The Psychology of Verbal Communication

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Note: This is an unedited version of an article to appear in the forthcoming edition of the *International Encyclopedia of the Social and Behavioral Sciences* (edited by N. Smelser & P. Baltes). scheduled for publication in 2002.

ABSTRACT

Communication occurs when signals carry information-bearing messages between a source (or sender) and a destination (or receiver). Although all species communicate, human communication is notable for its precision and flexibility, a consequence of the uniquely human ability to use language. Language endows human communication system with the properties of *semanticity, generativity,* and *displacement,* allowing people to formulate an unlimited number of meaningful novel messages that are not tied to the immediate present. At a fundamental level verbal messages convey meanings the speaker has encoded into the words of an utterance, but a listener who has understood the utterance has gone beyond the literal meaning of the words and grasped the particular sense in which the speaker intended them to be understood. In order to do so, communicators must make their coparticipants' perspectives part of the process of formulating and interpreting messages. Thus any communicative exchange is implicitly a joint or collective activity in which meaning emerges from the participants' collaborative efforts.

Although linguists think about language as an abstract structure--a set of principles that specify the relations between a sequence of sounds and a sequence of meanings--to its users, what is most significant about language is its versatility as a medium for communication. The ability to communicate is vital to a species' survival, and all animal species communicate, some in ways that are impressively proficient. But none achieve the precision and flexibility that characterizes human communication, a capacity due in large part to the uniquely human ability to use language (Deacon, 1997; Hauser, 1996).

ELEMENTS OF COMMUNICATION SYSTEMS

All communication systems, regardless of how simple or complicated they may be, operate on the same principle: Signals transmit messages from a source to a destination. The distended belly of the female stickleback signals the male to initiate an elaborate courtship routine that culminates in fertilization of her eggs (Tinbergen, 1952). Upon returning to its hive, a foraging honeybee communicates the direction and distance of a source of nectar by engaging in an elaborate waggle-dance (von Frisch, 1967). Vervet monkeys (native to East Africa) have three distinctive vocal alarm calls that signal the presence of leopards, eagles and snakes, their three main predators. Upon hearing one or another call, a Vervet will respond appropriately--climbing a tree in response to the leopard call, scanning the ground when the snake call is sounded (Seyfarth, Cheney & Marler, 1980). Each of these systems represents the species' adaptation to the exigencies of a particular ecological niche in which communication facilitates survival, Language can be thought of as a similar sort of adaptation.

Communication systems use two kinds of signals: *signs* and *symbols.* Signs are signals that are causally related to the message they convey. We say that blushing means someone is embarrassed because we know that embarrassment is a cause of blushing. Symbols, on the other hand, are products of social

conventions. Because of an implicit agreement among speakers of English, the sound pattern we recognize as the word *dog* denotes the familiar category of furry, four-legged creatures. There is no intrinsic reason that *dog*, rather than some other sound pattern, should convey that message, and in languages other than English of course very different sound patterns represent the concept DOG. Verbal communication often involves both signs and symbols. The tremulous voice that tells us a speaker is experiencing distress is a sign, i.e., a direct product of the distress it signals. But it is the symbolic content of verbal communication that accounts for its extraordinary effectiveness.

SEMANTICITY, GENERATIVITY AND DISPLACEMENT

Language is only one of the symbol systems humans use to communicate. The "thumbs-up" gesture conveys the message of success, approval or hope; the wedding ring and the mourner's ribbon publicly proclaim the wearer's current status; a facial grimace in response to the question "How did you like the movie?" symbolically and effectively expresses the person's assessment. Notwithstanding the utility of such symbolic displays, language endows human communication with three properties, *semanticity*, *generativity*, and *displacement*, that collectively distinguish it from other sorts of symbolic displays and from the forms of communication observed in other species.

- Semanticity: In human communication, signals stand for things, which is to say that they have meaning. An overheated dog will pant to dissipate heat, and an astute observer may understand the panting to indicate that the dog is hot, but panting cannot be said to stand for overheatedness in the same way that the word "overheated" does.
- Generativity (sometimes called Productivity): All languages are capable of generating an infinite number of meaningful messages from a finite number of linguistic signals. Languages allow symbols to be combined and

recombined in ways that yield novel meanings, and any competent language user will regularly produce and comprehend utterances that have never been uttered before, but are immediately comprehensible to all competent language users. Even so sophisticated a system as the Vervet's alarm calls is limited to a fixed set of messages, and lacks the ability to generate novel ones. For the Vervet, there is no way to signal the presence of predators other than eagles, leopards or snakes.

- Displacement: Language makes it possible to communicate about things that are remote in space or time, or indeed exist only in the imagination. Bertrand Russell once remarked that "No matter how eloquently a dog may bark, he cannot tell you that his father was poor but honest." Although the observation is self-evident, even banal, it points to a fundamental difference in the expressive capacities of language and other communication modalities. Vervets can signal the presence of a predatory eagle, but even the most articulate Vervet cannot refer to the eagle that attacked a week ago; their communication is limited to what is immediate present. Perhaps more than any other feature, it is the capacity of language to convey displaced messages that distinguishes it from other communication modalities.

The ability of language to generate an unlimited number of meaningful novel messages that are not bound to the here and now, combined with the cognitive capacity to exploit these properties, allows human communication to be extraordinarily effective and versatile. The full extent of this effectiveness and versatility is revealed by an examination of how communication systems work,

Regardless of the type of signal, all communication involves the transfer of information between a source and a destination. Anthropologists Daniel Sperber and Denise Wilson characterize it as:

> …a process involving two information-processing devices. One device modifies the physical environment of the other. As a result, the second device constructs representations similar to the representations already stored in the first device (Sperber & Wilson, 1986, p. 1).

The description applies equally well to the transmissions of a fax machine, the gesticulations of a policeman directing traffic, or a conversation among intimates.

In human communication the "information processing devices" are people, the "representations" are mental representations or ideas, and the "modifications of the physical environment" are the uniquely human disturbances of the acoustic surround called speech.

FOUR COMMUNICATION PARADIGMS

Precisely how is language used to convey information? There are many characterizations of the ways language functions as a medium for communication, but the major ways are captured by four models or paradigms (Krauss & Fussell, 1996). Each paradigm focuses on a different dimension of language use, and might be thought of as a necessary but incomplete description of the process. The four paradigms are: the Encoding-Decoding paradigm, the Intentionalist paradigm, the Perspective-Taking paradigm, and the Dialogic paradigm.

Encoding and Decoding: Language often is described as a code that uses words, phrases and sentences to convey meanings,. A code is a system that maps a set of signals onto a set of significates or meanings, and in the simplest kind of code, the mapping is one-to-one: for every signal there is one and only one meaning; for every meaning, there is one and only one signal. In Morse code, a familiar example of a simple code, the signals are sequences of short and long pulses (dots and dashes) and the significates are the 26 letters of the English alphabet, the digits 0-9, and certain punctuation marks. The Encoding-Decoding approach to language conceives of communication as a process in which speakers encode their ideas in words, phrases and sentences, and listeners decode these signals in order to recover the underlying ideas.

Words, phrases and sentences do convey meanings, of course, but viewing linguistic communication simply as encoding and decoding doesn't do justice to the subtlety of the process by which people use it to communicate. In order to

appreciate this, we need to consider the role of the speaker's Communicative Intentions and how it is related to comprehension.

Communicative Intentions: In Morse code, the sequence • • • • designates the letter *H*, and only that letter, and the letter *H* is represented by the sequence • • • •, and only that sequence. In contrast, a speaker who says "Can you close the door?" might be understood to be: (1) requesting that the auditor shut the door; (2) asking whether the auditor is physically able to shut the door; (3) asking whether the door's physical condition is such that it could be shut; or (4) asking whether shutting the door is permitted. Typically, by saying "Can you close the door?" the speaker intends only one of those meanings to be understood. and in all likelihood that is the meaning that will be understood.

A listener who has understood an utterance has grasped the particular sense in which the speaker intended the words to be understood. Considering the number of meanings even the simplest utterance is potentially capable of conveying, the ability of addressees to identify the intended meanings of the vast majority of the utterances they encounter is truly remarkable. This ability is the foundation of human communication. As the linguist Stephen Levinson puts it: "…communication is a complex kind of intention that is achieved or satisfied just by being recognized" (Levinson 1983, p. 18).

There is abundant evidence to support an *Intentionalist* view of language use. For example, bank clerks asked "Can you tell me what the interest rate is?" are likely to respond to the utterance as a request ("Tell me the interest rate") rather than to its literal force ("Are you able to tell me the interest rate"). Listeners demonstrate considerable mental agility in divining speakers' communicative intentions. In one study, people were shown a picture of then-President Ronald Reagan seated alongside David Stockman (the not-well-known director of the Office Management and Budget), and asked one of two questions: "You know

who this man is, don't you?" or "Do you have any idea at all who this man is?" As reflected in their answers, people asked the first question overwhelmingly assumed the question was about President Reagan, while none of those asked the second question did (Clark, Schreuder, & Buttrick, 1983). That people strive to understand the communicative intention that underlies the utterance is not in doubt. What is less clear is how they go about doing so. Identifying another's communicative intention is not always a simple or straightforward matter, in part because people do not always perceive the world in the same way. This difficulty is usually formulated as a problem of Perspective-Taking.

Perspective-Taking: The meaning of even the most prosaic utterance is grounded in a set of implicit assumptions about what the communicators know, believe, feel and think. People experience the world from different vantage points, and the totality of each individual's experience is unique to the particular vantage points he or she occupies. To accommodate discrepancies in perspective, communicators must take each other's perspectives into account when they formulate and interpret utterances. The process is most readily illustrated spatial perspective-taking. Two people viewing the same layout of objects from opposite sides of a table will perceive the objects' spatial relations somewhat differently. The cream pitcher that is to the right of the sugar bowl for one person, will be to the left of it to the other. In talking about such things, or in giving directions, speakers tend to formulate spatial relations from the addressee's point of view ("It's the first door on your left"). even when it differs from their own (Schober, 1993).

But even when they communicate about matters that lack spatial content, speakers must take others' perspectives into account. A statement like "John is the fellow wearing the ugly tie" assumes that speaker and addressee share the same esthetic sensibility. For the utterance to communicate, the speaker must have in

mind the addressee's conception of what constitutes an ugly tie. As the social psychologist Roger Brown put it, effective communication "... requires that the point of view of the auditor be realistically imagined" (Brown, 1965).

However, the content of another's point of view is not always obvious. In his classic studies of childhood egocentrism, the Swiss developmental psychologist, Jean Piaget, demonstrated that the ability to apprehend others' perspectives represents a major milestone in the child's intellectual development. Young children are unable to detach themselves from their own point of view, and, in effect, seem to assume that the world appears to others as it does to them (Piaget &Inhelder, 1956). This reduces their effectiveness as communicators (Krauss & Glucksberg, 1977). Although adults do better, they are far from perfect, and like children their judgments of others' perspectives tend to be biased by their own points of view. Under time pressure or when preoccupied, adults are likely to formulate messages that neglect their addressees' perspectives (Keysar, Barr & Horton, 1998). Moreover, adults perspective-taking efforts display an egocentric bias similar to that found in children. Asked to estimate the likelihood of someone identifying an individual pictured in a photograph, people who themselves recognized the person tended to overestimate his recognizability, while people who did not recognize him underestimated it (Fussell & Krauss, 1991).

Such limitations in the ability to appreciate others' perspectives might make verbal communication considerably less effective than it is were it not for the fact that communication is a collaborative rather than an individual process. The collaborative nature of communication is the focus of the paradigm we call Dialogic.

Dialogism: The Encoding-Decoding, Intentionalist, and Perspective-Taking paradigms all characterize communication in terms of individual acts of

production and comprehension. In this view, participants are viewed as "autonomous information processors" (Clark & Brennan, 1991). The speaker must generate utterances that will convey a particular meaning; the addressee must process those utterances, and by so doing identify the speaker's intended meaning. Communicative exchanges that relied exclusively on such an arrangement would impose a heavy cognitive burden on the participants. Probably because we do it so well, we seldom appreciate how complicated a process communication is. Producing spontaneous speech requires the speaker to perform two cognitively demanding tasks simultaneously: conceptualizing the information to be conveyed, and formulating a verbal message that is capable of conveying it. The number and complexity of the factors that must be taken into account is dauntingly large (Levelt, 1989). The addressee's task is equally challenging. Speech is evanescent; once it has been articulated, it must be processed and comprehended in real time. Conversational speech is produced at a rate of about 2.5 words per second, often in noisy environments and with less-than-perfect articulation. Production and comprehension could pose formidable problems for two completely autonomous information processors. Yet participants typically come away from conversations believing they have communicated successfully, and objective evidence probably would indicate that they have.

One reason people are able to communicate as well as they do in such adverse circumstances is that the exquisite responsiveness of conversation (and similar highly interactive forms) permits them to formulate messages that are closely attuned to each others' immediate knowledge and perspectives, which reduces the cognitive demands of production and comprehension. The participant who at a given moment occupies the role of speaker can determine virtually instantaneously whether the addressee has identified communicative intentions

correctly. Simultaneously the addressee can reveal the nature of his or her understanding as it develops, and in this manner guide the future production of the speaker.

As Herbert Clark and Susan Brennan (1991) have observed, certain activities by their very nature involve *joint* or *collective action,* and it makes little sense to think of participants' actions as individual events.

> It take two people working together to play a duet, shake hands, play chess, waltz, teach, or make love. To succeed, the two of them have to coordinate both the content and process of what they are doing...Communication, of course, is a collective activity of the first order.

Close examination of what actually is said in conversations reveals that it is seldom an orderly process in which participants alternate in the roles of speaker and listener. Rather, sentences often trail off inconclusively or are left dangling incomplete, listeners interrupt to ask questions, interject comments and finish sentences, topics change abruptly and unpredictably, and what is left unsaid may convey more than what is explicitly stated. It would be a mistake to regard such conversational speech as a defective version of some ideal form. Rather, these apparent aberrations reflect the way conversation operates as a communicative process.

In the Dialogic view, conversational speech is the model for communication, and a communicative exchange represents a joint accomplishment by the participants, who have collaborated to achieve some communicative goal. As a result, meaning is "socially situated" -- deriving from the particular circumstances of the interaction--and individual contributions are not meaningful apart from that situation.

FUTURE DIRECTIONS

Although language must have evolved in the setting of face-to-face communication, human inventiveness has long sought ways to transcend the limitations of time and space that physical copresence imposes. The most important technological development in this quest was the invention of word-syllabic systems of writing, probably in Mesopotamia around 4000 years ago. Phonogramic representational systems made it possible transform the ephemera of speech into a tangible record that exists independent of the person who generated it --a development with profound consequences at both the individual and he societal level (Goody, 1977).

Writing systems, combined with more recently invented technologies for recording, transmitting and reproducing signals, make it possible to transmit a dizzying variety of materials (data, text, graphics, facsimile, to name only a few) over virtually limitless distances. Surely the enhanced communicative capacities that such technologies make possible have wide-ranging potential consequences for the way human life is constituted.

A species' survival depends critically upon its ability to communicate effectively, and the quality of its social life is determined in large measure by how and what it can communicate. Human social life as it is presently constituted is predicated upon an extraordinary level of communicative virtuosity-- a level of virtuosity that the uniquely human ability to use language confers. Absent this, our lives would be quite different.

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