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9. ABSTRACT <p>Recently, the common view of communication is that it is a linear process entailing mechanistic relationships among a message, a sender of the message, the channels used, and the receiver of the message. There is recognition that at this time there is no adequate conceptualization to achieve the task of describing communication and change without resorting to use of sequential conceptual stages. This paper explores the research problem, the conceptual approach used here, the significance of identity for communication and change, implications for message content and structure, and the state of the art. This research should produce evidence which might be used in two ways: (1) use of identity concepts in messages throughout a program of communication designed to effect change from one phase to another in the adoption transition and (2) use of identity characteristics of potential adopters as indicative of their relative readiness to adopt a given innovation. Progress toward these uses can be made because of the current transition in conceptual orientation to communication and technology transfer.</p>		
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Identity as a Neglected Factor in Message Design
Relevant to Communication for Technology Transfer

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Sociologist

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I. Current Transition

Perspective on communication for technology transfer is undergoing consequential change which can lead to new and constructive insights in this area of endeavor. Interestingly, these changes are in conceptual systems used to observe and interpret data. In early conceptualization relevant to technology transfer, change was viewed as an adoption process described with a continuity of sequential stages. These sequential stages were often identified as those of awareness, interest, evaluation, trial, and adoption or rejection (Rogers, 1962: 81-86). This "adoption process" was viewed as a type of decision making, (Rogers, 1962: 77), but the conceptual approach used was essentially a "demographic" one in the sense that social and demographic characteristics of adopters were correlated and associated with those stages and with "adopter categories" (innovators, early adopters, early majority, late majority, and laggards) (Rogers, 1962: 148-192).

In more recent conceptualization, with emphasis placed on communication and on psychological attributes, adoption was viewed as related to an innovation-decision; this decision-making was regarded as a process which entailed

the following stages: getting knowledge, being persuaded, making a decision, having that decision confirmed (Rogers, 1971: 25; Rogers, 1973: 267).

Even more recently (Rogers and Agarwala-Rogers, 1976), communication is viewed as an integrating process in an holistically structured organization. This perspective contrasts with the one more frequently used in which communication is viewed as a linear process entailing mechanistic relationships among a message, a sender of the message, the channels used, and the receiver(s) of the message (Berlo, 1960).

With these changes has come an emphasis on regarding communication as a process with continuity which cannot be described with a sequence of stages; the inadequacy of current conceptualization for this achievement is recognized (Rogers and Agarwala-Rogers, 1976: 18-19). In the same vein of coping with problems of conceptual orientation (Sujono, 1974) reports research results which indicate that psychological factors are critical in the adoption of an innovation; psychological attributes may or may not vary consistently with social and demographic variables such as age, sex, income level, education, religion, and location, and social status. In his choice of psychological attributes examined, Sujono is influenced strongly by the work of Donald J. Bogue.

The implication is that much early work which has dealt with social and/or demographic correlates of adoption may become more systematically complemented than ever before by work dealing with attributes related to communication and change as processes of which adoption is part. One has to approach this situation with recognition that we do not have adequate conceptualization, at this time, to achieve the task of describing communication and change without resorting to use of sequential conceptual stages.

There seems, however, to be prospects for systematic reconciliation of Rogers and Agarwala-Rogers' emphasis on communication as an integrating process in a structured system, the making of an innovation-decision, and the six prerequisites cited by Donald J. Bogue for adoption of an innovation. In Bogue's approach, a potential adopter:

- a. has knowledge of an innovation;
- b. has motivation to feel a need for benefits of the innovation;
- c. perceives sources of information about the innovation as credible;
- d. perceives the innovation as socially legitimate;
- e. has developed a positive attitude toward the innovation;
- f. is ego-involved with respect to use of the innovation.

For an illustration of their recent use, see Sujono's work on innovation in Indonesia (Sujono, 1974) to which reference is made above. In the course of pending transition in conceptualization, opportunity exists for viewing familiar variables in new ways, and for examining relationships thus far unknown, ignored, or inadequately considered.

II. The Research Problem

One component of human beings' ideation which is related to their behavior is their self-imagery, or identity concepts. The relationships between these concepts and adoption of innovations has not been adequately explored.

In Everett M. Rogers' early review and commentary on adoption of innovations, he makes reference to three studies which dealt with aspects of self-imagery. The studies varied, but their thrust was on adopters' judgment of themselves as adopters or innovators and on socio-economic characteristics associated with an adopter's perceiving himself as an innovator (Rogers, 1962: 188-189). While exploratory and useful, these studies concentrate on accuracy of self-perception and on characteristics associated with a type of self-perception.

In subsequent literature on adoption and innovation presented by Rogers, there is no reference to systematic investigation of self-imagery and identity-concepts per se (Rogers, 1971, 1973, 1976) as related to either adoption or innovativeness.

As subsequent comment will indicate, the relevance of identity for innovativeness and adoption behavior has not been ignored; rather, it has been dealt with inadequately. The current change in conceptual orientation to which reference is made above provides the potential for more systematic consideration for the relevance of identity concepts than has been achieved thus far; their future consideration should be in the context of processes of communication and change.

III. The Conceptual Approach Used Here

In order to approach the subject of identity concepts as they relate to change and adoption of innovations, I find it useful to clarify the perspective on identity which I use. A basic expression of the psychological premises for identity is found in the work of Milton Rokeach. Citing Erik Erikson, Rokeach regards the feeling of personal identity as based on a person's perceiving both his own sameness and continuity in time and other's recognition of his sameness and continuity in time. He then comments:

"The child learns that objects maintain their identity, and also that other people experience physical objects as he does. Thus, two sets of primitive beliefs develop together, one about the constancy of physical objects and the other about the constancy of people with respect to physical objects." (Rokeach, 1964: 21).

Identity is regarded here as a primitive belief. This expression warrants clarification. Rokeach holds that primitive beliefs are those central to a person's systems of meaning and entail a person's most intense emotional involvement.

"A person's primitive beliefs thus lie at the very core of his total systems of beliefs, and they represent the subsystem in which he had the heaviest emotional commitment."

(Rokeach, 1964: 20).

Thus, identity of oneself and the identity of objects with which one is involved are regarded as highly laden emotionally and central to beliefs held by a person. The centrality of identity implies that other beliefs are dependent upon it.

There are further implications. The beliefs constituting identity are, bio-physiologically, a system of neural coordination and firing. This neural coordination is central in the sense that it is a component of the anxiety controlling coordination of the body; this object-oriented anxiety-controlling coordination is "central" to personality structure and to functioning of the emotions. Hence, the association between centrality of beliefs and high emotional commitment exists because of the relevance of those beliefs for the coordination of the body and the functioning of the emotions. Reference is made to this

component of body coordination with the expression self-system (Sullivan, 1963b: 34-35) or core coordination (Spaulding, 1970: 4).

Personal identity, then, with implications for communication and change and included in one's primitive beliefs, is regarded as based on: 1) constancy of relationships between objects and persons, between persons and persons, and between person and "self;" 2) the degree of centrality of the identity belief indicated by:

- a. dependence of systems of belief on the identity belief,
- and b. dependence of personality structure and functioning of emotions on the identity belief.

The symbols which are used to represent these entities and relationships are structured in languages.

IV. The Significance of Identity for Communication and Change

A. Identity and Behavior

The significance of identity for communication and change lies in the disposition of the human being to act in accord with his defined identity. This premise is held both for individual behavior and for group behavior.

With respect to individual behavior, Karen Horney, for example, describes systematic relationships among a neurotic person's anxieties, his compulsive behavior, and his idealization of himself in his identity concepts;

Horney speaks of an "idealized image" (Horney, 1950). Abram Maslow places self-actualization at the highest level in an hierarchical system of motivating needs; from lowest to highest levels, the needs are: physiological, for safety, for love, for esteem, and for self-actualization (Maslow, 1954.)

However, Sullivan's (1953a) description of the critical influence of "significant others" and Cooley's (1922) familiar concept of the "looking-glass self" indicate that establishing an identity definition, as well as striving to realize that identity, is a development which occurs in a group context and under group influence.

With respect to group behavior, as related to communication and change, the following excerpts from a statement by Lerner and Schramm are cogent. They suggest that in a developing country, the decisions made by its leaders for that nation stem from the image which those leaders have of their nation:

"- - - The more we have outlined and defined what communication is and does in national development, the less we have been able to talk about it as a separate thing. - - -"

"It is not surprising, therefore, to find that the really basic strategies of developmental communication are not merely communication strategies

at all but economic and political, and grounded deep in the nature of society. How fast do we want to go is an economic and political decision that determines the purposes for which communication will be used at a given time and how fast communication itself must be developed to help do the job. What ideology do we want to develop into is a political-economic question that must be answered by the leaders, a question that will determine much of the content of communication, as well as the degree of central control over communication, the proportion of persuasion as opposed to control to be expected, and the extent to which the people will be helping to make rather than merely putting into effect a plan of change. Basically, a nation must answer the great question of human development in general --- Who am I? What do I want to grow into? --- in order to have a firm foundation for a communication policy. - - -"

(Lerner and Schramm, 1967: 27-28).

The significance of having an identity accepted by a nation's members is reflected by the following observation on development within the People's Republic of China:

" - - - In an effort to repair the Chinese self-image, severely damaged by often highly traumatic contacts with foreigners during the

prior 100 years, the government was busily building museums and reviving through theater, storytellers, and the printed word the acclaim of certain carefully selected folk heroes of the ancient past as an effort to heal the wounds and bridge the gap in identity between the 'New China' and the politically acceptable aspects of 'Old China.' (Lerner and Schramm, 1967: 223).

That national imagery is influenced by international relationships is reflected in the following statement:

"The developing countries do not have a very clear image of modernity. Nostalgia for the past pulls them back powerfully toward tradition. Many of these countries have acquired national independence through struggles which were intensely anti-Western. Hatred for Western domination was accompanied invariably by antipathy for things Western. Revival of native traditions --- historical or myth --- was an important objective of their struggle for the achievement of national independence. The self-image of many new nations still has anti-Western and nativist overtones. Even their elite does not clearly know how ultimately the elements of tradition and modernity are to be synthesized in the emerging national pattern. In the absence of

a consensus regarding elements of tradition to be discarded, the modernizing elite cannot pursue its aims aggressively or even vigorously. Strongholds of conservatism and orthodoxy can use the apparatus of democracy to upset the tenuous balance of power and unseat the modernizers from their positions in the government." (Lerner and Schramm, 1967: 96).

In addition to being pertinent for individual and group identity, the relationship between behavior and identity exists for positions with a group. The following brief comment relates behavior and identity to social role expectations associated with an identifying symbol, --- a label:

"People classify themselves and one another in terms of labels embedded in the language of their milieu. The labels evoke socially standardized expectations that we may fittingly call 'role demands.' Role demands define the full-fledged and adequate incumbent of the respective role and provide the standards in terms of which we judge him. What we have called self-demands consist largely of roles with which the individual identifies or to which he aspires, and the corresponding demands. Therefore, how a person reacts to his self-image, what he wants to preserve in

himself and what he wants to change in himself, depends on how he labels himself in role terms - - - and on the expectations that attach to these roles in his cultural setting (Cohen and Short, Jr., 1971: 124).

B. Communication and Change

With the above relationship between identity and behavior in mind, it is possible to consider the relationship among identity, communication, and change in behavior. Communication, as an integrative process in a given social system, takes place under circumstances in which and to the extent that people in that system respond similarly to (attach similar meanings to) symbols (Berlo, 1960; Mead, 1932; Rogers and Agarwala-Rogers, 1976). Identity and associated systems of meaning are expressed and represented with systems of symbols. Hence, communication processes can serve to reinforce the identity of people, the systems of meaning they associate with their identity, and the behavior which is expressive of it. Communication processes can also serve to modify those systems of meaning, and, if modification is extensive enough, to effect a change, however slight, in identity; changes in the systems of meaning and changes in identity are manifest by changes in behavior.

The realization of identity --- whether individual, group, or role-related --- takes place in the context of systems of interpersonal relationships. Hence, sustaining

a changed identity, a changed system of meaning, and changed behavior is achieved by reinforcement of that change through communication between and among people with symbols which are expressive of the "new" identity, meaning, and behavior (Asch, 1952; Lewin, 1958).

When that which was "new" is practiced by all members of a given social system and is established as normative for them, the social system they constitute has change from integration in one state of being to integration in a subsequent state of being. It is transition from a given state of integration to a subsequent state of integration which constitutes the continuity of social change and provides "direction" to that change. The most extensive transition possible in any such "phase" would be adequately extensive to entail a change in identity of the social system under consideration.

C. Identity, Social Structure, and Communication

Networks

In considering further the implications of identity concepts for effective communication, recognition is given to influences which social structure has on communication and to existence of both formal and informal communication networks. One of the most adequate recent commentaries on these aspects of communication relevant to adoption of innovations is made by Rogers and Agarwal-Rogers (1976: Chapter 4, The Effect of Organizational Structure on

Communication Behavior; Chapter 5, Communication Networks in Organizations): For purposes of this paper, one need, at the moment, indicate only that position in social structure and membership in any formal or informal communication network is a basis for identity.

The relevance of identity for communication in this context is indicated by evidence which shows that communication takes place between and among peers more than between and among people who have super-/sub-ordinate positions relative to each other. When communication networks of formal structure do not function adequately, they can be by-passed through use of informal networks (Rogers and Agarwala-Rogers, 1976). Its relevance for communication is also indicated by evidence which shows that the most effective change agents are similar to their target audiences in salient social and personal characteristics but are different from those audiences in irrelevant characteristics and in technical competence with the innovation they are promoting. With respect to the latter, they have greater competence than their audiences (Rogers, 1973: 57, 128). Consistently, discussions of taboo topics tend to occur between persons who are similar in salient characteristics; at the same time; discussions of a taboo topic tend to take place between people without expertise in that area and those who have it or are regarded as having it (Rogers, 1973: 311-314).

V. Implications for Message Content and Structure

A. Orientation

1. Two areas of implication

The above holistic approach to communication as an integrative process for the system has two areas of implication for message content and structure related to identity-concepts. One area is that of relationships to system structure, e.g. to the mutual involvement of system members and to their similarities and differences. The lack of information in this area shows a deficiency in our knowledge. The second area is that of relationships to stages of an innovation decision, e.g. stages of knowledge, persuasion, decision, and confirmation. Here, too, lack of information reflects our lack of knowledge.

2. Relevant message content

In consideration of both of these areas, Donald J. Bogue's categories of message content are useful. Bogue (1963: 19) identifies four useful categories of message content pertinent to the adoption of innovations. He speaks of informational, motivational, legitimation, and ancillary message content. Each is characterized briefly as follows:

- a. Informational content. This is factual information intended to help a person use the innovation. It includes, for example, the basic processes of the innovation's operation, methods of using the innovation or alternative innovations, and logistical factors such as costs and availability.

- b. Motivational content. This material is intended to arouse interest in an innovation, to help people in making a decision to try or not to try it, and/or to help in making a decision to continue to use of the innovation once its use has begun. This content includes appeals based on knowledge based on the benefits of using the innovation and the negative consequences of not using the innovation. This type of content also includes emotional appeals.
- c. Legitimation content. This is material which expresses approval or endorsement of the message, the change agent, or both, by a personal or institutional authority acceptable to the target audience.
- d. Ancillary content. This is material which does not deal directly with the innovation but tends to create a favorable attitude toward it.
- Ultimately, Bogue (1963: 55) emphasizes informational, motivational, and legitimation content, separating the legitimizing of the message and the legitimizing of the change agent.

B. Relationships to system structures

1. Message content

In considering relationships between message content, identity concepts, and characteristics of social structure, one finds that informational content tends to be coordinated

with motivational and legitimation content. Consequently, attention will be centered on the latter two with comment on informational content included as appropriately seen.

a. Motivational content

Reflecting identity among mutually involved persons is use of prestige as an emotionally oriented motivational appeal. Bogue comments:

"In addition to promising concrete benefits as a result of (using the innovation) there are other motivational strategies which may be employed with great effect. Conspicuous among these is the appeal to prestige aspirations so overworked but so successful in commercial advertising campaigns." (Bogue: 1963: 61).

Bogue does not give indication of the extent to which the benefits indicated above may be shared and, hence, involve an inter-personal relationship or group relationship; Rogers, however, indicates that some innovations require group adoption (Rogers, 1960: 405) and for these the appeal of benefits could justifiably be group oriented.

Indicating specific relationships among aspects of identity, motivation, interpersonal relationships, and messages when fear is used as an emotional appeal is this comment:

"Attitude and behavior change are more likely if fear appeals are not used in message construction, unless (1) the source has very high credibility, (2) the message is well supported, and (3) the fear

appeal is to the receiver's valued 'other' (e.g., a family member) rather than to the receiver."

(Rogers, 1973: 292).

Despite the above illustrations, there are indications that relationships between interpersonal relationships identity concepts, motivation, and messages have not been adequately examined. Rogers comments cogently about empathy, similarity and dissimilarity between message senders and receivers, and effective communication without specifying implications for identity concepts or for motivational appeals. His comments indicate that an empathetic relationship between a message sender and receiver is important for effective communication. Empathy is defined as "the ability of an individual to project himself into the role of another person." (Rogers, 1973: 61). Empathy appears critical for effective communication both under circumstances in which sender and receiver are similar (homophilous) with respect to salient characteristics and under circumstances in which they are dissimilar (heterophilous) in these characteristics. (Rogers, 1973: 61). Communication is more effective when message sender and receiver are similar in salient characteristics than when they are dissimilar (Rogers, 1973: 57). Evidence indicates that "the most effective change agents are those who are most like their average client on all variables except for technical competence about the innovations promoted - - - ." (Rogers, 1973: 58). Even though

the similarity (homophily) of sender and receiver would make for similar identity, Rogers makes no systematic comment on the implications of the above relationships for structuring of identities of for structuring motivational appeals related to empathy and salient characteristics of sender and receiver of messages.

b. Legitimation content.

Legitimation is related to credibility. Bogue speaks of legitimizing a message source and of legitimizing a message through association with respected persons or persons of authority who are acceptable to the target audience. (Bogue, 1963: 55). Rogers identifies credibility as "the degree to which a communication source or channel is perceived as trustworthy and competent by a receiver." (Rogers, 1973: 269-270). He examines relationships of "competence credibility" and of "safety credibility" to similarity and dissimilarity between sender and receiver of messages:

"A source who is perceived as possessing competence credibility is usually heterophilous (dissimilar) with respect to his receivers; for instance, a change agent must know more about the innovations he is introducing than his clients, or they will not view him as especially qualified. But a source perceived as possessing safety credibility often is highly homophilous with respect to his receivers; peers usually have this

"type of credibility, while an expert change agent does not." (Rogers, 1973: 60). The implications of this aspect of interpersonal relationships for identity and legitimation content in messages is not clarified.

2. Message structure

With respect to the relationship between social system structures and message structure, there is little indication of extensive analytic study. There are indications, though, that areas of importance are distinguishable, even though they may not have been examined adequately. Rogers indicates that dissimilarity between sender and receiver can eventuate in the senders giving a message which is irrelevant for the receiver (Rogers, 1973: 268) and/or distortion of the message by the receiver (Rogers, 1973: 52). There are no indications of how message structure can be accommodated systematically to the degree of dissimilarity between sender and receiver.

However, relationships within a group have bearing on message structure as expressed in one-sided messages and two-sided messages. Differences between change agent and audience, as well as differences among audience members, influence message structure. Of the one-sided message, Rogers comments:

"A one-sided message sets forth the source's claims to the receiver, - - -." (Rogers, 1973: 49).

It is a type of message structure which is used effectively under circumstances in which there is essential agreement between sender and receiver.

It can also be used whether sender's intent is to convey a limited impression. It is a type of structure which is used to an appreciable extent in advertising. (Kleppner, 1973: 77-98).

A two-sided message "not only sets forth the source's claims, but also recognizes opposing positions on the issue. - - - It is especially important to present a two-sided message when the receivers are: 1) Initially opposed to the position advocated.

2) Well educated or sophisticated on the issue.

3) Likely to be exposed to subsequent counter arguments." (Rogers, 1973: 49-50).

In relationship to informational and motivational content, the one-sided message and the two-sided message are pertinent to knowledge about benefits of using an innovation and the consequences of not using it. The one-sided message would seem useful when there are salient similarities between sender and receiver; the two-sided message would seem useful when salient dissimilarities exist between them.

The above comments, including the excerpts pertaining to motivational appeals and to message structure, relate to relationships between system structure and message content

and structure. They indicate ways in which identity characteristics have been recognized as influential in effective communication without having their full significance examined.

C. Relationships to Innovation Decisions

1. Steps, or functions, of the innovation decision

Additional perspective on motivational appeals and message content and structure is acquired from an examination of their relationship to the innovation decision process. The steps, or functions, of the innovation-decision are identified as knowledge, persuasion, decision, and confirmation. These functions are regarded as a conceptual improvement over the stages of the "adoption process" --- awareness, interest, evaluation, trial, and adoption --- which Rogers and others used in earlier work; the functions of the innovation-decision are systematically related to sustained communication, to decision-making, to learning, and to dissonance reduction (Rogers, 1973: 25).

Rogers defines the steps, or functions, as follows:

The knowledge function occurs when the individual is exposed to the innovation's existence and gains some understanding of how it functions.

The persuasion function occurs when the individual forms a favorable or unfavorable attitude toward the innovation. The decision-function occurs when the individual engages in activities which lead to a choice to adopt or reject the innovation. The

confirmation function occurs when the individual seeks reinforcement for the innovation-decision he has made, but he may reverse his previous decision if exposed to conflicting messages about the innovation." (Rogers, 1973: 25).

Donald J. Bogue (1963) places ideas about communication in the context of this type of continuity in experience. Bogue uses a four-stage sequence which, in essence, puts the terminology of the "adoption process" in four units rather than five. The terminology used for Rogers' four-state "innovation-decision" is essentially a different set of symbols for a slightly different grouping of experiences from the groupings of experience which Bogue uses. The general relationship among the three conceptual sequences is as follows:

Adoption process "stages" (Rogers, 1962: 81-86).

awareness / interest / evaluation / trial / adoption

Adoption process "steps" (Bogue, 1963: 7-9).

awareness and interest / information evaluation and decision / implementation of trial / adoption and continued use

Innovation-decision functions (Rogers, 1973: 25).

knowledge / persuasion / decision / confirmation

Bogue has made the most extensive effort at relating message characteristics to the above steps; hence, his scheme will be used in the following paragraphs to comment on relationships.

2. Steps, identity change, and innovation adoption

It is in the context of Bogue's four "steps" that the relationship between change of identity concepts and innovation adoption is strongly suggested. Bogue comments that the shift from seeing the relevance of an innovation for others to seeing the relevance of it for oneself is probably the major change which takes place during the second "step" of the adoption process. Hence, he says, with respect to communication during the second "step," "For this reason, every possible device should be employed to get the (potential innovation adopter) to applying the message to himself or to become aware of his own needs." (Bogue, 1963: 20).

The second "step" is the one in which an individual is gathering information, evaluating it, and deciding whether or not to try an innovation. It overlaps with Rogers' knowledge and persuasion functions in the innovation-decision. In this context, implications of identity for communication are suggested by Rogers who relates:

- 1) communication relevant to knowledge acquisition
to dissimilarity between sender and receiver;
- 2) communication relevant to the persuasion function
to similarity between sender and receiver.

- - - At the knowledge stage in this process, when the individual is gaining information about the innovation, heterophilous sources and channels are most frequently consulted because they possess competence credibility.

But at the persuasion stage, when the individual is forming a positive attitude toward the innovation, homophilous sources and channels are most frequent because they are perceived as possessing safety and credibility (Rogers, 1973: 60).

3. Steps, identity change, and message content

Motivational content

During the first step, the interval of developing awareness and interest, the use of motivational message content and appeals, is emphasized by Bogue. In conjunction with them, informational message content should be of a limited type; it should give the audience a general orientation to the innovation, to what the innovation does, and to sources of additional information about it.

During the second step, the interval of gathering information, evaluating, and deciding to try or not to try an innovation, motivational message content is emphasized. Emotional appeals are not emphasized during this interval. Rather, emphasis is placed on information which gives indications of the function an innovation performs and tells of benefits and consequences of using it or not using it. Bogue suggests that there should be indication of how the innovation under consideration solves the problem being confronted, general information about the use of the innovation or alternatives to it, and designation of sources of information about the innovation and alternatives to it. Information can become increasingly specific.

During the third step, that of implementing a trial, informational content should be emphasized. Information during this interval should provide detailed, clear, and complete information on how to use the innovation chosen for trial. Motivational appeals which are emotionally oriented should not be used during this interval.

During this third step, there are possibilities for potential adoption and continued use of the innovation, of potential rejection of an innovation, or potential modification of it. During this interval there are occasions for motivational reinforcement. The motivational appeals used during this interval can emphasize knowledge and benefits as well as emotions. Needs for information are special and minimal (Bogue, 1963: 55-59).

b. Legitimation content

Message content which legitimizes message and/or communicator is regarded as closely related to identity. Bogue makes no attempt to relate this type of message content to steps of the adoption "process" (Bogue, 1963: 65-69). Presumably, then, endorsement and/or recommendation by an authority, personal or institutional, traditional or experiential can be used as is judged advisable during each or all of the steps.

There appear to be four circumstances under which legitimation of message and/or communicator would be in order; each reflects some transition and change in structural rela-

tionships within a target system. One is the circumstance in which a change agent contacts a target audience. A second is the circumstance germane to establishing and maintaining the credibility (competence and safety) (Rogers, 1973: 122-128) of a change agent. A third is that in which an adopter's identity concept is changing and a new aspect of

identity is in need of stable reinforcement. A fourth is that in which an adopter's mode of behavior is changing and motivation for a new mode of behavior is in need of stable reinforcement. Each of these can be seen as pertinent to each interval in the sequence of steps, or stages, of innovation adoption.

In the context of a social system, this kind of use of authority illustrates "significant others" (Sullivan, 1953a) and reinforces the premise that there are close relationships between message content which legitimizes and identity concepts within the social system.

Even though there are indications that, throughout the continuity of steps in adoption of an innovation, there are elements of message content which are contingent upon identity, we have no hard evidence on relationships between specific aspects of identity (identity concepts, per se) and adoption, rejection, or modification of specific recommended innovations.

4. Steps, identity change, and message structure

The implications of steps in adoption of innovations, or an innovation decision "process," for message structure

are not well articulated, if they are known. The few comments which are available relate most closely with the function of the second step in adoption as described wither by Rogers or by Bogue. For Rogers, it is the function of persuasion: for Bogue, it is the step of getting information, evaluating and deciding.

A general objective of innovation-related communication is stated thus: "- - -, the population should be exposed to and helped to adopt certain fundamental attitudes and values that are highly correlated with successful - - -" innovation (Bogue, 1963:69). This reflects a portion of the range of influence held as appropriate for communication,---influence on knowledge, attitudes, and practice---, and reflected in KAP studies. A few observations are reported, relative to changes in attitude and behavior through persuasive messages, that indicate a connection between message structure and identity.

"Attitude and behavior change are more likely if the message presents both the advantages and the disadvantages of the innovation, especially if the receivers are initially opposed or are relatively more sophisticated" (Rogers, 1973: 291-292).

Observations such as these are subject to question, since the effect of persuasive influences is more readily discernible in laboratory experiments than in field tests (Rogers, 1973:293). However, each of them indicates a relationship

between the structure of a message and the way an audience is identified --- by degree of sophistication and opposition--- during the persuasion function of the innovation-decision.

There is no information showing relationships between identity and message structure during other functions of the innovation-decision.

VI. The State of the Art

A. Transition

Despite the importance attributed to identity by psychologists, behavioral scientists, and some communication specialists, it has been neglected, or handled inadequately when examined, in research dealing with innovation adoption or technology transfer. In messages pertaining to technology transfer, identity characteristics are seen in traditional perspective as related most closely to motivation of potential adopters and to legitimation of messages and change agents. Potential change in identity, for potential adopters, appears to be related to a decision to try an innovation. Even so, and although talked about as a critical concept and factor in developmental change, identity has not been used consistently as a critical concept in systems of thought, of concepts, and of theory dealing with social change for a person, for a group and for a society.

This oversight can be accounted for by several influences. One is the academic science tradition of disciplinary separa-

tion which made it imperative that social scientists and behavioral scientists should view the same situation with discrete perspectives among which logical relationships were often lacking.

A second influence, consistent with the one cited above, is the "demographic" orientation with which early innovation adoption research was done. This was an orientation in which social and demographic characteristics of a population were examined in association with adoption of innovations. In terms of one type of analysis, this orientation has provided insights into some aspects of how the adoption of innovations takes place. The orientation has imposed limits on what could be accomplished. Current questions cannot be answered with use of the "traditional" demographic orientation.

A pending transition in orientation is described thus:
"- - - Amelioration of methodological deficiencies in KAP (knowledge, attitude, practice) surveys is certainly needed, but far more fundamental is an entire recasting of the theoretical framework in which KAP studies are designed, with special overhaul of the independent variables that are studied. This improvement of KAP studies, so as to free them from their demographic origins, will not occur until competent behavioral scientists with a primary focus on communication processes enter the field --- such scholars have been remarkably absent to date (Rogers, 1973: 371).

Rogers' subsequent contribution to this transition (Rogers and Agarwala-Rogers, 1976) pushes in the direction of holistic

conceptualization of social systems in which communication is an integrating process. The use of this kind of orientation provides potential opportunity for inter-disciplinary development and the "overhaul of the independent variables" which is mentioned above. In this transition, identity can be examined to determine its significance for technology transfer and developmental change.

B. Research implications of the transition.

It may be impossible at this time to indicate all the implications of the above transition for research on relationships between identity and innovation adoption. Yet, there are relationships which can be examined currently which can provide cues for future research.

Consideration needs to be given, initially, to a few basic relationships. In order to do this, it will be necessary to make some modifications in conceptual orientations. First, it will be necessary to break away from use of the expression "process" as it is used in association with adoption stages, or steps, and with the sequence of functions in the innovation-decision. The sequentially arranged aspects of a transition do not necessarily describe a process--a continuity of movement. The event under consideration can be more adequately labeled an adoption-transition which is a reorganization of structurally integrated relationships.

Presumably, the adoption-transition entails changes in knowledge, attitudes, and practices on the part of individuals.

It can also entail a concurrent change in object relationships for them. With this perspective in mind, consideration needs to be given to relationships among a given identity concept, knowledge, attitude, and practice in a given object relationship. Description of these relationships would constitute base data with which to examine relationships between changes in identity and changes in KAP in a given object relationship.

Speculative projection beyond this point needs to be undertaken with caution; one needs to stick imaginatively close to his data. Hence, one would do well to recognize that the KAP concept might ultimately be modified on the basis of evidence and that the adoption "stages" might also undergo further modification. Recognizing this possibility, one could look for systematic relationships among knowledge, attitude, practice, and identity which would constitute a phase in the transition toward adoption of an innovation. Changes in specific relationships among these could constitute the phase-to-phase transition which is adoption.

With this approach, consideration could be given to the extent to which particular aspects of potential adopters' identity concepts are associated with their decisions not to try, or to try and adopt or reject, or modify, specific innovations which are available to them. In this vein, it would be possible to examine the extent to which facilitation of innovation adoption is reflected in identity and the extent to which constraints on innovation adoption are reflected in identity.

With these types of information at hand, it would be possible to examine the influence of identity concepts --- including some of which we may currently be unaware --- used in message design for communication to influence developmental change and technology transfer. And for this type of work, aspects of current knowledge and insight can provide guidelines. A relationship between communication and phases of the adoption-transition are recognized. Communication "must provide helpful information and motivation at each state of the adoption process" (Bogue, 1963:22). And there is recognition that communication should be a combination of related messages. "A communication should consist of a logically organized group of messages presented in a sequence and aimed at accomplishing a specific objective. - - -" (Bogue, 1963: 17). "A campaign is a preplanned set of communication activities designed by change agents to achieve certain changes in receivers' behavior in a specified time" (Rogers, 1973:277). Campaigns have value as variations of a continuous program of communications.

C. Research utilization

It would seem then, that research in this area would produce evidence which might be utilized in two different ways. One would entail appropriate use of identity concepts in messages throughout a program of communication designed to effect change from one phase to another in the adoption transition. A second would entail use of identity characteristics of potential adopters as indicative of their relative readiness to adopt a given innovation.

Progress toward these uses can be made in light of
the current transition in conceptual orientation to communica-
tion and technology transfer.

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