

INTERPOSITION: SOME PERTINENT DISCUSSION ON THE LEARNING PROCESS

To everything there is a season, and a time to every purpose under the heaven. Ecclesiastes 3:1

When discussing the brain and the mind, researchers of various disciplines remain in a quandary as to how to differentiate between them. We will not get into that here. It suffices for our discussion to defer to Richard M. Restak, M.D., who says in his book *The Brain* (p.246): “When we apply psychological methods we encounter the ‘mind’; when we opt for measuring neuronal activity with microelectrodes, we deal with the ‘brain’.” It would be nice if this were the only controversial duality. But there are others: endowment versus environment; nature versus nurture; and maturation versus development. These dualities are intertwining; somewhat analogous to the DNA double helix that is held together by a common hydrogen bond. What these dualities have in common is what can be referred to as a biological clock or timetable. To everything there is a season. Most folk have no trouble acknowledging the physical biological clock with respect to human growth: Babies are nine months in incubation; baby teeth appear at about the same time (around the onset of speech); infants by and large start walking around the same time; youngsters go through adolescence and puberty, and attain their adult height in their respective times. Although, in some instances, there are differences between males and females, for each sex the timetable is about the same. There is a mental and psychological biological clock and timetable as well, and it is the brain that regulates it, much the same as it does our involuntary muscles.

Jean Piaget was a Swiss child psychologist and zoologist who devoted a lifetime observing the evolution of consciousness in the developing child. Piaget has postulated stages that a child goes through from birth through adulthood in the development of consciousness. Piaget has his critics as to the exact details of his findings, although there is agreement on the fact that there are specific stages of consciousness development. And although some children’s timetables may vary somewhat, they are present. We present his views so as to illustrate the process at work.

The first stage is that of the development of SENSORI-MOTOR THINKING which lasts from birth to around two years of age. Here the

child demonstrates a series of reflexes such as turning to light or sound, grasping an object dangling in space, sucking when the lips are touched, crying or waving the arms when startled. At about two months, a normal infant will begin to coordinate certain acts: looking with hearing; seeing with grasping and later sucking. The infant starts to demonstrate a tendency to look at familiar objects such as mother or a family pet. Here he or she starts eye-to-eye contact, the social smile, and exploration of the environment. At seven and eight months the infant demonstrates reaction to strangers and an elementary understanding of signs and symbols. Near the end of this first period the child begins to demonstrate an understanding of causality and why certain things happen, such as a ball rolling into view.¹

In his book, *The Conscious Brain*, Steven Rose discusses Piaget's analysis further:

It is against this background that Piaget analyzes the first two years of life as those in which a child develops from a baby with no awareness of the distinction between self and not-self to the state of regarding itself as an individual set into a differentiated environment.²

At the end of this period, the external existence of objects and their relationships is accepted and the next phase is entered which lasts from about two to four years of age. Rose continues:

It is the period in which symbolic thought and PRECONCEPTUAL REPRESENTATION emerge. The child begins to use picture images as symbols to replace the real things—the objects—which earlier filled her or his universe. In parallel to the use of images to replace objects, the use of *language as a system of symbols* for objects begins... (Emphasis mine.)

But while the images are internal symbols meaningful only to the child, language is the way to a measure of public communication. Language is non-representative, unlike images. It is conceptual. Piaget identifies the emergence of “pre-concepts” as intermediate between image symbols and the concepts proper. They fluctuate between being symbols and concepts as the child learns what sort of power it can achieve over the real world merely by wishing: to pick up and assemble a toy, for example, which is an attainable object; or that it will stop raining, which is not.

The next stage, which partially overlaps with the previous one, is described as **CONDITIONAL REPRESENTATION**. It runs from four to eight years of age and forms the threshold of “operational thinking”: the child begins to recognize that the universe does not revolve around him or her alone but that there are other viewpoints, other forces in the world; he or she begins to communicate coherently in language.

The next state is **OPERATIONAL THINKING** itself, which emerges from seven and runs to twelve years of age. The child begins to recognize relationships between objects, to operate with concepts such as more or less, longer and shorter, heavier and lighter, and also to use them in a commutative and conservative manner, so as to be able to perform simple operations which help relate weight, height and so forth in a logical manner. As the period progresses, the operations become more formalized so that these semi-abstract concepts can be manipulated; experiments, in the general scientific sense of the word, can be made.

Finally, by natural progression, from eleven onwards into adolescence, the possibilities of **UTILIZING FORMAL OPERATIONS** emerge, which are completely abstract and conceptual tools. The child has become an adult, although the biochemical maturity of the brain is not yet complete.

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The capacity of the brain that enables it to create and master language (cerebral abstractions) is what set the human species apart from all others. The development of language is what enabled humans to create civilization. And as civilizations evolved, they placed greater and greater demands on language. The two are inextricably bound together. Let us then look at how humans learn language.

In *Speech and Brain—Mechanisms* Wilder Penfield and Lamar Roberts write: “The brain of the adult, however effective it may be in other directions, is usually inferior to that of the child as far as language is concerned.” Neurophysiologically speaking, they say. “A child’s brain has a specialized capacity for learning language—a capacity that decreases with the passing years.” And “for the purposes of learning languages, the human brain becomes progressively stiff and rigid after the age of nine.”³

Citing the works of W.F. Leopold, and the works of A. Gessell and F.L. Ilg, Penfield and Roberts provide us with the following biological timetable for learning language (pp. 243-244):

During the infant's first year he cries at once. He coos later and then babbles. Babbling is verbal play "with front sounds and clear constants." Around the time of the first birthday he usually says his first word. In the second year it is clear that the child learns to understand and later to speak. There is apt to be a lag of two to seven months from first hearing to utterance. From two to four years the delightful lingo of baby talk disappears and is replaced by adult pronunciation. The skills of understanding and speaking are more or less perfected by the age of four. Reading and writing are not yet to be considered. During the second year of life speech consists normally of one-word sentences. Gradually the child puts two words together, then three. There are many variations to these achievements, as any proud parent will testify. But by the time of the third birthday the three basic elements of simple sentences have made their appearance; subject, verb, object. The child uses some pronouns and employs plural at this time, and is adding new words at the rate of about four hundred in six months.

Dr. Ilg would distinguish two types of child, which she calls "Imitative" and "creative." Children in the first group learn more rapidly and accurately with less baby talk and jargon. Girls are more likely to be placed in this group of accurate learners than boys. The creative learner is slower and more apt to elaborate pronunciations and jargon of his own. Poets, she says, are prone to come from this group! It is obvious that individual differences are recognizable at almost any stage throughout childhood.

There seems to be little if any relationship between general intellectual capacity and the ability of a child to imitate an accent. Pronunciation is essentially an imitative process. Capacity for imitation is maximum between four and eight. It steadily decreases throughout later childhood.

After the imitation stage, the analytical, exploration and adventure stage begins. (It is said that up to around eight or nine, you learn to read. After that, you read to learn.) The language uses that have been acquired and set

at this point allow for the depth and range of exploration and adventure the child can experience rewardingly. As an example, when trying to explain simple scientific concepts to fifth graders through junior high school students, we noticed that those students who had the mental acumen and discipline to “handle” the division algorithm (which also means their language usage enables them to absorb the explanation of the algorithm) were the ones who comprehended the concepts most easily. Quotes are put around “handle” because it seems it is not so much that the students could actually “divide” that matters—he or she may simply not have been taught how to—so much as it is the “capacity” to handle division and the “Ability to discipline” oneself to learn to master the algorithm that must be there. That is, if, during their imitative state, they were exposed to the type of experiences that called for them to imitate enough logical processes and extending language and thought patterns to accommodate them, then they may have acquired a basis upon which to expand to the processing of higher concepts; even if they have not learned division per se. This may be an area worthy of further investigation.

Again utilizing the works of Penfield and Roberts:

According to Professor Leopold the child of six to eight years has formed his native speech habits completely. But they are not so firmly established as to interfere with his capacity to acquire a second language without translation. It would seem, however, that the first language is well set by the age of four or five. ... If the child is using a second language even before that time, the two may be set equally without interference.

Gessell and Ilg have concluded that at age 8 the average child is “group-minded, expansive and receptive.” At the age of nine the child is said to become more analytical in language learning. He is apt to become analytical in regard to his general attitude as well.

Linguists and observers who have studied the language uses of African Americans recognize that many employ a dialect that can be called a Black English Vernacular (BEV). (See *Black English*, J.L Dillard; and *Twice As Less*, Eleanor Wilson Orr.) This means that BEV speakers think and reason in this “their native tongue.” If this pattern has been set, after say, age nine, then the pedagogical approach to enable BEV speakers to work in a Standard English (SE) setting should be somewhat akin to working with any

other people who speak a non-standard English native tongue. Many post-puberty African Americans who matriculate well in North American society are, in fact, bi-dialectical, actually bi-cultural, often “reverting to the vernacular” while conversing with friends and family, and using SE when the situation demands it. IF the BEV is well set in the speaker and SE is not, then the speaker will have to undergo the mental process of quasi-translation when using SE as would anybody else who does not use SE as a native tongue. We say quasi-translation because the words have by and large the same meaning; it is the syntax and language structure, etc., where the differences, and hence problems, occur.

The inability to handle these quasi-translations effectively can cause some very serious problems for BEV speakers. The linguists claim that this is one of the reasons why many Blacks have so much trouble reading. It is also a cause for the tremendous frustration and embarrassment felt by so many Blacks, especially Black youth. The sociologists argue further that this is an important factor contributing to the high dropout rate among Black youth; and to the disruptive and anti-social behavior they exhibit; and to much of their alienation to society.

For example, when trying to get BEV speakers to understand a mathematical or scientific concept, we first try to get them to explain it in “their vernacular.” After we are convinced they understand it, we get them to explain it in SE. We further explain to them that there are many dialects spoken in the United States, but there is one standard that we all use, especially in “formal” communication.

We have found that by using this approach, we eliminate the cause for much of the frustration and embarrassment that many students would normally have.

With regard to vocabulary, Penfield and Roberts state (p. 251): “When a child comes to the age of 6 he is ready to begin to expand his vocabulary rapidly, and as he passes the age of 9, the process is accelerated. He reads and talks and listens incessantly. If he is expanding his vocabulary in his native tongue, the process is simple, rapid and normal. He uses the speech units already written indelibly on the slate of his vocational speech mechanism. He can pass from a vocabulary of 1,000 words to 10,000 perhaps, using the same language set. The sound, the pronunciation, and the spelling are all so similar. He can use his recorded units. The sentence

construction does not alter. His eventual accent continues to resemble the accent of those he listened to first at home and school and playground.”

Dr. Jeremiah Cameron, Chairman Emeritus of the English Department of Penn Valley Community College in Kansas City, Missouri, explained to me that the larger one’s vocabulary is the more one will be able to see when looking at a grand or complex site, say the Grand Canyon. The larger vocabulary enables one to describe, and hence absorb more subtleties. (Recall that Malcolm X studied the dictionary from “A” to “Z” while he was in prison.) The same can be said with respect to the other four senses as well, especially hearing.

Penfield and Roberts argue that the psychological urge of the child must not be overlooked when it comes to what they call the direct method of learning language, that is, “the mother’s method” or learning language at home.

The mother helps, but initiative comes from the growing youngster. The learning of the mother tongue is normally an inevitable process. No parent could prevent it unless he placed his child in solitary confinement! For the child at home, the learning of language is a method of learning about life, a means of getting what he wants, a way of satisfying the unquenchable curiosity that burns in him almost from the beginning. He is hardly aware of the fact that he is learning language, and it does not form his primary conscious goal. Language, when it is learned by the normal physiological process is not taught at all. It is learned as a by-product of other pursuits⁴

The learning of language, like other forms of learning, is best when incidental; that is, driven by necessity or desire to do other things. Language is man’s infrastructure for thinking, hence reasoning. It is the cornerstone upon which civilizations were built. Language evolves, again, depending upon needs and desires. A child becomes acculturated according to his or her need to negotiate the immediate environment. Children absorb morés of their family, society and civilization through the use of language. We think in our native tongue or dialect and develop thought processes demanded by the environment or civilization, and language use expands accordingly. In some instances our needs and desires cause us to push and advance the society or civilization, which in turn creates a demand for an expansion of language. And so the spiral, or rather helix, goes. Men shape families, societies and civilizations as they in turn shape the children, who become the adults that continue the process.

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Since language is such a key to advancement, it behooves us to take a closer look as to how we begin to master it. Clearly we begin much of our acquisition of knowledge, and acculturation for that matter, through the five senses. And like language, there is a biological timetable associated with this process as well.

Jean-Marc-Gaspard Itard was a physician and teacher for the deaf and dumb in the eighteenth century in Paris, and is known for his work with the “Wild Boy of Aveyron” who was discovered at about the age of eleven or twelve after having lived in the woods without human contact. In his book *Wolf Children and the Problem of Human Nature*, Lucien Malson, records Itard as stating (p. 117):

It may be observed that, in proportion as man advances beyond the period of infancy, the exercise of his senses becomes, everyday, less universal. In the first stage of life, he wishes to see everything, and to touch everything; he puts to his mouth every thing that is given to him; the least noise makes him start; his senses are directed to all objects, even to those which have no apparent connection with his wants. In proportion to his advancement beyond the stage of infancy, during which is carried on what may be called the apprenticeship of the senses, objects strike him only so far as they happen to be connected with his appetites, his habits, or his inclination. Afterwards it is often found, that there is only one or two of these senses which awaken his attention. (Emphasis his.)

At this stage, according to Itard, man begins to develop toward special inclinations say, music, painting, science, etc., and will develop those senses that relate most to those interests. “Of us humans,” Itard continues, “after the first years of infancy, the attention is naturally directed only to those objects which have some known and perceived connection with our tastes.”

Itard, asserts that (p. 166):

... of all the senses, hearing is the one which contributes most particularly to the development of our intellectual faculties.

... It is through hearing that children first learn to speak by imitation of what they hear.

Itard further states (p. 167):

... of all phenomena offered to the observer by a child's early developments, there is none more astonishing than the faculty with which he learns to speak; and ... that speech is without doubt the most admirable act of imitation and is at the same time its first result. ... But this imitative faculty, whose influences is spread throughout life, varies in its application according to age and is used in learning to speak only at the very early age: ***Later it directs other functions and abandons the instruments of speech;*** so that a child, or even an adolescent, who leaves his native country, swiftly loses its manner, lifestyle and language, but never those vocal intonation which constitute what we call accent. (Emphasis mine.)

The essential point is this: The need to work with young people early, to start with their mental and intellectual development early, is not only a psychological and sociological concern, it is a physiological and neurological one as well.

The biological sands of time are running down. Young people, especially adolescents, seem to harbor the notion that they will always possess their present capacity to learn and develop. Little do many of them realize that that simply is not the case. As time passes, that ability to "turn on the juices" and start learning ebbs away. To be sure, they will still be able to learn some as they age, but not with the same facility and ease; more and more effort will be required as time passes on. And as one falls behind, or misses those opportune periods, it becomes exceedingly more difficult to make up the "distance," and in some cases most of it will not be able to be made up at all. Every stage in a child's development is crucial and must be taken "proper" advantage of if that child's full potential is to be realized. This reality is one that should be understood by our children's caregivers and nurturers (parents, teachers, elders, etc.) and what is more, the youth themselves need to understand it. Again, "to everything there is a season."

One of the ways we use to get many of our youngsters to understand is the use of sports analogies and metaphors. This seems to work because so many of them have athletics on their minds. As an example, consider this: Every

thirty-five year old professional athlete was a twenty-five year old professional athlete (young lion). You simply cannot wait until thirty years of life to develop the necessary skills to compete on that level—no matter how gifted you may have been born. If those necessary skills have not been developed by, say, twenty-five to compete on the professional level, it is too late! Time has passed you by. The fact that women can only bear children between puberty and menopause is another example that serves to illustrate this dynamic; and although most youngsters are not overly concerned about it, they are least aware of it.

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I have discussed some of the findings of physiological and neurological research that show there are mental and psychological stages and periods of development that are parallel and correlated to the physical ones. There is also research that shows that each of us is born with a set of predispositions, traits and possibilities (probabilities) to be nurtured, developed and acculturated by our environment.

An interesting work that discusses this theme is *Nature's Thumbprint* by the clinical professor of psychiatry at New York University, Peter B. Neubauer, M.D., and his son Alexander Neubauer, a writer. They discuss in their book the findings of research done on infants and identical twins reared apart. One of the studies they refer to was done in 1989, of single non-twin infants. They report that the researchers' work revealed clusters of traits that formed stable patterns over the first six months of life. These trait clusters were labeled activity, arousability, and intensity; and approach, adaptability, rhythmicity and destructibility. Those in the first set were considered drive traits—those that activate the infant, whereas those in the second set were regulatory traits—those that mediate the drives. The research team found that infants with a preponderance of the traits in some set had fewer of the traits in the other. But what was most interesting was that from six weeks to six months of age the trait clusters exhibited remained fairly constant.

Quoting the Neubauers:

This discovery of consistency in such early patterns of behavior is a formidable result: it speaks to a regularity that seem less imposed or

conditioned from the outside than brought about from within. It enhances the notion of inner, intrinsic tendencies that overtime, despite fluctuation, resolve themselves in a basic constellation that can be called *personality*-traits organized around a theme. And early predisposed influences at birth, affect its adult shape, even if the final differentiated characteristic (taking names such as “hospitality” or “shrewdness”) inevitably vary. (Emphasis theirs.)

In our group’s study of individual twins reared apart one outstanding feature was the early social behavior of infants. Some children had a limited capacity to engage the environment, stimulate the mother to a specific response, or impose their wishes and needs in such a way as to be heard. Other children, however, expressed their needs perfectly well and got rather quick satisfaction. The first group depended on parents to: “read them” and satisfy their needs; the second group brought to the world a greater ability to demand that satisfaction and stimulation. These qualities might normally be considered a product of their environment, of parents who elicit or hinder the activity of their infants. But since identical twins were available for study, we could see that when there was either a low or high level of engageability in one infant, it was *shared* by the identical twin reared apart.

The ability to engage one’s environment thus appears to be predisposed. We may be born with a potential for engageability that is triggered, to a greater or lesser degree, by offerings from the environment. It will also affect the adults that these infants become. From clinical experience we know that some adults confront the world through action—by doing—whereas others prefer to formulate their thoughts and plans in a way that minimizes their need for concrete activity. Although this feature can be transformed and appear even as quite the opposite quality in adulthood, it may in its fundamental form exert influences that play a significant part in the individual’s choice of profession, in his social interaction, and the very pattern of his life.” (Emphasis mine.)⁵

The emphasis here is on the importance of nature—those predispositions and traits that they exist and to take them into account while nurturing children in order to best facilitate the development of their potential. The Neubauers cite an interesting example that graphically illustrates this point (p. 28):

In a case of identical twin boys reared apart, one family battled against the studied, watchful passivity of their adopted son while the other family accepted this relaxed, unaggressive quality with relative ease. Although the temperaments of both boys remained steady through maturity and both ultimately chose professions that matched their natural inclinations (one accounting, the other academic medicine), the first boy's relationship with his unaccepting parents became embittered, and he has carried their disapproval with him for many years.

The Neubauers also emphasized the crucial role that the environment plays in children's development. ... "Although identical twins share the same pattern of genes." They explain (p. 22-23), "and everything is prepared for identical expression, this does not mean—and this is key—that every trait will be identically expressed. *What is endowed at birth is not a set of traits but a range of expression. The range is set by human evolution and the individual's inborn variations, and it accommodates flexibility. Our genetic programs allow for, and cannot thrive without, environmental influence.*" (Emphasis mine.) What we must do is understand that we respond to the environment in ways biased by our innate makeup, and furthermore, that this makeup helps select the environment we respond to. They state earlier in their book (p. 6): "When a supportive, nurturing environment was available to the child, the true power of his inherited tendencies and acceptabilities revealed themselves."

The Neubauers also addressed the various stages of development. Although they acknowledge that the times when these stages occur may vary somewhat between individuals, the process and order is present. They point out (p. 80): "Resolutions of problems arising in one stage are essential for a healthy transition to the next, and one of the primary reasons for the push through development is the shift of energy from stage to stage and zone to zone: it is, in sum, predisposed by nature. And in the same breath it is also parental, social, and environmental." They add (pp. 96-98): "Human beings as a species have developed a possible range of flexibility that allows for adaptation to the world, and everyone at birth has his own individual version of that general range. ... If all goes well, by his early teens each person will have reached a state of equilibrium, which is the purest expression of adaptation to the environment,"

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“If all goes well,” they say. The environment is powerful—awesomely powerful. It can, and often is, the determining factor in whether any child will be able to fulfill his or her innate potential. Both natural and human forces can be, and often are, the deciding factors: drought, famine, malnutrition, war, etc., can negate anyone’s potential. And the social consequences can be devastating over generations.

There are studies that indicate the situation that occurs is not so much one of genetics, whereby defective genes are produced and passed on to successive generations; rather it is the mother and care-giving skills that are not passed on. Care-giving is not an inherited trait, or instinct, it is a learned dynamic that is culturally dependent.

Richard Reskak M.D., in his book *The Brain* cites the work of Dr. Jamina R. Galler, who has worked for several years with a colony of rats subjected to twenty generations of malnutrition. After twenty generations of relative starvation, the rats showed stunting in physical growth and activity. However, many of the defects were reversed when good nutrition was introduced at a later point. What the research showed was a break in mother-infant interactions when malnutrition is present, and even after nutrition was restored, the rats continued to make poor mothers. “Dr. Galler thinks,” writes Restak, “the poor mothering behavior depends on disturbed patterns of infant-mother interaction repeated in each generation rather than inheritance across several generations of a genetic chance.” The notion of bad genes resulting from malnutrition being passed on is incorrect. “Poor mother-infant interaction in one generation will produce females who make poor mothers in the next. The initial nutritional insult resulted in behavioral consequences that interfere with mothering. It is this failure of mothering rather than genetic change that is passed on and can be measured several generations later.”⁶

Restak extends this discussion to malnutrition in humans, indicating that international studies on brain development and human malnutrition seem to bear out Dr. Galler’s hypothesis. “In the first year of life,” he writes (p. 32), “the baby explores its environment and, in addition, begins to form secure ties with its mother. Malnutrition seems to interfere with both processes. ... Malnourished babies seek comfort and pacification rather than food. In turn, the infant’s passive behavior elicits poor mother responses.” Restak points

out that studies that started out as a “search for the effects of malnutrition in the human development has turned into a study of the complex interactions of malnutrition, infant responsiveness and mothering.” Of the few basic points that authorities could agree on, he gives three (pp. 133, 134).

- One: During the last period of pregnancy and the first two years of life, the brain is most vulnerable to permanent structural and dynamic brain consequences resulting from malnutrition.
- Two: Chronic prolonged malnutrition is more likely to bring about permanent brain damage than shorter periods of inadequate nutrition. (He cites the children born during the Dutch famine of World War II, who show few effects today of the brief period of food restriction.)
- Three: The effects of malnutrition on the brain of developing infants have, as its most serious consequence, an alteration of healthy mother-child interactions. Psychological experiments have proven that it is the infant who, to a large extent, determines the quality of mothering.

What we have discussed thus far are the effects of malnutrition on the mothering process, which is a learned process and is not instinctive. But this could be extrapolated to any dynamic or phenomenon that interferes with this process, especially over generations—a phenomenon that results in an undeveloped or underdeveloped environment, or a social dynamic that leads to drug, crime, or poverty ridden environmental conditions for instance. The key point to be realized is that it will not be enough to simply reverse malnutrition (providing jobs can be seen as a method of reversing malnutrition, for instance); the mothering process will have to be re-taught as well, if we are to prevent the undesirable effects from continuing to occur in subsequent generations.

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In addressing these concerns, our individual and societal traits, as well as our environment, must be taken into account. For although we are born with

individualities, traits, talents, predispositions and potentialities, these are all shaped, enhanced or thwarted by the environment. Traits like introvertedness and extrovertedness are genetically predisposed and are difficult to alter, whereas traits like courtesy and prejudice are environmentally induced and can more readily be shaped. These examples serve to illustrate that nature and nurture interact to produce the total human personality. This is a well known and documented reality. The significance of nurture in this interaction is illuminated by Malson in *Wolf Children* (p. 24):

Man's genetic inheritance is quite formless until it has been given shape by social forces, yet the direction of these forces themselves may always be changed by the interaction of consciousness. It is as if the work of the environment in tapping man's hereditary reserves were itself controlled by the conception he has of it which is implicit in his existential choices. Heredity and environment are not two separate things to which human actions are added. They are not independent variables. They are rather two rules of a dialectic which, by giving form to a "total luminosity" brings into being the human subject.

In a civil environment, children are born into families that are segments of a societal cultural complex. The family itself is not just a set of shared chromosomes with similar biologically determined possibilities; it is also an educational and cultural milieu that is itself influenced by the larger societal educational and cultural milieu. Each people or group develops its own lifestyle that makes up this milieu that the individual members, sometimes reluctantly, take as a standard. The different societies are manifestations of the various historical choices and impositions, and are themselves expressions of mankind's basic creativity, ingenuity and machinations. From these societies people learn how to view and how to think about the world. From their societal environment they even learn what is good and what is bad; what is comfortable and uncomfortable. The research evidence amassed "reveals the importance of education in forming the two basic elements in man's personality—his intelligence and his system of values." Malson writes (p. 25), and further gives the following examples: "the Chinese have a liking for rotten eggs and Pacific Islanders will happily eat rotting fish. A pygmy will search for a fork in a tree to use as a bed, and the Japanese use wooden blocks for pillows." He relates another interesting example from the anthropological point of view of the Zuni and Kwakiutl

Indians who belonged to the same race but were separated on different reservations. “They developed completely different patterns of behavior,” Malson writes (p. 27). “The society of Zuni is quiet, peaceful, and serene. They have complex religious rituals which they consider valuable in themselves and they cultivate modesty, courtesy, and affability. The society of the Kwakiutl is strained, nervous and competitive. They despise rituals; preferring more ecstatic cults, and they encourage aggressiveness, rudeness and arrogance.”

Although human societies differ, there three universal human traits in the sphere of emotion that Malson cites Levi-Straus as having singled out: “the need for rules, the desire for reciprocity and the gesture of giving.” He explains further (p. 34):

Man in the first place, has recourse to rules in order to escape the “intolerable burdens of arbitrariness,” and he respects them simply because they are rules. Far from providing us with examples of the complete lack of order, primitive societies reveal on closer investigation the extent to which they depend on scrupulous observation of custom and careful attention to ritual.

In the second place, man always tries to establish contacts with other men which are governed by some sort of equivalence, if not of wealth, at least in his relationships. He does this ... because once he has realized that he is not omnipotent he tries to achieve equality with others, as it is “the lowest common multiple of all his contradictory wishes and fears.”

Third and last, by making gifts man ensures that the other becomes a partner at the same time as he renders the object exchanged more valuable. The gift is an expression of his sense of his feelings of both strength and fear. The ego is flattered by the sense of power which the excuse gives him, yet his own weakness forces him to use the gift also as a way of winning the other’s loyalty.

All three are in the end just different expressions of a fundamental desire for peace. And in attempting to satisfy it men devise systems of rules with which to replace the laws of the jungle. They are thus able to establish an order which is preferable at least to their destroying each other. Man’s development may well have led to a chaotic

profusion of different human types, but ethnological studies have cut through this apparently impenetrable thicket and revealed, beneath the manifest contradictions, the single path which man, unconsciously perhaps, attempts to follow.

What this amounts to for the purpose of our argument is the child inherits, as it's specifically human qualities, the ability to reason and the "recognition" of others. But these features ... singled out in the writings of ... sociologist and psychologists ... are really nothing more than the defining characteristics of man in society. The capacity for thought and the need for an *alter ego* both presuppose a cultural environment. (Emphasis theirs.)

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The preceding discussion provides some information that sheds some valuable insight on the role of the environment in the shaping of one's innate potential, as well as how one's intellect and acculturation undergoes its development. A particular emphasis is given to the presentation on the biological *time-clock* with respect to the mental development of our youth as this discourse continues.

"Man is only what he is made to be by his external circumstances," as Malson cites Itard in our summary of this discussion (p. 80). "He enjoys from the enviable prerogative of his species, a capacity of developing his understanding by the power of imitation, and the influence of society." And in his own words he concludes (same page): "But he cannot achieve this on his own. The lessons and examples which he requires are provided only by his human surroundings and by the magic of his surrounding relationships with others. Itard was right that, without education, there is scarcely to possibility of man, let alone the promise."

NOTES

1. See Restak, pp. 258-265; Rose, pp 198-202; Neubaerer and Neubauer, p.133.

2. Rose, pp. 199-201.
3. Rose, pp. 199-201.
4. Malson, pp 117, 143, 166 & 167.
5. Neubaerer and Neubauer, pp. 44, 45 & 28.
6. Restak, pp. 130-138