Work Papers of the Summer Institute of Linguistics, University of North Dakota Session

Volume 17 Article 23

1973

A communications model of culture contact

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INTRODUCTION

Most anthropologists currently involved in the study of culture contact recognize the importance of adequate communication for successful transmission of ideas or traits. Some, such as Niehoff, have made explicit the importance they feel it has: "Communication by the innovator is probably the single most important kind of action in which he will engage, since it is a prerequisite for everything else that follows. No ideas or techniques can be transferred from one person to another unless there are channels of communication established to transfer them, and these are the patterns of communication. If no adequate patterns of communication are established, the other innovator techniques cannot take place. (Niehoff, 1966:15). However, few investigators concentrate upon the formal properties of communication itself when dealing with cross-cultural contact situations. Much, of course, has been done by social psychologists dealing with communication at an intra-cultural level, but few studies follow the pattern established by Eisenstadt (1952) in dealing with communication at an inter-cultural level

The format of this paper will be to briefly note possible definitions of communication, to note some proposed models of communication and, finally, to attempt to determine if these models are appropriate for the cross-cultural contact situation.

DEFINITION OF COMMUNICATION

It seems to be generally accepted that communication involves the sharing of information. However, beyond this minimal definition there is

little agreement. Some would restrict the definition to involve communication between people only, others would include machines and animals, and still others would include revelation as communication (Newman, 1960:61). For some, notably psychologists, communication is the response of an organism to a stimulus (IBID:60). Cherry (1957:7) objects to the latter, noting that it is not the response itself that is communication, but rather the relationship between the stimulus and the response. The latter seems to be what Weaver (1949:15) was saying when he noted that communication includes "all of the PROCEDURES by which one mind can affect another." (italics mine) For purposes of this paper the theoretical discussion centered around the definition may be side-stepped for the most part and a definition accepted that focuses upon the process involved when one system, the source, influences another, the destination, by manipulation of signals. When models are discussed, the further distinction will be made between communication in general and human communication.

COMMUNICATIONS MODELS

The minimal system of communication as outlined by Shannon and Weaver in 1949 in The Mathematical Theory of Communication has been applied to the transmission of information in electrical, biological, psychological, social and linguistic systems. It is an explanation of communication in general involving an information source (see figure 1) which selects a message and, by means of a transmitter, converts the message into a signal. The signal is then sent over a channel to a receiver which converts the signal back into the original message and sends it to the destination. The process by which message is converted into a signal is called encoding. The reverse process by which the signal is converted back into the message is referred to as decoding. The code, according to Berlo (1960:30), is simply a systematic

set of symbols, or arbitrary relationships of form to meaning. Encoding, then becomes a matter of selecting the proper form to represent a given meaning.[1] It also involves relating these form-meaning composites to each other in a sequence according to prescribed rules (syntactic rules). The rules themselves convey meaning, so that the selection of the proper rule aids in getting a message across. For example, there is a syntactic rule in English that says the subject comes first in a declarative transitive clause, the verb next and the object last. Thus, to say "Bill hit it indicates that Bill (a form-meaning composite representing a male homo sapiens) is the actor. Gleason's description (1964:4) of language as a code having three kinds of components is useful here: inventories, sets of units out of which structures can be built; tactic rules, specification of ways in which units can be used to build structures; and recoding rules, specifications of the relations which obtain between co-occurrent superimposed structures.

In transmitting the signal over the channel certain variations in the signal not intended by the source occur; anything which causes these unintended variations is referred to as noise (Weaver, 1949:17).

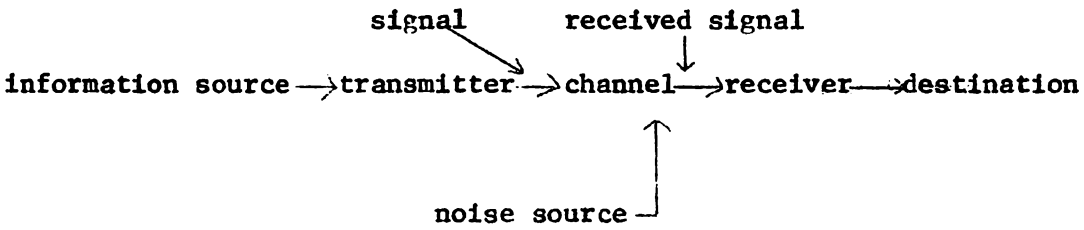

FIGURE 1 (from Weaver, 1949)

In communications theory the term information has a restricted meaning in that it is that which provides the receiver with the ability to select from a bounded repertoire. Complete information would supply the minimal

coded instruction to allow the receiver to select uniquely and unambiguously, whereas redundant information would provide an excess of coded instructions for the same selection (Meier, 1962:125). This principle of redundancy is very important to communication in that the more redundancy there is, the more tolerance there is for noise (Rapoport, 1953:51). For example, I have often observed people listening to a radio while driving a tractor or boat or while pushing a lawnmower. Obviously these people miss many of the segmental phonemes uttered over the radio, but due to redundancy, or context, they are able to grasp the meaning or message of the radio program.

Shannon and Weaver's model is unilinear, consisting of a source and a destination, a beginning and an end. However, if the principle or feedback is added to this model, it becomes circular - i.e. messages received can affect messages sent. Just as redundancy is the repetition of a signal to overcome noise, negative feedback may be regarded as another error-correcting mechanism to overcome noise (Smith, 1966:365). Assuming that noise alters the signal so that the intended message is not the message received, the response of the destination will be different than what is expected" of it by the source. This unexpected response acts as negative feedback to the source, causing it to emit another message in an attempt to overcome the error (see Wiener, 1948). If the error is overcome and the destination responds as expected, this response acts as positive feedback to the source which may either send new messages or discontinue messages.

Sebeok (1963:52) and Osgood and Sebeok (1965:1) note that Shannon and Weaver's model is not intended as a blueprint for human communication and, consequently, omits two very important factors. The first of these is the fact that the individual speaker functions as both source and destination

simultaneously, generally decoding those signals he transmits through various feedback mechanisms (hence, the corrections we make when we get our tongue tangled"). Each individual is a self-contained communication system, encompassing in his nervous apparatus...all of the components found in Shannon's model. (Osgood and Sebeok:1) The model they propose is shown in figure 2 and described as follows (P.2): 'Translating into traditional psychological language, INPUT becomes equivalent to 'stimulus', RECEIVER becomes 'reception' and 'perception', DESTINATION and SOURCE become 'cognition' (meaning, attitude and the like), TRANSMITTER becomes 'motor organization and sequencing', and OUTPUT becomes 'response'."[2]

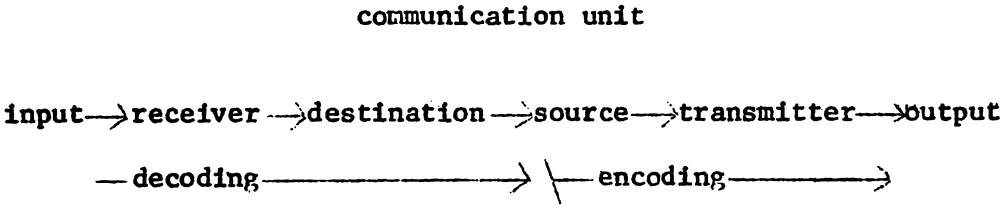

FIGURE 2 (Osgood and Sebeok:2)

The second factor Osgood and Sebeok feel is not accounted for in the engineering model is the meaning of signals, that is "their significance when viewed from the decoding side and their intention when viewed from the encoding side. The research generated by such models has dealt almost exclusively with relations between transmitter and receiver..." (p.2). Elsewhere Sebeok (1963:52) has attempted to incorporate meaning into a model based upon one by K. Buhler in which the source and destination are mutually oriented toward a referent (Buhler's model is shown in figure 3).

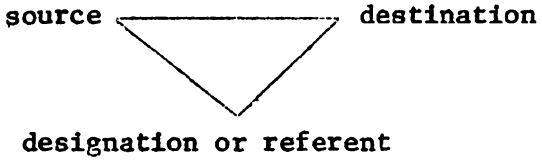

FIGURE 3

The main burden of most messages is this orientation toward the referent - i.e. orienting the actor and addressee toward the referent in similar ways. Put in the words of Berlo (1960:16), the purpose of communication is the elicitation of a given response from a given person or group of persons - that is, getting others to understand things as the sender understands them.

Another trait of the human model that must be accounted for, but is ignored by most, is the ability of the receiver to tune in or drop out - i.e. to shift his focus of attention, closing the channel and ending communication. Schramm (1963:10) and Meier (1962:12) note that each of us is surrounded by many more messages than we can possibly receive. Therefore, we must be selective; our choice of messages to be received is dependent upon availability of the message and rewards promised by it. If the message can be heard or seen at almost any time of day (eg. advertising on radio, television or billboards) its likelihood of being received is great. Likewise if it is in line with our present interests, we are more likely to pay attention to it. This is the first hurdle in communication. Once the message has gotten past this hurdle (i.e. selection) it must then be either accepted or rejected. This process is a matter of cognition, which will be discussed at more length later.

In all of the above no mention has been made of the kinds of channels and codes available to man for communication. The most obvious, of course, is speech, but it is only one of a number of different means of cummunication over different types of channels. As Sebeok (p. 50) says, "These channels are made up of a number of different bands over which messages can move synchronously. There is a vocal-auditory band which couples movement of vocal muscles with stimulation of auditory receptors. There is

also a gestural-visual band... and a manipulational-situational band which, by the meditation of 'things' manipulated and observed, couples source and destination." Each form of communication has its own code, the minimal units of which are emic units. What Sebeck means by the manipulational-situational band" is not entirely clear, although I would interpret it as involving such things as, for example, communicating your attitude toward someone by "manipulating" people by giving a party for the friend. Another example would be to write a letter to a person and communicate not only by the actual written message itself, but also by the type of stationery used - high quality paper indicating deference or notebook paper indicating equality or friendship. The work of Birdwhistell on kinesics, Hall on proxemics, Trager on paralinguistics and Frank on tactile communication are all examples of attempts to define the emic units of the various channels and codes of human communication.

The accompanying paradigm (Figure 4) is an initial attempt to organize the types of channels available for human communication into a coherent picture for examination. Those items included have been studied in varying degrees by a number of authors who do not necessarily see them in the terms proposed here. Most of the items are self-explanatory, but some such as the chemical channel have received little treatment in the research on human communication. The paradigm is merely suggestive and can be completed in greater detail and accuracy as further research in these types of areas continues.

MODE OF MESSAGE

CHANNEL		BAND	Declarative	Imperative	Interrogative	Desideratv
AUDITORY	VOCAL	Linguistic				
		Paraling.				
	MUSICAL					
VISUAL		Kinesic				
		Written				
		Pictorial				
PROXEMIC		Spatial				
		Temporal				
		Tactile				
MANIPULATIONAL-SITUATIONAL		Personal				
		Objective				
		Eventive				
CHEMICAL		Gustatory				
		Olfactory				
ORGANIZATIONAL		Institu-tional				

Figure 4.

It should be noted that quite frequently when there are problems in contact situations, these problems arise from the assumption that the culture being contacted shares the same code on a given band that the contacting culture has. Thus, Americans in administrative positions within Latin American cultures frequently become angered or aggravated by the fact that the people they are working with are late to appointments; the American often encodes lateness as a device for establishing social superiority and assumes that this is the way the other culture encodes it. The excellent work done by E. T. Hall and Arensberg and Niehoff, when viewed in terms of confusion between codes, takes on additional significance. The section which follows will elaborate upon this problem of isomorphism, or the lack of isomorphism, between codes both at a cross-cultural and an individual level.

IMPLICATIONS OF COMMUNICATIONS THEORY CROSS-CULTURALLY

It has been a recognized fact in linguistics and anthropology for at least half a century now that referential categories are not universals, but take varied forms in different languages (cf. de Saussure:116). The problems being encountered in machine translation give ample evidence to this fact. In discussing this, Nida (1964:53) and Campbell and Hepler (1965:89) note that at the individual level no two people use exactly the same symbols for the same types of experience (they do not have identical backgrounds and, therefore, differ in their use of the same code) so that absolute communication is impossible. Pike (1954) recognized this to be true of all aspects of behavior both at the individual level and at the cross-cultural level and, consequently, posited the etic-emic distinction for behavior. In short, etic phenomena are valid cross-culturally, universally predictable, but emic phenomena must be discovered in each culture - they have structure imputed to them by their users. In psychology, the difference between sensation and cognition is somewhat akin to the etic-emic distinction (cf. Witkin, et al, 1954 and Bruner, et al, 1966). Etic phenomena are those which are received by a person simply through sensation; emic phenomena involve the meaningful categories into which the etic phenomena are placed by a member of a given culture. Etic phenomena are the "real world" but emic phenomena are man's "created world". The process of 'emicizing' etic phenomena may later influence an individual's perception of phenomena. That is, in categorizing into a single phenomenon what might be discrete phenomena, a person eventually comes to perceive the varied etic phenomena as a single phenomenon. He is unable to recognize that his single emic category may have a number of actually discrete phenomena.

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Out of this type of view the approach known as "ethnoscience" or "formal semantics" came into being. The general purpose of ethnoscience is to discover the cognitive organization shared by individuals in a given culture - to discover the culturally-determined ways in which individuals define and categorize experience. Various methodologies are being used to discover these underlying emic classifications of phenomena, the most popular of which is componential analysis, developed from linguistic distinctive feature analysis by Goodenough (1961).

Although not generally identified with ethnoscience approach, the semantic differential as developed by Osgood (1962) is also an attempt to determine cognitive organization in various cultures.

What is the relevance of all of this to communication in the contact situation? Foster (1962:134) notes, as do many authors, that to the extent that language and culture are the same for two individuals, communication is relatively easy. But the more diversity that exists in either of these categories, the more difficulty there is in communicating. The reason for this, of course, is that when the source and the receiver are utilizing the same code in interpreting messages, there is little change in the meaning of the message. However, as the codes become increasingly diverse, the ability for both to interpret messages similarly decreases.

Goodenough (1963:147) defines cognitive organization as including "the ways in which the phenomena we discern appear to us to be mutually associated or arranged, and it includes the transformations from one to another perceptual category that phenomena appear to undergo as their mutual associations change." Individuals who share a common set of relations as well as signs are said to have cognitive symmetry, or

co-orientation (Newcomb, 1953:69). The implications of this for culture change are twofold. First, for anyone to invent anything new or to accept a new invention, he must organize existing concepts of reality into new relationships (Hagen, 1962:87; Goodenough, 1963:149). Second, since all change must be somewhat consistent with existing cognitive orientations, introduced ideas or traits will be perceived and interpreted in light of existing meaning patterns. This, of course, gives rise to the phenomenon of syncretism. Foster (1962:27) notes that the more susceptible a given innovation is to reinterpretation in terms of the existing conceptual framework, the more likely it is to be accepted. Consequently, if syncretism is not desired, the new technique or idea must be presented in a way that the recipient perceives its potential advantages in much the same way as the innovator does (Foster:120).

It is at this point that ethnoscience might be of some value, because it deals with the implicit associations surrounding ideas, and it is only if the change agent is aware of the connotations and associated values of a given idea that he can expect to predict possible reactions to its introduction.[4] By doing a detailed and complete analysis of the taxonomies associated with the new trait, the agent should gain insight into the recipient's code the way the recipient uses it, thus avoiding the fatal mistake of using his own perceptual grid to filter the concepts of the recipient.

THE GENERAL SYSTEMS APPROACH

At this point I would like to use the general systems approach to the contact situation. The model to be followed is the basic model presented by Shannon and Weaver described above. The basic interpretations are fairly obvious. The source, of course, may be either of the two

cultures in contact, but I will refer to the source here as the contacting society, and to the destination as the contacted society since that generally seems to be the case today. The message to be transmitted deals with the introduction of an innovation, either ideological or technological. In most cases the transmitter is a professional agent, such as an agronomist, who is a member of the contacting society and must first decode the message from his own coding system and then encode it into the coding system of the recipient culture. In so doing he is bound to introduce "semantic noise", which Weaver defines as any distortion of meaning unintentionally introduced by the source (1949:23). Since the agent is functioning as transmitter, converting a message into a code that he is not entirely familiar with, he will undoubtedly transmit some signals whose meaning is a little different than what he perceives it to be. Another type of semantic noise that might conceivably be introduced is the sending of conflicting messages over different channels (eg. saying one thing and unconsciously contradicting it with behavior that means something else or indicates that he is not serious - that is, by contradicting himself on a paralinguistic or kinesic channel). Similar to this problem is the problem of what many communications theorists refer to as "surface meaning" and latent meaning" (Schramm, 1963:9). The surface meaning of a message is that meaning taken directly from a spoken utterance whereas latent meaning is that meaning abstracted from the context of the relationship of sender and receiver. For example, to say "Good morning' does not necessarily mean that the weather is good. To interpret it this way is to utilize only surface meaning, but to interpret it as meaning "Hello or Glad to see you is to utilize latent meaning. Frozen collocations, or idioms, are actually examples

of this type of phenomenon.

Closely related is the matter of primary channel. It is often true that the choice of channels is an important factor in making a message effective (Berlo, 1960:31). Therefore, the change agent must ask himself a number of questions such as: Which channel ordinarily takes precedence? Under what circumstances does this change? Would utilizing a "lesser" channel by emphasizing it in some way make the message more or less acceptable? What combinations of bands are effective? Are there any serious taboos on some bands? The change agent would do well to list the possible channels as suggested by the paradigm in Figure 4 and to check each of these for possible effectiveness or for hindrances that they might incur. The relevance of each cell in the paradigm is going to vary greatly depending upon the two cultures involved and upon immediate circumstances. In some cases, certain cells may be untestable, but nonetheless valuable in suggesting questions to be answered. For example, is a declarative mode of sentence more acceptable and likely to produce results than an imperative mode in a specific instance? Would a kinesic action in a desiderative mode (desiderative meaning "desire" or I would like such and such to occur") made simultaneously with an imperative linguistic statement have the same effect of indicating humor as does in our own culture? (eg. "Do it now and I don't mean maybe! - Please?') What kind of message does body odor or the use of perfumes and deodorants convey - deference? equality? superiority? Does this contradict the linguistic message being focused upon by the change agent? Does it "declare" that the speaker is better or does it fit the desiderative mode indicating, for example, "I'm wearing perfume (or not wearing it) because I want to plead with you to do such-and-such"?

It would be helpful to go through the entire matrix noting whether each cell represents the attitude of deference, equality or superiority. Although this cannot be applied to all cells, it should be helpful in giving insights in those to which it can be applied.

When the responses of the contacted society are not what were expected in a given situation, the agent will utilize this negative feedback and compensate in future transmissions. The longer the contact and the more feedback the agent gets, the more information he receives regarding the receiver's conception of the innovation. A classic case of the utilization of feedback in a change program is the Vicos project described by Holmberg (1960). Niehoff (1966) recognizes the importance of both watching for and utilizing feedback in directed change.

In some situations of mediated contact the transmitter to the contacted society is a member of that society. Consequently, he will interpret the contact situation in terms of his own cognitive structuring and then transmit this version on to the recipient culture. If he has received his concept of the situation from a member of the contacting society rather than through direct experience, the original source message has the chance of being altered twice. In addition, he may choose to ignore certain features or to transmit only part of what he has received. A special problem arises when the receiver himself introduces semantic noise (eg. the mediator may be psychologically aberrant, will decode messages in unusual ways and then transmit these). A model devised by Westley and Maclean (1957:83) to account for mediation is quite applicable here in that it summarizes the possible relationships spoken of so far (Figure 5).

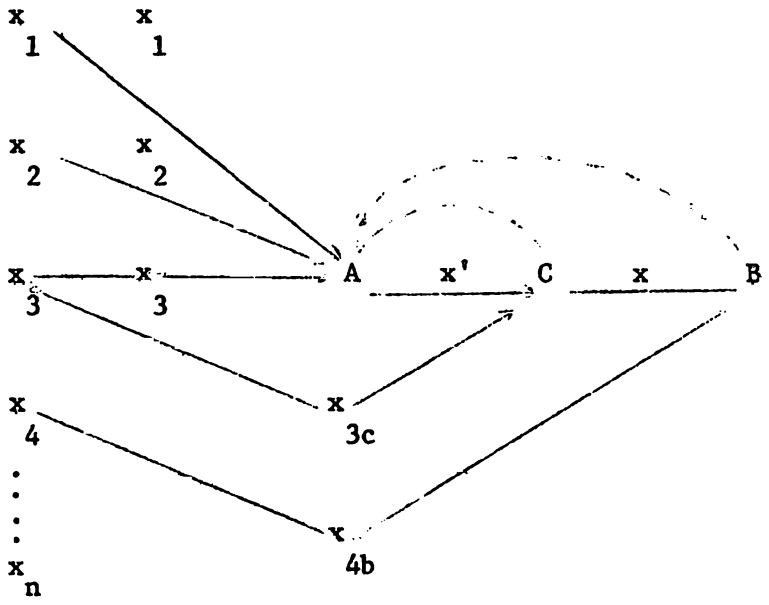

FIGURE 5
Revised slightly from Westley and MacLean, p. 83.

In this model objects of orientation ($x_1 \ldots\ldots x_n$) in the sensory field of the receiver A are transmitted directly to him in abstracted form (This is a matter of an individual emicizing empirical phenomena as discussed earlier). A then encodes information regarding these objects of orientation (i.e. - referents, or the totality of objects and events "out there") and sends a message to C regarding the referents. C must decode this information for himself and then encode it again to pass it on to B. In the process, the $x_1 \ldots\ldots x_n$ can take on a different form (x') first imputed by the emicizing process of A and then take on a third form (x") imputed by C's emicizing process. B's perception of x" may even be colored by the emic categories he has so that the original $x_1 \ldots\ldots x_n$ has taken on a very different quality by the time B decodes it. C may abstract information directly from his own sensory field (x_{3c}), bypassing A and eliminate one of the possible sources of distortion. Likewise B may get the information firsthand himself (x_{4b}).

Feedback (dotted lines) moves not only from B to C and B to A, but also from C to A. In Westley and MacLean's view, A, B or C may be individuals, primary groups or total social systems, so the model becomes unlimited in its application (p. 84). They suggest in passing that the model might be applied to an intercultural situation (p. 87). If such is the case a number of interpretations might be open. C might be an individual mediating contact (a member of either cultural group in contact) or it might be a committee or agency such as a health clinic. A could be an entire social system (as when two small groups come into contact in a migration), or it too could be an agency interpreting a contacting culture's content to the contacted culture.

Westley and MacLean are also the only ones encountered in the research for this paper who include non-purposive (non-directed) change along with purposive change in their communications model. As they put it "A purpose message is one A originates for the purpose of modifying B's perception of an x. A non-purposive message is one which is transmitted to B directly or by means of a C and in the absence of any communicator's intent to influence him. The absence of a communicator's intent to influence B transforms his act into an x. When a person says something he hopes will reach another person's ears, he is an A; but if he says it without such intent and it nevertheless is transmitted to B, his act must be conceived of as an x." (p. 84). This may be directly translated into a cross-cultural situation of non-directed change as proposed by Spicer (19:520ff.).

In all contact situations the nature of the contact as it is perceived by the individual may be a source of noise. Knowing the cultural code of the receiver may not be enough, for the contact itself may influence the message as perceived by the receiver. Reference here is to a typology

of contact situations as proposed by such as Smith and Dohrenwend (1962) and Spicer (1961). Whether one believes his culture is in an inferior position or a superior position may be of extreme importance in conditioning attitudes toward a change agent, and, hence, in conditioning interpretation of messages. The relative peacefulness of the contact, the vigor of the contacting society in attempting directed change and the access that the contacted society has to positions in the contacting society can all play important roles in forming one's perception of both the message's content and its intent.

The importance of elites or respected persons as mediators of innovation is recognized by most change agents. In fact, one of the few studies concentrating specifically upon intercultural communication is a study of the role of elites as cultural brokers (Eisenstadt:580). Schramm (1963:10) has summed this up concisely when he says "...the impact of any message depends upon more than any one single channel, actually on many channels or cues that we hear or see simultaneously. And with every message comes an especially important cue - the knowledge of WHO said it, which helps us to determine whether to accept it and act on it." Some other principles established in communications research also seem to be taken as general principles operating in a contact situation. For example, the value of redundancy, so important in advertising, is recognized by Foster when he regards the continuing presence of the innovator as important. The results of communications research by social psychologists should be of interest to those pursuing directed change. It could be of great value to know if the principles of recency versus primacy, the use of contradictory propaganda in the presentation of an argument, or large scale exposure to ideas function in other cultures as they do in Western cultures. It may be that only when the universal characteristics of

persuasion and decision making are delineated can we expect to be successful predictors of the outcome of culture contact.

FOOTNOTES

* Paper delivered to the Rocky Mountain Social Sciences Association, 1968, Denver, Colorado.

1 This is adequately expressed in the stratificational theory of language espoused by Gleason and Lamb among others. Here, the form-meaning composite is a morpheme and the underlying unit behind the morpheme is a sememe - an abstraction from the tangled mess of reality (see Gleason, 1964:3).

2 For an earlier version of this type of model in linguistic terms, see Charles Hockett, A Manual of Phonology, pp.4-14.

3 Since it lies outside the scope of this paper, the debate over the necessary correlation of perception and cognition will not be discussed here. Also, the problem of whether emicizing involves learning distinctions on a high level of abstraction or whether it involves 'unlearning' already-perceived distinctions will be left to the psychologists and linguists. I suspect taat both

4 At this point in its development, componential analysis will be of limited help though, because as currently (1968) employed, it is restricted to signification as opposed to connotation. That is, it maps only the distinctive features of an idea, not all possible associations. It also tends to deal only with systematic contrasts and to ignore gradient differences.

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