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EARLY EXPERIENCE AND THE SOCIALIZATION OF COGNITIVE MODES IN CHILDREN

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This paper deals with the question: what is cultural deprivation and how does it act to shape and depress the resources of the human mind? The arguments presented are: first, that the behavior which leads to social, educational, and economic poverty is socialized in early childhood; second, that the central quality involved in the effects of cultural deprivation is a lack of cognitive meaning in the mother-child communication system; and, third, that the growth of cognitive processes is fostered in family control systems which offer and permit a wide range of alternatives of action and thought and that such growth is constricted by systems of control which offer predetermined solutions and few alternatives for consideration and choice.

The research group was composed of 160 Negro mothers and their 4-year-old children selected from four different social status levels.

The data are presented to show social status differences among the four groups with respect to cognitive functioning and linguistic codes and to offer examples of relations between maternal and child behavior that are congruent with the general lines of argument laid out.

THE PROBLEM

One of the questions arising from the contemporary concern with the education of culturally disadvantaged children is how we should conceptualize the effects of such deprivation upon the cognitive faculties of the child. The outcome is well known: children from deprived backgrounds score well

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below middle-class children on standard individual and group measures of intelligence (a gap that increases with age); they come to school without the skills necessary for coping with first grade curricula; their language development, both written and spoken, is relatively poor; auditory and visual discrimination skills are not well developed; in scholastic achievement they are retarded an average of 2 years by grade 6 and almost 3 years by grade 8; they are more likely to drop out of school before completing a secondary education; and even when they have adequate ability are less likely to go to college (Deutsch, 1963; Deutsch & Brown, 1964; Eells, Davis, Havighurst, Herriels, & Tyler 1951; John, 1963; Kennedy, Van de Riet, & White, 1963; Lesser, 1964).

For many years the central theoretical issues in this field dealt with the origin of these effects, argued in terms of the relative contribution of genetic as compared with environmental factors. Current interest in the effects of cultural deprivation ignores this classic debate; the more basic problem is to understand how cultural experience is translated into cognitive behavior and academic achievement (Bernstein, 1961; Hess, 1964).

The focus of concern is no longer upon the question of whether social and cultural disadvantage depress academic ability, but has shifted to a study of the mechanisms of exchange that mediate between the individual and his environment. The thrust of research and theory is toward conceptualizing social class as a discrete array of experiences and patterns of experience that can be examined in relation to the effects they have upon the emerging cognitive equipment of the young child. In short, the question this paper presents is this: what *is* cultural deprivation, and how does it act to shape and depress the resources of the human mind?

The arguments we wish to present here are these: first, that the behavior which leads to social, educational, and economic poverty is socialized in early childhood—that is, it is learned; second, that the central quality involved in the effects of cultural deprivation is a lack of cognitive meaning in the mother-child communication system; and, third, that the growth of cognitive processes is fostered in family control systems which offer and permit a wide range of alternatives of action and thought and that such growth is constricted by systems of control which offer predetermined solutions and few alternatives for consideration and choice.

In this paper we will argue that the structure of the social system and the structure of the family shape communication and language and that language shapes thought and cognitive styles of problem-solving. In the deprived-family context this means that the nature of the control system which relates parent to child restricts the number and kind of alternatives for action and thought that are opened to the child; such constriction precludes a tendency for the child to reflect, to consider and choose among alternatives for speech and action. It develops modes for dealing with stimuli and with problems which are impulsive rather than reflective, which deal with the

immediate rather than the future, and which are disconnected rather than sequential.

This position draws from the work of Basil Bernstein (1961) of the University of London. In his view, language structures and conditions what the child learns and how he learns, setting limits within which future learning may take place. He identifies two forms of communication codes or styles of verbal behavior: *restricted* and *elaborated.* Restricted codes are stereotyped, limited, and condensed, lacking in specificity and the exactness needed for precise conceptualization and differentiation. Sentences are short, simple, often unfinished; there is little use of subordinate clauses for elaborating the content of the sentence; it is a language of implicit meaning, easily understood and commonly shared. It is the language form often used in impersonal situations when the intent is to promote solidarity or reduce tension. Restricted codes are nonspecific clichés, statements, or observations about events made in general terms that will be readily understood. The basic quality of this mode is to limit the range and detail of concept and information involved.

Elaborated codes, however, are those in which communication is individualized and the message is specific to a particular situation, topic, and person. It is more particular, more differentiated, and more precise. It permits expression of a wider and more complex range of thought, tending toward discrimination among cognitive and affective content.

The effects of early experience with these codes are not only upon the communication modes and cognitive structure—they also establish potential patterns of relation with the external world. It is one of the dynamic features of Bernstein's work that he views language as social behavior. As such, language is used by participants of a social network to elaborate and express social and other interpersonal relations and, in turn, is shaped and determined by these relations.

The interlacing of social interaction and language is illustrated by the distinction between two types of family control. One is oriented toward control by *status* appeal or ascribed role norms. The second is oriented toward *persons.* Families differ in the degree to which they utilize each of these types of regulatory appeal. In status- (position-) oriented families, behavior tends to be regulated in terms of role expectations. There is little opportunity for the unique characteristics of the child to influence the decision-making process or the interaction between parent and child. In these families, the internal or personal states of the children are not influential as a basis for decision. Norms of behavior are stressed with such imperatives as, "You must do this because I say so," or "Girls don't act like that," or other statements which rely on the status of the participants or a behavior norm for justification (Bernstein, 1964).

In the family, as in other social structures, control is exercised in part through status appeals. The feature that distinguishes among families is the

extent to which the status-based control maneuvers are modified by orientation toward persons. In a person-oriented appeal system, the unique characteristics of the child modify status demands and are taken into account in interaction. The decisions of this type of family are individualized and less frequently related to status or role ascriptions. Behavior is justified in terms of feelings, preference, personal and unique reactions, and subjective states. This philosophy not only permits but demands an elaborated linguistic code and a wide range of linguistic and behavioral alternatives in interpersonal interaction. Status-oriented families may be regulated by less individuated commands, messages, and responses. Indeed, by its nature, the status-oriented family will rely more heavily on a restricted code. The verbal exchange is inherent in the structure—regulates it and is regulated by it.

These distinctions may be clarified by two examples of mother-child communication using these two types of codes. Assume that the emotional climate of two homes is approximately the same; the significant difference between them is in style of communication employed. A child is playing noisily in the kitchen with an assortment of pots and pans when the telephone rings. In one home the mother says, "Be quiet," or "Shut up," or issues any one of several other short, preemptory commands. In the other home the mother says, "Would you keep quiet a minute? I want to talk on the phone." The question our study poses is this: what inner response is elicited in the child, what is the effect upon his developing cognitive network of concepts and meaning in each of these two situations? In one instance the child is asked for a simple mental response. He is asked to attend to an uncomplicated message and to make a conditioned response (to comply); he is not called upon to reflect or to make mental discriminations. In the other example the child is required to follow two or three ideas. He is asked to relate his behavior to a time dimension; he must think of his behavior in relation to its effect upon another person. He must perform a more complicated task to follow the communication of his mother in that his relationship to her is mediated in part through concepts and shared ideas; his mind is stimulated or exercised (in an elementary fashion) by a more elaborate and complex verbal communication initiated by the mother. As objects of these two divergent communication styles, repeated in various ways, in similar situations and circumstances during the preschool years, these two imaginary children would be expected to develop significantly different verbal facility and cognitive equipment by the time they enter the public-school system.

A person-oriented family allows the child to achieve the behavior rules (role requirements) by presenting them in a specific context for the child and by emphasizing the consequences of alternative actions. Status-oriented families present the rules in an assigned manner, where compliance is the *only* rule-following possibility. In these situations the role of power in the interaction is more obvious, and, indeed, coercion and defiance are likely

interactional possibilities. From another perspective, status-oriented families use a more rigid learning and teaching model in which compliance, rather than rationale, is stressed.

A central dimension through which we look at maternal behavior is to inquire what responses are elicited and permitted by styles of communication and interaction. There are two axes of the child's behavior in which we have a particular interest. One of these is represented by an *assertive, initiatory* approach to learning, as contrasted with a *passive, compliant* mode of engagement; the other deals with the tendency to reach solutions impulsively or hastily as distinguished from a tendency to *reflect,* to compare alternatives, and to choose among available options.

These styles of cognitive behavior are related, in our hypotheses, to the dimensions of maternal linguistic codes and types of family control systems. A status-oriented statement, for example, tends to offer a set of regulations and rules for conduct and interaction that is based on arbitary decisions rather than upon logical consequences which result from selection of one or another alternatives. Elaborated and person-oriented statements lend themselves more easily to styles of cognitive approach that involve reflection and reflective comparison. Status-oriented statements tend to be restrictive of thought. Take our simple example of the two children and the telephone. The verbal categoric command to "Be quiet" cuts off thought and offers little opportunity to relate the information conveyed in the command to the context in which it occurred. The more elaborated message, "Would you be quiet a minute? I want to talk on the phone" gives the child a rationale for relating his behavior to a wider set of considerations. In effect, he has been given a *why* for his mother's request and, by this example, possibly becomes more likely to *ask* why in another situation. It may be through this type of verbal interaction that the child learns to look for action sequences in his own and others' behavior. Perhaps through these more intent-oriented statements the child comes to see the world as others see it and learns to take the role of others in viewing himself and his actions. The child comes to see the world as a set of possibilities from which he can make a personal selection. He learns to role play with an element of personal flexibility, not by role-conforming rigidity.

RESEARCH PLAN

For our project a research group of 163 Negro mothers and their 4-year-old children was selected from four different social status levels: Group A came from college-educated professional, executive, and managerial occupational levels; Group B came from skilled blue-collar occupational levels, with not more than high-school education; Group C came from unskilled or semiskilled occupational levels, with predominantly elementary-school

education; Group D from unskilled or semiskilled occupational levels, with fathers absent and families supported by public assistance.

These mothers were interviewed twice in their homes and brought to the university for testing and for an interaction session between mother and child in which the mother was taught three simple tasks by the staff member and then asked to teach these tasks to the child.

One of these tasks was to sort or group a number of plastic toys by color and by function; a second task was to sort eight blocks by two characteristics simultaneously; the third task required the mother and child to work together to copy five designs on a toy called an Etch-a-Sketch. A description of various aspects of the project and some preliminary results have been presented in several papers (Brophy, Hess, & Shipman, 1965; Jackson, Hess, & Shipman, 1965; Meyer, Shipman, & Hess, 1964; Olim, Hess, & Shipman, 1965; Shipman & Hess, 1965).

RESULTS

The data in this paper are organized to show social-status differences among the four groups in the dimensions of behavior described above to indicate something of the maternal teaching styles that are emerging and to offer examples of relations between maternal and child behavior that are congruent with the general lines of argument we have laid out.

Social-Status Differences

Verbal codes: restricted versus elaborated.—One of the most striking and obvious differences between the environments provided by the mothers of the research group was in their patterns of language use. In our testing sessions, the most obvious social-class variations were in the total amount of verbal output in response to questions and tasks asking for verbal response. For example, as Table 1 shows, mothers from the middle-class gave protocols that were consistently longer in language productivity than did mothers from the other three groups.

Taking three different types of questions that called for free response

TABLE 1

MEAN NUMBER OF TYPED LINES IN THREE DATA-GATHERING SITUATIONS

	Upper Middle $N = 40$	Upper Lower $N = 40$	Lower Lower $N = 36$	ADC $N = 36$
School situations.....	34.68	22.80	18.86	18.64
Mastery situations...	28.45	18.70	15.94	17.75
CAT card.....	18.72	9.62	12.39	12.24
Total.....	81.85	51.12	47.19	48.63

on the part of the mothers and counting the number of lines of typescript of the protocols, the tally for middle-class mothers was approximately 82 contrasted with an average of roughly 49 for mothers from the three other groups.

These differences in verbal products indicate the extent to which the maternal environments of children in different social-class groups tend to be mediated by verbal cue and thus offer (or fail to offer) opportunities for labeling, for identifying objects and feelings and adult models who can demonstrate the usefulness of language as a tool for dealing with interpersonal interaction and for ordering stimuli in the environment.

In addition to this gross disparity in verbal output there were differences in the quality of language used by mothers in the various status groups. One approach to the analysis of language used by these mothers was an examination of their responses to the following task: They were shown the Lion Card of the Children's Apperception Test and asked to tell their child a story relating to the card. This card is a picture of a lion sitting on a chair holding a pipe in his hand. Beside him is a cane. In the corner is a mouse peering out of a hole. The lion appears to be deep in thought. These protocols were the source of language samples which were summarized in nine scales (Table 2), two of which we wish to describe here.

The first scale dealt with the mother's tendency to use abstract words. The index derived was a proportion of abstract noun and verb types to total

TABLE 2

SOCIAL STATUS DIFFERENCES IN LANGUAGE USAGE
(SCORES ARE THE MEANS FOR EACH GROUP)

SCALE	SOCIAL STATUS			
	Upper Middle $N = 40$	Upper Lower $N = 42$	Lower Lower $N = 40$	ADC $N = 41$
Mean sentence length[a]	11.39	8.74	9.66	8.23
Adjective range[b]	31.99	28.32	28.37	30.49
Adverb range[c]	11.14	9.40	8.70	8.20
Verb elaboration[d]	.59	.52	.47	.44
Complex verb preference[e]	63.25	59.12	50.85	51.73
Syntactic structure elaboration[f]	8.89	6.90	8.07	6.46
Stimulus utilization	5.82	4.81	4.87	5.36
Introduced content	3.75	2.62	2.45	2.34
Abstraction[g]	5.60	4.89	3.71	1.75

[a]Average number of words per sentence.
[b]Proportion of uncommon adjective types to total nouns, expressed as a percentage.
[c]Proportion of uncommon adverb types to total verbs, adjectives, and adverbs, expressed as a percentage.
[d]Average number of complex verb types per sentence.
[e]Proportion of complex verb types to all verb types, simple and complex.
[f]Average number of weighted complex syntactic structures per 100 words.
[g]Proportion of abstract nouns and verbs (excluding repetitions) to total nouns and verbs (excluding repetitions), expressed as a percentage.

number of noun and verb types. Words were defined as abstract when the name of the object is thought of apart from the cases in which it is actually realized. For example, in the sentence, "The lion is an *animal*," "animal" is an abstract word. However, in the sentence, "This animal in the picture is sitting on his throne," "animal" is not an abstract noun.

In our research group, middle-class mothers achieved an abstraction score of 5.6; the score for skilled work levels was 4.9; the score for the unskilled group was 3.7; for recipients of Aid to Dependent Children (ADC), 1.8.

The second scale dealt with the mother's tendency to use complex syntactic structures such as coordinate and subordinate clauses, unusual infinitive phrases (e.g., "To drive well, you must be alert"), infinitive clauses (e.g., "What to do next was the lion's problem"), and participial phrases (e.g., "Continuing the story, the lion . . ."). The index of structural elaboration derived was a proportion of these complex syntactic structures, weighted in accordance with their complexity and with the degree to which they are strung together to form still more complicated structures (e.g., clauses within clauses), to the total number of sentences.

In the research group, mothers from the middle class had a structure elaboration index of 8.89; the score for ADC mothers was 6.46. The use of complex grammatical forms and elaboration of these forms into complex clauses and sentences provides a highly elaborated code with which to manipulate the environment symbolically. This type of code encourages the child to recognize the possibilities and subtleties inherent in language not only for communication but also for carrying on high-level cognitive procedures.

Control systems: person versus status orientation.—Our data on the mothers' use of status- as contrasted with person-oriented statements comes from maternal responses to questions inquiring what the mother would do in order to deal with several different hypothetical situations at school in which the child had broken the rules of the school, had failed to achieve, or had been wronged by a teacher or classmate. The results of this tally are shown in Table 3.

As is clear from these means, the greatest differences between status groups is in the tendency to utilize person-oriented statements. These differences are even greater if seen as a ratio of person-to-status type responses.

The orientation of the mothers to these different types of control is seen not only in prohibitive or reparative situations but in their instructions to their children in preparing them for new experiences. The data on this point come from answers to the question: "Suppose your child were starting to school tomorrow for the first time. What would you tell him? How would you prepare him for school?"

One mother, who was person-oriented and used elaborated verbal codes, replied as follows:

TABLE 3

PERSON-ORIENTED AND STATUS-ORIENTED UNITS ON SCHOOL SITUATION PROTOCOLS (MOTHERS)

A. MEAN NUMBER

Social Class	Person-Oriented		Status-Oriented		P/S Ratio	*N*
Upper middle...	9.52	(1–19)	7.50	(0–19)	1.27	40
Upper lower....	6.20	(0–20)	7.32	(2–17)	0.85	40
Lower lower....	4.66	(0–15)	7.34	(2–17)	0.63	35
ADC.....	3.59	(0–16)	8.15	(3–29)	0.44	34

B. MEAN PER CENT

Social Class	Person-Oriented	Status-Oriented	*N*
Upper middle...	36.92	27.78	40
Upper lower....	31.65	36.92	40
Lower lower....	26.43	40.69	35
ADC.....	20.85	51.09	34

"First of all, I would remind her that she was going to school to learn, that her teacher would take my place, and that she would be expected to follow instructions. Also that her time was to be spent mostly in the classroom with other children, and that any questions or any problems that she might have she could consult with her teacher for assistance."

"Anything else?"

"No, anything else would probably be confusing for her at her particular age."

In terms of promoting educability, what did this mother do in her response? First, she was informative; she presented the school situation as comparable to one already familiar to the child; second, she offered reassurance and support to help the child deal with anxiety; third, she described the school situation as one that involves a personal relationship between the child and the teacher; and, fourth, she presented the classroom situation as one in which the child was to learn.

A second mother responded as follows to this question:

"Well, John, it's time to go to school now. You must know how to behave. The first day at school you should be a good boy and should do just what the teacher tells you to do."

In contrast to the first mother, what did this mother do? First, she defined the role of the child as passive and compliant; second, the central issues she presented were those dealing with authority and the institution, rather than with learning; third, the relationship and roles she portrayed were sketched in terms of status and role expectations rather than in personal terms; and, fourth, her message was general, restricted, and vague, lacking information about how to deal with the problems of school except by passive compliance.

A more detailed analysis of the mothers' responses to this question grouped their statements as *imperative* or *instructive* (Table 4). An impera-

TABLE 4

INFORMATION MOTHERS WOULD GIVE TO CHILD ON HIS FIRST DAY AT SCHOOL

Social Status	Imperative	Instructive	Support	Preparation	Other	*N*
			% of Total Statements			
Upper middle...	14.9	8.7	30.2	8.6	37.6	39
Upper lower....	48.2	4.6	13.8	3.8	29.6	41
Lower lower....	44.4	1.7	13.1	1.2	39.6	36
ADC.....	46.6	3.2	17.1	1.3	31.8	37
			% of Mothers Using Category			
Upper middle...	48.7	38.5	76.9	33.3	87.2	...
Upper lower....	85.4	17.1	39.0	19.5	70.7	...
Lower lower....	75.0	5.6	36.1	8.3	77.8	...
ADC.....	86.5	16.2	43.2	8.1	86.5	...

tive statement was defined as an unqualified injunction or command, such as, "Mind the teacher and do what she tells you to do," or "The first thing you have to do is be on time," or "Be nice and do not fight." An instructive statement offers information or commands which carry a rationale or justification for the rule to be observed. Examples: "If you are tardy or if you stay away from school, your marks will go down"; or "I would tell him about the importance of minding the teacher. The teacher needs his full cooperation. She will have so many children that she won't be able to pamper any youngster."

Status differences in concept utilization.—One of the measures of cognitive style used with both mothers and children in the research group was the S's mode of classificatory behavior. For the adult version, (Kagan, Moss & Sigel, 1963) S is required to make 12 consecutive sorts of MAPS figures placed in a prearranged random order on a large cardboard. After each sort she was asked to give her reason for putting certain figures together. This task was intended to reveal her typical or preferred manner of grouping stimuli and the level of abstraction that she uses in perceiving and ordering objects in the environment. Responses fell into four categories: descriptive part-whole, descriptive global, relational-contextual, and categorical-inferential. A descriptive response is a direct reference to physical attributes present in the stimuli, such as size, shape, or posture. Examples: "They're all children," or "They are all lying down," or "They are all men." The subject may also choose to use only a part of the figure—"They both have hats on." In a relational-contextual response, any one stimulus gets its meaning from a relation with other stimuli. Examples: "Doctor and nurse," or "Wife is cooking dinner for her husband," or "This guy looks like he shot this other guy." In categorical-inferential responses, sorts are based on nonobservable characteristics of the stimulus for which each stimulus is an independent

representative of the total class. Examples: "All of these people work for a living" or "These are all handicapped people."

As may be seen in Table 5, relational responses were most frequently

TABLE 5

MEAN RESPONSES TO ADULT SIGEL SORTING TASK (MAPS)

CATEGORY	SOCIAL STATUS			
	Upper Middle $N = 40$	Upper Lower $N = 42$	Lower Lower $N = 39$	ADC $N = 41$
Total descriptive.....	3.18	2.19	2.18	2.59
Descriptive part-whole.....	1.65	1.33	1.31	1.49
Descriptive global....	1.52	0.86	0.87	1.10
Relational-contextual.	5.52	6.79	7.38	6.73
Categorical-inferential	3.30	3.00	2.23	2.66

offered; categorical-inferential were next most common, and descriptive most infrequent. The distribution of responses of our status groups showed that the middle-class group was higher on descriptive and categorical; low-status groups were higher on relational. The greater use of relational categories by the working-class mothers is especially significant. Response times for relational sorts are usually shorter, indicating less reflection and evaluating of alternative hypotheses. Such responses also indicate relatively low attention to external stimuli details (Kagan, 1964). Relational responses are often subjective, reflecting a tendency to relate objects to personal concerns in contrast with the descriptive and categorical responses which tend to be objecive and detached, more general, and more abstract. Categorical responses, in particular, represent thought processes that are more orderly and complex in organizing stimuli, suggesting more efficient strategies of information processing.

The most striking finding from the data obtained from the children's Sigel Sorting Task was the decreasing use of the cognitive style dimensions and increasing nonverbal responses with decrease in social-status level. As may be seen in the tables showing children's performance on the Sigel Sorting Task (Tables 6 and 7), although most upper middle-class children and a majority of the upper lower-class children use relational and descriptive global responses, there is no extensive use of any of the other cognitive style dimensions by the two lower lower-class groups. In looking at particular categories one may note the relative absence of descriptive part-whole responses for other than the middle-class group and the large rise in nonverbal responses below the middle-class level. These results would seem to reflect the relatively undeveloped verbal and conceptual ability of children from homes with restricted range of verbal and conceptual content.

Relational and descriptive global responses have been considered the

TABLE 6

CHILDREN'S RESPONSES TO SIGEL SORTING TASK (MEANS)

CATEGORY	SOCIAL STATUS			
	Upper Middle $N = 40$	Upper Lower $N = 42$	Lower Lower $N = 39$	ADC $N = 41$
Descriptive part-whole	2.25	0.71	0.20	0.34
Descriptive global	2.80	2.29	1.51	0.98
Relational-contextual	3.18	2.31	1.18	1.02
Categorical-inferential	2.02	1.36	1.18	0.61
Nonscorable verbal responses	5.75	6.31	6.64	7.24
Nonverbal	3.00	6.41	7.08	8.76
No sort	1.00	0.62	2.21	1.05

TABLE 7

PERCENTAGE OF FOUR-YEAR-OLD CHILDREN RESPONDING IN EACH OF THE CATEGORIES

CATEGORY	SOCIAL STATUS			
	Upper Middle $N = 40$	Upper Lower $N = 42$	Lower Lower $N = 39$	ADC $N = 41$
Descriptive part-whole	40.0	28.6	18.0	14.6
Descriptive global	70.0	54.8	53.8	31.7
Total descriptive	80.0	66.7	59.0	39.0
Relational-contextual	77.5	66.7	41.0	43.9
Categorical-inferential	52.5	45.2	30.8	24.4
Nonscorable verbal	85.0	88.1	92.3	85.4
Nonverbal	52.5	66.7	82.0	87.8
No sort	12.5	7.1	25.6	19.5

most immature and would be hypothesized to occur most frequently in preschool children. Relational responses are often subjective, using idiosyncratic and irrelevant cues; descriptive global responses, often referring to sex and occupational roles, are somewhat more dependent upon experience. On the other hand, descriptive part-whole responses have been shown to increase with age and would be expected to be used less frequently. However, these descriptive part-whole responses, which are correlated with favorable prognostic signs for educability (such as attentiveness, control and learning ability), were almost totally absent from all but the upper middle-class group. Kagan (1964) has described two fundamental cognitive dispositions involved in producing such analytic concepts: the tendency to reflect over alternative solutions that are simultaneously available and the tendency to analyze a visual stimulus into component parts. Both behaviors require a delayed discrimination response. One may describe the impairment noted for culturally disadvantaged children as arising from differences in opportunities for developing these reflective attitudes.

The mothers' use of relational responses was significantly correlated with their children's use of nonscorable and nonverbal responses on the Sigel task and with poor performance on the 8-Block and Etch-a-Sketch tasks. The mothers' inability or disinclination to take an abstract attitude on the Sigel task was correlated with ineffectual teaching on the 8-Block task and inability to plan and control the Etch-a-Sketch situation. Since relational responses have been found (Kagan, Moss, & Sigel, 1963) to be correlated with impulsivity, tendencies for nonverbal rather than verbal teaching, mother-domination, and limited sequencing and discrimination might be expected and would be predicted to result in limited categorizing ability and impaired verbal skills in the child.

Analysis of Maternal Teaching Styles

These differences among the status groups and among mothers within the groups appear in slightly different form in the teaching sessions in which the mothers and children engaged. There were large differences among the status groups in the ability of the mothers to teach and the children to learn. This is illustrated by the performance scores on the sorting tasks.

Let us describe the interaction between the mother and child in one of the structured teaching situations. The wide range of individual differences in linguistic and interactional styles of these mothers may be illustrated by excerpts from recordings. The task of the mother is to teach the child how to group or sort a small number of toys.

The first mother outlines the task for the child, gives sufficient help and explanation to permit the child to proceed on her own. She says:

"All right, Susan, this board is the place where we put the little toys; first of all you're supposed to learn how to place them according to color. Can you do that? The things that are all the same color you put in one section; in the second section you put another group of colors, and in the third section you put the last group of colors. Can you do that? Or would you like to see me do it first?"

Child: "I want to do it."

This mother has given explicit information about the task and what is expected of the child; she has offered support and help of various kinds; and she has made it clear that she impelled the child to perform.

A second mother's style offers less clarity and precision. She says in introducing the same task:

"Now, I'll take them all off the board; now you put them all back on the board. What are these?"

Child: "A truck."

"All right, just put them right here; put the other one right here; all right put the other one there."

This mother must rely more on nonverbal communication in her com-

mands; she does not define the task for the child; the child is not provided with ideas or information that she can grasp in attempting to solve the problem; neither is she told what to expect or what the task is, even in general terms.

A third mother is even less explicit. She introduces the task as follows: "I've got some chairs and cars, do you want to play the game?" Child does not respond. Mother continues: "O.K. What's this?"

Child: "A wagon?"

Mother: "Hm?"

Child: "A wagon?"

Mother: "This is not a wagon. What's this?"

The conversation continues with this sort of exchange for several pages. Here again, the child is not provided with the essential information he needs to solve or to understand the problem. There is clearly some impelling on the part of the mother for the child to perform, but the child has not been told what he is to do. There were marked social-class differences in the ability of the children to learn from their mothers in the teaching sessions.

Each teaching session was concluded with an assessment by a staff member of the extent to which the child had learned the concepts taught by the mother. His achievement was scored in two ways: first, the ability to correctly place or sort the objects and, second, the ability to verbalize the principle on which the sorting or grouping was made.

Children from middle-class homes were well above children from working-class homes in performance on these sorting tasks, particularly in offering verbal explanations as to the basis for making the sort (Tables 8 and 9). Over 60 per cent of middle-class children placed the objects correctly on all tasks; the performance of working-class children ranged as low as 29 per cent correct. Approximately 40 per cent of these middle-class children who were

TABLE 8

DIFFERENCES AMONG STATUS GROUPS IN CHILDREN'S PERFORMANCE IN TEACHING SITUATIONS (TOY SORT TASK)

Social Status	Placed Correctly (%)	Verbalized Correctly (%)		*N*
A. Identity sort (cars, spoons, chairs):				
Upper middle.....	61.5	28.2	45.8[a]	39
Upper lower.....	65.0	20.0	30.8	40
Lower lower.....	68.4	29.0	42.3	38
ADC.....	66.7	30.8	46.2	39
B. Color sort (red, green, yellow):				
Upper middle.....	69.2	28.2	40.7[a]	39
Upper lower.....	67.5	15.0	22.2	40
Lower lower.....	57.9	13.2	22.7	38
ADC.....	33.3	5.1	15.4	39

[a]Per cent of those who placed object correctly.

TABLE 9

DIFFERENCES AMONG STATUS GROUPS IN CHILDREN'S PERFORMANCE IN TEACHING SITUATIONS (8-BLOCK TASK)

Social Status	Placed Correctly (%)	One-Dimension Verbalized (%)		Both Verbalized (%)		N
A. Short O:						
Upper middle..	75.0	57.5	57.5[a]	25.0	33.3[a]	40
Upper lower...	51.2	39.0	43.2	2.4	4.8	41
Lower lower...	50.0	29.0	33.3	15.8	31.6	38
ADC.....	43.6	20.5	22.2	2.6	5.9	39
B. Tall X:						
Upper middle..	60.0	62.5	64.1[a]	27.5	45.8[a]	40
Upper lower...	48.8	39.0	42.1	17.1	35.0	41
Lower lower...	34.2	23.7	26.5	7.9	23.1	38
ADC.....	28.2	18.0	20.0	0.0	0.0	39

[a]Per cent of those who placed object correctly.

successful were able to verbalize the sorting principle; working-class children were less able to explain the sorting principle, ranging downward from the middle-class level to one task on which no child was able to verbalize correctly the basis of his sorting behavior. These differences clearly paralleled the relative abilities and teaching skills of the mothers from differing social-status groups.

The difference among the four status levels was apparent not only on these sorting and verbal skills but also in the mother's ability to regulate her own behavior and her child's in performing tasks which require planning or care rather than verbal or conceptual skill. These differences were revealed by the mother-child performance on the Etch-a-Sketch task. An Etch-a-Sketch toy is a small, flat box with a screen on which lines can be drawn by a device within the box. The marker is controlled by two knobs: one for horizontal movement, one for vertical. The mother is assigned one knob, the child the other. The mother is shown several designs which are to be reproduced. Together they attempt to copy the design models. The mother decides when their product is a satisfactory copy of the original. The products are scored by measuring deviations from the original designs.

These sessions were recorded, and the nonverbal interaction was described by an observer. Some of the most relevant results were these: middle-class mothers and children performed better on the task (14.6 points) than mother and children from the other groups (9.2; 8.3; 9.5; [Table 10]). Mothers of the three lower-status groups were relatively persistent, rejecting more complete figures than the middle-class mothers; mothers from the middle class praised the child's efforts more than did other mothers but gave just as much criticism; the child's cooperation as rated by the observer was as good or better in low-status groups as in middle-class pairs (Table 11), there was little difference between the groups in affect expressed to the child by the mother (Brophy et al., 1965).

TABLE 10

PERFORMANCE ON ETCH-A-SKETCH TASK (MEANS)

	Social Status			
	Upper Middle $N = 40$	Upper Lower $N = 42$	Lower Lower $N = 40$	ADC $N = 41$
Total score (range 0–40).....	14.6	9.2	8.3	9.5
Average number of attempts.....	12.7	17.2	12.2	15.1
Complete figures rejected.....	2.3	3.6	3.5	3.4
Child's total score....	5.9	4.0	3.4	4.0
Child's contribution to total score (per cent).....	40.4	43.5	41.0	42.1

TABLE 11[a]

MOTHER-CHILD INTERACTION ON ETCH-A-SKETCH TASK (MEANS)

	Social Status			
	Upper Middle $N = 40$	Upper Lower $N = 41$	Lower Lower $N = 39$	ADC $N = 39$
Praises child.....	4.6	6.9	7.2	7.5
Criticizes child.....	6.4	5.5	6.4	5.9
Overall acceptance of child.....	2.2	3.2	3.4	3.6
Child's cooperation...	5.6	5.3	4.5	5.1
Level of affection shown to child.....	4.8	5.4	5.2	5.8

[a]Ratings made by observer; low number indicates more of the quality rated.

In these data, as in other not presented here, the mothers of the four status groups differed relatively little, on the average, in the affective elements of their interaction with their children. The gross differences appeared in the verbal and cognitive environments that they presented.

Against this background I would like to return for a moment to the problem of the meaning, or, perhaps more correctly, the lack of meaning in cultural deprivation. One of the features of the behavior of the working-class mothers and children is a tendency to act without taking sufficient time for reflection and planning. In a sense one might call this impulsive behavior—not by acting out unconscious or forbidden impulses, but in a type of activity in which a particular act seems not to be related to the act that preceded it or to its consequences. In this sense it lacks meaning; it is not sufficiently related to the context in which it occurs, to the motivations of the participants, or to the goals of the task. This behavior may be verbal or motor; it shows itself in several ways. On the Etch-a-Sketch task, for example, the mother

may silently watch a child make an error and then punish him. Another mother will anticipate the error, will warn the child that he is about to reach a decision point; she will prepare him by verbal and nonverbal cues to be careful, to look ahead, and to avoid the mistake. He is encouraged to reflect, to anticipate the consequences of his action, and in this way to avoid error. A problem-solving approach requires reflection and the ability to weigh decisions, to choose among alternatives. The effect of restricted speech and of status orientation is to foreclose the need for reflective weighing of alternatives and consequences; the use of an elaborated code, with its orientation to persons and to consequences (including future), tends to produce cognitive styles more easily adapted to problem-solving and reflection.

The objective of our study is to discover how teaching styles of the mothers induce and shape learning styles and information-processing strategies in the children. The picture that is beginning to emerge is that the meaning of deprivation is a deprivation of meaning—a cognitive environment in which behavior is controlled by status rules rather than by attention to the individual characteristics of a specific situation and one in which behavior is not mediated by verbal cues or by teaching that relates events to one another and the present to the future. This environment produces a child who relates to authority rather than to rationale, who, although often compliant, is not reflective in his behavior, and for whom the consequences of an act are largely considered in terms of immediate punishment or reward rather than future effects and long-range goals.

When the data are more complete, a more detailed analysis of the findings will enable us to examine the effect of maternal cognitive environments in terms of individual mother-child transactions, rather than in the gross categories of social class. This analysis will not only help us to understand how social-class environment is mediated through the interaction between mother and child but will give more precise information about the effects of individual maternal environments on the cognitive growth of the young child.

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