis, Minnesota

Over the last few years there has been a clearly discernible shift in aphasia research methodology away from linguistically oriented studies toward studies of language pragmatics. This appears to have been motivated in part by a desire of some researchers to overcome the disadvantages of using language to determine the nature of cognitive and language deficits in aphasia. Ruth Lesser wrote in 1978 that such metalinguistic tasks are weighted against aphasic subjects because their language deficits interfere with the understanding of the language used to assess their knowledge of language. Goodglass (1976) concurred with Lesser when he stated "The mere fact of requiring a patient to listen to and react to a linguistic problem poses an artificial situation on the patient whose performance under these conditions may have no relationship to the aphasic person's performance during conversation in context." (p. 242).

A number of recent investigations have looked beyond the obvious linguistic disorder associated with aphasia to look at more global communicative skills of aphasic subjects. Schienberg and Holland (1980) for example, reported on preservation of turn taking skills in a group of Wernicke's aphasic persons. Ulatowska and associates (1980; 1981) have reported a series of studies which demonstrated preservation of discourse structure in the presence of aphasia. At last year's CAC conference Gurland and associates told us that aphasic persons use different communicative acts during conversation depending on who the listener is. In sum, these studies indicate that aphasic persons demonstrate preservation of communicative competence despite their aphasia.

Using this type of methodology also offers an opportunity to study how aphasic speakers use specific linguistic forms during discourse. This is especially true for those forms whose appropriate use interacts with, and is dependent upon, sensitivity to communicative needs of a listener. The study of the use of pronouns in aphasic speech during conversation offers one such opportunity to explore this phenomenon.

Appropriate use of pronouns is dependent upon correct apprehension of shared states of knowledge between speaker and listener. Chafe (1976) observed that in order for a noun phrase to be pronominalized, that is, replaced with a pronoun, a speaker must be certain that the pronoun referent can be uniquely identified by the listener. Referent activation is a process by which a speaker brings a referent into immediate consciousness of a listener, thus assuring error-free use of pronouns. An error in assuming that a referent is uniquely activated will result in pronoun ambiguity and may lead to communicative breakdown.

It is clear that there is a strong interaction between pronoun use and a speaker's awareness of a listener's state of knowledge relative to pronoun referents during discourse. Studies of aphasia which elicit natural language in the presence of a listener may provide information about aphasic communicators' awareness of contextual cues which regulate use of pronouns and referents in conversation. This study was designed to explore how aphasic speakers

demonstrated knowledge of rules of referent activation and pronominalization when they were confronted with communicative contexts in which the degree of shared information about pronoun referents changed between speaker and listener.

#### METHOD

Ten nonfluent aphasic subjects, 10 fluent aphasic subjects, and 10 normal nonaphasic subjects participated in the study. All aphasic subjects included in the study were rated as 2 or better on the Boston Diagnostic Aphasia Examination (BDAE) severity rating scale. Subjects were then grouped as demonstrating nonfluent or fluent aphasia using the following criteria:

1. BDAE rating scale profiles of speech characteristics consistent with nonfluent or fluent aphasia.
2. Presence of right hemiparesis or hemiplegia for nonfluent aphasia. Absence of right hemiparesis or hemiplegia for fluent aphasia.
3. Laboratory results consistent with unilateral brain damage anterior (nonfluent) or posterior (fluent) to Rolandic fissure.

All severity ratings and BDAE classifications were carried out by two independent judges, both of whom hold CCC Speech and had at least four years clinical experience treating and diagnosing aphasia. Normal subjects were matched for mean age and education level with the aphasic subjects included in the study.

#### STIMULI

A narrative discourse task provided an opportunity to observe how aphasic speakers use pronouns during a situation which approximated a natural communicative dyad. In this task subjects had the full communicative burden of establishing specific referents and pronouns in their description of a videotape to a listener.

The stimuli developed for the narrative discourse task consisted of six videotaped vignettes of one or two people engaged in a number of different daily activities (Table 1).

Table 1. Summary of the activities depicted in the six experimental vignettes.

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1. A man ties his shoe, pours some coffee, and begins to read a newspaper.
  2. A woman puts on lipstick, brushes her hair, then she makes a phone call.
  3. A man is using a calculator, writes something on a piece of paper, and turns on a radio.
  4. A man is writing a letter, he gets a book, begins to read it and then he answers a phone. A woman walks in and begins to water some plants.
  5. A man is holding some papers, he staples them together and gives them to a woman sitting at a desk. The woman opens a drawer, puts the papers away, and begins to write a letter.
  6. A man is sitting at a desk, goes and gets a book, sits down and starts to read. A woman enters the room and pulls up a window shade. She goes to the man, he gives her some papers and leaves. She sits down and begins to cut the paper.
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## PROCEDURES

After a brief training session the first experimental vignette was played for the subject. I was in the room but off to the side unable to see the monitor. When the vignette was over, subjects were instructed to tell me everything that happened in the vignette in the order in which it occurred. This procedure was repeated after each vignette. Subjects' narratives were audiotape-recorded for later transcription and analysis.

Narrative descriptions elicited in this task were transcribed verbatim by two independent judges. Transcripts showed 98% agreement on words transcribed. Scoring rules were developed for the narratives which credited points to subjects for production of appropriate referents and pronouns. Reliability checks on the two judges' scores showed Pearson Product Moment Correlation Coefficients of .85 or better on each narrative. Agreement indexes for judges' evaluations of each of the scoring rules ranged from .80 to 1.00.

## RESULTS

Mean discourse scores were computed on each narrative for all three groups. Nonaphasic subjects improved their mean discourse scores across single-person narratives while both aphasic groups exhibited a progressive drop in scores from narratives 1-3. The discourse score patterns on the two-person narratives were comparable for all groups. All groups showed an increase in mean discourse scores from the 1st to 2nd narrative and exhibited a slight decrease in score from the 2nd to 3rd narrative.

Single-Person Narratives. Statistical analysis of the data for single-person narratives indicated there were no statistically significant differences between groups on single-narrative 1 (Table 2). However, there were significant differences in discourse scores between nonaphasic and nonfluent aphasic subjects and between nonaphasic and fluent aphasic subjects on narratives 2 and 3. There were no significant differences between nonfluent and fluent aphasic subjects on this task.

Table 2. Summary of group x condition analysis of variance on single-person narrative scores for nonaphasic, dysfluent aphasic, and fluent aphasic subjects.

Source of Variance	df	Mean Square	F-Ratio	Significance
Groups	2	6.98	2.53	ns
Error (B)	27	2.76		
Conditions	2	.54	2.70	ns
Groups x Conditions	4	1.26	6.30	p < .01
Error (W)	108	.20		

Two-Person Narratives. Statistical analysis of the two-person narratives showed no significant differences between groups on the 1st or 2nd narrative (Table 3). However, statistically significant differences were found between nonaphasic and nonfluent aphasic subjects and nonaphasic and fluent aphasic subjects on narrative 3. There were no significant differences between nonfluent and fluent aphasic subjects on this task.

Table 3. Summary of groups x conditions analysis of variance on two-person narrative percentage scores for nonaphasic, dysfluent aphasic, and fluent aphasic subjects.

Source of Variance	df	Mean Square	F-Ratio	Significance
Groups	2	.28	1.00	ns
Error (B)	27	.29		
Conditions	2	.16	16.00	p < .05
Groups x Condition	4	.03	3.00	p < .05
Error (W)	108	.01		

We also computed the mean number of pronouns used by each subject across all narratives. Fluent aphasic subjects produced more pronouns than nonfluent aphasic subjects who in turn produced more pronouns than nonaphasic subjects. ANOVAs computed on differences in pronoun production between groups showed fluent aphasic subjects produced significantly more personal pronouns than either nonaphasic or nonfluent aphasic subjects (Table 3). There were no significant differences in personal pronoun production between nonaphasic and nonfluent aphasic subjects on this task.

Finally, we examined the number of referents produced per pronoun on single-person and two-person narratives for all groups. Nonaphasic subjects (as expected) showed the highest referent-to-pronoun ratio. Fluent aphasic subjects demonstrated the lowest referent-to-pronoun ratio and dysfluent aphasic subjects fell between the other two groups (Figure 1).

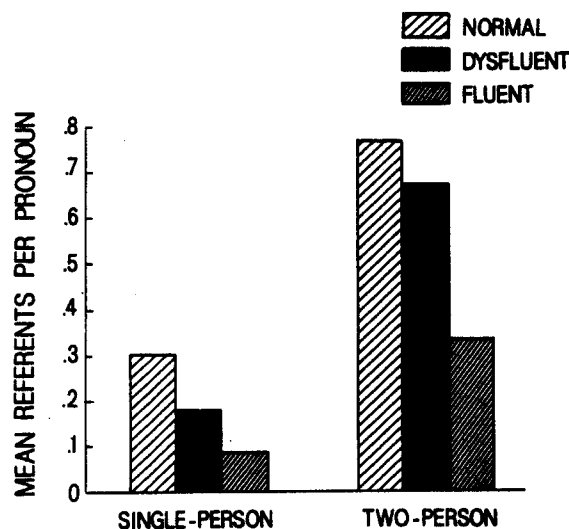


Figure 1. Mean number of referents produced per pronoun on single-person and two-person narratives for normal, nonfluent aphasic, and fluent aphasic subjects.

## CONCLUSIONS

The results generated by subjects in the narrative discourse task raise a number of issues regarding aphasic communication. Recall that on single-person vignettes aphasic subjects showed a decrease in scores as the task progressed. This was the result of a decrement in production of specific referents in their descriptions. Schnitzer (1974) reported a study of a single aphasic subject who was often observed to omit specific referents during conversation when the referents were uniquely identified in the subject's prior discourse. There appears to be a parallel opportunity for prior activation of referents in the present study. This may account for some subjects' decreased production of referents across single-person narratives.

By the time subjects viewed the 2nd and 3rd vignette the referents were familiar to the subject (the same actors were used in all vignettes). Using an appropriate gender pronoun to refer to the actor was tantamount to uniquely identifying the referent. Within the context of the task, this would not necessarily compromise the listener's understanding of the narrative description. Examination of the two-person narratives support this interpretation. Aphasic subjects appeared to be sensitive to the increased risk of pronoun ambiguity when there were two different people being described in their narratives. Of the ten aphasic subjects who did not use specific referents in their single-person narratives only one failed to produce appropriate referents in his two-person narratives. Thus it is clear that had we not included this second set of narratives our interpretation of aphasic persons' behavior would have been very different.

Results from the narrative discourse task also address issues regarding the definition of aphasia. Albert *et al.* (1981) defined the production deficits associated with fluent aphasia as containing excessive and inappropriate use of functor words, including pronouns. Pick (1931) described the speech of fluent aphasia as devoid of meaning. The results of the present investigation suggest that a reevaluation of these descriptions may be in order.

Fluent aphasic subjects used the most pronouns in their narrative descriptions of each vignette. However, the referents for the pronouns were recoverable from context. Consequently, although fluent aphasic subjects' use of pronouns may have been excessive, they were not using pronouns inappropriately nor was their speech "empty." As Clark and Clark (1977) observed, pronouns are simple definite noun phrases that are limited in the information they can convey to a listener. Lumping pronouns with function words which do not have any meaning outside sentence boundaries is probably not appropriate. Pronouns have meaning by themselves. Consequently, it is probably unwise to assume that fluent aphasic speakers will use pronouns as inappropriately as they may other functor words and it is probably more unwise to make observations of deficient pronoun use without considering the communicative context in which pronouns occur.

Definitions of nonfluent aphasia abound which suggest that language associated with this type of aphasia is devoid of functor words in favor of more meaningful content words. Wagenaar *et al.* (1975) went so far as to claim that the absence of pronouns in spontaneous speech was characteristic of nonfluent aphasia. In this study nonfluent aphasic subjects produced slightly more personal pronouns than nonaphasic subjects did.

There are two possible explanations for the observation of increased pronoun use by nonfluent subjects in this study. The narrative discourse task

may have provided subjects with more opportunities to use pronouns than tasks which heretofore have been used to elicit spontaneous speech. One of the questions used in the Wagenaar *et al.* study was "What do you usually spend the day doing?" A speaker referring to him or herself in response to this question would be unlikely to use very many pronouns because the occurrence of newly activated referents is probably infrequent. Presumably, when I am talking about myself I would not have to keep repeating the pronoun "I" everytime I listed an activity I spent part of my day doing. The vignettes in the present study required descriptions of people other than the speaker, encouraging use of pronouns.

There is also another possible explanation for the frequent use of pronouns by nonfluent subjects in this study. Nonaphasic subjects occasionally omitted pronouns during their narrative descriptions. Once a referent was established it was not absolutely necessary to pronominalize the referent during descriptions of subsequent activities. According to Heath (1975) this is appropriate and correct. Heath reported that pronouns can be deleted during speech following deletion of an equivalent noun phrase. A listener can recover equivalent pronouns in his or her interpretation of the message. For example, in the sentence

"A man read a book, answered the phone, and poured a  
cup of coffee."

the missing pronoun "he" is recoverable because no new personal noun phrases have been introduced and the listener can assume the same person is being talked about. In this study nonfluent aphasic subjects may have produced more pronouns than nonaphasic subjects because they did not take advantage of a pronoun deletion rule but instead increased the opportunity for communicative success by making sure their listener knew who was being talked about by using pronouns.

Whichever explanation may account for the findings, one observation is clear. Aphasic communicators are tuned in to the burden of making sure that their listener knows who is being talked about when the possibility of referent ambiguity is high. In this regard they only differ by degree from their non-aphasic counterparts. Further research may provide continued opportunity to discover just what successful communicators aphasic persons really are.

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#### DISCUSSION

Q: How long were the narratives?

A: Single-person narratives ranged approximately from 75-150 words. Two-person narratives which were more complicated in activity description ranged higher. I should point out that descriptions of the activities were complete. Subjects did not leave out descriptions of any particular event. Subjects were selected because they were high-level subjects. Consequently, we obtained adequate samples of their pronominalizing behavior.

Q: There's been some work in discourse literature which looks at phoricity... endophoric and exophoric reference. Endophoric reference occurs immediately in text and endophoric reference refers to things in context outside the immediate situation. I wondered based on what you did with the aphasic subjects as to whether there would be a difference? It sounds as if your subjects started out with endophoric reference and shifted into exophoric reference as they moved through those narratives.

A: I think in part that is what happened as the task progressed, especially on the single-person narratives. Subjects stopped responding in the specific sense of establishing referents for pronouns for the listener within narratives. Subjects appeared to rely on the fact that the referent had been activated in an earlier context, thereby using what would be an exophoric reference strategy.

Q: Do you think this is a study you might try with right hemisphere patients?

A: It's a definite possibility.

Q: You said there were two possible explanations for why your data on dysfluent aphasic patients differed from that of Wagenaar et al. on their dysfluent aphasic patients. A third possible reason might be that your definition of dysfluent aphasia might not agree perfectly with their definition of dysfluent aphasia. Do you think that's possible?

A: I would not argue against that possibility. However, I'm confident that we used accepted and well standardized procedures for classifying subjects. The agreement between myself and the second judge was high enough so that we were able to classify subjects confidently.