CULTURAL DIFFERENCES AND INFERENCES ABOUT PSYCHOLOGICAL PROCESSES[1]

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Deficit Interpretation

PERHAPS the most prevalent view of the source of ethnic and social class differences in intellectual performance is what might be summed up under the label "the deficit hypothesis." It can be stated briefly, without risk of gross exaggeration. It rests on the assumption that a community under conditions of poverty (for it is the poor who are the focus of attention, and a disproportionate number of the poor are members of minority ethnic groups) is a disorganized community, and this disorganization expresses itself in various forms of deficit. One widely agreed-upon source of deficit is mothering; the child of poverty is assumed to lack adequate parental attention. Given the illegitimacy rate in the urban ghetto, the most conspicuous "deficit" is a missing father and, consequently, a missing father model. The mother is away at work or, in any case, less involved with raising her children than she should be by white middle-class standards. There is said to be less regularity, less mutuality in interaction with her. There are said to be specialized deficits in interaction as well—less guidance in goal seeking from the parents (Schoggen, 1969), less emphasis upon means and ends in maternal instruction (Hess & Shipman, 1965), or less positive and more negative reinforcement (Bee, Van Egeren, Streissguth, Nyman, & Leckie, 1969; Smilansky, 1968).

More particularly, the deficit hypothesis has been applied to the symbolic and linguistic environment of the growing child. His linguistic community as portrayed in the early work of Basil Bernstein (1961), for example, is characterized by a restricted code, dealing more in the stereotype of interaction than in language that explains and elaborates upon social and material events. The games that are played by poor children and to which they are exposed are less strategy bound than those of more advantaged children (Eifermann, 1968); their homes are said to have a more confused noise background, permitting less opportunity for figure-ground formation (Klaus & Gray, 1968); and the certainty of the environment is sufficiently reduced so that children have difficulty in delaying reinforcement (Mischel, 1966) or in accepting verbal reinforcement instead of the real article (Zigler & Butterfield, 1968).

The theory of intervention that grew from this view was the idea of "early stimulation," modeled on a conception of supplying nutriment for those with a protein deficiency or avitaminosis. The nature of the needed early stimulation was never explained systematically, save in rare cases (Smilansky, 1968), but it variously took the form of practice in using abstractions (Blank & Solomon, 1969), in having dialogue where the referent objects were not present, as through the use of telephones (Deutsch, 1967; John & Goldstein, 1964), or in providing secure mothering by substitution (Caldwell et al., 1970; Klaus & Gray, 1968).

A primary result of these various deficits was believed to express itself in the lowered test scores and academic performance among children from poverty backgrounds. The issue was most often left moot as to whether or not this lowered test performance was easily reversible, but the standard reference was to a monograph by Bloom (1964) indicating that cognitive performance on a battery of tests, given to poor and middle-class children, yielded the result that nearly 80% of the variance in intellectual performance was accounted for by age 3.

Difference Interpretation

Such data seem to compel the conclusion that as a consequence of various factors arising from minority group status (factors affecting motivation, linguistic ability, goal orientation, hereditary pro-

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clivities to learn in certain ways—the particular mix of factors depends on the writer), minority group children suffer intellectual deficits when compared with their "more advantaged" peers.

In this section, we review a body of data and theory that controverts this contention, casts doubt on the conclusion that a deficit exists in minority group children, and even raises doubts as to whether any nonsuperficial *differences* exist among different cultural groups.

There are two long-standing precedents for the view that different groups (defined in terms of cultural, linguistic, and ethnic criteria) do not differ intellectually from each other in any important way.[3] First, there is the anthropological "doctrine of psychic unity" (Kroeber, 1948) which, on the basis of the "run of total experience," is said to warrant the assumption of intellectual equality as a sufficient approximation to the truth. This view is compatible with current linguistic anthropological theorizing, which concentrates on describing the way in which different cultural/linguistic groups categorize familiar areas of experience (Tyler, 1970). By this view, different conclusions about the world are the result of arbitrary and different, but equally logical, ways of cutting up the world of experience. From this perspective, descriptions of the "disorganization" of minorities would be highly suspect, this suspicion arising in connection with questions like, Disorganized from whose point of view?

Anthropological critiques of psychological experimentation have never carried much weight with psychologists, nor have anthropologists been very impressed with conclusions from psychological tests. We have hypothesized elsewhere (Cole, Gay, Glick, & Sharp, 1971) that their mutual indifference stems in part from a difference in opinion about the inferences that are warranted from testing and experimentation, and in part because the anthropologist relies mainly on data that the psychologist completely fails to consider: the mundane social life of the people he studies. As we shall see, these issues carry over into our criticism of the "deficit" theory of cultural deprivation.

A second tradition that calls into question culturally determined group difference in intelligence is the linguist's assertion that languages do not differ in their degree of development (Greenberg, 1963), buttressed by the transformationalist's caution that one cannot attribute to people a cognitive capacity that is less than is required to produce the complex rule-governed activity called language (Chomsky, 1966).

Although Chomskian linguistics has had a profound effect on psychological theories of language and cognitive development in recent years, psychological views of language still are considered hopelessly inadequate by working linguists. This criticism applies not only to psycholinguistic theory but to the actual description of linguistic performance on which theory is based. Needless to say, the accusation of misunderstanding at the descriptive level leads to accusations of absurdity at the theoretical level.

A third tradition that leads to rejection of the deficit theory has many sources in recent social sciences. This view holds that even when attempts have been made to provide reasonable anthropological and linguistic foundations, the conclusions about cognitive capacity from psychological experiments are unfounded because the performance produced represents a complex interaction of the formal characteristics of the experiment and the social/environmental context that determines the subject's interpretation of the situation in which it occurs. The need for "situation-bound" interpretations of experiments is emphasized in such diverse sources as sociology (Goffman, 1964), psychology (Brunswik, 1958), and psycholinguistics (Cazden, 1970). This is an important issue, which we will return to once illustrations of the "antideficit" view have been explored.

Perhaps the most coherent denial of the deficit position, coupled with compelling illustrations of the resourcefulness of the supposedly deprived and incompetent person, is contained in Labov's attack on the concept of "linguistic deprivation" and its accompanying assumption of cognitive incapacity (Labov, 1970).

It is not possible here to review all of Labov's evidence. Rather, we have abstracted what we take to be the major points in his attack.

1. *An assertion of the functional equality of all*

[3] It is assumed here that it is permissible to speak of minority group or poverty group "culture" using as our criterion Lévi-Strauss' (1963) definition: "What is called 'culture' is a fragment of humanity which, from the point of view of the research at hand . . . presents significant discontinuities in relation to the rest of humanity [p. 295]." We do not intend to enter into arguments over the existence or nature of a "culture of poverty," although such an idea seems implict in the view of most deficit theorists.

languages. This assertion is applied specifically to his analysis of nonstandard Negro English, which has been the object of his study for several years. Labov provided a series of examples where young blacks who would be assessed as linguistically retarded and academically hopeless by standard test procedures enter conversations in a way that leaves little doubt that they can speak perfectly adequately and produce very clever arguments in the process.

2. *An assertion of the psychologist's ignorance of language in general and nonstandard dialects in particular.* Labov's particular target is Carl Bereiter (Bereiter & Englemann, 1966) whose remedial teaching technique is partly rationalized in terms of the *inability* of young black children to use language either as an effective tool of communication or thinking. Part of Labov's attack is aimed at misinterpretations of such phrases as *"They mine,"* which Labov analyzed in terms of rules of contraction, but which Bereiter made the mistake of referring to as a "series of badly connected words [Labov, 1970, p. 171]." This "psychologist's deficit" has a clear remedy. It is roughly equivalent to the anthropological caveat that the psychologist has to know more about the people he studies.

3. *The inadequacy of present experimentation.* More serious criticism of the psychologist's interpretation of "language deprivation" and, by extension, his whole concept of "cultural deprivation" is contained in the following, rather extensive quote:

> this and the preceding section are designed to convince the reader that the controlled experiments that have been offered in evidence [of Negro lack of competence] are misleading. The only thing that is controlled is the superficial form of the stimulus. All children are asked, "What do you think of capital punishment?" or "Tell me everything you can about this." But the speaker's interpretation of these requests, and the action he believes is appropriate in response is completely uncontrolled. One can view these test stimuli as requests for information, commands for action, or meaningless sequences of words. . . . With human subjects it is absurd to believe that identical stimuli are obtained by asking everyone the same question. Since the crucial intervening variables of interpretation and motivation are uncontrolled, most of the literature on verbal deprivation tells us nothing of the capacities of children [Labov, 1970, p. 171].

Here Labov is attacking the experimental method as usually applied to the problem of subcultural differences in cognitive capacity. We can abstract several assertions from this key passage: (*a*) Formal experimental equivalence of operations does not insure de facto equivalence of experimental treatments; (*b*) different subcultural groups are predisposed to interpret the experimental stimuli (situations) differently; (*c*) different subcultural groups are motivated by different concerns relevant to the experimental task; (*d*) in view of the inadequacies of experimentation, inferences about lack of competence among black children are unwarranted.

These criticisms, when combined with linguistic misinterpretation, constitute Labov's attack on the deficit theory of cultural deprivation and represent the rationale underlying his demonstrations of competence where its lack had previously been inferred.

One example of Labov's approach is to conduct a rather standard interview of the type often used for assessment of language competence. The situation is designed to be minimally threatening; the interviewer is a neighborhood figure, and black. Yet, the black 8-year-old interviewee's behavior is monosyllabic. He is a candidate for the diagnosis of linguistically and culturally deprived.

But this diagnosis is very much situation dependent. For at a later time, this same interviewer goes to the boy's apartment, brings one of the boy's friends with him, lies down on the floor, and produces some potato chips. He then begins talking about clearly taboo subjects in dialect. Under these circumstances, the mute interviewee becomes an excited participant in the general conversation.

In similar examples, Labov demonstrated powerful reasoning and debating skills in a school dropout and nonlogical verbosity in an acceptable, "normal" black who has mastered the forms of standard English. Labov's conclusion is that the usual assessment situations, including IQ and reading tests, elicit deliberate, defensive behavior on the part of the child who has realistic expectations that to talk openly is to expose oneself to insult and harm. As a consequence, such situations *cannot* measure the child's competence. Labov went even further to assert that far from being verbally deprived, the typical ghetto child is

> bathed in verbal stimulation from morning to night. We see many speech events which depend upon the competitive exhibition of verbal skills—sounding, singing, toasts, rifting, louding—a whole range of activities in which the individual gains status through the use of language. . . . We see no connection between the verbal skill in the speech

events characteristic of the street culture and success in the school room [Labov, 1970, p. 163].

Labov is not the only linguist to offer such a critique of current theories of cultural deprivation (see, e.g., Stewart, 1970). However, Labov's criticism raises larger issues concerning the logic of comparative research designs of which the work in cultural/linguistic deprivation is only a part. It is to this general question that we now turn.

Competence and Performance in Psychological Research

The major thrusts of Labov's argument, that situational factors are important components of psychological experiments and that it is difficult if not impossible to infer competence directly from performance, are not new ideas to psychologists. Indeed, a concern with the relation between *psychological processes* on the one hand and *situational factors* on the other has long been a kind of shadow issue in psychology, surfacing most often in the context of comparative research.

It is this question that underlies the oft-berated question, What do IQ tests measure? and has been prominent in attacks on Jensen's (1969) argument that group differences in IQ test performance are reflective of innate differences in capacity.

Kagan (1969), for example, pointed to the work of Palmer, who regularly delays testing until the child is relaxed and has established rapport with the tester. Jensen (1969, p. 100) himself reported that significant differences in test performance can be caused by differential adaptation to the test situation.

Hertzig, Birch, Thomas, and Mendez (1968) made a direct study of social class/ethnic differences in response to the test situation and demonstrated stable differences in situational responses that were correlated with test performance and were present even when measured IQ was equivalent for subgroups chosen from the major comparison groups.

Concern with the particular *content* of tests and experiments as they relate to inferences about cognitive capacity occurs within the same context. The search for a "culture-free" IQ test has emphasized the use of universally familiar material, and various investigators have found that significant differences in performance can be related to the content of the experimental materials. Price-Williams (1961), for example, demonstrated earlier acquisition of conservation concepts in Nigerian children using traditional instead of imported stimulus materials, and Gay and Cole (1967) made a similar point with respect to Liberian classification behavior and learning.

Contemporary psychology's awareness of the task and situation-specific determinants of performance is reflected in a recent article by Kagan and Kogan (1970). In a section of their paper titled "The Significance of Public Performance," they are concerned with the fact that "differences in quality of style of public performance, although striking, may be misleading indices of competence [p. 1322]."

Although such misgivings abound, they have not yet crystallized into a coherent program of research and theory nor have the implications of accepting the need to incorporate an analysis of situations in addition to traditional experimental manipulations been fully appreciated.

Extended Idea of Competence

Labov and others have argued forcefully that we cannot distinguish on the basis of traditional experimental approaches between the underlying competence of those who have had a poor opportunity to participate in a particular culture and those who have had a good opportunity, between those who have not had their share of wealth and respect and those who have. The crux of the argument, when applied to the problem of "cultural deprivation," is that those groups ordinarily diagnosed as culturally deprived have the same underlying competence as those in the mainstream of the dominant culture, *the differences in performance being accounted for by the situations and contexts in which the competence is expressed.* To put the matter most rigorously, one can find a corresponding situation in which the member of the "out culture," the victim of poverty, can perform on the basis of a given competence in a fashion equal to or superior to the standard achieved by a member of the dominant culture.

A prosaic example taken from the work of Gay and Cole (1967) concerns the ability to make estimates of volume. The case in question is to estimate the number of cups of rice in each of several bowls. Comparisons of "rice-estimation accuracy" were made among several groups of subjects, including nonliterate Kpelle rice farmers from North Central Liberia and Yale sophomores. The rice

farmers manifested significantly greater accuracy than the Yale students, the difference increasing with the amount of rice presented for estimation. In many other situations, measurement skills are found to be superior among educated subjects in the Gay and Cole study. Just as Kpelle superiority at making rice estimates is clearly not a universal manifestation of their superior underlying competence, the superiority of Yale students in, for example, distance judgments is no basis for inferring that their competence is superior.

We think the existence of demonstrations such as those presented by Labov has been salutary in forcing closer examination of testing situations used for comparing the children of poverty with their more advantaged peers. And, as the illustration from Gay and Cole suggests, the argument may have quite general implications. Obviously, it is not sufficient to use a simple equivalence-of-test procedure to make inferences about the competence of the two groups being compared. In fact, a "two-groups" design is almost useless for making any important inferences in cross-cultural research, as Campbell (1961) has suggested. From a logical view, however, the conclusion of equal cognitive competence in those who are not members of the prestige culture and those who are its beneficiaries is often equally unwarranted. While it is very proper to criticize the logic of assuming that poor performance implies lack of competence, the contention that poor performance is of *no* relevance to a theory of cognitive development and to a theory of cultural differences in cognitive development also seems an oversimplification.

Assuming that we can find test situations in which comparably good performance can be elicited from the groups being contrasted, there is plainly an issue having to do with the range and nature of the situations in which performance for any two groups can be found to be equal.

We have noted Labov's conclusion that the usual assessment of linguistic competence in the black child elicits deliberate defensive behavior and that he can respond effectively in familiar nonthreatening surroundings. It may be, however (this possibility is discussed in Bruner, 1970), that he is unable to utilize language of a decentered type, taken out of the context of social interaction, used in an abstract way to deal with hypothetical possibilities and to spell out hypothetical plans (see also Gladwin, 1970). If such were the case, we could not dismiss the question of different kinds of language usage by saying simply that decontextualized talk is not part of the natural milieu of the black child in the urban ghetto. If it should turn out to be the case that mastery of the culture depends on one's capacity to perform well on the basis of competence one has stored up, and to perform well in particular settings and in particular ways, then plainly the question of differences in the way language enters the problem-solving process cannot be dismissed. It has been argued, for example, by Bernstein (1970) that it is in the nature of the very social life of the urban ghetto that there develops a kind of particularism in which communication usually takes place only along concrete personal lines. The ghetto child, who by training is likely to use an idiosyncratic mode of communication, may become locked into the life of his own cultural group, and his migration into other groups consequently becomes the more difficult. Bernstein made clear in his most recent work that this is not a question of capacity but, rather, a matter of what he calls "orientation." Nevertheless, it may very well be that a ghetto dweller's language training unfits him for taking jobs in the power- and prestige-endowing pursuits of middle-class culture. If such is the case, then the issue of representativeness of the situations to which he can apply his competence becomes something more than a matter of test procedure.

A major difficulty with this line of speculation is that at present we have almost no knowledge of the day-to-day representativeness of different situations and the behaviors that are seen as appropriate to them by different cultural groups. For example, the idea that language use must be considered outside of social interactions in order to qualify as abstract, as involving "cognition," is almost certainly a psychologist's fiction. The work of contemporary sociologists and ethnolinguists (Garfinkle, 1967; Hymes, 1966; Schegloff, 1968) seems conclusively to demonstrate the presence of complex contingent thinking in situations that are all too often characterized by psychologists as consisting of syncretic, affective interactions. Until we have better knowledge of the cognitive components that are part of social interactions (the same applies to many spheres of activity), speculations about the role of language in cognition will have to remain speculations.

In fact, it is extraordinarily difficult to know,

save in a most superficial way, on the basis of our present knowledge of society, what is the nature of situations that permit control and utilization of the resources of a culture by one of its members and what the cognitive skills are that are demanded of one who would use these resources. It may very well be that the very definition of a subculture could be put into the spirit of Lévi-Strauss' (1963) definition of a culture:

> What is called a subculture is a fragment of a culture which from the point of view of the research at hand presents significant discontinuities in relation to the rest of that culture with respect to access to its major amplifying tools.

By an amplifying tool is meant a technological feature, be it soft or hard, that permits control by the individual of resources, prestige, and deference within the culture. An example of a middle-class cultural amplifier that operates to increase the thought processes of those who employ it is the discipline loosely referred to as "mathematics." To employ mathematical techniques requires the cultivation of certain skills of reasoning, even certain styles of deploying one's thought processes. If one were able to cultivate the strategies and styles relevant to the employment of mathematics, then that range of technology is open to one's use. If one does not cultivate mathematical skills, the result is "functional incompetence," an inability to use this kind of technology. Whether or not compensatory techniques can then correct "functional incompetence" is an important, but unexplored, question.

Any particular aspect of the technology requires certain skills for its successful use. These skills, as we have already noted, must also be deployable in the range of situations where they are useful. Even if a child could carry out the planning necessary for the most technically demanding kind of activity, he must not do so if he has been trained with the expectancy that the exercise of such a skill will be punished or will, in any event, lead to some unforeseen difficulty. Consequently, the chances that the individual will work up his capacities for performance in the given domain are diminished. As a result, although the individual can be shown to have competence in some sphere involving the utilization of the skill, he will not be able to express that competence in the relevant kind of context. In an absolute sense, he is any man's equal, but in everyday encounters, he is not up to the task.

The principle cuts both ways with respect to cultural differences. Verbal skills are important cultural "amplifiers" among Labov's subjects; as many middle-class school administrators have discovered, the ghetto resident skilled in verbal exchanges is a more than formidable opponent in the battle for control of school curriculum and resources. In like manner, the Harlem youth on the street who cannot cope with the verbal battles described by Labov is failing to express competence in a context relevant to the ghetto.

These considerations impress us with the need to clarify our notion of what the competencies are that underlie effective performance. There has been an implicit, but very general, tendency in psychology to speak as if the organism is an information-processing machine with a fixed set of routines. The number and organization of these routines might differ as a function of age, genetic makeup, or environmental factors, but for any given machine, the input to the machine is processed uniformly by the routines (structures, skills) of the organism.

Quite recently, psychologists have started to face up to the difficulties of assuming "all things are equal" for different groups of people (concern has focused on difference in age, but the same logic applies to any group comparisons). The study of situational effects on performance has forced a reevaluation of traditional theoretical inferences about competence. This new concern with the interpretation of psychological experiments is quite apparent in recent attempts to cope with data inconsistent with Piaget's theory of cognitive development. For example, Flavell and Wohlwill (1969) sought to distinguish between two kinds of competence: First, there are "the rules, structures, or 'mental operations' embodied in the task and . . . [second, there are] the actual mechanisms required for processing the input and output [p. 98]." The second factor is assumed to be task specific and is the presumed explanation for such facts as the "horizontal decalages" in which the same principle appears for different materials at different ages. The *performance* progression through various stages is presumably a reflection of increases in both kinds of competence, since both are assumed to increase with age.

The same general concern is voiced by Mehler and Bever (1968). They ask,

> How can we decide if a developmental change or behavioral difference among adults is really due to a difference in a structural rule, to a difference in the form of the expressive processes or a difference in their quantitative capacity [p. 278]?

Their own work traces the expression of particular rules in behavior and the way the effect of knowing a rule ("having a competence") interacts with dependence on different aspects of the input to produce "nonlinear trends" in the development of conservation-like performance.

Broadening psychological theory to include rules for applying cognitive skills, as well as statements about the skills themselves, seems absolutely necessary.

However, the extensions contemplated may well not be sufficient to meet all of Labov's objections to inferences about "linguistic deprivation." In both the position expressed by Flavell and Wohlwill and by Mehler and Bever, "competence" is seen as dependent on situational factors and seems to be a slowly changing process that might well be governed by the same factors that lead to increases in the power of the structural rules or competence, in the older sense of the word. Yet in Labov's example, the problem is considerably more ephemeral; Labov gives the impression that the subjects were engaged in rational problem solving and that they had complete control over their behavior. He is claiming, in effect, that they are successfully coping with *their* problem; it simply is not the problem the experimenter had in mind, so the experimenter claims lack of competence as a result of his own ignorance.

Acceptance of Labov's criticisms, and we think they should be accepted, requires not only a broadening of our idea of competence, but a vast enrichment of our approach to experimentation.

NECESSITY OF A COMPARATIVE PSYCHOLOGY OF COGNITION

If we accept the idea that situational factors are often important determinants of psychological performance, and if we also accept the idea that different cultural groups are likely to respond differently to any given situation, there seems to be no reasonable alternative to psychological experimentation that bases its inferences on data from comparisons of both experimental and situational variations.

In short, we are contending that Brunswik's (1958) call for "representative design" and an analysis of the "ecological significance" of stimulation is a prerequisite to research on ethnic and social class differences in particular, and to any research where the groups to be compared are thought to differ with respect to the process under investigation prior to application of the experimental treatments.

Exhortations to the effect that college sophomores with nonsense syllables and white rats in boxes are not sufficient objects for the development of a general psychological theory have produced, thus far, only minor changes in the behavior of psychologists. The present situations seem to *require* a change.

An illustration from some recent cross-cultural research serves as an illustration of one approach that goes beyond the usual two-group design to explore the situational nature of psychological performance.

Cole et al. (1971, p. 4) used the free-recall technique to study cultural differences in memory. The initial studies presented subjects with a list of 20 words divided into four familiar, easily distinguishable categories. Subjects were read the list of words and asked to recall them. The procedure was repeated five times for each subject. A wide variety of subject populations was studied in this way; Liberian rice farmers and school children were the focus of concern, but comparison with groups in the United States was also made.

Three factors of the Kpelle rice farmers' performance were remarkable in these first studies: (*a*) The number recalled was relatively small (9–11 items per list); (*b*) there was no evidence of semantic or other organization of the material; (*c*) there was little or no increase in the number recalled with successive trials.

Better recall, great improvement with trials, and significant organization are all characteristic of performance of the American groups above the fifth grade.

A series of standard experimental manipulations (offering incentives, using lists based on functional rather than semantic classes, showing the objects to be remembered, extending the number of trials) all failed to make much difference in Kpelle performance.

However, when these same to-be-recalled items were incorporated into folk stories, when explicit grouping procedures were introduced, or when seemingly bizarre cuing procedures were used, Kpelle performance manifested organization, showed vast improvements in terms of amount recalled, and gave a very different picture of underlying capacity. Cole et al. (1971) concluded that a set of rather specific skills associated with remembering disconnected material out of context underlies the differences observed in the standard versions of the free-recall experiment with which they began. Moreover, they were able to begin the job of pinpointing these skills, their relevance to traditional activities, and the teaching techniques that could be expected to bring existing memory skills to bear in the "alien" tasks of the school.

CONCLUSION

The arguments set forth in this study can now be brought together and generalized in terms of their bearing on psychological research that is "comparative" in nature—comparing ages, cultures, subcultures, species, or even groups receiving different experimental treatments.

The central thesis derives from a reexamination of the distinction between competence and performance. As a rule, one looks for performance at its best and infers the degree of underlying competence from the observed performance. With respect to linguistic competence, for example, a single given instance of a particular grammatical form could suffice for inferring that the speaker had the competence to generate such instances as needed. By the use of such a methodology, Labov demonstrated that culturally deprived black children, *tested appropriately* for optimum performance, have the same grammatical competence as middle-class whites, though it may be expressed in different settings. Note that negative evidence is mute with respect to the status of underlying capacity—it may require a different situation for its manifestation.

The psychological status of the concept of competence (or capacity) is brought deeply into question when one examines conclusions based on standard experiments. Competence so defined is both situation blind and culture blind. If performance is treated (as it often is by linguists) only as a shallow expression of deeper competence, then one inevitably loses sight of the ecological problem of performance. For one of the most important things about any "underlying competence" is the nature of the situations in which it expresses itself. Herein lies the crux of the problem. One must inquire, first, whether a competence is expressed in a particular situation and, second, what the significance of that situation is for the person's ability to cope with life in his own milieu. As we have had occasion to comment elsewhere, when we systematically study the situational determinants of performance, we are led to conclude that cultural differences reside more in differences in the situations to which different cultural groups apply their skills than to differences in the skills possessed by the groups in question (Cole et al., 1971, Ch. 7).

The problem is to identify the range of capacities readily manifested in different groups and then to inquire whether the range is adequate to the individual's needs in various cultural settings. From this point of view, cultural *deprivation* represents a special case of cultural *difference* that arises when an individual is faced with demands to perform in a manner inconsistent with his past (cultural) experience. In the present social context of the United States, the great power of the middle class has rendered differences into deficits because middle-class behavior is the yardstick of success.

Our analysis holds at least two clear implications of relevance to the classroom teacher charged with the task of educating children from "disadvantaged" subcultural groups.

First, recognition of the educational difficulties in terms of a *difference* rather than a special kind of intellectual disease should change the students' status in the eyes of the teacher. If Pygmalion really can work in the classroom (Rosenthal & Jacobson, 1968), the effect of this change in attitude may of itself produce changes in performance. Such difference in teacher attitude seems to be one prime candidate for an explanation of the fine performance obtained by Kohl (1967) and others with usually recalcitrant students.

Second, the teacher should stop laboring under the impression that he must create new intellectual structures and start concentrating on how to get the child to *transfer* skills he already possesses to the task at hand. It is in this context that "relevant" study materials become important, although "relevant" should mean something more than a way to motivate students. Rather, relevant materials

are those to which the child already applies skills the teacher seeks to have applied to his own content. It requires more than a casual acquaintance with one's students to know what those materials are.

The Soviet psychologist, Lev Vygotskii (1962), took as the motto of his well-known monograph on language and thought an epigraph from Francis Bacon: Neither hand nor mind alone, left to themselves, amounts to much; instruments and aids are the means to perfection.[4] Psychologists concerned with comparative research, and comparisons of social and ethnic group differences in particular, must take seriously the study of the way different groups organize the relation between their hands and minds; without assuming the superiority of one system over another, they must take seriously the dictum that man is a cultural animal. When cultures are in competition for resources, as they are today, the psychologist's task is to analyze the source of cultural difference so that those of the minority, the less powerful group, may quickly acquire the intellectual instruments necessary for success of the dominant culture, should they so choose.

[4] *Nec manus nisi intellectus sibi permissus multam valent; instrumentibus et auxilibus res perficitur.*

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