

The Effect of Gestural Cues
On Comprehension of Spoken Messages by Aphasic Adults
(Abstract)

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This study was designed to determine (1) whether comprehension of simple spoken messages by aphasic subjects with severely impaired auditory comprehension would be facilitated by the addition of redundant gestures or by repetition of the spoken message; (2) whether gestured messages alone would be comprehended as often as spoken messages alone; and (3) whether two types of gestures (pantomimes and emblems) would be comprehended equally well. It was also of interest to learn (4) whether (visual) comprehension of gestures would correlate significantly with comprehension of spoken or written words.

Sixteen aphasic adults with severe auditory comprehension deficits secondary to left CVA were selected for study. All were pre-morbidly right-handed native speakers of American English with unimpaired or corrected vision, who passed audiometric screening, whose scores on a picture to object matching task (Porch Index of Communicative Ability (PICA) Subtest VIII) exceeded a predetermined minimum, and whose scores on a task of auditory comprehension of spoken object names (PICA Subtest X) fell within a predetermined range.

Stimulus items were ten pantomimes selected from the Pantomime Recognition Test (Duffy, Duffy, and Pearson, 1975), and ten emblems selected from the glossary of verified emblems compiled by Johnson, Ekman and Friesen (1975). All items selected for study were classified unequivocally by graduate students as either pantomimes or emblems. Additional students rated the extent to which line drawings directly represented the verbal content of the potential items. Items with high directness ratings were preferred.

The aphasic subjects responded to spoken and/or gestured messages by pointing to pictures. Messages of two types (pantomime and emblem) were presented under four conditions (spoken message alone, spoken message repeated, gestured message alone, and spoken message plus redundant gesture).

Results of analysis of variance indicated that spoken messages repeated and spoken messages with gestures were comprehended significantly more often than gestures alone. However, neither of these stimulus conditions was statistically superior to spoken messages alone. This finding casts some doubt on the clinical strategy of supplementing spoken messages with redundant gestures when auditory comprehension is severely impaired.

There was no significant difference between comprehension of spoken messages alone and comprehension of gestured messages alone. Gesture comprehension was not more or less difficult than spoken language comprehension. These findings are in agreement with those of previous researchers who contend that aphasia can disturb nonlinguistic as well as linguistic symbol systems.

Pantomimes were comprehended more frequently than emblems, regardless of stimulus condition. This finding was attributed to a depictability factor. Finally, for these subjects, whose range of comprehension deficit was deliberately narrowly restricted, neither auditory nor reading comprehension at the single word level was found to correlate with comprehension of symbolic gestures.

DISCUSSION

- Q: You reported group data. I'm wondering if you looked at your individual subjects, and whether any of the subjects within the group responded to gesture in a way that suggested that it would facilitate their performance.
- A: That's a very intriguing question. We had to decide early on to choose between looking at individual subject performance and looking at overall performance. It's really not statistically permissible to look at individual subjects with this research design because of the order effect. There certainly are reports in the literature of Wernicke's aphasic persons who comprehend symbolic gesture very well, and do not comprehend spoken language. And I was hoping I might find one of those subjects. However, cursory examination of the data does not bear this out. I didn't find any subjects who missed three quarters of the auditory items and got three quarters of the gestural items correct. There never were big discrepancies.
- Q: I guess I can understand that. I think we have to remember, though, that when we run group studies like this, especially when we're doing counterbalancing, which has a tendency to wipe out potential small effects, conclusions that we draw in terms of treatment should be qualified with regard to the fact that these are group effects and they may not represent the behavior of any given subject.
- A: Your point is well taken. My hope when I started this study was that I would find those types of discrepancies. I kept a diary of aphasic subjects' responses to gestures. I was curious about what had given me the impression that some of these individuals comprehended gestures so reliably. It turned out that many of the responses I documented were responses to the pointing gesture. The pointing gesture is a special case. It is comprehended and used by infants before comprehension and production of other symbolic gestures develops.
- Q: It seemed to me that your subjects' performance on PICA VIII was relatively low. I find it clinically rare that people don't get 15's or real close. Did I not see that correctly, or did you have a lot of 12's in there?
- A: That's a very good question. We would have liked to make our criteria for PICA VIII more stringent, but we were already screening out so many potential subjects. That PICA VIII criterion of 12.5 allows for correct responses 80% to 100% of the time.
- Q: Did any of their profiles clinically look like bilaterals?
- A: We screened bilaterals out. Maybe there were bilaterals of which we were unaware, but as far as we knew, all of our subjects had had left CVA's only. We did not use PICA profiles to infer bilaterality.

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