6   The communication of new techniques and ideas : some cultural and psychological factors

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Introduction

Since 1945 many governments have laid stress on programmes of economic development. This is especially true of governments in underdeveloped countries, some of which have also emerged from colonial rule during this period. Normally these development programmes stress industrialization together with improvements in agricultural practice and output. Their industrial schemes are oriented towards urban conditions, while their agricultural programmes are often linked with schemes for rural community development and the fundamental education of rural folk. The success of such rural programmes often depends on the effective communication of appropriate techniques, ideas and motivations to rural people. Despite this connexion, it has become customary to discuss the conditions which affect communication of new ideas without adequate attention to the changing contexts in which these efforts are made. Rather more attention has been given to the techniques and processes of communication than to the relationships between its content, context, and the situation or ideology of the audience. To concentrate attention on these background factors and the ways in which they may structure group responses, I shall therefore direct my remarks away from the process and techniques of communication towards the cultural setting and its psychological conditions.

A technique is a discrete skill in which certain ideas and activities are integrated. The idea provides rationale for the specific actions of the technical process. Accordingly a technological system includes a body of knowledge and ideas linked with certain technical activities in specific ways. Hence the communication of a new technique always involves the communication of some new knowledge or idea, together with skills of application.

Technical ideas have certain characteristics which seem to set them off

from other types of idea, such as the religious, economic, political, aesthetic, or philosophical. On first acquaintance, technological notions seem disarmingly specific and limited. In fact, they are often the reverse. Adequate explanations of specific processes may be obtainable only from specialists, who may not understand fully how the principles which underlie their techniques are related to those which govern others. Often the acceptance of a new technical idea or complex may involve important changes in the ideology of those who adopt it; but technical ideas differ from those of religion or politics in their indirect relations with systems of value and belief. Besides their specific reference to given processes, technical ideas are also indifferent to questions of morality and motivation. Being morally indifferent, techniques are motivationally indifferent also. For this reason, their successful transfer presumes the operation of other motivating factors. These may be intrinsic to the situation of the audience, or they may arise externally.

The attempt to communicate a new idea or technique to people is an effort to promote some change, which may itself exemplify wider processes of change. The audience at which the communication is directed may recognize it as an attempt to promote some change in their behaviour and relation to their environment with varying explicitness. They may likewise recognize the attempt to form part of a wider process of change in which the communicator and themselves are involved. If they do neither, they will be regarding the communicator as one of themselves and the communication as an unfamiliar element of their culture. In such circumstances, the message usually has a simple content.

When new techniques or ideas are successfully communicated, certain innovations are effected in the culture of the recipients. The success of such communication is shown in its adoption and spread among the audience and the population from which they are drawn. This process of adoption and spread may be regarded as evidence of the institutionalization of the innovation within the receiving culture. In so far as there are sharp cultural differences between the source of the communication and its audience, problems of cultural assimilation are likely to arise, and adoption of the new trait will rarely be total or automatic. In such conditions, the process of cultural incorporation is generally accompanied by some changes in the function or form of the assimilated element.

Often enough, attempts at communication of new techniques are frustrated by conditions in the culture of the audience. The reasons for this are fairly well known. Ideas and techniques are cultural facts. Their communication involves processes of cultural transfer, incorporation, and change. There are limits to the type and volume of new ideas and techniques which a given culture can accommodate without losing its validity. The simpler the culture, the narrower are these limits, and the less open is the culture to this sort of change.

Cultures are highly selective and, in certain conditions, resistant to elements introduced from without. Such qualities of selection and resistance flow from the general tendency of cultures towards internal integration of their parts.

Cultural integration is rather complex in character, and involves several levels or categories of social fact. At one level, the ideational elements which 'explain' reality and the social order are integrated with one another and with values to give a reasonably consistent world view or ideology which motivates individual behaviour. At another level, the culture has to fulfil certain adaptive requisites to maintain viability. Accordingly, the numerous activities in which it is expressed must be institutionalized and integrated to form a coherent system of action. At the societal level, the culture is exhibited as a social structure in which institutional groupings and relations are the basic elements. These three analytically distinct orders of cultural reality are interdependent and should be mutually supporting. While their integration, separately or with one another, is rarely perfect, there are obvious limits to the kind and degree of inconsistency which a viable socio-cultural system can accommodate within each level or between them. This requisite of consistency regulates cultural responses to innovations, influencing their acceptance with or without modification, or their rejection.

Innovations, whatever their source, rarely become institutionalized within a culture without promoting some further change. Such secondary changes vary in their scope and significance and may be direct or indirect. The resistances with which people often greet innovations can be regarded as defensive reactions by which they seek to protect those habitual ways of thought and action which constitute their culture. Under certain types and degrees of pressure, these resistances may be broken down, and the culture may even disintegrate, that is, it may cease to display the minimum degree of internal coherence requisite for validity. In such circumstances, the people may either adopt many elements of the culture which presses upon them as a necessary adaptation to their environment, or they may seek to maintain as many of their traditional values and customs as they can, while adopting a smaller range of foreign traits. In the latter case, the people may come to form a dependent element within a wider society which includes culturally differentiated groups. Societies with this constitution are characteristic of Central America and the Caribbean.

Communications which seek to introduce new techniques or ideas to a selected population are attempts to transfer cultural traits which presume some differences of knowledge or culture between communicator and audience. Such differences may be trivial and temporary, e.g., when one doctor introduces another to the use of a new drug. Often the cultural difference is not limited to the particular trait under transfer, nor even to the area of social life in which this falls, but ramifies extensively. In such cases, successful transfer

has certain important predicates. It is thus important to distinguish those situations in which communicator and audience share a common culture and participate freely and equally in a common social order, from others in which they do not share such cultural orientations, social status, or life changes. The difficulties which may face communications in the first instance are of a different order from those which are likely to arise in the second. It is therefore rather unrealistic to expect that methods appropriate for successful communications of new practices in either of these situations will enjoy equal success in the other. This condition may apply also to the types of organization through which such communications are channelled. For example, if university extension or extra-mural departments in these two types of cultural context have an identical organization, their effectiveness and range will differ. If they have similar range and effectiveness, their methods and organization should differ.

Conditions for the effective use of communication techniques

Since technical ideas differ from others in their specificity, and lack of motivation, they are inherently more difficult to communicate successfully than idea systems which range more widely and establish strong motivations. This condition helps to account for the striking differences of popular response to technical innovations on the one hand, and to religious or political propaganda on the other. The rapid spread of certain religious or secular ideologies is largely due to the skill with which they combine appropriate new interpretations of reality with powerful motivations towards their acceptance. Technical communications are almost the reverse. Their content and objectives are limited, they proceed piecemeal, and it is often exceedingly difficult to adapt them to the receiving culture or the social situation of the audience so as to minimize resistance or secondary change. Moreover, the technical idea may be quite as resistant to these adaptations as the audience is towards it, especially since the technique may lose its value if certain kinds of change are made to it. The technical idea or practice also presumes fairly well defined environmental and ideological conditions for its successful application.

Besides the simple departure from routine, the adoption of new techniques and orientations may present certain onerous features. Adoption of new seeds and crops, unfamiliar methods of cultivation, co-operative organization or marketing techniques may involve relatively high outlays or risks which people at subsistence levels can neither make nor afford to take. Soil conservation and some sanitation practices may also seem to involve heavy efforts for doubtful returns. In these cases, the ordinary principles of economic

analysis enable us to understand or anticipate audience responses. On these grounds we may also expect the technical traits and ideas which enter into a programme of community development may vary in their appeal to differing audiences or members of a given audience. They will probably vary also in their complexity, and in the outlays or risks which attach to them. Innovations with evident and fairly immediate rewards are more likely to be given a trial than those which carry heavier outlays, risks, new work or long-term rewards. Is it probably easier to win acceptance for new methods of milking than for new varieties of seed, for certain pruning techniques rather than soil conservation practices.

There are definite limits to the effectiveness of communication techniques. These tend to be set by the character of the message, and by its appropriateness to the culture and social situation of the audience. Accordingly, some items of a programme of community development may win acceptance more readily within a given unit than others. For this reason, special care should be taken in framing such programmes to present their elements in the order which may have most effect. Evidently the sequence in which such items are presented should seek to build success on success, thereby generating at each step motivation for the next. As a general rule, simple elements which have clear connexions with popular interests and which give quick results may be the most suitable to begin with. Such items may tend to vary from area to area. Care should therefore be taken in each area to learn the people's view of their problems and their priorities, the programme schedule and methods being adapted to the situation, rather than otherwise. Often, however, such programmes may be drafted for a given region or country with insufficient flexibilities of schedule or organization to accommodate local differences of opportunity and need. While recognizing the limits in which bureaucracies operate, it is clear that general programmes of rural development should emphasize flexibility in objective, method, schedule and content to have the maximum effect.

While technical expertise will rarely secure the adoption of inappropriate messages, certain errors may lead to rejection of messages which might otherwise have been accepted. Perhaps the most important factors here are the relations which hold between the communicator and audience, and the composition of the latter. In Central America and the Caribbean, the relation between communicator and audience merits special attention. Typically the communicator is drawn from an urban milieu and represents a social and cultural section quite sharply distinguished from the peasants, whatever his actual origin. Often, the communicator may be ill-suited for his role by training, attitudes, aspirations and conduct. In this event, awkward relations between communicator and audience are likely, and may negate communication. Despite instruction to the contrary, it often happens that the communicator

sees communication as a one-way process in which information or instructions are issued to peasants, without special effort to ascertain their interests or needs. Such authoritarian attitudes tend to frustrate communication of new ideas and techniques.

An agency may favour working with groups, occasionally to the exclusion of individual approaches. Where the nature of the work permits equal use of either approach, such a policy may be mistaken. Groups vary widely in their status, function, composition, solidarity, characteristics and utility as channels of communication. Some traditional modes of grouping may provide media for the introduction of new techniques and ideas, while others may provide obstacles. New groups established *ad hoc* by agencies to service their programmes are unlikely to prove satisfactory in so far as the principles on which they are based lack traditional models or sanctions. It may be useful in certain projects to work through certain individuals or families who have been carefully selected for their position in the local communication networks. With due allowance for varying suitability of these alternative approaches in different situations, the audience's response to the message will tend to reflect their view of its appropriateness to their situation, its consistency with their needs, values and beliefs, and the risks, outlays or rewards which attach to adoption.

The following case illustrates these points nicely. Not so long ago, dysentery was a major cause of illness and death in certain parts of Northern Nigeria. Until better water supplies became available from new wells, the administration sought to introduce the practice of drinking boiled water to reduce dysentery. No new technique was involved—merely a new idea. Officials patiently explained to assemblies of tribesmen that the cause of dysentery was certain germs which lived in water, and that such water should be boiled to kill the germs before people drank it. When questioned, they replied that germs were invisible to humans, but were certainly present in some water, which was impure, and absent from some, which was pure. To purify water, boiling was necessary. The tribesmen who received this message were rather amused, especially at the assertion that germs lived in water, though no one had ever seen them. Some regarded germs as a form of European spirit. The idea that some water was pure and some impure also aroused scepticism. Hitherto, each village had only had one source of water which everyone used. Some folk had had dysentery, while others had not. Therefore the water could not cause the dysentery, argued the tribesmen, nor could it be both pure and impure. Clearly the cause of dysentery was witchcraft and sorcery, as tradition said.

Shortly afterwards, I visited a tribe in this area where dysentery was rife. The village I studied had both a secular chief and a ritual head. The latter had recently lost one of his children through dysentery. Priest and chief were on

good terms, and I was friendly with both. It seemed unlikely that local water supplies would be improved in the immediate future. The people were worried about the disease. I discussed it with these two men in private, pointing out that Europeans in the Province all drank boiled water, and very rarely had dysentery. They agreed that the people should be advised to drink boiled water. To rationalize the innovation and legitimate it in terms which the people would accept as a basis for action, we borrowed a suggestion from Plato. Our myth attributed dysentery to a spirit which lived in water and which could only be driven out by heat, the steam and boiling being evidence of its exit. To prevent re-entry, the water from which it had been driven should therefore be covered while standing to cool. To defend oneself against the spirit, only such water should be drunk. To legitimate the discovery, the chief priest undertook to announce that a departed ancestor had revealed this to him in a dream, and that divination had confirmed it. Priest and chief then advocated the innovation, and won many villagers to adopt it.

The differing responses of these tribesmen to an identical innovation is not entirely due to the differing ways in which it was presented. The partial success of the second communication owed much to its promotion by the chief and village priest, whose roles as leaders especially fitted them for this agency, and accredited the innovation. At the same time, to the tribesmen the official explanation seemed inconsistent with itself, with their categories of thought, and with their experience, while the myth was fully harmonious with cultural explanations of illness, and fitted easily into the tribal ideology. The principle legitimating this innovation also enjoyed cultural support, and motivated its adoption. By their participation, chief and priest undertook responsibility for promoting the idea and secured its partial acceptance.

Because of its extreme simplicity, this case repays attention. No new technique, risk or extra work was involved, although some care and foresight were required by the new practice. Moreover, in both attempts to introduce it, the communication was clearly grasped. Response varied with the appropriateness of the rationale, and with the methods used to communicate it. A tribal assembly was not the appropriate audience for this type of message. Its rejection in one situation and acceptance in the other also turned on the adequacy of the rationale as shown by its consistency with tribal beliefs. One explanation promoted indifference, the other motivation.

Few techniques or ideas which it may be desired to communicate would seem to be quite as limited in scope and content as that of drinking boiled water. None the less, the notion had to be cast into the idiom of tribal thought and made consistent with tribal ideology to win a trial. However specific and limited they may seem, ideas are rarely discrete. They have numerous relations with and implications for one another and for the forms of social life and organization. Introduction of a clearly delimited technique or notion into a

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given social unit accordingly requires special care in tailoring the trait to fit the socio-cultural context, and this in turn presupposes a detailed knowledge of the people's situation. In many respects it may be simpler to transfer wide-ranging ideas, which arouse deep motivations and promote major changes in the world view and social life of those who adopt them, than to fit limited traits successfully into a simple culture without promoting strong resistance or unwanted side effects.

Communication techniques and socio-cultural change

These general principles are relevant to programmes of rural development which depend on the voluntary adoption of new techniques and ideas by the peasants of Central America and the Caribbean. In communications linked with such programmes, certain themes receive frequent emphasis, for example, better land use and cultivation methods, new crops and better seed, the use of fertilizer, strip cultivation, soil conservation and certain sanitary practices, child care, cooking and nutrition, health, adult literacy, improved school attendance, co-operatives, and new methods of marketing. If these and similar innovations were all adopted together, they would involve major changes in the world view of the peasants, without corresponding changes in their social position. In practice, these items are often communicated piecemeal, sometimes by separate agencies responsible for different functions, or for dealing with different groups. Often these separate communications fail to win acceptance, even when government subsidizes the adoption of certain practices, as for instance in Jamaica. Different methods of organization, such as those employed in India and Pakistan, do not eliminate this problem of unsatisfactory response. There is a sharp contrast between the slowness with which technical innovations spread in these situations, and the rapid growth of certain religious or secular movements, some of which may involve great cultural change. It seems useful to ask why some types of communication have such success, while others do not.

The countries of Central America and the Caribbean are now affected by certain world-wide processes of change, such as urbanization, industrialization, secularization and bureaucratization. These processes operate irrespective of communication programmes. The Indian who moves to town and becomes mestizo provides an individual example of the processes and changes which urbanization in his context involves. In the Caribbean, a peasant who moves to town as a casual labourer undergoes downward rather than upward social mobility. The generality and scale of the dynamic processes mentioned above and their implications for Central American and Caribbean societies should not be overlooked. They indicate how inappropriate it is to

regard these societies as static. Inevitably, as the trends already mentioned develop, social structures will undergo change. These changes are already under way, according to certain observers.[1]

Communications which seek to inculcate new ideas and techniques among the rural folk of this area should take these changing conditions into account. Often the orientations and circumstances which the adoption of these ideas and techniques would seem to require do not obtain. In some cases, they have already had their day; in others, they have not yet come about. Some ideas and techniques which are being communicated may have been appropriate to these rural folk some years ago, when their situation and outlook were different from the present. Other messages may be in advance of the present outlook and situation. Moreover, some peasants are rather more isolated from trends of national change than others. The heterogeneity of their situations presents problems and opportunities together.

School attendance may be used to illustrate this difference of situation. In some areas, attendance rates are higher than average. In others, they may be very low. This difference is perhaps in part due to the teachers' varying influence with the parents. It may also reflect the different situations of these communities. In one case parents may feel that education will prove important to their children in adult life, even though it may not have made much difference to them. In other areas, parents may still doubt the utility of education for their children. To convince these people that their children may suffer greatly at some later date from poor school attendance today may involve communicating a new image of the society in which they live, and one which is sharply at odds with the present and past experience of the parents. Yet, unless this image is communicated, the parents will probably retain their attitudes to the school, and attendance may remain low and fitful.

The traditional base of society in Central America and the Caribbean has been ascriptive. Internal differences of culture and social status have been heavily marked and sanctioned. Under such conditions, people belonging to the lowest category, including peasants, could formerly hope for very little improvement in their social position by virtue of their individual efforts. One consequence of the social order was to deprive many folk of the incentive towards self-improvement; another effect has been to link social mobility with migration in the opinions of many. To motivate new efforts and receptive attitudes among such folk today, it is often necessary to convince them that this rigid structure is in process of change, and that ascriptive criteria no longer determine an individual's social status.

Such communications may promote major changes in the peasant's world view and in his response to new techniques and ideas. They involve a new

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1. Richard N. Adams, John P. Gillin, Allan R. Holmberg, Oscar Lewis, Richard W. Patch, Charles Wagley, *Social Change in Latin American Today*, New York, 1960.

image of his society, of himself, and of his relation to the social order. Lacking this new image and its linked orientation, the peasant may continue to lack the motivation to adopt new techniques. He may even find these technical communications amusing, since they seem to promise that he will become a better, richer peasant by adopting them, when he may have no wish to remain a peasant at all. The urban and bureaucratic source of many of these communications may also arouse scepticism.

In so far as peasants formed a distinct category with a low social status, they derived most of their satisfactions from community relations and roles. These satisfactions will continue to retain primacy in motivating behaviour, so long as the traditional status structure persists. In these conditions the rural response to technically oriented communications may be mainly negative, since the incentive to change traditional methods is not motivated by changes in traditional social position. The tendency in such cases is for the peasant to carry on as before, collecting such subsidies as may be offered, without any significant change in his habitual adjustment. Such reactions indicate that the securities which tradition may offer override the doubtful rewards which the new ways promise; and also that the adoption of new objectives and methods seem to be inconsistent with the peasant's view of his place in the social order. Structural changes which demonstrably enhance the status of peasants and increase their participation in the national society would involve changes in their outlook and provide the motivations necessary for adoption of new techniques, objectives and attitudes.