A LANGUAGE COMMUNICATION MODEL

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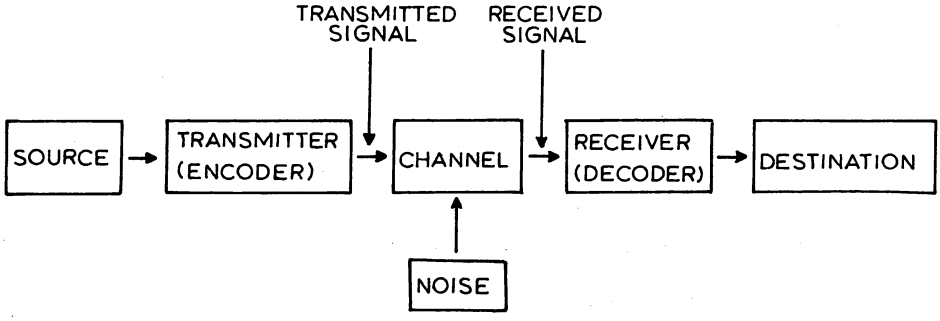
The language communication model described in this paper is based on Shannon and Weaver's (1949) generalized communication system. This system is diagrammed in Figure 1. It was developed by Shannon to deal

FIGURE 1

A Generalized Communication System



with signal transmission especially as it relates to the telephone. The process is linear in that there is a beginning, a source, which in the case of a telephone conversation are the different sound vibrations produced by the speaker. A transmitter transforms these into electrical signals which travel over lines (the channel). A receiver transforms the electrical signals back to sound vibrations and the message reaches its destination, the listener. Interference in the line which causes distortion of the message is termed noise.

In the years following Shannon and Weaver's (1949) publication, the generalized communication system was widely applied to biological, psychological, social and other systems. It was never intended as a model for human communication and Klemmer (1962) was one to warn against its blind acceptance. McCreary and Surkan (1965) echoed the same sentiments when they stated that the hardware of communication systems was not entirely adequate as a basis for discussing the operations of humans or their activities.

The major limitation of Shannon and Weaver's model applied to human communi-

cation systems is the separation of source and destination and the separation of transmitter and receiver. Man combines all these functions in himself. That is, he both transmits and receives messages. He functions as a source and as a destination. However, the model can be adapted, for a property of models is not that they are true or not true but rather that they are useful or not useful. One such adaption of the generalized communication model to language communication was made by Osgood (1959). The three components of Osgood's representational model, as it was called, are reproduced in Figure 2.

FIGURE 2

A Representational Model of Language Communication

(after Osgood, 1959)

Source System	Message System	Receiver System
alternative encoding habits	lexical items	alternative decoding habits
	lexical contingencies	
meanings		meanings
	syntactical structure	
associations		associations
	other formal	
attitudes	characteristics	attitudes
values	voice qualifiers	values
motives	pausal phenomena	motives
specific intentions	errors	specific significances
	gestures and	
communication facility (effectiveness)	expressions	communication facility (comprehension)
	posturings	

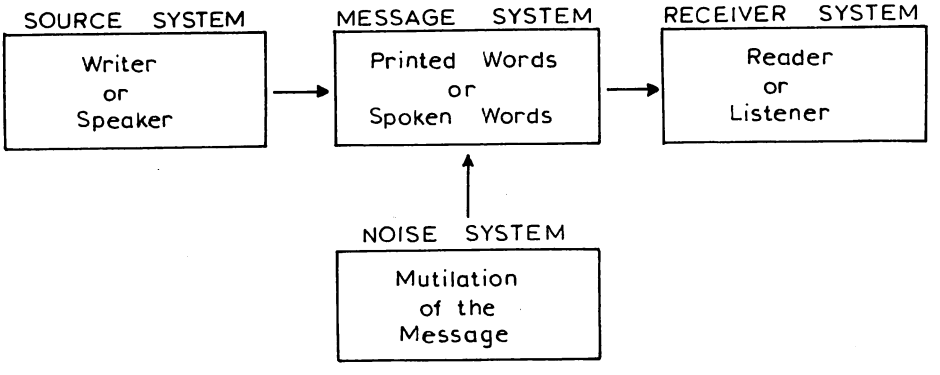
Osgood's model provides a starting point for the psycholinguist whose interest is in measuring language communication. The transmission and the receiving of messages are seen by the psycholinguist as essentially coding operations. A message is produced by a source or encoder which in the case of written communication is the writer or author. The writer is restrained in his encoding to some extent by his particular encoding habits, his associations, his attitudes, and his values. Put another way, the writer has his own style of writing. This style is evidenced in the message produced, in the choice of vocabulary, the sentence structure, and so on. Before a message is received by a

reader, the written words and sentences are decoded or interpreted. As in encoding, the task of decoding is facilitated or made difficult according to the reader's decoding habits, his associations, his attitudes, and his values.

The correspondence between the encoding habits of writers and the decoding habits of readers is an index of language communication. In order to tap this correspondence it is necessary to add a fourth component to Osgood's model, namely noise. An extended model that provides for source system, message system, receiver system, and noise system is presented in Figure 3.

FIGURE 3

A Model for the Language Correspondence of a Source System to a Receiver System



Noise in a telephone line is static of some kind which distorts the message. Noise in written communication may be thought of as interference with the language patterns of the message before it is received by the reader. The reconstruction of these language patterns is an operational measure of language communication. In a further article to appear in this journal a technique for measuring the degree of correspondence between encoder and decoder is described within the framework of the language communication model presented here.

Models are useful in science in a number of ways. In conclusion, the following four properties of the language communication model are noted. First, the model permits treatment in operational terms of something that is essentially abstract. Second, it permits well established methods of analysis to be applied, provided due care is taken not to

violate basic assumptions. Third, it provides a framework for established facts. Fourth, and most important, the language communication model is useful to the extent that it provides hypotheses or explains phenomena.

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