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AFRICA (SOUTH OF THE SAHARA)

Jan Hoorweg

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Introduction

This review deals only with Black Africa—that is, that part of Africa south of the Sahara (but excluding South Africa, which is reviewed by Dr. Biesheuvel). There are good reasons for this limitation: the number of publications from North Africa is negligible, and socially, culturally, and politically North Africa belongs to the Middle East more than to the rest of Africa.

Yet there are distinctions within Black Africa that must be kept in mind. Ever since its colonial experience, Africa has been divided into French-speaking and English-speaking countries, which had, and have, remarkably few ties with each other. Thus psychologists from these two areas had little contact, as is illustrated by their differing research interests (Marais & Hoorweg, 1971). Furthermore, although the term "Black Africa" may suggest one homogeneous cultural area, this is certainly not the case. Estimations of the number of ethnic groups in Black Africa usually start at a thousand, and this also applies to the number of languages found there. Societies in Africa range from pastoral to nomadic; societies that are politically highly structured live side by side with societies whose political organization has hardly risen above that of kinship grouping. Islam, Christianity, and other religions present ever-differing configurations, and the extent to which Western technological and cultural ideas have been adopted varies tremendously. Therefore, generalizations about *the* African or *the* African society are usually unwarranted. In fact within Africa itself, with so many different groups of people often living in close geographical proximity, there are numerous opportunities for cross-cultural research.

A comprehensive review of the psychological literature up to 1969 yielded some 900-1000 publications that dealt with Black Africa, excluding South Africa (Hoorweg & Marais, 1969). The very first publications date from the turn of the century, followed over the years by a steady trickle of studies. Since 1950, however, the number of publications has increased rapidly. In fact, the number of publications for the period 1950-1959, was greater than that for all the years prior to 1950. The main area of interest up until 1961 was that of personality studies, which consisted

> almost entirely [of] publications on aptitudes and abilities. . . . During the past decade ('60-'69) social psychology has become the most productive area, followed by clinical psychology. . . . Even more striking was the increase of studies in the field of experimental psychology since 1966 [Marais & Hoorweg, 1971, p. 332].

From about 1960 onward, when many African states gained independence, facilities for university training have increased considerably, and quite a few universities have established departments of psychology. But, because of the priorities for the development of these countries, psychology departments are often primarily service units for other departments such as education. The oldest and best-known center of psychological research in East Africa is Makerere University in Uganda, although over the past few years the research activities at the University of Zambia have also caught the eye. In West Africa the University of Dakar in Senegal constituted the first real base for psychologists, and in East Africa a similar function was served by the University of Ibadan in Nigeria.

Most research, certainly in colonial times, has been conducted by foreigners. Their large turnover (most of them stay only for a two-year period) has been far from conducive to the creation of a research tradition. At this stage, one may well ask why psychologists come to Africa. Do they mainly want to pursue their own academic interests and seek advanced degrees, or do they try to contribute to the development of the continent?

Regrettably, one cannot escape the impression that the pursuit of academic goals is the most common reason. One solution to the ensuing problems is to train psychologists from African countries themselves. However, these countries offer few employment opportunities for psychology graduates, who (if Uganda is taken as an example) often must take up posts in the civil service. The increase in studies from Africa over the last decade is due more to a ready availability of travel and research grants in Western countries for study in Africa than to a healthy growth of psychology there This situation is not unique to the field of psychology, and African governments are increasingly aware of the problem, as is clear from the founding of "research councils" in several countries. These councils grant permission for research only after having critically examined the research proposals in the light of the national needs of development (and also in terms of national sensitivities and internal security). The international research community is also slowly becoming aware of the situation and of the problems it presents.[1] Closely related to these are the problems that concern research per se. Apart from the difficulties of the rapport between researcher and subject and the use in Africa of inappropriate Western research instruments, there is the basic problem of the formulation of hypotheses and variables relevant to African societies (Clignet as cited by Sobel, 1969). In this respect, researchers who are part of the culture (that is, African psychologists) are better equipped to deal with these problems, although, because of the diversity of populations in Africa, even they may often find themselves working outside their own culture.

Psychologists in Africa have not proved themselves free from the conceptions of their time. The shadow of the colonial society and of its ideology is often reflected in the psychological literature of that era. Later, the ideas that inspired the period of independence and subsequent development also had an influence on psychology. For example, confronted with (and affronted by) the low scores of most Africans on Western intelligence tests, some authors started looking for areas of psychological functioning in which Africans would perform "better" than Europeans.[2] Studies on audition, perceptual acuity, and rhythm are only a few of those conducted for that purpose. The rather uncritical acceptance by African psychologists of the insufficient findings on African infant precocity also becomes understandable from this angle. (Infant precocity will be discussed later in greater detail.) However, the comparison of Africans and Europeans in quantitative terms proved unproductive. The study of qualitative differences has been more successful, especially in the field of child development and perception.

[1] See reports of conferences at University of Ibadan (Delamater, Hefner, & Clignet, 1968) and at Northwestern University (Sobel, 1969).

[2] The term "Europeans," as used throughout Africa, is taken to mean people of Caucasian extraction, it does not therefore exclude North Americans and British

Bibliographies and Reviews

Two comprehensive bibliographies have recently been compiled: *Psychology in Africa*, by Hoorweg and Marais (1969), which limits itself to psychological publications on African populations (excluding research on white subjects), and Irvine's *Human Behaviour in Africa* (1969), which also contains publications from other sciences of use to psychologists working in Africa.

One of the first reviews to be written was that of LeVine (1961), which was concerned mainly with research on culture and personality; Munroe, Munroe, and LeVine (1972) have written a revised version of this article. In his admirable review, Doob (1965) was the first to try to organize the great variety of material into a cohesive whole. More recent are J. Evans's *Children in Africa* (1970), which also contains a comprehensive bibliography; German's review of psychiatry in sub-Saharan Africa (1972), and Wickert's translation of a selection of French-language publications into English (1967).

The rest of this review will be concerned with a discussion of the various research topics that have attracted the attention of psychologists in Africa. No attempt has been made to cover the literature completely. From the literature available until October 1972, we have selected those publications that give an overall impression of what has been achieved. Because most readers will be unfamiliar with the names of specific ethnic groups, reference is usually made to the country where the research was conducted. However, the reader is reminded that most of the time investigators have worked among a particular ethnic group, and that their findings cannot be regarded as valid for the whole of that particular country, let alone Africa in general. Detailed information on research subjects can usually be found in the original publications.

Perception

Illusions

Psychologists have shown an uncommon interest in the study of illusions among non-Western peoples. The pioneer study conducted by Rivers during his famous anthropological expedition to the Torres Strait in New Guinea dates back to 1899. Allport and Pettigrew (1957) reported differences between Europeans and Zulus in the frequency of perception of the trapezoidal illusion. The authors attributed these differences to the effect of learning and experience on perception. Segall, Campbell, and Herskovits (1966) investigated the relationship between social environment and perception among 12 African and 3 European groups. They hypothesized that the perception of certain geometric illusions is influenced by people's experience with rectangular angles (the carpentered-world hypothesis) and vistas over flat plains. Since the European groups were living in more carpentered environments, they were expected to be more susceptible to the Müller-Lyer (arrow) illusion and to the Sanders (parallelogram) illusion. This was indeed confirmed. But such a straightforward comparison between European and African groups is only partly convincing, not only because there are so many other differences between these groups but also because Segall's findings did not support specific hypotheses about differences among African groups themselves. For example, South African mine workers, whose exposure to a carpentered environment was relatively large (despite the fact that they had migrated only recently), appeared to be less susceptible to these two geometric illusions than several other African groups. More in line with the predictions were the findings on the horizontal-vertical illusion. African groups living on flat plains—which is supposed to lead to a tendency to infer long horizontal images from short vertical ones—were more susceptible to this illusion than forest dwellers, with European groups falling in the middle.

However, the horizontal-vertical illusion is the result of many different factors. The ecological hypothesis, therefore, applies only under certain conditions (Deregowski, 1967; Jahoda, 1966). Retinal pigmentation, which seems positively related to skin color, is negatively related to Muller-Lyer susceptibility, although reports from different investigations are conflicting (Berry, 1971). Jahoda's results (1971) also indicate that retinal pigmentation contributes to Müller-Lyer susceptibility and even to performance in spatial tasks. In their cross-cultural study of the Müller-Lyer illusion, Davis and Carlsson (1970) have pointed to the influence of selective attention, while Dawson (1967) investigated the role of field dependency in spatial-perceptual processes.

Pictorial Representation and Perception

The interpretation of pictures is strongly determined by cultural influences and by experience (Holmes, 1963). Hudson designed a set of pictures, three of which (the ones most used) depicted a man with a spear, an elephant, and a deer. The pictures offer different cues of object size, superimposition, and perspective in order to elicit three-dimensional perception. South African and Ghanaian children had great difficulty in perceiving depth in these pictures and made frequent mistakes (Hudson, 1960; Mundy-Castle, 1966). These authors argued that the ability to perceive pictures in three dimensions depends primarily on experience with pictorial material and not on formal education. Depth perception increased with education among Europeans but not among Africans (Hudson, 1960). Another series of experiments indicated that Zambian children too had difficulties in interpreting Hudson's pictures, although they were more successful in constructing three-dimensional geometrical models shown on cards. Because these children also had problems with the interpretation of depicted orientation, both interpretative and perceptual factors were thought to be involved (Deregowski, 1968).

Some African groups indicated a preference for drawings with twisted perspective (Hudson, 1962) and for chain-type drawings (Deregowski, 1970), which contain more information about a depicted object than is possible from any one angle of vision. Hudson (1967) concluded that the African, in contrast to the European, "draws what he knows and not what he sees." But Deregowski (1970) argued that "in all societies there is, in children, an aesthetic preference for chain-type drawings and if this preference is not destroyed it persists into adulthood." Wober (1972) reported findings that support his contention that African children may also perceive time dimension within a single picture.

Developmental Psychology

The well-known finding of African precocity in early life springs mainly from Geber's pioneering work in Uganda (Geber, 1957; Geber & Dean, 1958).[3] This "precocity" relates to the higher degree of development purportedly shown by African infants in comparison with European children. At 3 months of age, African babies were found to be some 2-3 months ahead in development. According to these studies, this advance lasts until the ages of 1½ to 3 years, when a pause or stagnation in development sets in, and African children start falling below European standards.

Warren (1972), in his excellent literature review of this topic, from which the following survey on African precocity in early life is taken, made it very clear that most studies suffer from poor sampling, and that the analysis and presentation of the results are often confusing and incomplete. The most important criticism, however, is that, with the exception of one study on neonates and two on infants, all investigators have compared African children with European standards and not with a European control group tested by the same investigator. This is a serious methodological flaw, especially since mostly Gesell-type scales were used. According to Knobloch (1958), inexperienced testers have a tendency to score infants too high on these scales. Two better-designed studies from South Africa (Theunissen, 1948; Falmagne, 1962), which actually compared African with European infants, showed no systematic differences between the two groups. A similar study from Uganda on neonates (Parkin & Warren, 1969) also produced no systematic differences between African and European babies, only some minor differences that did not present an integrated picture. Furthermore, Warren pointed out that, upon closer inspection, the stagnation in African infant development either is not substantiated by the actual results reported or could be simply an artifact of the development quotient used. He concluded that "the behavioural precocity in African infants has not been established" and denied "that Africans necessarily fall behind [European standards]." Warren is of the opinion that, on the basis of the literature available, there is a stronger case for differences according to social level: infants from poor African homes may develop more rapidly at first than those from elite or Westernized homes. Werner (1972) also reports differences by social level for other groups outside Africa.

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[3] Similar, but not unanimous, findings are reported from India and South America, although African infants seem to be the most advanced (Werner, 1972)

The putative stagnation in development is often attributed to the combined effects of malnutrition, harsh weaning practices, and separation from the mother. The last two should particularly affect the child because, until this stage, the child was constantly in the vicinity of its indulgent mother. In fact, psychologists used to consider abrupt weaning an important factor in the personality development of Africans.[4] But in a study of the Zulu in South Africa (Albino & Thompson, 1956), it was found that during a one-week period after abrupt weaning there were no significant changes in developmental level. Although the mother-child relationship was initially unbalanced, the children soon revealed more independent behavior and greater self-reliance, characterized, however, by a greater aggressiveness toward others. Munroe et al. (1972) pointed out that generalizations about mother-infant closeness, traumatic weaning, and infant indulgence in Africa are often incorrect. Among several African populations, the mother is neither constantly near the child nor exclusively responsible for its care.

The abruptness of weaning varies considerably from society to society. As Ainsworth (1967) pointed out, the term "abrupt weaning" carries different meanings. A sudden, complete denial of the breast should not be equated with the more drastic, sudden transition from unsupplemented breast feeding to solid foods. It should also be noted that not only is the latter rarely the case but that there are also indications that the practice of denying children the breast abruptly is on the wane. Ainsworth, for example, in a study of a small group of Ganta mothers, found that most of them weaned their children gradually.

General *child-rearing practices,* of course, vary even more from group to group. Although there is a wealth of material scattered throughout ethnographical literature, we find a scarcity of systematic research on socialization. Munroe, Munroe, and LeVine (1972) discussed some findings that suggest a relationship between the number of adults in the house and the degree of child indulgence. Doob (1965) reanalyzed a survey of socialization and rated some 15 to 28 African societies, and a like number of societies from Oceania and North America, on several socialization characteristics. According to Doob, African cultures were no different in respect to

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[4] See, for example, the proceedings of a conference of specialists on the psychology of "The African" held in 1959 (CCTA/CSA, 1959).

> indulgence during infancy and childhood, anxiety evoked between infancy and childhood, nurturance and the learning of achievement. . . . The African sample does in fact differ significantly from Oceania and North America only in connection with two practices; more stress is placed upon the learning of responsible behaviour and obedience [p. 400].

The importance of children's compliance with societal norms and obedient behavior in the presence of adults has often been mentioned for different African peoples. The integration of such concepts in theoretical frameworks has proved a difficult task. This is partly because so many relations are definitely unclear and partly because descriptions of socialization among different peoples (Kaye, 1962; Knapen, 1962) often vary and do not provide insight into child rearing and child development.

Some cross-cultural studies and the research on *field dependency* have been more sophisticated in their theoretical construction. In Sierra Leone, Temne children were found to be more field dependent than Mende children; the latter are brought up less strictly than the former (Dawson, 1967). When submitted to the Asch experiment, Temne adults conformed more than Eskimo adults, which Berry (1967) attributed to the more permissive upbringing of the Eskimo group. Okonji has focused his research on differences within ethnic groups rather than on differences between ethnic groups. In Nigeria students from a rural background were found to be more field dependent than students raised in town (Okonji, 1969). Another study on socialization processes, conducted by Okonji through interviews and observation, revealed that in Uganda children from a high economic group were less field dependent than children from a low economic group (Okonji, 1972). Okonji was inclined to attribute the differences in field dependence to differences in the stimulation of early independence, a factor that was less significant in the low economic group. Reviewing child rearing in Africa, the author concluded that "there appears to be a high probability that a relatively more field-dependent global cognitive style will be fostered to a great extent in the rural areas and to a lesser extent in the urban areas." Such a general conclusion must be treated with reserve until further investigations have been carried out. Okonji himself (1972) reported that mothers in the two groups did not differ in the method of control exercised over their children or in the extent to which they emphasized obedience and conformity to societal norms (p. 109). Among Ganta preschool children, Schiff (1970) found no relationship between the children's curiosity and the stimulation and reinforcement they received by those who took care of them.

An extensive cross-cultural study comprising six cultures explored the relationship between certain sociocultural variables and child rearing (Minturn & Lambert, 1964) and between child rearing and various aspects of personality development, in particular aggression, dependency, and internal behavior controls. The African contribution to this project is from a study conducted among the Gusii in Kenya (LeVine & LeVine, 1966). Psychoanalytic accounts of personality development are provided by Ortigues and Ortigues (1966) and by Parin, Morgenthaler, and Parin-Matthey (1963).

Cognitive Development

Several authors, among them the famous Lévy-Bruhl (1910), have stated that African adults possess only concrete cognitive processes and do not have the ability to abstract. The difficulty that African students experienced with mathematics was usually taken as corroborating evidence. Not surprisingly, psychologists have investigated some aspects of cognitive development in the African child. When Piaget (1966) belatedly expressed the importance of cross-cultural research in the study of cognitive development, several investigators had already tested some of his ideas in non-Western cultures.

One such topic is that of *classificatory behavior.* European children initially prefer color as a basis for sorting, but with age they tend toward sorting by form and function. Suchman (1966) in Nigeria and Serpell (1969) in Zambia reported that when they grew older many African children still preferred color to form as a basis for sorting. As stimuli these investigators used abstract geometrical forms. Greenfield, Reich, and Olver (1966) in Senegal and Evans and Segall (1969) in Uganda, using common objects as stimuli, also found that in general children preferred to sort by color rather than by function. All these authors agreed that formal education and not maturation positively influenced the ability to sort or learn to sort by criteria other than color. Apparently schooling sensitizes children to certain differences. Evans and Segall did not interpret these results as a lack of maturational unfolding but, rather, as an indication that schooling teaches the children to look for the less obvious. When the cognitive development of Nigerian (Tiv) children was studied in terms of their own culture, in their own language, and with the use of indigenous materials and categories, the results were different. Price-Williams (1962) compared school-going children and non-school-going children, between 6½ and 11 years of age. The children, who lived in a rural area, had to classify and sort models of animals and plants found in that area. The bases for the classifications and for the shifts from one classification to another were also studied. No differences were found between the two groups, and with age both groups appeared to become less dependent upon concrete reasons for classification. These children, however, were somewhat behind in their ability to abstract when compared with European children. Price-Williams felt the necessity to conclude explicitly that the "Tiv child can abstract."

Quite correctly Okonji (1970) said that it

> is a comment on the stereotype of the time that he had . . . to demonstrate this point. . . . If a Tiv society exists, it must have a language, and this language is bound to deal with [abstract] categories of kinship, natural science and the like, appropriate to its own culture.

To conceptualize *conservation of quantity* is, in Piagetian thinking, rather crucial with regard to the handling of numbers and, consequently, the learning of mathematics. By simply using earth and nuts, Price-Williams (1961) investigated the extent to which illiterate children were able to conserve continuous and discontinuous quantities. Since Tiv children were capable of conserving quantity around the ages of 7½-8, Price-Williams's findings were basically similar to those reported for European children. Greenfield (1966) studied Wolof children of different age groups, some living in a city (Dakar) and attending Western-type schools and others living in a village, where one group attended school and another group did not. The subjects were given the standard conservation test with water and different-sized glasses. Virtually all schoolchildren had learned to conceptualize by the age of 11. Of the unschooled children of that age, only 50% were able to do so; approximately the same percentage also applied to the 8- to 9-year-old unschooled children. In terms of grade level, the results obtained from the village schoolchildren were similar to those usually obtained from American children (although in terms of chronological age they were behind). From the reasons given by the children for their answers it appeared that, at younger ages, schoolchildren depended more on directly perceptible features of the situation than did non-school-going children. Greenfield interpreted this as the first effect of schooling: it teaches children to pay attention analytically to certain aspects of a situation. Between the ages of 11 and 13, however, the contrary is true: school-going children gave fewer perceptual reasons than non-school-going children. Okonji too (1971) reported the importance of formal education with regard to the conservation of length, angles, and coordinate systems among Ugandan children between the ages of 6 and 11. When, in the study by Greenfield, non-school-going children poured the water from the one glass to the other themselves, their answers indicated an increase in their awareness of conservation, which they maintained when subsequently the experimenter did the pouring.[5] However, when city schoolchildren poured the water themselves, their performance in no way improved. These groups apparently use different schemata for approaching conservation. Greenfield (1966) is impressed by "the way in which different modes of thought can lead to the same results."

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[5] This could explain why almost all Tiv children at the age of 8 years had achieved an understanding of conservation Price-Williams (1961) allowed his subjects to do the pouring of the water themselves if they spontaneously wanted to do so, which many of them did

Both Price-Williams and Greenfield paid considerable attention to the relationship between cognition and language. Gay and Cole (1967), in their perceptive study of the Kpelle in Liberia, paid even greater attention to *the influence of language and culture on cognition.* In order to develop better methods for the teaching of mathematics, they employed questions drawn from linguistics, psychology, and anthropology and used a series of overlapping experiments on a variety of topics such as classification, number, equality, arithmetic, and geometry, and the measurement of volume, length, and time. They demonstrated that African subjects, if tested with materials specific to their own culture, can do better than Europeans tested with those same materials. An experiment concerning the relationship between language and logic provided particularly interesting findings. Children were presented with two pairs of stimuli consisting of pieces of red, green, yellow, or white cloth. One of the two pairs presented a logical combination: the subject was expected to learn the rule of this combination and to apply it in the next trial. These logical combinations were made according to the rules of conjunction, disjunction, negation, implication, and equivalence. The authors presented findings for American and Kpelle schoolchildren regarding the first three rules only, but they did mention that the Kpelle children had great difficulty in learning the rule of equivalence. The Kpelle schoolchildren did not differ from American children in learning the conjunction rule, but they were markedly superior in learning the rules of negation and disjunction. Non-school-going children showed the same pattern but were less competent than school-going children. The authors attributed these findings to certain characteristics of the Kpelle language, in which equivalence can be expressed only in a complicated way, and two expressions exist for disjunction. In their next collection of studies on the relationship between culture and thinking, Cole, Gay, Glick, and Sharp (*The Cultural Context of Learning and Thinking.* New York: Basic Books, 1971) studied different aspects of classification and learning processes. In the limited space available, it is impossible to do justice to this intricate network of studies. To mention only a few of its salient features, the findings mentioned above, concerning the handling of logical rules, were not replicated when verbal problems were used. As to the question of concrete versus abstract thinking,

> where problem solution requires the subject to combine separately learned subproblems, neither Kpelle nor American subjects experience special difficulty in doing so, provided that the elements of the problems are not unfamiliar and do not induce fear [p. 212].

Yet, important differences in cognitive processes do occur. The authors, however, concluded that

> 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 [p. 233].

With this knowledge in mind, we can now look at the use of Western-type intelligence tests in Africa.

Intelligence

"Without question the mean intelligence of samples of Africans as measured by a conventional European intelligence test is always below that of the corresponding European norm," said Doob in 1965.

Since then the interpretation of the Africans' low scores has changed. While initially taken as proof of racial inferiority, the differences later came to be interpreted in terms of cultural background.[6] The tests used were basically geared to Western culture, and naturally Africans were at a disadvantage not only in the tests themselves but also in the test situations. There is a large range of ability among Africans just as among Europeans (Oliver, 1934). The cultural backgrounds of Africans and Europeans are so different that to make any comparison in quantitative terms is virtually meaningless. Even the idea of developing a culture-free test—a test that is free from any cultural influences—has been under attack. Irvine (1969), in a review on the use of the Raven matrices in Africa, concluded that tests with figural items may somewhat reduce, but do not eliminate, cultural bias. The item difficulties with this test differed significantly for different ethnic groups.

It should be noted, however, that economic development in African countries requires skills and abilities that are no different from those needed in European countries. Consequently, it may be expedient to study the performance of Africans on Western-type tests known to be relevant to education and vocational skills (Vernon, 1967), particularly since formal education in Africa is to a large extent based on European models. In one

[6] Discussions on the intelligence of Africans are often related to discussions on the intelligence of American blacks. This review will not go into the nature-nurture controversy that was rekindled by Jensen (1969) on the question of genetic differences in intelligence between races. But it must be noted that American blacks live in an environment that is closer to that of American whites than to any African society. Therefore they cannot be equated with Africans. In spite of all the commotion it has created, this controversy has at the moment more political than scientific implications. The response from Africa has been small; Wober (1971) is one of the few who have contributed to the discussion.

survey in Rhodesia (MacArthur, 1964), tests of general intellectual aptitude were found to be related to success in school examinations. What do these tests actually tell us?

The few studies that have correlated the performance of educated Africans on different tests usually reported findings that do not indicate a *structure of abilities* completely different from that of Europeans (Durojaie, 1971). Vernon (1967) studied 12-year-old Ugandan schoolboys with a variety of tests, all administered in English. Although a factor analysis on the results of only 50 cases is far from reliable, it can show "whether various tests cluster in a manner similar to that observed in their country of origin." Instead of a strong *g* factor (general mental ability) and subsidiary verbal-educational and spatial-practical abilities, the first factor among these Ugandan children was clearly a verbal one. The second factor was labeled induction, while tests of perceptual, spatial, and practical abilities loaded on the third and fourth factors. The predominant position of the verbal factor probably reflects the importance in these tests of English-language mastery and rote learning by the children. Irvine (1969) compared the results of factor analysis of different surveys based on different tests among students in Zambia, Rhodesia, and Kenya. All in all, these surveys covered 5000 subjects. The author ascertained "the emergence of *g*, verbal educational and number educational as common constructs across the educational systems of Kenya, Zambia, and Rhodesia at primary and secondary level" (p. 24). However, the educational systems of these three countries are basically British in origin, and all of them use English as the language of instruction. As such, the findings could be the result of a Western-type education and could "reflect the educational skills in a foreign language" (p. 27). These tests themselves, by their very nature, may also have imposed certain patterns affecting the results.

Social Psychology

Social-psychological research ranges from studies on tribal and race relations (Brewer, 1968), acculturation (Doob, 1960; Fougeyrollas, 1967), and aspirations (Wober, 1971) to studies on conformity (Berry, 1967; Claeys, 1967) and family life (Lloyd, 1966). In one way or another, however, the majority of studies are concerned with attitudes.

Measuring attitudes in Africa, or more precisely among the illiterate population of Africa, poses quite a few problems; respondents whose answers are often mainly meant to please the interviewer, the complex task of translating from one language into another and then back again, and the difficulties of sampling are only a few of them. While Biesheuvel (1958) discussed many of the problems, no major solutions have as yet been suggested. Many investigators have tried to avoid these complications by working exclusively among schoolchildren, with whom they could use paper-and-pencil questionnaires instead of having to go through the time-consuming verbal interviews. Another advantage of dealing only with students was that large groups could be easily located and covered at one time, and the interviews could often be conducted in English or French. Illiterate respondents, instead, pose all kinds of problems; not the least of these is the fact that they often use only two- or three-answer categories, with the possible result of invalidating the use of refined point scales. As a consequence, other methods have been tried, such as the self-comparison method (Segall et al., in press; Hoorweg & McDowell, 1972).

Because of the broad range of attitude research, only a few selected studies will be discussed here. First, two studies of opinions on different topics will be examined; then a theory of attitudes toward modernization will be described; and, finally, a discussion on achievement motivation will be presented.

Molnos (1968) successfully used "incomplete sentences" pertaining to different subjects in a survey on attitudes toward *family planning* conducted among 2500 students from 7th to 10th grade in East Africa. The results of these tests indicate that childlessness has strong negative connotations, more so for a woman than for a man. In order to understand this attitude, it should be kept in mind that in Africa having many children is a guarantee that at least some of them will survive to be adults. Not only are children a source of social prestige, but they can also help with family labor and support the parents in their old age. On the other hand, a large number of children means much work for the woman and an expensive obligation for the man, who has to provide for their support and education. A small family is valued positively only when it is naturally small; if planned, a small family is regarded as failing the community in some way. Obviously, then, men and women constitute different target groups and therefore require different criteria of investigation. This young, educated group was of course not representative of the population at large.

Many writers and politicians have written or spoken extensively on the relation between Africans and Europeans during the colonial period. Yet, the question of what the Africans really think of the Europeans still remains, at least in part, unanswered. Shortly before independence, Jahoda (1961) conducted interviews and collected essays of Ghanaian schoolchildren and adults on their *attitudes toward Europeans*. The picture of Europeans that emerged from the essays of elementary school pupils was largely favorable, one of "almost untarnished virtue," although some contradictory answers revealed rather mixed feelings. Secondary school students were especially ambivalent in their attitudes when asked to compare Europeans and Africans, or European culture and African culture. Adults enumerated both the benefits and the drawbacks of European colonial rule, with those who had personal contact with Europeans showing a greater dislike for them. Jahoda developed a classification of attitudes toward Europeans. Uneducated people who were still part of the traditional society revealed a somewhat remote dependence on Europeans. Educated people manifested strong feelings of inferiority, presumably because they lacked the protection of traditional life. (This group was also the most inconsistent in its attitudes.) Highly educated people appeared to be much more autonomous; that is, they had an integrated value system and an appreciation of the African way of life. The ambivalence toward the self and society is characteristic of the process variously known as acculturation, westernization, social change, and so on. A discussion of this topic would, however, require a wider framework, including, for example, findings from anthropology and sociology.

Dawson (1969) presented a psychological theory of consistency and conflict between *traditional and Western attitudes.* Attitudinal conflict leads to changes in attitudes, although more readily in the case of certain attitude objects than others. According to Dawson, it is the semitraditional and semi-Western attitudes, rather than the true traditional or the true Western, that are most appropriate for transitional societies. Dawson (1967) had already developed an attitude scale that not only measured attitudes on a continuum from traditional to Western, but that also measured inconsistencies between traditional and Western cognitions. A sample of illiterates of Sierra Leone gave mainly semitraditional responses, while secondary school students showed predominantly Western attitudes. University students had to some degree re-embraced semi-Western attitudes. Witchcraft, obedience toward parents, and obligations to kinsmen were the topics that produced most attitudinal conflict; some lesser conflict was produced by traditional customs and the role of women. Attitudinal conflict correlated positively with the score on a neuroticism scale (Dawson, 1969).

Since economic development is regarded as being of paramount importance for African countries, it is somewhat surprising that only a few psychologists have hitherto studied *achievement motivation* in Africa. One reason is probably a certain amount of skepticism among psychologists toward the theory of economic development based on achievement motivation; another is that an economy driven by private entrepreneurs is not all that attractive to many African governments. Nevertheless, adherents to the theory argue that, even in a socialist society, a high level of achievement motivation will be conducive to economic progress. Ostheimer (1969) measured achievement motivation among Chagga and Bondei students by means of the TAT method and also by such esoteric methods as the tartan color test, time metaphor, and drawing doodles. In Tanzania the Chagga are an ethnic group economically rather successful, while the Bondei are much less so. The only significant test difference between the two groups was seen in the achievement score, as measured by the TAT method. The failure of the other tests to show a difference is not surprising since conceptually these instruments are far from satisfactory. A study on the antecedents of achievement motivation among the Kpelle in Liberia proved more successful. Training for achievement and achievement motivation appeared to be positively related to growing up in a nuclear family in which the father was living with the family. Okorodudu (1967) surmised that the presence of many residents in a polygamous household suppresses overt achievement behavior. In both these studies no relation was found between achievement score and the scholastic achievement of students. This could indicate that achievement motivation does not play a role in success at school; it may also point to the difficulties that arise in applying basically Western concepts to an African society, where the analogous relationships cannot be presumed. Such complex concepts as achievement motivation should be studied not in isolation but in the context of the local culture.

In a study in West Africa, an original theory on the origins of achievement motivation was formulated (LeVine, 1966). While McClelland (1961) regarded the level of achievement motivation as being dependent on child-rearing practices that ultimately have their origin in religion, LeVine gave an explanation in terms of social structure. Differences in entrepreneurship and economic prosperity have often been observed for three different ethnic groups in prewar Nigeria. The Ibo were regarded as industrious and economically successful, the Hausa as economically and educationally rather underdeveloped, and the Yoruba in an intermediate position. As predicted, these three groups differed in achievement motivation—the higher the economic success, the greater the achievement motivation. Obedience and social compliance, instead, appeared to be inversely proportional to the group's economic status. These findings were based on dream reports and essays of students and on interviews with adults. Discarding population density and group respect as explanations, LeVine (1966) formulated a "status mobility theory." According to this theory, the way in which status can be achieved in a society is reflected in parental values and child-rearing practices, which in turn influence the level of achievement motivation and other personality characteristics relevant to successful mobility. The Hausa live in a feudal society in which people grow up under the protection of superiors, and, consequently, child rearing emphasizes obedience and compliance. Status mobility in Ibo society depends instead on the excellence attained in one's occupation. This leads to early training for independence and initiative, which results in a high level of achievement motivation. Yoruba society can be said to combine aspects of both Ibo and Hausa societies.

An alternative status mobility theory postulates a direct relation between status mobility and achievement motivation—direct in the sense that it omits the transmission of achievement values by the parents. According to this theory, achievement motivation in the child results directly from perception of the kind of behavior that leads to success in his or her particular society. But LeVine argues that there is a time lag of at least one or two generations between sociocultural changes and consequent changes in child-rearing practices. His suggestion that studies should be designed to test differing predictions from these two theories deserves attention.

Psychiatric and Psychological Disorder

The traditional and romantic view that mental illness occurs less in African than in Western societies has not been confirmed by recent investigations. The *incidence* of psychiatric disorder revealed by investigations among the Yoruba in Nigeria (Leighton et al., 1963) and in Ethiopia (Giel & Van Luyk, 1969) was similar to that found in England or the United States. Prince (1967) described the change in opinion of psychiatrists toward one particular illness: "The ... colonial-period observers see very little melancholia or 'true depression'; the independence-period observers see depression much more frequently." Although the incidence of depression may have increased, the author offered several other explanations for this shift of opinion. The observations of psychiatrists were usually limited to hospitals and were not representative of the population at large; the concept of depression has been broadened over the years; also, psychiatrists may have been simply reflecting the opinion of their time. As Prince remarked, the idea of depression is linked to ideas of conscience and responsibility, and in colonial times depression was therefore observed only among Europeans, not among Africans. Only during the period of decolonization, when views about Africans changed, did psychiatrists start to use depression as a diagnostic category for Africans too.

Comparing the *distribution* of illnesses in the Yoruba and in the United States samples, Leighton (1963) found that "the similarity ... is much more impressive than the differences." In his work, "Psychiatric Syndromes," German (1972) pointed out that, because of the demographic distribution of the population, there is a lower incidence of psychiatric illnesses among the older age groups, and that psychiatric diseases directly related to a lower level of health care are more frequent. The same author mentioned that "acute brain syndromes" do arise very quickly and wondered whether this could be attributed to a high rate of subclinical brain damage, perhaps caused by protein-calorie deficiency and febrile illnesses in childhood. There is a general feeling that the rapid social change occurring all over Africa is responsible for severe strains that could lead to a higher incidence of psychiatric and psychological disorder. Doob (1965) pointed out that such assumptions must be treated with care, and that a simple comparison between "acculturated" and "traditional" Africans easily produces statistical artifacts. Dawson (1969) encountered a similar problem in his search for a relationship between attitudinal conflict and neuroticism. If a causal relationship did exist, Dawson was unable to indicate which of the two came first.

One might well ask whether psychiatrists and psychologists do not merely superimpose Western categories on the wealth of phenomena observed in Africa. Several authors (Lambo, 1960; German, 1972; Kiev, 1972) agree on the universality of the *forms of psychiatric symptoms,* although they acknowledge that their content may be culturally influenced. Discussions on this last point often suffer from a certain degree of confusion due to the different levels of abstraction used by different writers and to the imperfect systems of psychiatric classification. If one assumes a continuum of diseases—from those mainly organic in nature to those arising largely from environmental influences—one can surmise differences in the degree to which such illnesses are culturally influenced. The clinical picture of acute and chronic brain syndromes in Africa seems to be in no way different from that picture elsewhere. This is also true of schizophrenia. While guilt feelings are prevalent among Europeans suffering from depression, in Africa "all observers . . . when the matter is discussed, remark upon the rarity of self-castigation, guilt and feelings of worthlessness" (Prince, 1967). However, at healing shrines in Ghana, Field (1960) observed that patients she considered depressive showed spontaneous self-accusations. Prince suggested that these guilt feelings were induced by the setting (the shrine) and were not really part of the illness. He ignores, however, the interaction between consultant and patient, in which the consultant tries to meet the needs of the patient. Although common personality disorders and psychoneuroses occur in Africa as elsewhere, it is in Africa that some authors come closest to suggesting specific diseases such as the brain-fag syndrome (Prince, 1960), malignant anxiety (Lambo, 1962), and bouffée délirante (paranoid reaction) (Collomb, 1956, 1965). Kiev (1972), who does not limit himself to Africa when discussing exotic disorders, does not regard these as unique diseases but, rather, as "culturally conditioned compensatory responses to the basic symptoms of mental illness" (p. 65). German (1972) supports this opinion; after reviewing the evidence, he concludes that basic differences in mental disorder between Africans and Europeans "still have not been demonstrated, and it seems unlikely that they ever will be" (p. 477).

Anthropologists sometimes offer glimpses of the ways in which African societies regard and treat their mentally ill. For example, telling patients that their illness comes from spirit possession is interpreted as having therapeutic value. Edgerton (1966, 1969) studied the way in which psychosis is conceptualized by members of four East African societies. A fascinating account of the beliefs of the Ganda on mental illness was given by Orley

(1970), who used a combination of anthropological and psychiatric methods for his investigation.

Conclusion

In 1969 Segall stated that psychology in Africa had come of age. This may be true for the quality of some research, but it is not true for the actual number of psychologists working in Africa and their involvement in the problems facing African countries. This review does not cover the many isolated studies and the diversity of topics that have been explored by various investigators. The results of these studies have been published in an overwhelming number of journals, but, unfortunately, many of these leads have never been followed up, and only a few topics have been investigated in depth. Nevertheless, as this review has tried to show, the potential contribution of psychology to the understanding of the many social problems in Africa is considerable.

Yet, it would be unrealistic to demand or even to expect a high priority for psychological research and for the training of psychologists in Africa. At the present time, the greatest demand is for the primary services of technical and medical personnel. The limited employment opportunities available to graduates in psychology have already been mentioned. Apart from lecturing at the universities, the future of these graduates often lies in civil-service posts. Because of the pressures and obligations that most African graduates experience, they can ill afford to spend some years on research "ad pias causas." If this is a true reflection of the present situation, there will be relatively few African psychologists available for research in the foreseeable future.

Researchers are only one of the two basic aspects of the research picture; African governments and grant organizations are the other. If funds for research are scarce everywhere, the resources that African governments are able to provide for research are even more so. To a large extent, outside and international organizations are therefore responsible for the financing of research in Africa. There is, however, a growing resentment in African countries against foreign researchers coming into the country to gather and take away information—all the more so since, in general, psychologists (among others) have tended to shy away from practical problems. Furthermore, the findings of psychological research tend to be confined to specific groups and are of limited use to policy makers.[7] This (sensible) caution on the part of psychologists arises partly from the very nature of their discipline. In their studies, psychologists must take into account a great number of variables—social, cultural, and linguistic, among others. In fact, it was the research projects that went furthest in this respect that were most successful. This research in depth almost inevitably provides no general information that can be of interest to policy makers.

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[7] Sociologists have been much less hesitant to conduct investigations and make recommendations for larger segments of populations

All this leads to conflicting demands from African governments, research foundations, and national research councils. Foundations usually grant money for "basic" research and, then, only when presented with a detailed research plan. The researcher, however, will rapidly realize (if he did not already know) the need for "applied" research in the country he or she is investigating. The national research councils, on the other hand, advocate "relevant" research.[8] The researchers will therefore find themselves in a bind: if they give in to these demands for relevant or applied research, they may come in conflict with the grant-giving organizations and also prejudice their future academic careers; but if they do not bow to these demands, they may find themselves subject to strong pressures, accusations, and even derision.

How, then, can psychology best play a meaningful role, no matter how modest, in the development of African countries? Perhaps the research-grant foundations could relax their demands and allow the investigators to adapt their plans to the local needs, demands, and circumstances. These grant organizations should also encourage African psychologists and provide them with more funds, instead of limiting their grants to their own nationals.

Cross-cultural studies should concentrate on selecting their groups in one specific country instead of comparing Africans with Laplanders, Amazon Indians, or Fijians. After all, cross-cultural does not necessarily imply cross-national or, for that matter, cross-continental, and many African countries provide abundant opportunities for cross-cultural comparison. Information and recommendations to government agencies could then be optimal and not incidental.

Last, but not least, psychologists should not limit themselves to the most esoteric research topics. Previous discussions on the future of psychological research in Africa had as their starting point the interests of psychological theory and not the needs of the African countries (LeVine, 1961; Doob, 1965; Munroe et al., 1972). Yet, with some careful consideration, projects could be designed to meet the demands for "relevancy"—projects that are of interest both to psychological theory and to policy making by national governments.

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[8] The terms "relevant research" and "applied research" are not synonymous. Here "relevant" means research that is of interest for theory, yet bears directly on practical problems; "applied" refers to research on practical problems only, without theoretical implications. "Basic research," instead, refers to purely theoretical research.

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