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COGNITIVE DEVELOPMENT AND PSYCHOPATHOLOGY IN THE URBAN ENVIRONMENT.

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Cognitive development is a sequential process in which experience is structured, organized, and assimilated into an internalized scheme of reality. The quantity and quality of verbal and nonverbal communication transmitted to the child determines how well this scheme is adaptable to differing life situations. If there are interruptions in this process, the child will find meaning only in the immediate stimulation, he will have no basis for guiding his behavior, and he will have limited communication skills. Also, he will seek a high level of stimuli at all times, and maintain a level of self-stimulus by engaging in constant action. Such persons become isolated from the mainstream of the larger society. Because poverty programs designed to reach them are successful with only a small number, to help these youth educators must assume the responsibility of developing curriculums and teaching techniques which will prevent improper cognitive development. (DK)

Cognitive Development and Psychopathology in the Urban Environment

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Most scientists, at this point in time, agree that man as a species owes his dominance among living organisms and his survival to the evolutionary acquisition of a unique central nervous system. In particular, his resultant capacity for the development and use of symbols allows for the creative acquisition, accumulation, synthesis, communication and storage of knowledge.

In the world of today, with its tendencies toward dehumanization of the individual, the struggle of each man to define his own identity during his trip from the womb to the grave has come more and more under scrutiny. It has become clear that certain kinds of knowledge must be assimilated by each individual if he is to win that struggle.

Werner, Piaget, Inhelder, Bruner, Witkin, and recently many others, each from their own vantage point, have pointed out that in the course of growth and maturation, clear and well-differentiated concepts of space and of relationships between objects must develop if the internal operations of the growing child are to remain rooted in external reality.

Concepts of size, shape, weight, and the color of objects, the concept of motility, and concepts of distance and direction must develop. Language symbols to label and differentiate objects, to describe and think about them and to discern and describe their relationships must be learned. All of these concepts are necessary if the growing individual is to develop a sense of stable spatial orientation, a sense of

his own position as a separate object in space, and a clear concept of his own body image.

Likewise, the sense of time passage and the capacity to organize the sequential order of events in time, again accompanied by appropriate language symbols to describe and think about these relationships, must develop.

Most intricate of all is the process in the growing child of differentiating, labelling, and identifying the many diverse ingredients of human interaction necessary if he is to function efficiently in a large variety of roles demanded by different life situations. As he develops, the infant-child-adolescent-adult must gain sufficient clarity in his internal representation of these ingredients of external reality to allow him to understand and differentiate the reality context of the life transactions in which he is involved at any one point in time. He must know the language of those transactions and his role within them. Only then will he be able to define his own identity boundaries in that situation and tie his own internal feelings to the external or internalized referents that will allow him to identify them.

This process of identity definition is not just a matter of getting oriented to life. As Erikson, Wynne and others have pointed out, it is a fundamental necessity for survival.

Like all higher animals, man is not a totally independent creature. He is a "member of groups", beginning with his biological origins of birth into a "family" of some configuration or other depending on the culture into which he is born, on his family's sub-cultural affiliations, his culture itself, and finally the groups he is drawn to affiliate with. Indeed, his own sense of identity is largely dependent on his past and present group memberships.

And his inherent need for closeness and attachment with other human beings is, according to the degree of intimacy he is able to establish, dependent on the feeling of being an integral part of his various groups. He gets his sense of belonging through this process of affiliation. There is abundant evidence that individual man cannot thrive, and indeed, may not be able to survive, without at least one such affiliation of a sufficient degree of intimacy.

The most important atmospheric ingredient necessary to develop in each growing child and to maintain in each adult that sense of belonging to the group he so desperately needs, is an atmosphere of acceptance. This means that messages conveyed by the actions and words of those around him must be first, "We want you with us", or at least, "We do not want to get rid of you," and second, "We will respond to you when you send us a message."

For an infant, perhaps, the sense of belonging is enough, but as a child grows into adulthood, because of the growing complexity of the society man's accumulated knowledge has led him to construct, more is needed. In order to maintain his image of self-worth and to give meaning to his life, he needs a sense of participation. Belonging to a group is not enough; he must have a clear picture of the structure and operations of the group to which he belongs, and within the context of this knowledge he must see quite clearly and in detail the nature of his usefulness, his functions, and his tasks within the group. He must, in other words, possess practical knowledge which gives him the capacity to participate.

The need for these ingredients is present in varying intensity

and configuration in any situation in which two or more people are participating in some kind of operational transaction. This is true of any life arena, whether the relatively permanent group arena of marriage and the family, or the temporary but fairly prolonged group of the classroom, or the temporary transaction between the drugstore clerk and the customer who buys a bar of candy. Many examples of kinds of situations which prevent an individual from defining his identity as a social being, a part of a community, can be cited.

In the latter instance of the transaction between drugstore clerk and customer, the Puerto Rican who has moved into a neighborhood where no clerk speaks Spanish or where prejudicial attitudes toward Spanish-speaking people pervade the atmosphere, is hardly likely to find in the buying transaction with a hostile or indifferent clerk, evidence that he is part of the community. On the contrary, he is likely to feel excluded. He will get a sense of participation from the transaction since, because it is simple and short-lived and he knows how to carry it out, it has been concluded, but it will be empty and of little value to his self-esteem since it took place in an arena where he could not get a sense of belonging. He is then likely to seek out a store run by a Spanish-American compatriot, if one exists, and he will view that store as a haven in an essentially hostile community. He will thus abet his own isolation from the community-at-large. If he has no other arena to turn to, or if he knows too little about his own cultural heritage to have pride in it, the drugstore experience can be shattering. And unless he is an unusual person, he is not very likely to take the only alternative open to him of learning the new language and setting out to organize a campaign to eradicate the prejudice of the community.

In like manner, the "disadvantaged" child who, as a result of a lack of organized learning experiences at home, is unable to conceptualize the nature and purpose of his first grade class group, its usefulness to him, and the teacher's tasks and his own tasks there, must rely entirely on his sense of belonging. That sense of belonging depends largely on the responsiveness of his teacher or, to a lesser extent, his classmates. Only if he gets responses that give him this sense will he get meaning from the experience. He is not prepared to develop a sense of participation, since the building blocks of sequential learning, which would allow him to construct the abstract concepts necessary to his understanding of the purpose, operations, and tasks of the classroom, either have not been available to him, or have been presented to him in such a disorganized manner that he could not integrate them. Therefore, if his teacher, busy in a class of 30, cannot respond directly to him with sufficient intensity and frequency to maintain at least his sense of belonging, or, if the child comes from a minority group toward whom the teacher responds with even the most subtle of prejudice, he will have neither a sense of participation or belonging. He will, as a result, have no motivation to remain. He already has little motivation to learn, not only because he is unprepared to learn in the manner and at the level the school requires, but also because he is preoccupied with maintaining his sense of belonging by evoking a response. The content for learning of the response is irrelevant to him under these circumstances. Thus he may simply leave the classroom. He may hang around for a few days, weeks, or months, if sufficient sense of belonging is provided for him by his teacher or, sometimes, his peers. He may also remain if he is in danger of losing his sense of belonging at home by disobeying his parents who want him to be in school. But he will learn very little. And the forces which tend to eject him from the school arena will accumulate, since he is labelled

a non learner or a slow learner, and he poses a problem for the school staff. On the way out he may acquire other labels by being assigned to a special class of some sort, or, perhaps, a psychological or psychiatric diagnosis. Sooner or later the vectors that keep him there will succumb to the vectors that exclude him, and he will leave under the label of "drop-out."

The middle or upper class infant-child-adolescent who for whatever the reasons, has lived for most of his developing years in a communications vacuum in his own family, may wind up in a similar position. He is more likely than the disadvantaged child to have learned some of the tools of operational participation in some life arenas, but he is often deficient in techniques of establishing intimacy with others or of participation in highly competitive arenas. Thus, although his sense of belonging in his own family may be tenuous, it is better than any which he can establish anywhere else. His efforts to function away from his family in college or in a competitive job when he reaches late adolescence are short-lived, and he scurries back to a home he hates, or, perhaps, to some psychiatrists office.

These examples are cited to illustrate the type of phenomena that isolate people from the community in which they live. They are phenomena that fragment a community rather than integrate it and are unhealthy in their outcome. They produce states of psychological and/or social pathology in the people who are caught in them. They cut across the boundaries of ethnic group, socio-economic class, sub culture, culture and society, national origin, educational background of parents, and geographical area. They have common roots in the fact that the tools of participation in the individual

have not been developed to a level of complexity necessary to adapt to a given environmental field. The balance between the complexity of the environmental field and the level of cognitive development in the individual turns out to be the key. It is this interface, therefore, that must be studied and understood.

In today's urban world this interface is becoming increasingly complex. What is needed is a fairly detailed map of the various arenas in which the urban dweller must be able to function efficiently if he is to become and remain a participant in the life of his community, and a clear model of the sequential process of cognitive development through which he must go if he is to internalize a well differentiated view of those arenas and develop the tools he needs for participating in them.

Much work has been done on the former of these two tasks, work complicated by the fact that no two urban communities are precisely the same. But, in my opinion, far too little is being done to handle the latter need, largely, I believe, because popular learning theory does not lend itself easily to the task. A more holistic theory of cognitive development is needed. Let me make a stab at such a theory.

Piaget, especially, has emphasized that cognitive capacities develop through a sequential process. The theory implicit in his way of describing this sequence might be called the "building block theory of conceptual development." He pointed out how assimilated percepts, beginning with the most simple and concrete, form the "building blocks" out of which larger and more abstract concepts are formed and integrated in the child. Some of these abstract concepts or schema allow for the growing child's entry into the world of ideas in symbolic terms. Others allow him to internally reconstruct the shape of external reality. In the latter process, when a given concept reaches a point of relative congruence with its corresponding

unit of external reality, it becomes the context within which new concepts are built and tested, or, in turn, a larger "building block" for more complex concepts which become larger contexts, etc., etc.

In the developing infant-child-adolescent-adult, the degree of and areas of differentiated internalized reality will depend on the quantity and quality of his experience in terms of the availability in appropriate sequences of messages from his surroundings that provide the appropriate "building blocks" at the point in time when he is ready to use them. This differentiation will also depend on the way in which those "building blocks" are subsequently integrated, as well as on the integrity of his anatomical, physiological, and biochemical apparatus.

The messages received by the developing child, in addition to the role emphasized above, play another important role, that of determining and maintaining the stability of personality integration.

The recent work on the effects of sensory deprivation shows that the global diminution of incoming perceptual messages results in various degrees of personality disorganization in the individual thus deprived of stimuli. Thus, communications themselves, regardless of content, are important in the maintenance of stable integration.

Furthermore, the integrity, the organization, and the sequential order of communications taking place in any system are further determinants of the stability of that system.

For example, the recent exciting work on the role of DNA and RNA in the activation of organized biochemical systems which determine species

specific and familial genetic traits points out the role of RNA as a molecular carrier of messages. The implication of this work is that any interruption or shift in sequence of transmission of these messages will disrupt the integration of complicated biochemical operations in a manner which could have a profound effect on the total organism.

Likewise, the hormones of the endocrine system share with autonomic nerve impulses the role of maintaining organization and integrati of vegetative functions in animals and man. They are the purveyors of messages which integrate these complicated functions. When for any reason they do not deliver their messages, or do so in improper sequence, profound functional disorganization can take place.

Loss of a sensory system, as in blindness or deafness, with resultant loss of incoming perceptions, has been shown to seriously impede the capacity of the individual to develop and maintain adaptive behavior of certain kinds which is sufficiently well-integrated with environmental reality so as to be effective.

In all of these examples, the role of messages, whether molecula or biochemically carried, in the form of nerve impulses within the organism or sensory perceptual stimuli from without, is the maintenance of systemic integration and of the integration of one system with others. In other words, that which is communicated forms part of the "glue" of integration, and is in itself an "integrating factor."

Having emphasized the structure, organization, and general conte of assimilated experience in the growing individual, let us now turn to a discussion of more specific content of internalized concepts.

As a child grows through time and in populated space, he receives

from his surroundings repetitive incoming perceptual messages containing specific content, at first largely from his family. Some of these repetitive themes come from the ideosyncratic organization, history, and operations of the family. Others, transmitted through his family, come from its subcultural affiliations, and later, as the child moves ever farther out from the womb, from his surrounding society. These communications are made up of a large variety of messages, verbal and non-verbal, explicit and implicit, and contain certain themes.

Until his school years, most of these messages will come to the child from members of his family and from the operations of his family as a system. Thus, he will first integrate the themes prevalent in his familial surroundings. By the time the child enters school, therefore, he will have assimilated the basic thematic content that will determine the "style" of his personality development. And, of course, once the child enters school, he will receive many more messages reflecting the ingredients of the larger society in which he lives which, building upon that "style", will provide him with a large variety of additional information and life roles.

Since messages themselves serve as the "glue" which maintains integrated functional operation, every child will receive then, first from his familial and later from his societal surroundings, a number of repetitive thematic messages which will form the framework around which he will wrap his evolving personality integration. These thematic messages might be labelled "integrating themes."

The degree to which a child will develop a sufficiently

differentiated view of reality to assure his effective adaptation to the large variety of differing life situations with which he will be presented in our complex and changing society will depend on the quantity, quality, clarity, and differentiation according to life operations of the "integrating themes" around which he organizes himself.

The role of language in all of the above processes cannot be overemphasized. Especially important, as Bernstein, John, and others have pointed out, is the necessity for the child not only to assimilate language symbols sufficient to denote the details of inner and outer realities but also to learn the many connotative nuances dictated by language structure and usage in the culture and subcultures in which he functions and in the various transactional arenas within that culture. Furthermore, he not only needs symbols with which to label objects and abstract concepts, but he needs a wide range of symbols he can use to label his subjective feelings which will again be sufficient to insure a range which will allow him to identify a wide differential of possible emotional responses to a wide range of stimulus situations.

Certain concepts or groups of related concepts play especially important in this process. Let us explore one example. One such concept is the concept of similarity, the least abstract of a grouping of concepts which includes the concepts of analogy and of metaphor.

The process of categorization of experience serves several very important functions. First of all, it allows for the generalized use of similar adaptive behavior patterns with, perhaps, only minor accomodations in situations that fit into a particular category. Secondly, it insures a greater sense of mastery and lessens the sense of anticipatory anxiety that

occurs in all people faced with an entirely new situation, since the growing child learns as he develops that more and more life situations tend to fall into categories for which he has effective adaptive responses. Thirdly, and perhaps most importantly, this process of categorization tends to fix the sense of time passage in the individual. Experiences take place one at a time, but when a category of experience forms, experiences taking place over a time span are tied together by their similarities, concrete or analogous. The threads connecting these similarities allow the child to see his past with a sense of order. Furthermore, they give the past meaning in the present, since some of these threads of similarity will always connect with the current situation. In this way, he can also develop the concept that the present has relevance to the future.

In the studies of children done by Inhelder et.al., using the Piagetian concept of operativity, it was found that the child attained operativity by the fourteenth year. It is reasonable to infer, therefore, that if all has gone well, the adolescent will, at this point, have developed a view of reality sufficient in quantity, quality, clarity, and differentiation of "integrating themes" to insure his possession of adaptive behavior patterns which can deal appropriately with most of the life situations in which he is likely to find himself. From this point on he needs only to fill in his knowledge with detail and develop his skills with practice. Furthermore, as a result of having successfully traversed this developmental road, he will have developed a sufficient sense of mastery and a capacity for abstract thinking which will allow him to accomodate and anticipate change. In cognitive terms, he is ready to move out into the world.

Now let us hypothesize what might interrupt this process of

cognitive development and what the results of such interruption might be.

Certainly, in general terms, it seems obvious that interruption of cognitive development will occur whenever the messages needed by the child are not available to him in quantity, quality, or in proper developmental sequence. In his earliest, most crucial years, the child must depend on his family for these messages. If he lives in a family which as a unit cannot provide them because all family members are not developed in this realm, he will, of course, not develop. Such has been the case in sixty to seventy percent of the families studied by our group at Wiltwyck. If he lives in a family which could provide the messages, but in which communication is so disrupted as to prevent him from receiving them, again he will not develop. If either of these conditions exist to any extent in the family of the child who moves from one culturally determined configuration of reality to another, such a move will add to the probability of an arrest in cognitive development, since many of the "integrating themes" the child as assimilated from his family and culture of origin will differ grossly or subtly from those he needs for successful adaptation and completion of the process in his new surroundings. The complications which would exist if there is also a difference in language between the two cultures are obvious.

It is even theoretically possible that some children, in whom cognitive development has proceeded within the boundaries of normality until such a move, will not yet have reached a point in their development which will allow them the flexibility to accommodate to the new configurations of reality in the new culture, and arrest in development and a kind of "cognitive decompensation" could occur. It is likely, however, that such a child already is fortunate enough to have been born into a

family in which parents will absorb the impact of change and will guide their child with skill through the troubled period during which he must reorient the progression of his development.

Generally, then, it seems reasonable to suggest that one of the conditions that could be labelled social which will contribute to an arrest of cognitive development in a given child or adolescent is any set of circumstances which, in communicational terms, isolates that child from the culture in which he lives for a significant period prior to, let us say, the twelfth year of his life.

What, then, would one expect to see in the personality organization and behavior of the child or adolescent in whom this process has broken down? First, if he has not sufficiently developed concepts which will allow him to orient himself with clarity in differentiated space, one would expect to see an aimless quality in his movements, a lack of clear differentiation of himself from his surroundings, and a lack of clarity in body image. His lack of differentiated view of a variety of transactional life arenas in which different roles are played would lead one to expect his response to people in various roles with whom he comes into contact to be equally as undifferentiated.

He will not have organized his experience into categories by similarity and analogy and he will, therefore, have a poorly developed sense of the sequence of events in time. He will have little sense of his own capacity to influence events around him and thus very little sense of mastery. He will find meaning in his life only in the immediate activity in which he is involved. Thus, in order to maintain a sense that life is

meaningful at all, he will seek a high level of stimuli at all times, and maintain a high level of self-stimulus through engaging in constant action. He will not be able to plan or to anticipate events, since he sees no relationship between present and future. He will often not even be able to see the relationship between his own actions and the response those actions evoke from others.

Without these capacities he will have no basis for guiding his behavior, no background against which he can choose appropriate adaptive behavior in any given situation and no way to prejudge the results his behavior will achieve or the response it will produce from others. He will not, in essence, be able to think before acting.

Having re[illegible]vely few established "integrating themes" which are congruent with and rooted in societal values, institutions, and laws, he will seem devoid of knowledge of the expectations placed on him as a citizen and a member of a society. And when his sterotyped adaptive patterns do not work, he will disorganize easily, since he has few or no alternative ways of behaving. He will often seem, as a result, on the edge of despair since he sees no way of controlling his destiny, and the hopes he generates are likely to be unrealistic and doomed to repetitive failure since they must rely more on fantasy than on experience.

And, since he cannot learn or put words to use in many contexts, the richness of meaning, which words acquire through varied usage in many different life transactions where they acquire a depth and breadth of connotative nuance, will not develop for him. He is, as a result, not likely to see words as widely useable and valuable tools. Furthermore, he is not likely to develop a clear concept of himself as a user of words.

On the contrary, he will be deficient in communications skills and without motivation to acquire them. Thus, efforts to teach him these skills are likely to fail.

He will not be able to differentiate a wide variety of inner feeling responses. On the contrary, he is likely to be clearly aware only of feelings that create widespread physiological responses in him that he perceives as high level stimuli in themselves. Such emotions, of course, are primarily those of individual survival, fear and rage, or that of species survival, sexual sensation.

He will remain a restless drifter, an isolate from his better developed peers. He will tend to band with others who show the same effects of developmental arrest. He will drift with them as they collectively seek gratifications of primitive pleasure needs and high-level stimuli and activities which can provide momentary meaning to life.

This hypothetical description which, due to the time limits of this discussion is far from complete, turns out to be a description of the child of the family isolated and depressed by long-standing; relentless poverty.

If one can endow this hypothetical child-adolescent with better developed spacial concepts and somewhat better language development, he becomes the adolescent from the middle or upper class family whose cognitive development has been arrested by early breakdown in communication between himself and his parents.

And, although no such descriptive data is available about the

child or adolescent whose family has moved from one culture to another, it is reasonable to suspect that, if his family are not able or willing to guide him through the difficult process of transition, he might well show many of the same characteristics of arrest and decompensation of cognitive development.

What happens to this child or adolescent or young adult? Let us place him now back in his social environment. If he comes from the undifferentiated, "disadvantaged" family he is likely to live in a neighborhood where a better differentiated peer with delinquent values is always available to organize a fighting gang, where the narcotics pusher or the illicit vendor of drugs is in open operation, or where the soap box agitator or the igniting incident amidst racial or social tensions can easily incite a mob to violence.

In his search for gratification of pleasure and survival needs and for a constantly high level of stimulus and action, he is likely to join the gang without a second thought and thus to steal, fight, engage in wanton destruction, or try out the effects of drugs. He will join in a riot with a sense of high level excitement. He is suddenly alive, man, he's moving, he's on the go. And not only that, but he's with the other cats, he's a participant, part of a group. Momentarily he has an identity. That is, until the larger society from which he has been excluded moves in to stop him.

I want to re-emphasize here that I am <u>not</u> talking about "The Poor" or any one or more minority group. I <u>am</u> talking about a rather large group of families and individuals who, because of long-term poverty,

have been isolated from the mainstream of life in the larger society of our cities. Some of them are poor because they belong to disenfranchised minority groups. I am also talking about some middle class children who have grown up in isolation in their families, and others who, as a result of moving from one culture to another, have suffered from similar isolation. I have found it difficult to establish a dialogue about this group, the poverty group especially, with people, professionally trained or otherwise, who have not had direct experience in an arena dealing with them. People working in places populated largely by middle-class or cognitively developed lower-class people seem relatively unaware of the very existence of the group of which I speak. But with any teacher from a juvenile or family court, or any well-trained welfare worker, I have no trouble. They know the families and children of whom I speak. They struggle with them daily.

All that our society has done to this group so far, and I mean <u>to</u>, not <u>with</u> or <u>for</u>, is to tag them with a variety of labels. I have done this myself in this paper. I labelled them disadvantaged and cognitively undifferentiated. But at least these labels are not as institutionalized as some that are routinely used. Popular labels vary according to the arena in which a member of one of these families or the full family appear. If the arena is the courts, the label is delinquent. If the arena is the classroom, the child or adolescent is likely to wind up in a psychologist's or psychiatrist's office, where he acquires one of a variety of labels that range from mentally defective to emotionally disturbed to psychotic or schizophrenic if he is seen in a context in which he looks sufficiently disorganized. In the welfare arena, these labels also abound. To the lay person these labels convey

the notion that he is either a criminal or a nut. He is, of course, neither, and he deserves some better designation. Perhaps this is the first thing that should be done for him and his family.

There is today a hopeful trend that promises to do something for this group. At long last both the public sector and, yes, by God, even the private sector of our society have become concerned with the disenfranchised people in our midst. Vast, though yet inadequate, sums of money have been made available for programs aimed at narrowing the gaps between the haves and have-nots. Within and without government in the "War On Poverty" there are a number of schools of thought as to how to do this.

There is the "opportunity" school which, oversimplifying opportunity theory, is stuck on the notion that all that is needed are available jobs and better housing. There is the group that go one step further and advocate job training programs. Then there is the group which advocates an escalation of training for untrained people - the euphemism is indigenous, if they live in the community in which they work - in neighborhood service centers. This model is designed to kill two birds with one stone because it also provides a corps of advocates for the disenfranchised. Then there is the early childhood education group out of whose work and thought Headstart arose.

What happens to the particular group about whom I am talking when and if, and this is a large if, they get involved in any one of these types of programs. Given a job and so-called good housing, those from this group have almost universally been unable to maintain their

function on the job for any appreciable length of time and they have, often with startling rapidity, turned their "good" housing, into a tiny slum. In job training programs, such as the Job Corps, they simply have not assimilated the training given them within any context which gives the experience meaning. They are more attuned to the amount of money they can get by participating in such a program than any sense of progression through their own effort. They cannot conceptualize the latter, but money can be used for kicks. The individual from this group certainly never winds up in the neighborhood service center as an "indigenous" worker and seldom as a seeker of help. He cannot conceptualize what he wants help for, unless, again, it's money. At least Headstart provides an arena in which the child of the undifferentiated family is supposed to gain experience for cognitive development not available to him at home. But even when such a child does get to a Headstart program there is no system of ascertaining that he gets what he needs through a planned curriculum based on a known sequence of needed experience. Training in perceptual skills, though helpful, is not enough.

These programs are important and effective steps in the "War On Poverty." I do not wish to derogate them in any way. They can reach the majority of the economically poor, and many of the culturally impoverished. They do not, and will not, however, reach a large minority of the urban poor, whose lack of cognitive growth and differentiation have rendered them inarticulate and inaccessible by the usual channels. A whole new technology is needed if this most isolated and disenfranchised group is to be reached. They cannot be legislated or organized into participation in anything.

We are not altogether lacking in the needed technology. Some work has been done or, at least, piloted. The work of the group of which I was a part at Wiltwyck School For Boys in developing techniques of working with these undifferentiated families in a manner aimed at identifying, defining and constructing family role functions and transactions has, I think, made a contribution. Also at Wiltwyck School, Minuchin, Grabard, our chairman for today, and Chamberlain have piloted some techniques of working with games and observer-participant role changes. Bereiter et. al. have been developing some techniques by analysing the formal characteristics of language in children from this group and translating their analysis into instructional goals. The work of Vera John, from whom we will hear next, is highly relevant. The perceptual training techniques developed by Martin Deutch are very much to the point as are some of the techniques developed by Maria Montessouri. And in my own department at the Gouverneur Ambulatory Care Unit of Beth Israel Medical Center we are embarking on a pilot effort to ascertain what we can learn by a controlled study of this group using the test instruments developed by Inhelder and others in the Piagetian framework to see if the Piagetian schema can be matched with capacity for differentiated coping behavior in various life arenas. We will also be continuing to study these families in a further search for family characteristics that overtly or covertly provide integrating themes for identity development in their children that are dissonant with the demands of our society similar to those reported in our study at Wiltwyck. And, undoubtedly, there are many relevant projects of which I am unaware.

Some of the preliminary work done with teaching machines, especially the more complex computerized machines such as Moore and

Kobler's Edison Responsive Environment Machine, which can be easily programmed with fixed programs or programs individualized on the spot, offer much promise as valuable instruments with which to deliver differentiating experience to this group.

There are other techniques which have yet to be tried, which I hope to see put into operation in our work in lower Manhattan or elsewhere. The notion propounded by such organizations as the 4-H clubs and the Junior Achievement program where farmers and business men were organized to teach about what they knew best, rural life and business methods, can be put to good use in a specialized form of community organization. It should be possible as part of a total program, for example, to organize the merchants, service people, professionals, etc., in a representive block or two in a given community in such a way as to have each of these volunteers meet in their operational environment with groups of family members from undifferentiated families, simply to tell them in some structured detail precisely what they do, incldding the role functions, specific transactions, and language germane to their particular operation. By appropriately building this experience into the sequence of a cognitive training program, it should be possible to lead groups through the process of differentiating the ingredients of a selected area of the city in some detail.

Programs helping children to organize events in time which begin with the use of blocks of various shapes and colors designed for use in teaching the concept of similarity, going on to such exercises as rhyming, and ending in exercises and trips designed for the same purpose, have already proven useful.

The teaching of values, for example, beginning with concepts of size, shape, and composition in relation to weight, and ending with the concept of weighting the importance of tenets governing behavior, can also be used.

But the welding of these techniques and others yet to be developed into a curriculum designed to develop coping skills for a minimum of necessary life arenas, thus insuring that people who lack such experience can develop the tools for participation has yet to be accomplished. Such a "curriculum for living" is badly needed.

There are those who maintain that this group cannot be reached even if they can be involved in an arena designed for the purposes I describe. The claim is that there are critical periods of growth and development that result in irreversible deficits in the neurophysiological bases for learning later. Both McV. Hunt and Martin Deutsch have expressed this view. Bruno Bettelheim has also written of his own belief that this is so. I suppose some children who have suffered from severe stimulus deficit right from the start may be permanently slow in their development. But most of the group of which I speak have not suffered from a deficit of stimuli. They have, on the contrary, been bombarded by a large variety of stimuli. The difficulty is in the structure, content, and availability of certain highly specific stimuli in the form of perceptual messages which allow for sequential assimilation and integration of these messages into cognitive structures in the process of concept development. Every effort to teach this group I have seen or heard of that has taken this notion of sequence into account has shown striking results.

The claim is also frequently made that it is not possible to

involve this group. This claim is especially specious, since almost everybody in this group is already involved somewhere, either with teachers, welfare workers, or probation officers. And most of them show up in health care arenas sooner or later. The obvious implication, it seems to me, is that cooperative effort, rather than the fragmentation that one sees currently, is imperative between these agencies, in this realm especially. Cooperation such as this may seem at present a remote possibility, but it could be made a reality if organized around the "curriculum for living" of which I speak in a total community effort. Most importantly, such an effort not only could bring identity, capacity and opportunity for choices, and at least some social mobility to people who have never had any of these products of our democratic society, but it could also, from the point of view of the urban community, be a means of prevention aimed at many of its most serious problems.

Not only does it seem likely that behavior carrying the labels of crime and delinquency could be diminished, but the use of drugs including addicting drugs, and learning problems of children, should diminish. Vandalism and senseless rioting and destruction would seem less likely if the supply of readymade rioters is lessened. Such programs promote integration in its broadest sense in a community. They should be not only preventative, but enhancing.

The role of the educator in such community efforts is, of course, central. It is he who knows most about constructing curricula. It is he who knows most about the delivery of knowledge to those who need it. His curricula, however, must now be developed in close cooperation with the biological and behavioral scientist. They must span the life

cycle of our species, from the womb to the grave. And he must teach his techniques of delivery to those who can use them in a large variety of helping arenas. The classroom can no longer remain his prime target. Our society is beginning to look in his direction with a challenge that is gaining form. I hope he will be prepared to meet it.

Discussant

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It is indeed a pleasure to have the privilege of commenting on a presentation which spans all the way from communications theory to cognitive development.

This is a breadth that I am pleased with, and comfortable with, being one that parallels the development of my own thinking.

I am particularly interested in the concepts that Dr. Auerswald puts forth in the area of the relationship between messages and integrating themes. Such conceptualization is useful, it seems to me, because it cuts across some of the dichotomies that we have come to rely upon, and be so fond of. For instance, the dichotomy between attitudes and concepts. His approach does help us to look at social, intellectual and emotional development as an integrated rather than as isolated, or differentiated processes.

Similarly, I think the distinction that he has made between the sense of belonging and sense of participation is a useful one. This differentiation in cognitive terms might indicate that the child, being a receptor or an individual who is exposed to a variety of messages in his environment, as he develops further, will become an active learner and an active participant. It is this change from receptive to active learning that could be an important clue to our theories of development; and I think it is a change, or shift, that is not always as clearly made in theories of development as it might be.

Thirdly, it seemed to me that the last point made in the presentation, concerning the unduly great emphasis on "critical periods" that has been advanced by some of our most admired psychologists, such as McVee Hunt (1961) is a very important one. Though I personally do think that the preschool period is a critical stage, but preschool enrichment is not the panacea that we sometimes believe it to be.

But, I do have some critical questions that I would like to ask concerning in this presentation. That, of course, is my task. It seems to me that a distinction between personal isolation and isolation within, or by, an entire small community might be made. Not until the very end of the paper did this distinction come through. At the beginning of the paper, I was not sure whether we were speaking about the entire disadvantaged group or a large percentage of the disadvantaged group, and whether the concept of personal isolation, and community isolation, were fused. There are, significant integrating themes in the lives of the children raised in poverty. However, these integrating themes, prepare them for adaptation that is different from that necessary to be successful in the public schools, as they are presently constituted. And, therefore, it isn't necessarily lack of cognitive development that we are faced with; but cognitive development that is not optimally congruent with the demands of the public school system. The reliance upon cognitive theory, as a tool by means of which we want to explain most of the problems faced in our low income groups, may therefore lead us to some very, very serious problems.

In view of this, I think Piaget and many others committed the serious mistake of developing a theory of cognition based on a small number of middle class children. That theory cannot adequately handle the questions of learning and adaptation in an environment significantly different, from those in which he raised his own children, and most of us raise ours.

The question of "identity definition" becomes of concern to me, too. Can we only have "identity definition" as expressed in the elaborated code of Bernstein? Or is it possible to develop identity via group membership, not simply group membership in the classroom, but group membership in the various and varied forms of family and community living, in the communities of the poor? Indeed so - I think that we do observe these forms of identity being developed in some of our communities of the poor, forms which are in need of much more careful examination and study on the part of the behavioral scientists. We will learn something about the cognitive processes involved in a non-middle class communication, in a non-middle class group belonging, and a non-middle class language, only by examining these forms of group identity.

And, lastly, I think that the reliance upon some of the concepts put forth this morning about the lack of organized experience that some disadvantaged children are exposed to, might be helpful in specifying, when working with larger groups of disadvantaged children, which of them do need individual help, individual treatment, individual personal relationship between teacher and child. Very often, these children might come from homes where the mother is an ADC mother who herself has become isolated from her total community; where she has

conveyed that sense of isolation and despair to her own children. These children, then, might be in need of a very different reconstruction, or different approach, than the majority of young disadvantaged children and teenagers and adults that we work with.

In summary, then, I think that we might want to differentiate between concepts of cognitive development and concepts of cultural or socially-determined development. I don't mean that these are not interrelated. But I think that the cognitive development, to a considered degree, is a reflection of the social conditions in which a child lives, and is not necessarily the determinant thereof. Therefore, it seems to me, it is necessary, first, to carefully examine the social and cultural context of the life of any child with whom we work, and then look at its cognitive consequences; instead of "looking backwards", at the cognitive deficiencies a child may possess, and from this point of view, attempt to define the social and cultural environment from which he came.