

- Ostenberg, S.* 1959. Ibo receptivity to change. In: Continuity and change in African cultures (onder red. van W. R. Bascom en M. J. Herskovits). Chicago.
- Rattray, R. S.* 1923. Ashanti. Oxford.
- Rawcliffe, D. H.* 1954. The struggle for Kenya. London.
- Schapera, I.* 1947. Migrant labour and tribal life. London.
- Schneider, H. K.* 1959. Pakot resistance to change. In: Continuity and change in African cultures (onder red. van W. R. Bascom en M. J. Herskovits). Chicago.
- Shannon, L. W.* (red.) 1957. Underdeveloped areas. New York.
- Spindler, L. S. en G. D.* 1959. Culture change. In: B. J. Siegel, Biennial review of Anthropology. Stanford.
- Steinmetz, S. R.* 1935. Gesammelte kleinere Schriften zur Ethnologie und Soziologie. III. Groningen en Batavia.
- Zimmerman, L. J.* 1960. Arme en rijke landen. 's Hage.

A psychologist's approach to technological change

Otto Klineberg, Columbia University

Introduction. Although it is impossible to draw sharp lines of demarcation among the various social science disciplines, the characteristic feature of psychology is its concern with the *individual*. Since, however, every individual is obviously a member of a group or of a number of groups, by which to a considerable extent his personality is shaped, and from which he acquires many of his goals and values, the psychologist cannot neglect the overwhelming importance of society. At the same time he must leave to the sociologist the primary responsibility for dealing with social institutions, social structure, social mobility and similar phenomena, and to the anthropologist a similar responsibility for the field of culture, and — most relevant to our present topic — the processes of acculturation and culture change. Overlapping will be inevitable, since these and other social sciences will at least occasionally turn their attention to the individual, and psychology cannot deal with the individual to the exclusion of social factors.

In the field of technological change, especially the kind of change that occurs rapidly and is introduced into a community from outside sources, the issues which psychologists would be likely to raise can be subsumed under three interrelated categories:

(1) What attitudes favor or hinder technological change; what happens to the individual during this process; what problems must be faced; what can psychology contribute to their clarification?

(2) What techniques and methods has psychology developed which can be applied in this area?

(3) What kinds of psychological research are needed to identify the relevant issues, and add to our understanding?

The Individual and Social Change. The prospect of radical social change undoubtedly poses for many, if not for all, individuals, a very serious dilemma. Loyalty to one's own community is normally accompanied by pride in its accomplishments, in its values and traditions, in its way of life. Acceptance of change necessarily involves an admission that such values will have to be supplanted, or at least supplemented, by others; that somebody else's „way of live" is sounder than one's own, either in general, or in certain important and relevant aspects. This creates a situation of conflict which, after many errors and failures in the introduction of new techniques, has resulted in an increased recognition of the importance of reducing such conflict by adapting the changes to the pre-existing cultural pattern.

This appears to be mainly a problem for cultural anthropology, and it is true that representatives of that discipline have taken the lead in stressing its significance. It is also a problem for psychology, however, for several reasons. It affects individuals, though in different ways and to varying degrees. Some will accept the changes as not only inevitable but desirable; at the other extreme, some may experience them as a threat to their identity, to „who and what" they essentially are or consider themselves to be, and the conflict may go so far as to cause a profound mental disturbance. Success in introducing change may well depend on the proportion of people in the community who are found in the former group as contrasted with the latter.

Success will also depend on the nature of leadership in the community, and on the characteristics of those who exercise that function. Psychology has moved away from the fruitless search for *the* qualities of *the* leader, to a position which recognizes the importance of personality factors, but which stresses also the specific situation in which the leader operates, and the nature of those whom he leads. A knowledge of the role of the leaders in the community into which change is being introduced, and of their relationship to the followers, would seem to be a necessary prerequisite to successful action. The distinction that has been drawn between those who initiate change (the „innovators") and those whose example is followed by others (the „influentials") should be found useful. Sometimes these two groups of leaders coincide, but not always, and communities will differ in the pattern of such relationships. It may also be helpful to keep in mind the fact that any educational or information campaign designed to change attitudes may operate in what has been called the „two-step" flow of communication. The message may not reach the mass of people directly, but it may exercise an effect on those who perform the role of opinion leaders (not always or necessarily those in a position of formal authority) who then transmit the communication to others.

Even if the community as well as its leaders accept the idea of change, diffi-

culties of adaption to the new economic situation may arise as the result of certain pre-existing psychological attitudes. Several of these may be mentioned as having particular relevance, although they do not represent a complete list by any means. The first refers to *motivations* toward work. Even in a complex industrial society, many motives play a part, beyond the direct need for food and shelters, — the desire for security, advancement, job satisfaction, status, good working conditions, pleasant companionship, and others. Many of these motives may not operate in relatively underdeveloped societies, or they may function in different ways, or they may be secondary and subordinate to other motives (religious, military, etc.) which take precedence over those related to economic enterprise. This does not mean that there are not motives common to all or most men, but their specific character and strength will undoubtedly vary in different societies and individuals.

A second set of significant attitudes or habits relates to the *rhythm* of work. The human body early becomes conditioned to certain time sequences of varying degrees of definiteness, which divide any given time period into intervals for sleeping and waking, for work and play or relaxation, for intake of food and the satisfaction of other bodily needs, and so on. The move from a folk economy to that involved in working in a factory or any other industrialized enterprise means a fundamental alteration in such deeply ingrained bodily rhythms, with consequent difficulties of adaptation; it cannot be easy to learn to „punch a clock“ when one has adjusted one's life to the sun and stars and the sequence of the seasons.

There are in fact a whole set of attitudes related to *time* which are of psychological importance. It has been suggested, for example, that an industrialized economy requires an orientation toward the future, toward foregoing present for future gains, toward building now for what can only be enjoyed much later. It would be an oversimplification to say that non-industrialized societies are completely unconcerned with the future; in many instances, for example, food is stored in times of plenty to prepare for future lean periods. It remains true, however, that people accustomed to a subsistence economy may not be motivated to work longer or harder than necessary to maintain that economy, and saving for the future, or building a basis for a subsequent improvement in living standards, may be alien to their mentality.

Still another set of relevant attitudes arises from the individual's place in the *family*, and his relationship to other family members. The organization of the patriarchal family, with property controlled by the father or senior male, may create difficulties when the individual goes off to work in a factory in the nearest large city. His control over what he earns may be resented; he may be expected to put his money into the common pool, and he may be unwilling to do so; he may seize the opportunity to emancipate himself from parental control, and to loosen the ties that bind him to the tribal society. Sometimes this may be done successfully, but there have been accounts of personal and social maladjustment and disruption that follow such a disintegration of the normal family pattern. These are only some of the phenomena to which the psychologist would draw

attention in the transition from a folk economy to industrialization. A few additional ones may be mentioned: the changes in habits of interpersonal relations due to movement from a rural to an urban environment; learning to use money as a medium of exchange; development of a new hierarchy of status and prestige, with the satisfactions and dissatisfactions that this brings to individuals; the formation of new groups and associations resulting from the industrial enterprise; the changing position of women in those instances in which they join the labor force, etc. In all of these and other changes, the psychologist's emphasis is on the human factor, the people, who either accept or reject or compromise with change, who are therefore in part the agents of change and in part its recipients. The psychologist's concern is primarily with individuals.

Psychological Techniques and Methods. In a number of situations the psychologist may say, when confronted with a specific problem, „I do not know the answer, but I can find out". If given the authority and the resources he may be able to contribute to the smoothness and effectiveness of economic change in at least three ways.

(1) By aiding in the *selection of overseas personnel*. It seems generally accepted that in the case of „experts" who lead or participate in „missions" in the area of technical assistance, whether they are sent by one country to another, or by the United Nations or one of its Specialized Agencies to a Member State, failures are due much less frequently to lack of professional competence than to personality factors. The expert is usually a capable engineer or educator or agriculturist; he is not always capable of dealing with human beings of a different culture, or of adapting himself — or his family — to life in a new cultural setting. It is not easy to specify what qualities of personality are required, but it seems highly probable that among them, as a minimum, there must be freedom from ethnic prejudices and from authoritarian attitudes; there must also be flexibility, empathy (the ability to place oneself in the position of others), and a concern for the welfare of others. There are no simple tests for these qualities, but the psychologist (or psychiatrist) can aid in developing appropriate interview schedules and applying them with reasonable objectivity, as well as by drawing attention to the need to include personality variables in any judgment of an applicant's suitability or competence for a given job.

(2) By aiding in the *selection of local personnel* who can most effectively participate in the change process. The needs will vary according to the situation; good automobile mechanics may be needed in one case, and good nurses in another. Here again the psychologist has no royal road to successful selection, but evidence has accumulated that selection which includes psychological techniques is more effective than that which does not.

Sometimes tests may be available, but more frequently they will have to be devised *ad hoc*, since it is only rarely that a test developed in one culture will be directly applicable, without change, to another. Techniques exist, however, which make such application possible. Some recent work has been directed toward discovering those people in a community who might be described in general terms

as those who are *ready for change*, and it appears likely that something can be done in this direction, as well as in connection with more specific varieties of competence.

(3) By aiding in the *evaluation* of the effects of programs of technological change. In view of the tremendous expenditure of time and resources in technical assistance to what are usually described as underdeveloped countries or regions, it is striking that so little is known with certainty about what such assistance has meant to the human beings involved. Do they themselves feel that they are happier, more comfortable, more secure than they were previously? What are their sources of satisfaction or dissatisfaction? What, if anything, in the program would they like to see changed, and what retained? Why? These are only some of the questions which could be asked and answered by means of techniques which should include before-and-after studies, an adequate and representative sampling of respondents, and the careful preparation and application of an appropriate interview schedule, together with an equally careful „coding” or classification of the obtained responses.

Elsewhere the writer has suggested that „Evaluation must, as far as possible, comprise effects which are both direct and indirect, immediate and delayed, local and general. The task is not an easy one. But its importance is so great as to place upon both the practitioner and the social scientist the urgent responsibility of uniting their techniques and their experience in this complex field”. (*International Social Science Bulletin*, VII, 3, 1955, p. 349).

Needed Research. The need for further research is implicit throughout this paper, since none of the problems mentioned above can be regarded as completely solved, or the questions adequately answered. In the past there was little precedent for psychologists to go out „in the field”; that was left largely to anthropologists. That situation has recently changed, although there are still too few psychologists actively associated with technical assistance missions. The writer can only express the hope that both as aides and as investigators, psychologists will wish — and be permitted — to play a more important role in the future. Their unique concern with individuals deserves the fullest possible implementation.

De „onderontwikkelde” landen en het recht

Gesina H. J. van der Molen

Onder „onder-ontwikkelde” landen verstaat men gebieden, die nog in een beginstadium van technisch-economische ontwikkeling verkeren. Onder-ontwikkeld zijn is geen statisch begrip. Het is een proces, dat zich in een min of meer snel tempo voltrekt en dat er op gericht is een bestaande achterstand in te halen. Men kan daarom beter spreken van ontwikkelingsgebieden.

Zoals bekend, is er tot op de huidige dag een ontstellende onevenredigheid in jaar-