

## PSYCHOLOGY AND CULTURE

205

HARRY C. TRIANDIS, ROY S. MALPASS, AND ANDREW R. DAVIDSON<sup>1</sup>

*Department of Psychology  
University of Illinois, Champaign-Urbana*

It has long been known that human behavior is a function of characteristics of both the physical and the psychological environments. Koffka (108), for instance, distinguished between the geographical and the behavioral environment. The behavioral depends on the geographical; behavior depends on both. The geographical environment consists of both physical and man-made parts. Culture has been defined by some anthropologists (e.g. 88) as the man-made part of the human environment.<sup>2</sup> Thus, if we are to understand the determinants of behavior, we need to understand how culture influences it. In spite of the obvious importance of cultural variables in the determination of human behavior, this is the first time that the *Annual Review of Psychology* has examined the literature which connects psychology and culture.

Aspects of this area have been reviewed elsewhere (36, 50, 51, 62, 92, 97, 160, 163, 181). Several books of readings (2, 21, 113, 140) have sampled the field.

### RATIONALE FOR CROSS-CULTURAL STUDIES

Cross-cultural research may be conducted for a variety of reasons: to check the generality of psychological laws; to increase the range of our observations on variables of interest; to determine the variations found in subjective culture variables in different settings; to take advantage of natural experiments involving combinations of variables that cannot be obtained in the laboratory; to study the manifestation of psychological variables in different cultural contexts; and to study cultures for their own sake (105, 174). Such research can serendipidously

<sup>1</sup> Preparation of this review was supported in part by Social and Rehabilitation Service Grant 15-P-55175/5, Department of Health, Education, and Welfare. The review of the literature stopped on February 1, 1972, and unfortunately some of the 1971 periodicals did not reach us by that date. Due to limitations of space we refer to only about one quarter of the relevant literature. A review with better coverage of the literature was published by Triandis, Malpass & Davidson (170). We wish to thank Martin Fishbein and Richard Brislin, who made helpful comments on an earlier draft.

<sup>2</sup> The human environment is not the same as the behavioral or the geographical. When we refer to culture we consider the human environment in the broadest terms so that it includes every aspect of man's ecology. The behavioral and geographic environments are relevant to individuals; e.g. a person walking the streets of New York has only those streets as his geographic environment.

lead to new insights (31) about psychological principles and to laboratory studies to check these insights (e.g. 50).

To put it another way, one assumption of much psychological work is that the processes under study are invariant across time and place. This assumption is being challenged by cross-cultural psychologists and the challenge seems valid (117). Cultural factors often require that we qualify our theories. For example, the developmental theory of Piaget may have to be modified to account for "regressions" which appear to occur because members of certain cultures acquire certain magical beliefs. Specifically, Heron (87) showed that Zambian children displayed a wide range of individual differences in locally developed psychometric instruments that predicted school achievement; yet children that demonstrated weight conservation did not differ on these valid tests from children not demonstrating this ability. Apparently even highly intelligent children, who perform well in school, are unable to solve Piaget-type problems due to the interference of magical beliefs. One way to respond to such data is to argue that the stages of cognitive development are invariant across settings but they are incorrectly tapped by the particular tests. Another way is to broaden the theory to make it capable of accounting for such findings.

#### METHODOLOGICAL PROBLEMS

We will here note only a few of the major methodological problems of cross-cultural research; more extensive discussions can be found in (18, 122, 141, 142, 170). The methodological difficulties of cross-cultural research are numerous (129, 170, 174). Two major types of such research can be distinguished: (a) studies which attempt to determine the generality of a psychological law, or the universality of a phenomenon; and (b) studies showing differences in laws or phenomena between societies. The former type of study is no more difficult than ordinary within-culture research; the latter type is much more difficult than ordinary research. Specifically, if one obtains similarities across cultures in spite of differences of language, instrument administration, etc, the phenomenon must be reasonably robust, but to establish that there is a difference in either the law or the phenomenon one must exclude a myriad of rival hypotheses which could account for the observed differences. In experimental work the random assignment of subjects to experimental conditions eliminates most of these rival hypotheses; in cross-cultural work random assignment is usually meaningless. Thus, if the abilities of two racial groups are compared, for instance, there are innumerable rival hypotheses concerning differences in performance which have little to do with the level of abilities per se, e.g. differences in motivation, experimenter biases, anxiety-ability interaction, comprehension of instructions, familiarity with test materials, differential reliability and validity, response sets, etc. Most studies comparing abilities across racial groups are methodologically so poor that they should not have been published. Yet not only have they been published in large numbers, but they have even been uncritically and favorably reviewed (e.g. 99) and employed as a basis for public policy. Labov (111), in a sound and devastating criticism of minority testing, presents data which suggest

that motivational factors account for most of the observed differences in test performance. Sherwood & Nataupsky (151) showed that the conclusions of investigators in this area can be predicted from seven biographical items! This unfortunate state of affairs must be corrected within psychology before pressures from the outside make all cross-cultural work impossible.

Another distinction is that between *etic* and *emic* studies (18, 139). The *emic* approach attempts to obtain the best possible description of a phenomenon occurring in a particular culture, utilizing concepts employed only in that culture. It is the most accurate description of the phenomenon. However, *emic* data cannot be compared across cultures, because by definition the concepts developed in a single culture may not be universal. The *etic* approach studies a phenomenon by utilizing universal concepts. Such concepts are often approximations of *emic* concepts, but being universal they are suitable for comparative work. A major problem with much cross-cultural psychological work is that it utilizes a *pseudoetic* approach, i.e. *emic* measures (usually made in the USA) are assumed to be *etic*. Instruments based on American theories and items reflecting American conditions are simply translated and used in other cultures. Translation is a very difficult problem and requires special solutions (23, 179). The emphasis on *decentering* of concepts is particularly valuable in this context. Beyond the problems of translation, when measurements are applied outside of the population in which they were developed, mean differences between cultural groups are essentially uninterpretable in the absence of demonstrations of similarity (29).

Such similarity can be demonstrated in different ways. First, it is possible to follow exactly the same procedures in each culture and develop different measures appropriate for each culture and show similar patterns of correlation among scores on a given instrument and other variables in the several cultures. Similar construct validity can be a convincing argument of demonstrated similarity in the meaning of the measures. More specifically, if a variable is related to several other variables in the same way in two cultures, and to just one variable in a very different way in the two cultures, we can consider that the latter variable provides us with data on a cultural difference. Or, if there is a strong pattern of similarity among some variables, but there are cultural differences in the levels of these variables, again we have reasons to believe the observed differences. For example, if ability and school performance measures show similar patterns of correlation, and there is a difference in the level of both the ability and performance measures for two cultural groups, we may conclude that there is a difference between the two groups. Second, a variety of experimental manipulations might be introduced which result in the cultural groups behaving in a similar fashion. Then it is possible to specify what needs to be done to "equate" the performance of two cultural groups. This approach (see 39, 40) has strength in that it makes the cultural differences describable in terms of the experimental operations that are needed to equate the performance of two groups.

The problem of use of inappropriate items is particularly critical in the area of ability tests. Wober (187) has convincingly argued that much of this work is centricultural (how do *they* do *our* tricks) instead of cross-cultural (how do *they*

do *their* tricks). Irvine (93) has discussed well some of the problems of ability measurement in Africa.

Gordon & Kikuchi (79) emphasize the importance of etic measurement in the development of personality tests. They also point out that checks of relevance, acceptability of test items, meaningfulness of the test format and directions, and differential susceptibility to response sets should be performed on the items to be scaled in each culture before undertaking the major task of scale standardization. They also point to the need to examine the item factorial structure in each culture. Werner & Campbell (179) correctly point out that the item pool should be developed in both directions; Berrien (14) agrees, but Gordon (78), in his reply to Berrien, is unduly concerned about the presence of items which are culture specific. If these items are emic they will form their own factors; if they are etic they will form etic factors and increase the reliability of the measurement of these factors.

Several methods are helpful in the extraction of etic factors. Specifically, componential analysis (72, 76), facet analysis (68, 83), feature analysis (133), and factor analysis (131) may be employed to discover etic patterns in emic data. Multidimensional scaling results in emic data, but inspection of the factors may suggest similarities across cultures (178).

Culturally determined response sets such as a tendency toward acquiescence (86), a tendency to employ the middle of a scale (80, 189), or differential influences of the test format (85) further complicate cross-cultural research and require careful controls.

Another strand of cross-cultural studies utilized the so-called cross-cultural method developed by Whiting & Child (182). Using societies instead of individuals as the units of observation, the method relies on content analyses of reports assembled in the Human Relations Area File (HRAF). Naroll (128) reviewed studies that utilize this approach; Ford (71) published readings which criticize and advocate the use of these files. Several problems associated with such research have been discussed. For example, the kinds of samples drawn from the HRAF may influence the results, as was demonstrated by Chaney & Revilla (34). The observations are statistically nonindependent, due to cultural diffusion, but Smith & Crano (154) described a solution to this problem.

Guthrie (82) has shown that much caution is necessary when utilizing the cross-cultural method. While many of the correlations computed by Whiting & Child were consistent with their derivations from psychoanalytic theory, Guthrie showed that many other equally sizable and theoretically embarrassing correlations exist in the complete matrix of intercorrelations. Rohner & Katz (145) proposed more elaborate tests of interrater reliability and discriminant validity with such data.

### CONCEPTUAL FRAMEWORK

Most of the data of human psychology consist of observations of some sort of human behavior. The task of psychologists is to discover relationships of variables from the (a) geographical environment (such as particular stimulus con-

figurations) and/or (b) the social environment (such as characteristics or behaviors of the Other Person) with observations of individual behavior. To account for regularities in these relationships, psychologists have utilized hypothetical variables such as abilities, acquired behavioral dispositions such as attitudes (28), social structural determinants such as roles, and personality dispositions. Triandis et al (174) have discussed acquired behavioral dispositions that reflect social structural determinants under the rubric of "subjective culture"—a cultural group's characteristic way of perceiving its social environment. The latter includes attitudes, norms, roles, values, expectancies and other constructs.

Social structural influences can be considered from both the perspective of a particular social group and the individual subject. For example, members of groups prescribe what behaviors are appropriate for persons holding particular positions in such groups. Such *prescribed roles* are communicated only imperfectly to each role holder who develops *subjective roles* reflecting the prescribed roles; his *enacted roles* are imperfectly related to his subjective roles. Thus a distinction between social structural variables such as prescribed roles, subjective culture variables such as subjective roles, and behaviors consistent with the subjective culture variables is necessary to take into account the complexity of human behavior.

From these considerations it follows that six classes of variables need to be examined when relating culture and psychology, as demonstrated by the following equation:

$$B = f(A, SC, PD, E, SS, O) \quad 1.$$

Equation 1 states that Behavior (B) is a function of the person's abilities (A), subjective culture (SC), and personality predispositions (PD). Some variance may also be traced to the physical environment (E), the social structure (SS), and the Other (O).

The six independent variables of Equation 1 are contemporaneous. However, in much of the literature we find historical E, SS, and O variables that act as independent variables for A, SC and PD variables. Thus, in some cases the historical variables are the distal independent variables, and the A, SC, and PD variables are the proximal independent variables that determine the observed behavior. In some studies both a historical and contemporaneous E variable may be employed, giving two sets of independent variables. For example, Segall, Campbell & Herskovits (148) assume the degree to which the environment has many right angles (a historical variable called carpenteredness) influences the person's predisposition to see the angles in the Müller-Lyer illusion as right angles (a contemporaneous predisposition which is a component of his ability to make perceptual judgments) so that the Müller-Lyer materials (contemporaneous E-variables) are responded to differently. Or, the mother's behavior over time (historical O-variable) influences the child's personality disposition, while the mother's contemporaneous behavior has an additional influence on the child's behavior.

Our overview of the literature suggests that in most studies E and O variables have historical meaning and SS variables contemporaneous meaning. When this is not the case we will qualify our references to E, SS, and O-variables to indicate that the infrequent version of the variable is employed in the particular study.

In the sections that follow we first list (Table 1) one or two studies that investigated each of the six independent variables of Equation 1 in cross-cultural perspective. This will give an overall view of the field. Second, we focus on the proximal independent variables of Ability, Subjective Culture, and Personality Predisposition. Within each section we classify studies according to the distal variables (E, SS, and O) which act as independent variables in studies in which the proximal variables (A, SC, PD) are the dependent variables. This approach will allow the reader to see what cells of the conceptual framework are over- and under-researched. Table 1 provides an Overview of Studies which have been done with the above variables as foci.

TABLE I. OVERVIEW OF STUDIES

<p><b>A—Person's Abilities</b></p> <p>Intelligence, e.g. verbal, numerical, spatial abilities (93, 94, 187)</p> <p>Perceptual style (16, 186)</p> <p>Perceptual skills, e.g. pictorial depth (90)</p> <p>Susceptibility to illusions (148)</p> <p>Cross-cultural tests of models of information processing (166, 183)</p> <p>Thinking (40, 74)</p> <p>Cognitive development (70, 77, 81, 138)</p> <p>Moral development (24, 25, 162)</p> <p>Cognition (21)</p> <p><b>SC—Person's Subjective Culture</b></p> <p>Meaning (131, 132, 134)</p> <p>Attitudes, e.g. toward modernization (47, 91)</p> <p>Intergroup attitudes (32, 67)</p> <p>Aesthetic judgments (37, 95, 96)</p> <p>Norms—appropriate behaviors, customs; social distance (22)</p> <p>Interpersonal distance (84, 115, 155)</p> <p>Subjective roles (69, 169, 173)</p> <p>Beliefs, stereotypes, categorization (coding of experience) (30, 61, 63, 124, 177)</p> <p>Studies of the relationship between attitudes and behavior (66, 167)</p> <p>Cross-cultural training (35, 64)</p> <p>Values (12, 13, 54, 106, 109, 168)</p> <p><b>PD—Personality Dispositions</b></p> <p>Self-image in cross-cultural perspective (6)</p> <p>Anxiety—avoidance—stress (4, 114, 176)</p> <p>Authoritarianism (102)</p> <p>Alienation—suicide (7, 100, 101, 119)</p> <p>Conformity—adjustment to change (17, 73)</p> <p>Mental illness, psychopathology (3, 58, 116, 127)</p>	<p><b>E—Physical Environment</b></p> <p>Resources—types of economy (e.g. hunting, gathering, fishing, farming) (16, 17, 46, 47)</p> <p>Characteristics of (flat, mountainous, barren, carpentered, i.e. has high frequency of right angles) (148)</p> <p>Climate (118, 180)</p> <p>Physical distance—between people (9, 84); between tribes (22)</p> <p><b>SS—Social Structure</b></p> <p>Social class—education, occupations, family background, income (91, 109)</p> <p>Prescribed roles—age, sex, race, family membership (125)</p> <p>Family organization—birth order, family structure (33, 125)</p> <p>Patterns of socialization (125, 137)</p> <p>Development—economic (22, 45–47, 50); cultural (educational) (91)</p> <p><b>O—Other Persons</b></p> <p>The same variables listed under A, SC, and PD can be applied to O, but also additional interpersonal variables or variables reflecting behavior in groups have been investigated, such as</p> <p>Recognition of emotion (59)</p> <p>Similarity of P and O (165, 175)</p> <p>Influence attempts and attitude change (184, 185)</p> <p>Leadership behaviors (123)</p> <p>Behaviors dividing resources among group members (104)</p> <p>Intergroup behavior (44, 52)</p> <p>Behaviors in game situations (104, 136)</p>
--	--

## ABILITIES

*Environmental Antecedents of Perception*

The major study in this area is by Segall, Campbell & Herskovits (148). They formed hypotheses based on Brunswick's concept of ecological cue validity (27) that predicted illusion susceptibility as a function of characteristics of the visual environment. They proposed, on the basis of an ecological cue validity theory, that persons living in "carpentered" environments, i.e. environments with extremely common occurrences of right angles, would be more susceptible to certain geometric illusions (e.g. the Müller-Lyer) than persons whose visual environment contains few carpentered objects. Likewise, persons exposed to overland vistas should be more susceptible to perspective illusions (e.g. horizontal-vertical; L or T) than persons without such experience. In general, they found that Western populations were more susceptible to the Müller-Lyer illusion, but less to the horizontal-vertical illusion than were non-Western (African) populations. Support was stronger for the former than for the latter. The strong form of the environmental hypothesis was not tested, as measurements on the environment were not employed in the study. The methodological and conceptual contributions of this research are considerable. The pattern of illusion susceptibility makes it "impossible to employ an all-encompassing explanation such as simplicity of mind, suggestibility, or educational level per se to account for their findings" (43). Partially because of this work the distinction between the operation of a mechanism or process as an antecedent of present perceptual performance and the development of such mechanisms is made more clearly here than in other areas of cross-cultural psychology. In this research strand, when developmental questions are pursued, the process by which the disposition developed results in the observed behavior is more carefully specified. This is perhaps because in the study of perception the methodology and explication of rival hypotheses is further advanced. Almost no one would now consider a study documenting a perceptual response difference between two populations without some relatively explicit discussion of the mechanisms which relate social structural differences to the perceptual response differences. By way of contrast, this sort of comparison—but usually without discussion of the mediation of differences—is by far the most popular category in cross-cultural work in socialization and personality.

For the perspective illusions the classes of variables called upon for explanation are environmental, determining the observer's cue utilization habits (148) which then influence illusion susceptibility. For the geometrical illusions, the person disposition is again a set of cue utilization habits, namely orthogonalization of angles, and derivative relative size judgments. The environmental variable in this latter case, carpenteredness of the environment, is man-made and is therefore potentially related to variables of social structure that either mediate the development of the disposition, or underlie both the disposition and the carpenteredness of the environment.

*Environmental Antecedents of Social Structural Influences on Perception*

There are many hypotheses concerning how increased susceptibility to the Müller-Lyer illusion, and the perceiving of three-dimensionality from two-dimensional displays, can arise from attributes of these social structural variables other than from the frequency with which the perceiver has seen carpentered objects.

One hypothesis is that education, modernization, and urbanization (all SS variables) increase the sophistication (42) of subjects, altering their attention or stimulus scanning habits (43), leading to greater accuracy in judgments. Since these SS variables are also antecedent to the E variable (carpenteredness) the two explanations of illusion susceptibility are confounded (20). Another hypothesis suggests that such variables as the strictness of the mother in socializing the child (46), or lack of ecological requirements for independence of judgment (50), cause the development of field dependence, which increases illusion susceptibility. In general, the generality of this effect across illusions remains yet untested. The ecological requirements of agricultural societies favor field dependence to a greater extent than do the requirements of hunting societies. This set of relationships has been extended to include nutritional antecedents of endocrinological syndromes which either (a) in conjunction with dispositions of the mother lead to harsher treatment of male children, and therefore greater field dependence (46), or (b) lead to greater field dependence through more direct endocrinological effects on cognitive/perceptual processes (50). This highly integrative approach, spanning classes of bio-social variables, seems an important one to develop further.

Another possibility, again confounding the carpentered world explanation (50, 98), is that illusion susceptibility is inversely associated with pigmentation of the fundus oculi, which decreases ability to detect contours. Berry (20) reports higher correlations of skin color with illusion susceptibility, when carpenteredness of the environment is partialled out, than of carpenteredness with skin color partialled. However, as Dawson (50) points out, both skin color and carpenteredness are confounded by variables such as modernity and urban residence. Jahoda's (98) evidence indicates that among less pigmented samples the effect is color specific, red figures eliciting greater susceptibility to the Müller-Lyer illusion than blue. Segall, Campbell & Herskovits (148) used partially red stimuli and did find the differences between Western (presumably less pigmented) and African samples reported above. This controversy has fallen into the trap of single method measurement (Müller-Lyer illusion) of the underlying disposition (susceptibility to geometric illusions). This is particularly unfortunate since those using the Segall, Campbell & Herskovits materials could have had data on other illusions which could shed light on the generality of the relation of skin pigmentation to illusion susceptibility, and thus its importance as a confound in the carpentered world hypothesis.

The final confounding explanation that should be ruled out before perceptual



explanations are advanced is that the response is due to social factors affecting the response decisions, as distinct from the "percept" itself (170). The procedures of Segall et al adequately deal with this problem. Other psychophysical approaches toward the measurement and control of bias involve application of the Theory of Signal Detectability to recognition of faces of own and other race (121) and the ethnic identification of stimulus persons (56).

***Social Structural Antecedents of Classification, Learning, Memory, and Thinking***

A major study in this area is by Cole et al (40). Utilizing standard experimental psychological procedures, they explored the classification, learning, memory, and thinking behaviors of samples of Kpelle, from Liberia, varying in age and educational attainment. A strong sensitivity to cultural determinants of experimental results led the authors to adopt experimental materials that were particularly appropriate for the cultures studied. American children were sometimes tested with the Kpelle materials or according to the experimental procedures suggested by the Kpelle data. The data are complex and the authors are appropriately cautious. They conclude: "the cultural differences in cognition reside more in the situations to which particular cognitive processes are applied than in the existence of a process in one cultural group and its absence in another" (40, p. 233).

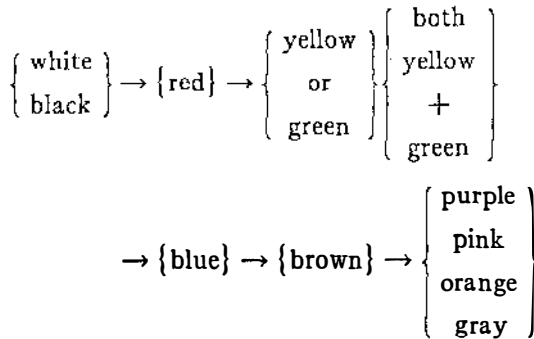
Ciborowski & Cole (38) showed that different problems can be more or less difficult in particular cultures, depending on the cultural context of problem solving. The structure of the problem is the most important determinant of problem solving level by a cultural group. The structure of the activity of the people under study must be matched with the experimental tasks.

**SUBJECTIVE CULTURE**

***Social Structural Antecedents of Subjective Culture***

*Categorization.*—Humans give identical responses (as perceived by an observer) to discriminably different stimuli. This phenomenon is called categorization. Earlier reviews of the literature (163) established that categorization is universal, but what is categorized varies from culture to culture. Extensive cross-cultural work has been done with color categories, primarily because it is possible to establish relationships between the physical character of the stimuli and the responses of the subjects. Much of this research is reviewed by Berlin & Kay (11), who also provide evidence in favor of the conclusion that there are semantic universals in color terminology and basic color terms are acquired in every culture in the same order. Although different languages encode in their vocabularies different numbers of basic color categories, there are exactly 11 basic categories from which the color terms of every language always draw.

The basic sequence is:



The authors show that all languages have terms for white and black, and if they have a third term it is red; if they have four terms it is yellow or green; if they have five it is both yellow and green, etc. They suggest that this is also the order of color term development in children.

*Cognitive schemata.*—Categories become associated with other categories, so that distinctive cognitive schemata can be observed. Members of different cultures utilize different schemata. For example, Shaffer, Sundberg & Tyler (150) showed that Indians emit more edibles when asked to “list 25 words that come to mind,” while Dutch children emit more building parts and Americans more school, play, and action themes. Szalay (e.g. 157, 158) has developed an approach he calls “Associative Group Analysis” to study dominant cultural themes.

Rankings of importance of life concerns and life changes (144) show considerable similarity across cultures, allowing us to pay more attention to the few obtained cultural differences. Triandis et al (168) examined the perceived antecedents and consequents of 20 value terms in Japan, India, Greece, and the United States, and found both similarities and differences in the meaning of such value terms across cultures. For example, the perceived antecedents of SUCCESS include *high ability* and *patience* in all cultures, but Americans emphasize while Japanese de-emphasize *devotion* and *hard work* as antecedents of SUCCESS; all cultures see *joy*, *pride*, and *satisfaction* as consequences of SUCCESS, but while the Americans see *achievement* as an important consequence, the Greeks do not see such an outcome but instead emphasize that *love* follows SUCCESS. The Indians see *social distinction* and *vanity* as high probability outcomes of SUCCESS, while in the other cultures such connections are seen as improbable.

The appropriateness of the distance between two individuals in different kinds of social situations has been investigated by Little (115) in Europe and by Engbretson & Fullmer (60) in the orient. These studies confirm Hall's (84) argument that in “contact cultures” it is appropriate to touch in public situations, but in other cultures it is not appropriate to do so.

*Stereotypes.*—A particularly widely studied cognitive schema concerns the stereotypes of various ethnic groups. A most important paper by Campbell (30)

provided theoretical underpinnings consistent with the empirical findings of Triandis & Vassiliou (171) and Vassiliou et al (177). A review by Triandis (167) suggests that stereotypes change with world events, with the amount of intergroup contact, and the type of contact. Developmental trends were traced by Lambert & Klineberg (112) and Ghiglione & Beauvois (75). Certain aspects of the total stereotype are valid, as shown by Schuman (147) and Abate & Berrien (1). Tajfel (159) presented a theory concerning the stereotyping process and some experiments which support it. Tajfel et al (161) showed that children are attracted by pictures that a majority of them perceive as belonging to their own national group. The correlation of liking and national assignment drops with age.

*Affective meaning.*—The largest cross-cultural study to date has been in progress since 1960 and will probably not be fully reported until 1980. Directed by Osgood (130–132, 134), it develops indigeneous (emic) semantic differentials in 25 locations around the globe. Factor analyses revealed an etic structure in these measurements. The study will result in an *Atlas of Affective Meaning* containing the mean evaluation, potency and activity (etic) scores, and several other statistics for about 500 words. The use of emic instruments which provide etic measurements is a major contribution of this study.

*Behavioral intentions and role perceptions.*—A monograph by Triandis, Vassiliou & Nassiakou (173) reports that four etic and several emic dimensions of behavioral intentions have been found in studies of Americans and Greeks. Association-Dissociation is relevant to interaction with ingroup vs outgroup members; Superordination-Subordination reflects Formality reflects interpersonal familiarity; Hostility reflects interacting members. Osgood (133) obtained similar etic factors using a different procedure. Role perceptions were also studied by Triandis et al (173) by examining the responses of Americans and Greeks to emically developed instruments. Again the same four dimensions of behavior emerged. Two-mode factor analysis permitted examination of the structure of roles as well as the structure of behavioral intentions. Roles are differentiated very clearly in Greece along the ingroup-outgroup dimension; such strong contrast is not obtained in the USA. This led to specific directors when hiring employees recommended by a close friend or an unknown person. These predictions were supported by a highly significant interaction between culture and source of recommendation in Triandis & Vassiliou (172). Further studies (169) with data from 1800 respondents from five cultures suggest that each culture employs five inspection suggests that four of these are etic. In short, in every culture studied so far, emic factors such as Giving Love, Cooperation, Nurturance, and Lack of Hostility suggest the existence of an etic factor that might be called *Solidarity*. Other etic factors suggest *Denying of Status* (Control of the Other, Superordination) and *Intimacy* (kiss, pet, have sexual intercourse with). Finally, a mixture of Solidarity and Status appears in emic factors such as Formal Social Acceptance,

Respect, and Submission. The etic dimensions suggest that we are here finding basic dimensions of social behavior which show both universality and phylogenetic continuity, since Solidarity and Status are the major dimensions of analysis employed by some animal social psychologists.

*Intergroup attitudes.*—Campbell & LeVine (32) examined some determinants of intergroup attitudes, while Brewer (22) used some of their data to predict the social distance among East African tribal groups. The more similar the perceived similarity of the outgroup the lower was the social distance; the nearer and the more economically developed the outgroup the lower the social distance; dissimilar groups that are advanced are more attractive than other advanced groups. Interpersonal similarity in religion, age, sex, and other characteristics leads to attraction (165), but similarity in status has a complex relationship to attraction (175).

*Values.*—Kohn (109) established important relationships between social class and preference for conformity versus independence in children. In both the United States and Italy upper middle-class parents stress independence and lower-class parents conformity. His theoretical analysis which relates demands of the job situation of the parents to child training and parental values is particularly interesting.

Two research programs by Berrien (12, 13) and Gordon (79, 80) have concentrated on the comparison of Japanese and American values with the Edwards and Gordon inventories, appropriately standardized. Berrien, Arkoff & Iwahara (15) explored the similarity in the values of parents and children of Japanese and American backgrounds, discovering a larger generational than a cultural gap.

Diaz-Guerrero (54) discussed the passive-active orientation as a sociocultural premise. He argues that Americans are characterized by active coping while Mexicans are passive copers. He sees definite implications for mental health and economic development in these differences in coping styles.

*Modernization, acculturation, and social change.*—An important literature has recently developed around these concepts. Modern man is seen as having a different subjective culture than traditional man. One controversy concerns the extent to which the modernization syndrome is to be contrasted with the traditional syndrome on a single dimension or on several dimensions. The work of Inkeles (91), Dawson (45, 47–50), Doob (55), and Kahl (103) utilizes a unidimensional conception of modernity. By contrast, Schnaiberg (146) and Wober (188) find it necessary to use a multidimensional conception which allows a person to be modern on one dimension and traditional on others. This is a controversy strongly reminiscent of the Spearman-Thurstone controversies, and it is very likely that the multidimensionalists will win. On the one hand, the pioneering work of the unidimensionalists provides valuable insights; on the other hand, Stephenson (156) criticizes the pseudoetic methodology of much of the modernization literature.

Another research strand is focused around the work of McClelland (118), which attempts to demonstrate relationships between child-rearing patterns, human motives, and economic development. Pareek (135) proposed that economic development requires persons high in the need for achievement and extension and low in the need for dependence. Need for extension is characterized by concern for others. Need for dependence includes the need for guidance and direction by others and the need to avoid initiative or supplying leadership. McClelland & Winter (120) suggested that need for achievement can be changed and changes in need structure can become manifest in entrepreneurial activity. Singh (152, 153) also documented this relationship.

Methodological difficulties associated with McClelland's work (reliability of the TAT measures, sampling, confounding of variables, demand characteristics) make further research necessary before we can accept these conclusions.

Modernism can be measured, and certain antecedents such as the amount of education, socioeconomic status, and factory experience seem to be dependably associated with it. Certain kinds of child training methods are related to modernism. Much more needs to be learned, however, about both the multidimensional structure of modernism and its antecedents and consequences. Among the consequences are rapid increases in levels of aspiration and resulting dissatisfaction with attainment in life (48), marginality, alienation and social deviance (19, 100, 101), lower self-esteem (190), and frustration (53).

#### PERSONALITY DISPOSITIONS

##### *Environment via Social Structures Influences the Other's Behavior and hence the Person's Personality Dispositions (E → SS → O → P → O → PD)*

Minturn & Lambert (125) suggest that E variables (physical structure of living space) and SS variables (number of children in the family, mother's total role requirements) are important antecedents of the mother's (O's) behavior toward the child (P). Munroe & Munroe (126) found larger households among the Logoli of Kenya associated with more frequent care of infants in general (but less by the infant's own mother) than smaller households. Another form of these relations is outlined by Dawson (46, 47). E variables (malnutrition) produce physiological effects (e.g. Kwashiorkor, and endocrinological disorders such as Gynaecomastia). These effects lead to male children of reduced responsiveness and more feminine body form (P). The latter, interacting with socialization practices (SS), elicited maternal behavior (O) different from that given other children, resulting in levels of field dependence (P) more typical of females in that society. This sequence of relations incorporates Bell's (10) suggestion that parents respond differently to genetically determined features of behavior of their children, such as variations in behavioral pacing and impulsiveness of the child; a P→O→P relation.

##### *Social Structure Influences Personality Dispositions*

Most cross-cultural studies of socialization and personality fall into this category. The weakest of these studies document a culture difference in behavior, fre-

quently with little theory or empirical data to aid in interpreting the richly confounded differences. Others focus on the mediation of  $SS \rightarrow O \rightarrow P \rightarrow SS$  relations. Caudill & Weinstein (33), studying child and caretaker behavior in Japan and the USA, expected that Japanese mothers would (a) spend more time with their infants, (b) emphasize physical over verbal interaction, and (c) have as a goal a contented baby. American mothers would (a) spend less time with the infant, (b) emphasize verbal over physical interaction, and (c) value a self-assertive baby. Trained observers from the local culture made 800 highly reliable observations per child. The major differences were cultural, with the Japanese higher than the American mothers on the observed frequency of presence of the caretaker, amount of positioning of the child, lulling and rocking. The Americans were higher than the Japanese in frequency of chatting, general activity, and playing. Other differences could be traced to the sex of the child and the occupation of the father. Finally, no differences were obtained on variables such as the frequency of feeding, on which there is no reason to expect cultural differences.

Bronfenbrenner (24-26) investigated effects of a social structural variable (number of major socializing agents for P) together with intentions to reveal P's resolutions of a series of moral dilemmas to various O's (parents, peers) on the degree to which P's choices conform to adult norms. He assumed that a child is more able to resist social pressure if he has been exposed to more than one major socializing agent. He will not be forced to give up a single source of security by making contra-adult decisions. Data were obtained in residential and day schools in the USA and USSR. Residential school students (a single socialization setting) gave more adult approved resolutions than day school students. When told that their responses would be seen by their peers, subjects produced more adult resolutions in the USSR. By contrast, in the USA this instruction produced very few adult resolutions, and high rates of such resolutions were obtained only when subjects were told that their responses would be seen by adults.

*Other's Behavior as an Antecedent of a Person's Disposition and Behavior*

Some studies differentiate the  $SS \rightarrow P$  relation:  $SS \rightarrow (P/\text{disposition}) \rightarrow P$  behavior (143). Others have differentiated  $SS \rightarrow (O/\text{behavior}) \rightarrow (P/\text{disposition}) \rightarrow (P/\text{behavior})$ . Amir, Sharan & Kovarsky (4) developed hypotheses concerning rates of volunteering for officer training in the Israeli Defense Forces on the basis of an examination of the family structures of subgroups in Israel. On the basis of Schachter's hypothesis that firstborn sons, particularly in nuclear families, develop a need for affiliation as an anxiety reduction mechanism, and an analysis of the status accorded the firstborn in Middle Eastern extended families, they predicted that (a) firstborn sons would show less anxiety avoidance, and therefore more volunteering for officer training, than would later born sons; that (b) this difference would not occur in Middle Eastern nuclear families; and that (c) in Western families firstborns would show more anxiety avoidance and thus volunteer less frequently. The first two hypotheses were supported, the last only partially. The authors conclude that family structure and role of the firstborn are important variables to be considered in extending the Schachter theoretical formulation to non-Western cultures.

*Social Structural Antecedents of Psychopathology and Deviant Behavior*

Draguns (57), in his provocative summary of cross-cultural investigations of psychopathology, has noted that only with the recent emergence of the discipline of social psychiatry have systematic observations been applied to the influence of social and cultural factors upon psychopathological manifestations. The issues of central concern in this area can be summarized in two questions: 1. Are diagnostic categories comparable across cultures? 2. Do psychopathological findings from the Western nations have pancultural generality?

Some of the most methodologically sound research concerning the question of cross-national diagnosis has been carried out by the Project on Diagnosis of Mental Disorders in the U. S. and the United Kingdom (special supplement of the *American Journal of Psychiatry* 3). The central problem investigated by the project concerned the frequent finding that first admission rates to mental hospitals and rates for affective disorders were higher in England and Wales than in the United States, while the reverse was true for schizophrenia and cerebral arteriosclerosis. Investigators questioned whether the sources of these observed differences were based on actual clinical differences in samples or differences in diagnostic categorization on the part of clinicians and psychiatrists. Cooper et al (41) attempted to achieve comparability of diagnostic categorization and found that although some of the observed differences could be accounted for by categorization there were in fact genuine clinical differences between the patient populations as well.

Seifert, Draguns & Caudill (149) replicated in Japan the procedures of a recent American diagnostic study and were thereby able to compare the bases of psychiatric diagnosis in the two countries. They found that the same variables serve as "building blocks" of the diagnostic categories in the two countries. However, specific relationships between symptom style and diagnosis were often different or opposite in the two cultures.

Turning to the second question mentioned above, considerable effort has recently been devoted to the study of intercultural generality of psychopathological findings originally established within the United States. Lorr & Klett (116) studied 12 psychiatric syndromes, previously established in the U. S., among newly hospitalized patients in six other countries. Patients were rated by a semi-structured interview technique and the pooled ratings were correlated and factored. With few exceptions the existence of the syndromes were confirmed in each sample. Draguns et al (58) extended an American finding concerning the relations between social competence (which consists of factors such as age, marital status, educational achievement, and occupational level) and variables of role orientation (turning against self, turning against others, and avoiding others). At higher levels of competence both Japanese and American men have a tendency to turn against the self.

Murphy, Wittkower & Chance (127) mailed questionnaires to psychiatrists in 30 countries, asking them to rate patients in regard to one type of depression syndrome. They were primarily concerned with the universality of the relation-

ships between depression and level of cohesion in the community. Kitano (107), questioning the impact of acculturation on mental illness, also focused on one diagnostic category, schizophrenia. He questioned Japanese patients in Los Angeles, Hawaii, Tokyo, and Okinawa concerning treatment and behavior of the severely mentally ill. He found a culture-common reaction to schizophrenia, thus suggesting that behavior labeled as mental illness is not acculturable. In general, these studies suggest that there are important similarities across cultures in causes and symptoms of psychiatric disorders.

*Suicide and psychogenic death.*—In societies in which the individuals' social ties are likely to be weakened, thwarted, or broken by divorce, homicide, etc., and the cause of this behavior is an identifiable individual, there exists what Naroll has called the thwarting-disorientation syndrome. He theorized that the thwarting-disorientation syndrome would lead to a high rate of suicide. Krauss & Krauss (110) examined suicide case histories from 58 cultures and found support for this theory. There was also indirect evidence that early stages of modernization (migration) were related to suicide.

Barrett & Franke (7) have also found cross-national support for a relationship between SS variables and psychogenic death. They hypothesized that social, economic, and medical variables would account for differences in psychogenic death rates, whereas psychological variables would not. In support of this hypothesis, they found that across 30 countries status integration of the labor force by sex correlated positively with homicide and negatively with death from ulcers and suicide. Economic growth correlated with death from ulcers, and wealth correlated positively with suicide. In addition, there was not a significant pattern of cross-lagged correlations between McClelland's psychological motives of achievement, affiliation, and power, operationalized by content analysis of children's stories, and psychogenic death rates.

*Drinking.*—Beginning with the pioneering research of Horton (89), social scientists have attempted to find out why people drink. Primarily these investigators have correlated amount of alcohol consumed in a culture with characteristics of that culture. Thus, Horton (89), Field (65), Barry et al (8), and McClelland et al (119) have all found correlations between an E variable, type of economy (e.g. hunting, fishing vs agricultural), and a P variable, drinking. In general, hunting tribes drink more heavily than tribes that depend on agriculture for a living. Those researchers have hypothesized and operationalized a number of SS and P intervening variables that might mediate the E→P relation: (a) subsistence insecurity (89); (b) dependency needs (5); and (c) degree of societal organization (65, 100, 119). At present, the degree of societal organization has received the strongest support as the intervening variable mediating type of economy and insobriety. Specifically, in more highly organized societies (e.g. agricultural societies) there are more societal controls that inhibit drinking.



### CONCLUDING COMMENT

This review of the cross-cultural psychological literature suggests a number of gaps in research activities. First, we have not made enough progress in our description of the independent variables—ecology, environments, etc—which determine the phenomena of interest. For example, one finds repeatedly the statement that the respondent's level of education is a major determinant of his responses to perceptual, cognitive, or attitudinal tasks. Yet in most studies there is no further analysis of the meaning of the educational variable. What exactly mediates between education and the other phenomena? Is it literacy, participation in institutional environments, the manipulation of symbols, conformity to a life style requiring attention to time, getting rewarded for what you do rather than for who you are, being able to communicate to people you do not see and receive communications from the outside world, or some other variable that mediates between education and cognitive development? Second, there are not enough studies which take the emic-etic dilemma seriously and attempt to design data collection so as to obtain some of the advantages of each approach. There tends to be too much ethnocentrism in the design and execution of psychological studies in other cultures. Third, there is as yet no theoretical framework within which to do such studies. Some fragments do exist, but typically they are not interrelated. New methodologies such as path analysis may make it possible to tie these fragments into more substantial theories.

Our review suggests that the most plausible hypothesis is that basic psychological processes, such as selectivity in perception, are invariant across cultures, but the specific manifestations of the processes, such as what type of stimuli are selected, differ across cultures.

## LITERATURE CITED

1. Abate, M., Berrien, F. K. 1967. Validation of stereotypes: Japanese versus American students. *J. Pers. Soc. Psychol.* 7:435-38
2. Al-Issa, I., Dennis, W., 1970. *Cross-Cultural Studies of Behavior*. New York:Holt. 556 pp.
3. *American Journal Psychiatry Suppl.* 1969. Vol. 125 (whole issue)
4. Amir, Y., Sharan, S., Kovarsky, Y. 1968. Birth order, family structure and avoidance behavior. *J. Pers. Soc. Psychol.* 10:271-78
5. Bacon, M., Barry, H., Child, I. 1965. A cross-cultural study of drinking: II. Relations to other features of culture. *Quart. J. Stud. Alc.* 3:29-48
6. Back, K. W., Paramesh, C. R. 1969. Self-image, information exchange and social character. *Int. J. Psychol.* 4:109-18
7. Barrett, G., Franke, R. 1970. "Psychogenic" death: A reappraisal. *Science* 167:304-6
8. Barry, H., Buchwald, C., Child, I., Bacon, M. 1965. A cross-cultural study of drinking: IV. Comparisons with Horton ratings. *Quart. J. Stud. Alc.* 3:62-77
9. Baxter, J. C. 1970. Interpersonal spacing in natural settings. *Sociometry* 33:444-56
10. Bell, R. Q. 1968. A reinterpretation of the direction of effects in studies of socialization. *Psychol. Rev.* 75: 81-95
11. Berlin, B., Kay, P. 1969. *Basic Color Terms: Their Universality and Evolution*. Berkeley/Los Angeles: Univ. California Press. 185 pp.
12. Berrien, F. K. 1965. Japanese vs. American values. *J. Soc. Psychol.* 65:181-92
13. Berrien, F. K. 1966. Japanese and American values. *Int. J. Psychol.* 1:129-42
14. Berrien, F. K. 1968. Cross-cultural equivalence of personality measures. *J. Soc. Psychol.* 75:3-10
15. Berrien, F. K., Arkoff, A., Iwahara, S. 1967. Generation difference in values: Americans, Japanese-Americans and Japanese. *J. Soc. Psychol.* 71:169-76
16. Berry, J. W. 1966. Temne and Eskimo perceptual skills. *Int. J. Psychol.* 1:207-29
17. Berry, J. W. 1967. Independence and conformity in subsistence level societies. *J. Pers. Soc. Psychol.* 7:415-18
18. Berry, J. W. 1969. On cross-cultural comparability. *Int. J. Psychol.* 4: 119-28
19. Berry, J. W. 1970. Marginality, stress and ethnic identification in an acculturated aboriginal community. *J. Cross-Cult. Psychol.* 1:239-52
20. Berry, J. W. 1971. Müller-Lyer susceptibility culture, ecology or race. *Int. J. Psychol.* 6:193-97
21. Berry, J. W., Dasen, P. 1973. *Culture and Cognition: Readings in Cross-Cultural Psychology*. London-Methuen. In press
22. Brewer, M. B. 1968. Determinants of social distance among East African tribal groups. *J. Pers. Soc. Psychol.* 10:279-89
23. Brislin, R. W. 1970. Back-translation for cross-cultural research. *J. Cross-Cult. Psychol.* 1:185-216
24. Bronfenbrenner, U. 1967. Response to pressure from peers versus adults among Soviet and American school children. *Int. J. Psychol.* 2:199-207
25. Bronfenbrenner, U. 1970. Reaction to social pressure from adults versus peers among Soviet day school and boarding school pupils in the perspective of an American sample. *J. Pers. Soc. Psychol.* 15:179-89
26. Bronfenbrenner, U. 1970. *Two Worlds of Childhood: U. S. and U. S. S. R.* New York:Russell Sage Found. 190 pp.
27. Brunswick, E., 1956. *Perception and the Representative Design of Psychological Experiments*. Berkeley: Univ. California Press. 154 pp.
28. Campbell, D. T. 1963. Social attitudes and other behavioral dispositions. In *Psychology: A Study of a Science*, ed. S. Koch, 94-172. New York:McGraw-Hill. 791 pp.
29. Campbell, D. T. 1964. Distinguishing differences of perception from failures of communication in cross-cultural studies. In *Cross-Cultural Understanding: Epistemology in Anthropology*, ed. F. S. C. Northrop, H. H. Livingston. New York: Harper. 396 pp.
30. Campbell, D. T. 1967. Stereotypes

- and the perception of group differences. *Am. Psychol.* 22:817-29
31. Campbell, D. T. 1970. Natural selection as an epistemological model. In *A Handbook of Method in Cultural Anthropology*. See Ref. 129, 51-85
  32. Campbell, D. T., LeVine, R. A. Ethnocentrism and intergroup relations. In *Theories of Cognitive Consistency: A Sourcebook*, ed. R. P. Abelson et al, 551-64. Chicago:Rand McNally, 901 pp.
  33. Caudill, W., Weinstein, H. 1969. Maternal and infant behavior in Japan and America. *Psychiatry* 32:12-43
  34. Chaney, R. P., Revilla, R. R. 1969. Sampling methods and interpretation of correlations: A comparative analysis of 7 cross-cultural samples. *Am. Anthropol.* 71:597-633
  35. Chemers, M. 1969. Cross-cultural training as a means for improving situational favorableness. *Hum. Relat.* 22:531-46
  36. Child, I. L. 1968. Personality in culture. In *Handbook of Personality Theory and Research*, ed. E. F. Borgatta, W. W. Lambert, 82-145. Chicago:Rand McNally, 1232 pp.
  37. Child, I. L., Iwao, S. 1968. Personality and esthetic sensitivity: Extension of findings to younger age and to different culture. *J. Pers. Soc. Psychol.* 8:308-12
  38. Ciborowski, T., Cole, M. 1971. Cultural differences in learning conceptual rules. *Int. J. Psychol.* 6:25-37
  39. Cole, M., Bruner, J. S. 1971. Cultural differences and inferences about psychological processes. *Am. Psychol.* 26:867-76
  40. Cole, M., Gay, J., Glick, J. A., Sharp, D. W. 1971. *The Cultural Context of Learning and Thinking: An Exploration in Experimental Anthropology*. New York:Basic Books, 304 pp.
  41. Cooper, J., Kendall, R., Gurland, B., Jorkas, T. 1969. Cross-national study of the diagnosis of the mental disorders: Some results from the first comparative investigation. *Am. J. Psychiat. Suppl.* 125:91-114
  42. Davis, C. M. 1970. Education and susceptibility to the Müller-Lyer illusion among the Banyankole. *J. Soc. Psychol.* 82:25-34
  43. Davis, C. M., Carlson, J. A. 1970. A cross-cultural study of the strength of the Müller-Lyer illusion as a function of attentional factors. *J. Pers. Soc. Psychol.* 16:403-10
  44. Davis, E. E., Triandis, H. C. 1971. An experimental study of black-white negotiations. *J. Appl. Soc. Psychol.* 1:240-62
  45. Dawson, J. L. M. 1963. Traditional values and work efficiency in a West African mine labor force. *Occup. Psychol.* 37:209-18
  46. Dawson, J. L. M. 1967. Cultural and physiological influences upon tial-perceptual processes in Africa. *Int. J. Psychol.* 2:115-28; 171-85
  47. Dawson, J. L. M. 1967. Traditional versus western attitudes in West Africa: The construction, validation and application of a measuring device. *Brit. J. Soc. Clin. Psychol.* 6:81-96
  48. Dawson, J. L. M. 1969. Attitudinal consistency and conflict in West Africa. *Int. J. Psychol.* 4:39-53
  49. Dawson, J. L. M. 1969. Exchange theory and comparison level changes among Australian aborigines. *Brit. J. Soc. Clin. Psychol.* 8:133-40
  50. Dawson, J. L. M. 1971. Theory and research in cross cultural psychology. *Bull. Brit. Psychol. Soc.* 24:291-306
  51. DeVos, G. A., Hippler, A. E. 1969. Cultural psychology: Comparative studies of human behaviors. In *Handbook of Social Psychology*, ed. G. Lindzey, E. Aronson, 4: 323-417. Reading, Mass.:Addison-Wesley, 694 pp.
  52. Diab, L. N. 1970. A study of intra-group and intergroup relations among experimentally produced small groups. *Genet. Psychol. Monogr.* 82:49-82
  53. Diaz-Guerrero, R. 1967. *Exploring dimensions in socio-economic development*. Presented at Int. Conf. Cross-Cult. Gen. Affective Meaning Syst., Tehran, Iran
  54. Diaz-Guerrero, R. 1967. Socio-cultural premises, attitudes and cross-cultural research. *Int. J. Psychol.* 2:79-87
  55. Doob, L. W. 1967. Scales for assay-ological modernization in *Public Opin. Quart.* 31: 414-21
  56. Dorfman, D. D., Keeve, S., Saslow,

- C. 1971. Ethnic identification: A signal detection analysis. *J. Pers. Soc. Psychol.* 18:373-79
57. Draguns, J. 1971. *Investigation of psychopathology across cultures: Issues, findings, directions.* Presented at Int. Counc. Psychol. Symp. APA, Washington, D. C.
58. Draguns, J., Phillips, L., Broverman, I., Caudill, W. 1970. Social competence and psychiatric symptomatology in Japan: A cross-cultural extension of earlier American finding. *J. Abnorm. Psychol.* 75: 68-73
59. Ekman, P., Friesen, W. V. 1971. Constants across cultures in the face and emotion. *J. Pers. Soc. Psychol.* 17:124-29
60. Engebretson, D., Fullmer, D. 1970. Cross-cultural differences in territoriality: Interaction distances of native Japanese, Hawaii Japanese and American Caucasians. *J. Cross-Cult. Psychol.* 1:261-69
61. Ervin-Tripp, S. M. 1969. Sociolinguistics. In *Advances in Experimental Social Psychology*, ed. L. Berkowitz, 91-166. New York: Academic. 386 pp.
62. Etzioni, A. 1969. Social-psychological aspects of international relations. See Ref. 51, 5:538-601
63. Evans, J. L., Segall, M. H. 1969. Learning to classify by color and by function: A study of concept-discovery by Ganda children. *J. Soc. Psychol.* 77:35-53
64. Fiedler, F. E., Mitchell, T. R., Triandis, H. C. 1971. The Culture Assimilator: An approach to cross-cultural training. *J. Appl. Psychol.* 55:95-102
65. Field, P. 1962. A new cross-cultural study of drunkenness. In *Society, Culture and Drinking Patterns*, ed. D. Pittman, C. Snyder, 48-74. New York:Wiley. 616 pp.
66. Fishman, J. A. 1969. Bilingual attitudes and behavior. *Lang. Sci.* 5:5-11
67. Foa, U. G. 1964. Cross-cultural similarity and difference in interpersonal behavior. *J. Abnorm. Soc. Psychol.* 68:517-22
68. Foa, U. G. 1965. New developments in facet design and analysis. *Psychol. Rev.* 72:262-74
69. Foa, U. G. 1966. Perception in behavior in reciprocal roles: The Ringex model. *Psychol. Monogr.* 80:No. 15
70. Foa, U. G., Triandis, H. C., Katz, E. W. 1966. Cross-cultural invariance in the differentiation and organization of family roles. *J. Pers. Soc. Psychol.* 4:316-27
71. Ford, C. S. 1967. *Cross-Cultural Approaches: Readings in Comparative Research.* New Haven:HRAF Press. 305 pp.
72. Foster, M. L. 1968. Componential analysis of grammar: The Tarascan verb. *Int. J. Am. Ling.* 34:259-68
73. Frager, R. 1970. Conformity and anti-conformity in Japan. *J. Pers. Soc. Psychol.* 15:203-10
74. Gay, J., Cole, M. 1967. *The New Mathematics and an Old Culture.* New York:Holt. 100 pp.
75. Ghiglione, R., Beauvois, J. 1970. Perception de soi et perception d'autrui chez les adolescents: Enquête en France et en Grèce. *J. Int. Psychol.* 5:123-33
76. Goodenough, W. H. 1956. Componential analysis and the study of meaning. *Language* 32: 195-216
77. Goodnow, J. J. 1969. Problems in research on culture and thought. In *Studies in Cognitive Development: Essays in Honor of Jean Piaget*, ed. D. Elkind, J. H. Flavell, 439-62. New York:Oxford. 503 pp.
78. Gordon, L. V. 1968. Comments on "cross-cultural equivalence of personality measures." *J. Soc. Psychol.* 75:11-20
79. Gordon, L. V., Kikuchi, A. 1966. American personality tests in cross-cultural research: A caution. *J. Soc. Psychol.* 69:179-84
80. Gordon, L. V., Kikuchi, A. 1970. Response sets of Japanese and American students. *J. Soc. Psychol.* 82:143-48
81. Greenfield, P. M., Bruner, J. S. 1966. Culture and cognitive growth. *Int. J. Psychol.* 1:89-107
82. Guthrie, G. M. 1971. Unexpected correlations and the cross-cultural method. *J. Cross-Cult. Psychol.* 2:315-23
83. Guttman, L. 1959. A structural theory of intergroup beliefs and action. *Am. Sociol. Rev.* 24:318-28
84. Hall, E. T. 1966. *The Hidden Dimension.* New York: Doubleday. 201 pp.
85. Harari, H., McDavid, J. W. 1967. Cultural differences in measuring educational achievement: A chal-

- lenge to psychology. *Int. J. Psychol.* 2:209-14
86. Hare, P., Peabody, D. 1971. Attitude content and agreement set in autonomy-authoritarianism items for United States, African and Philippine university students. *J. Soc. Psychol.* 83: 23-31
  87. Heron, A. 1971. Concrete operations, 'g,' and achievement in Zambian children. *J. Cross-Cult. Psychol.* 2:325-36
  88. Herskovits, M. J. 1955. *Cultural Anthropology*. New York: Knopf. 569 pp.
  89. Horton, D. 1943. The functions of alcohol in primitive societies: A cross-cultural study. *Quart. J. Stud. Alc.* 4:199-320
  90. Hudson, W. 1960. Pictorial depth perceptions in sub-cultural groups in Africa. *J. Soc. Psychol.* 52:183-208
  91. Inkeles, A. 1969. Making men modern: On the causes and consequences of individual change in six developing countries. *Am. J. Sociol.* 75:208-25
  92. Inkeles, A., Levinson, D. J. 1969. National character: The study of modal personality and sociocultural systems. See Ref. 51, 4:418-506
  93. Irvine, S. H. 1969. Factor analyses of African abilities and attainments: Constructs across cultures. *Psychol. Bull.* 71:20-32
  94. Irvine, S. H. 1970. Affect and construct: A cross-cultural check on theories of intelligence. *J. Soc. Psychol.* 80:23-30
  95. Iwao, S., Child, I. L. 1966. Comparison of esthetic judgments by American experts and Japanese potters. *J. Soc. Psychol.* 68:27-34
  96. Iwao, S., Child, I. L., Garcia, M. 1969. Further evidence of agreement between Japanese and American esthetic evaluations. *J. Soc. Psychol.* 78:11-16
  97. Jahoda, G. A. 1970. A cross-cultural perspective in psychology. *Advan. Sci.* 27:1-14
  98. Jahoda, G. A. 1971. Retinal pigmentation, illusion susceptibility and space perception. *Int. J. Psychol.* 6:199-208
  99. Jensen, A. R. 1969. How much can we boost IQ and scholastic achievement? *Harvard Educ. Rev.* 39:1-123
  100. Jessor, R., Graves, T. D., Hanson, R. C., Jessor, S. L. 1968. *Society, Personality and Deviant Behavior: A Study of a Tri-Ethnic Community*. New York:Holt. 500 pp.
  101. Jessor, R., Young, H. B., Young, E. B., Tesi, G. 1970. Perceived opportunity alienation and drinking behavior among Italian and American youth. *J. Pers. Soc. Psychol.* 15:215-22
  102. Kagitcibasi, C. 1970. Social norms and authoritarianism: A Turkish-American comparison. *J. Pers. Soc. Psychol.* 16:444-51
  103. Kahl, J. A. 1968. *The Measurement of Modernism: A Study of Values in Brazil and Mexico*. Austin: Univ. Texas Press. 210 pp.
  104. Kelley, H. H. et al 1970. A comparative experimental study of negotiation behavior. *J. Pers. Soc. Psychol.* 16:411-38
  105. Kelman, H. C., Hollander, E. P. 1964. International cooperation in psychological research. *Am. Psychol.* 19:779-82
  106. Kikuchi, A., Gordon, L. V. 1970. Japanese and American personal values: Some cross-cultural findings. *Int. J. Psychol.* 5:183-87
  107. Kitano, H. 1970. Mental illness in four cultures. *J. Soc. Psychol.* 80:121-34
  108. Koffka, K. 1935. *Principles of Gestalt Psychology*. New York:Harcourt, Brace. 720 pp.
  109. Kohn, M. L. 1969. *Class and Conformity: A Study of Values*. Homewood: Dorsey. 315 pp.
  110. Krauss, H. H., Krauss, B. J. 1968. Cross-cultural study of the thwarting-disorientation theory of suicide. *J. Abnorm. Psychol.* 73:353-57
  111. Labov, W. 1970. The logic of non-standard English. In *Language and Poverty*, ed. F. Williams, 153-89. Chicago:Markham. 459 pp.
  112. Lambert, W. E., Klineberg, O. 1967. *Children's Views of Foreign Peoples*. New York:Appleton. 319 pp.
  113. Lambert, W. W., Weisbrod, R. 1971. *Comparative Perspectives on Social Psychology*. Boston: Little, Brown. 309 pp.
  114. Lazarus, R. S., Tomita, M., Opton, J., Kodama, M. 1966. A cross-cultural study of stress-reaction patterns in Japan. *J. Pers. Soc. Psychol.* 4:622-33
  115. Little, K. B. 1968. Cultural variations

- in social schemata. *J. Pers. Soc. Psychol.* 10:1-7
116. Lorr, M., Klett, C. J. 1969. Cross-cultural comparison of psychotic syndromes. *J. Abnorm. Psychol.* 74:531-43
  117. Luria, A. K. 1971. Towards the problems of the historical nature of psychological processes. *Int. J. Psychol.* 6:259-72
  118. McClelland, D. 1961. *The Achieving Society*. Princeton, N.J.:Van Nostrand. 512 pp.
  119. McClelland, D. C., Davis, W., Wanner, E., Kalin, R. 1966. A cross-cultural study of folk-tale content and drinking. *Sociometry* 29:308-33
  120. McClelland, D. C., Winter, D. G. 1969. *Motivating Economic Achievement*. New York:Free Press. 409pp.
  121. Malpass, R. S., Kravitz, J. 1969. Recognition for faces of own and other race. *J. Pers. Soc. Psychol.* 13:330-34
  122. Manaster, G., Havighurst, R. J. 1971. *Cross-National Research: Social Psychological Methods and Problems*. New York:Houghton-Mifflin. 224 pp.
  123. Meade, R. 1970. Leadership studies of Chinese and Chinese-Americans. *J. Cross-Cult. Psychol.* 1: 325-32
  124. Miller, W. R. 1969. Language. In *Biennial Review of Anthropology*, ed. B. J. Siegel, 1-40. 404 pp.
  125. Minturn, L., Lambert, W. W. 1964. *Mothers of Six Cultures*. New York: Wiley. 351 pp.
  126. Munroe, R. H., Munroe, R. L. 1971. Household density and infant care in an East African society. *J. Soc. Psychol.* 83:3-13
  127. Murphy, H., Wittkower, E., Chance, N. 1967. Cross-cultural inquiry into the symptomatology of depression: A preliminary report. *Int. J. Psychiat.* 3:1-58
  128. Naroll, R. 1970. What have we learned from cross-cultural surveys? *Am. Anthropol.* 72:1227-87
  129. Naroll, R., Cohen, R., Eds. 1970. *A Handbook of Method in Cultural Anthropology*. Garden City, NY: Natur. Hist. Press. 1017 pp.
  130. Osgood, C. E. 1964. Semantic differential technique in the comparative study of cultures. *Am. Anthropol.* 66:171-200
  131. Osgood, C. E. 1965. Cross-cultural comparability in attitude measurement via multilingual semantic differentials. In *Current Studies in Social Psychology*, ed. I. D. Steiner, M. Fishbein, 95-107. Chicago: Holt. 532 pp.
  132. Osgood, C. E. 1967. On the strategy of cross-cultural research into subjective culture. *Soc. Sci. Inform.* 6:1-37
  133. Osgood, C. E. 1970. Speculations on the structure of interpersonal intentions. *Behav. Sci.* 15:237-54
  134. Osgood, C. E. 1971. Explorations in semantic space: A personal diary. *J. Soc. Issues* 27:5-59
  135. Pareek, U. 1968. A motivational paradigm of development. *J. Soc. Issues* 26:115-24
  136. Pepitone, A. et al 1970. Justice in choice behavior: A cross-cultural analysis. *Int. J. Psychol.* 5:1-10
  137. Peterson, D. R., Migliorino, G. 1967. Pancultural factors of parental behavior in Sicily and the U. S. *Child Develop.* 38:967-92
  138. Piaget, J. 1966. Necessité et signification des recherches comparatives en psychologie génétique. *Int. J. Psychol.* 1:3-13
  139. Pike, K. L. 1966. *Language in Relation to a Unified Theory of the Structure of Human Behavior*. The Hague:Mouton. 762 pp.
  140. Price-Williams, D. R. 1969. *Cross-Cultural Studies: Selected Readings*. Middlesex, England:Penguin. 383 pp.
  141. Przeworski, A., Teune, H. 1967. Equivalence in cross-cultural research. *Public Opin. Quart.* 30: 551-68
  142. Przeworski, A., Teune, H. 1969. *Logic of Comparative Social Inquiry*. New York:Wiley. 153 pp.
  143. Rabin, A. I., Goldman, H. 1966. The relationship of severity of guilt to intensity of identification in Kibbutz and non-Kibbutz children. *J. Soc. Psychol.* 69:159-64
  144. Rahe, R. H. 1969. Multi-cultural correlations of life change scaling: America, Japan, Denmark and Sweden. *J. Psychosom. Res.* 13: 191-95
  145. Rohner, R., Katz, L. 1970. Testing for validity and reliability in cross-cultural research. *Am. Anthropol.* 72:1068-73
  146. Schnaiberg, A. 1970. Measuring modernism: Theoretical and empirical explorations. *Am. J. Sociol.* 76:399-425

147. Schuman, H. 1966. Social change and the validity of regional stereotypes in East Pakistan. *Sociometry* 29:426-40
148. Segall, M. H., Campbell, D. T., Herskovits, M. J. 1966. *The Influence of Culture on Visual Perception*. Indianapolis:Bobbs-Merrill. 268 pp.
149. Seifert, J., Draguns, J., Caudill, W. 1971. Role orientation, sphere dominance, and social competence as bases of psychiatric diagnosis in Japan: A replication and extension of American findings. *J. Abnorm. Psychol.* 78:101-6
150. Shaffer, M., Sundberg, N., Tyler, L. E. 1969. Content differences on word listing by American, Dutch, and Indian adolescents. *J. Soc. Psychol.* 79:139-40
151. Sherwood, J. J., Nataupsky, M. 1968. Predicting the conclusions of Negro-White intelligence research from biographical characteristics of the investigator. *J. Pers. Soc. Psychol.* 8:53-58
152. Singh, N. 1969. n/Ach among successful-unsuccessful and traditional-progressive agricultural entrepreneurs of Delhi. *J. Soc. Psychol.* 79:271-72
153. Singh, N. 1970. n/Ach among agricultural and business entrepreneurs of Delhi. *J. Soc. Psychol.* 81:145-50
154. Smith, F. J., Crano, W. D. 1971. Concerning the possibility of cross-cultural research. *Proc. Ann. Conv. APA* 6:217-18
155. Sommer, R. 1968. Intimacy ratings in five countries. *Int. J. Psychol.* 3:109-14
156. Stephenson, J. 1968. Is everyone going modern? A critique and a suggestion for measuring modernism. *Am. J. Sociol.* 74:265-75
157. Szalay, L. B., Moon, W. T., Bryson, J., Paternak, W. P. 1971. *Communication Lexicon on Three South Korean Audiences: Social, National and Motivational Domains*, 1-245. Kensington, Md.: Am. Inst. Res.
158. Szalay, L. B., Windle, C., Lysne, D. A. 1970. Attitude measurement by free verbal associations. *J. Soc. Psychol.* 82:43-55
159. Tajfel, H. 1969. Cognitive aspects of prejudice. *J. Soc. Issues* 25:79-97
160. Tajfel, H. 1969. Social and cultural factors in perception. See Ref. 51, 3:315-94
161. Tajfel, H., Nemeth, C., Jahoda, G., Campbell, J. D., Johnson, N. 1970. The development of children's preference for their country: A cross-national study. *Int. J. Psychol.* 4:245-53
162. Tapp, J. L., Kohlberg, L. 1971. Developing senses of law and legal justice. *J. Soc. Issues* 27:65-91
163. Triandis, H. C. 1964. Cultural influences upon cognitive processes. In *Advances in Experimental Social Psychology*, ed. L. Berkowitz, 1-48. New York:Academic. 319 pp.
164. Triandis, H. C. 1964. Exploratory factor analyses of the behavioral component of social attitudes. *J. Abnorm. Soc. Psychol.* 68:420-30
165. Triandis, H. C. 1967. Toward an analysis of the components of interpersonal attitudes. In *Attitudes, Ego-Involvement and Change*, ed. C. Sherif, M. Sherif, 227-70. New York:Wiley. 264 pp.
166. Triandis, H. C. 1968. Some cross-cultural studies of cognitive consistency. See Ref. 32, 723-30
167. Triandis, H. C. 1971. *Attitude and Attitude Change*. New York:Wiley. 232 pp.
168. Triandis, H. C., Kilty, K., Shanmugam, A. V., Tanaka, Y., Vassiliou, V. 1972. Cognitive structures and the analysis of values. See Ref. 174, 181-262
169. Ibid. A cross-cultural study of role perceptions, 263-98
170. Triandis, H. C., Malpass, R. S., Davidson, A. R. 1972. Cross-cultural psychology. In *Biennial Review of Anthropology: 1971*, 1-84
171. Triandis, H. C., Vassiliou, V. 1967. Frequency of contact and stereotyping. *J. Pers. Soc. Psychol.* 7:316-28
172. Triandis, H. C., Vassiliou, V. 1972. Interpersonal influence and employee selection in two cultures. *J. Appl. Psychol.* 56:140-45
173. Triandis, H. C., Vassiliou, V., Natsiakou, M. 1968. Three cross-cultural studies of subjective culture. *J. Pers. Soc. Psychol.* 8:1-42
174. Triandis, H. C., Vassiliou, V., Vassiliou, G., Tanaka, Y., Shanmugam, A. V., Eds. 1972. *The Analysis of Subjective Culture*. New York:Wiley. 383 pp.
175. Triandis, H. C., Vassiliou, V., Thomanek, E. K. 1966. Social

- status as a determinant of respect and friendship acceptance. *Sociometry* 29:396-405
176. Tsushima, W. T. 1968. Responses of Irish and Italian patients of two social classes under preoperative stress. *J. Pers. Soc. Psychol.* 8:43-48
177. Vassiliou, V., Triandis, H. C., Vassiliou, G., McGuire, H. 1972. Interpersonal contact and stereotyping. See Ref. 174, 89-115
178. Warr, P. B., Schroder, H. M., Blackman, S. 1969. The structure of political judgment. *Brit. J. Soc. Clin. Psychol.* 8:32-43
179. Werner, O., Campbell, D. T. 1970. Translating, working through interpreters and the problem of decentering. See Ref. 129, 398-420
180. Whiting, J. W. M. 1964. Effects of climate on certain cultural practices. In *Explorations in Cultural Anthropology*, ed. W. H. Goodenough, 496-544. New York:McGraw-Hill. 635 pp.
181. Whiting, J. W. M. 1968. Methods and problems in cross-cultural research. See Ref. 51, 2:693-728
182. Whiting, J. W. M., Child, I. L. 1953. *Child Training and Personality*. New Haven:Yale Univ. Press. 353 pp.
183. Whitney, R. E. 1971. Agreement and positivity in pleasantness ratings of balanced and unbalanced social situations. *J. Pers. Soc. Psychol.* 17:11-14
184. Whittaker, J. O., Meade, R. D. 1967. Sex of the communicator as a variable in source credibility. *J. Soc. Psychol.* 72:27-34
185. Whittaker, J. O., Meade, R. D. 1968. Retention of opinion change as a function of differential source credibility: A cross-cultural study. *Int. J. Psychol.* 3:103-8
186. Witkin, H. A. 1967. A cognitive style approach to cross-cultural research. *Int. J. Psychol.* 2:233-50
187. Wober, M. 1969. Distinguishing centricultural from cross-cultural tests and research. *Percept. Mot. Skills* 28:488
188. Wober, M. 1971. Adapting Dawson's traditional versus western attitudes scale and presenting some new information from Africa. *Brit. J. Soc. Clin. Psychol.* 10:101-13
189. Zax, M., Takahashi, S. 1967. Cultural influences on response style: Comparisons of Japanese and American college students. *J. Soc. Psychol.* 71:3-10
190. Ziller, R. C., Long, B. H., Ramana, K. V., Reddy, W. E. 1968. Self-orientations of Indian and American adolescents. *J. Pers.* 36:316-30