

Alycita

The View of a Young Child's World

By Hugh M. Lewis

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INTRODUCTION

NATURE versus NURTURE

and the EGG of the WORLD

Obviously, the present great differences in vigor and welfare between nations cannot be the result of differences in the performance of their elites but must be ascribed to differences in character of their masses. (Eric Hoffer 1973:59)

The first years of an infant's life have been well mapped out by child behavior experts and child-care authorities. Yet the exact how and why of the miraculous development from a blind helplessly screaming neonate into a little walking, talking, misbehaving child remains an unsolved mystery baffling the experts but delighting parents around the world.

Central to this mystery has been the question of how and why a child acquires its first language abilities at an astonishing, almost phenomenal rate, and transforms within a few too brief years into a competently speaking and acting human being. And central to this question, and to the whole problem of human development, has been the long-standing debate of whether such acquisition is more a matter of nature or of nurture. Is it by virtue of genetic inheritance and biological programming that a child's clock is set to invariably go off and necessitate the acquisition of her/his world competencies? Or is it by the exclusive virtue of social limitation, environmental enrichment and parental instruction that a child acquires and achieves development or not?

The question has been an important one, and has had a long history of philosophical, and later, scientific/humanistic debate. The 'tabula rasa' or 'blank slate' or 'erased tablet,' has been 'applied figuratively to the mind on which no impression has been made by experience, as the mind of an infant.' (Webster's Unabridged Dictionary, 1983) It was the Romantic Social philosopher Rousseau, who in reaction to the Encyclopedia salon rational enlightenment philosophers of his day, that we owe the conception of the 'natural' and 'unfettered' development of the child, in which social influence was deemed as interference. The debate has not been an exclusively Western one, but has had other Eastern style formulations upon whether human character was by nature good or evil--requiring either the intervention or interference of social authority. But the debate has also always had basic socio-political overtones and real world resonances in reform policies and the promulgation of social and educational ideologies, and it continues today, albeit, in a more modified and scientifically sophisticated manner.

A great deal of how we construct, and reconstruct, our world hinges upon how we answer this question. If nature is seen to be the governor of human character, then this belief can and has been used to legitimate 'self-fulfilling' social policies. Thus the rich are innately more achievement oriented and inherently successful because they have by natural right inherited their human superiority, while the poor are 'Nature's failures' who lack the inherent potential for development. This line of reasoning, when carried to its logical extreme, promulgates a faith in varying versions of social Darwinism--'selection of the fittest' was applied to social process in the same manner that it was afterward applied to natural process. The lot of the poor and miserable must not be alleviated as social evolution inevitably works to eventually weed out the unfit. Social evolution is a purifying process in which 'those not sufficiently complete to live should be allowed to die.'

It is not too difficult to see how this line of reasoning can be used to systematically discriminate and exclude certain categories of 'inferior' human beings. Blacks, women, homosexuals, criminals, alcoholics and drug addicts, all represent inferior or weaker classes of human beings left out of competition in the social market place. It is not difficult to see how it can be used to justify and legitimate certain educational 'tracking' policies that tend to channel from a very young age people into two different trajectories in their development. There are those geared toward reproducing the lumpen proletariat and then those promised to fulfill the ranks of the professional and elite priesthood. It is not hard to see how, given such a social policy, those who are born poor become socially pre-conditioned to remain thus, whatever their incredibly average character.

On the other hand, extreme commitment to the other line of reasoning, of the absolute blank slate and infant silly putty, has led those more rationally enlightened to crusade for radical socio-political reforms that possibly ignored crucial individual differences in human variation and the important role that nature really does seem to play in child acquisition. It led somewhat unwittingly to spurious utopian presumptions that proved no less harmful than those of the opposite camp. Certain restricted cultural, linguistic and cognitive codes were somehow incomplete or inadequate for the purpose of comprehending and successfully transmitting rational science and technology, and the 'gap' could be bridged by heavy doses of technical instruction in superior codes. The imperialistic presumptions of empowerment, and of bureaucratic, political economic encapsulations and enforced structural dependency within the capitalist world system, are not very deep beneath the surface of such extreme enlightenment ideology.

When you automate an industry you modernize it; when you automate a life you primitivize it. (Eric Hoffer 1973: 6-7)

The nature/nurture debate, carried to either extreme, seems quite unsatisfactory, and even, from a strictly intellectual point of view, unnecessary. Though today few worth their weight would take an exclusive either/or position, the basic contrast between Nature and Nurture remains today as important as ever. This is not just because social action requires the kind of simplifying illusion that can only be sustained upon the logical extremes of strong determinism. It is also because sophisticated scientific theory and jargon often obscures a predominant commitment to one or the other orientation in the guiding questions of research and publication, even though a 'mixed,' 'balanced' and bi-directional 'systems' causality is ostensibly professed.

A holistic perspective that views the problem as essentially an counterproductive hen and egg dilemma runs across the positivistic grain of modern scientific praxis which depends upon naturalistic observation, empirical experimentation and verification, and upon a correspondence theory of language descriptivism. With such a science oriented worldview, synthetic and dialectical models implicit in complex 'formal/functional' systems theory and in historical and biographical narrative fundamentally contradict an extremely analytical orientation aimed at reduction of the complex to the essential and universal. It remains more subtly important what is taken to be more primary and pre-determinative in the overall process, or whether nature or nurture is the strongest influence. Answers of this kind can still lead us in certain directions of research while possibly ignoring other especially vital avenues of understanding.

Nevertheless, the nature/nurture debate, cast in its tacit political frame, obscures more scientifically interesting issues of the exact role that both play in the shaping process that goes on during early human development and the crucial questions of critical concern are exactly how much and in precisely what ways. Scientific researchers can and have adopted fruitful and productive 'synthetic' research orientations to the problem of child acquisition. Consider the conclusive statements made by John and Beatrice Whiting in the classical 'Six Cultures' study. They mention the two prevailing views: 1. Whether children in all cultures have the same developmental processes and sequences, without significantly important differences in the rate of development: or 2. That culture affects child development in profound ways such that developmental sequences are incomparable across cultural contexts.

Our results indicate that both these positions, taken in the extreme, are false, but there is some truth in each...(Beatrice and John Whiting 1975: 174)

Like so many dilemmas involved in the understanding of human reality, there is no simple or straightforward way off the horns of Nature or Nurture. We are left, something like Humpty Dumpty, to sit somewhat precariously upon a fence, to make what sense of nonsense we will.

The issue of Nature and Nurture has been important for deeper and less obvious reasons. All societies that have some form of traditional institutional order and corporate cultural history that transcends the individual biographies of its members, are centrally engaged in the 'critical moment' of their own reproduction and cross-generational transmission. Not only does the adaptive success and survival of any society depend upon the success of its reproduction and transmission, but its progressive development, if it holds and puts into practice such ideals, also depends critically upon the same mechanisms of social reproduction and transmission. 'Only with the transmission of the social world to a new generation (that is, internalization as effectuated in socialization) does the fundamental social dialectic appear in its totality. To repeat, only with the appearance of a new generation can one properly speak of a social world.' (Berger and Luckmann 1966:61)

The relative success or failure of a society therefore depends centrally upon its ability to reproduce itself in its newer generation. This a lesson long taught by teachers, parents, child-care experts and children, but one which our Modern World Society, technologically based as it is upon the hyper-development of the

political- economic World System, has come to ignore. Technological development is being promoted, almost world- wide, at the expense of the promotion of human development. There is a sad and tragic trajectory in this for the future of our world society, as our children, and our children's children, will be inheriting a world that may be ill suited to meet most of their human needs.

Because non-relative measures of the quality of life have been next to impossible, it has been difficult to justify purely in economic terms the investment of social resources into improving the human condition that can be seen as a bottomless sink hole without tangible, touchable, material results. But there remains a very real formula that investing resources into human development is an indirect way of 'making more from less' and that continued exclusive techno-environmental-economic development is leading down the road of diminishing returns--of getting less from more.

It is with this larger political issue looming in the background that this work is written treating the problem of early human development. It is not a new problem, but it is the mark of the basic wealth of human reality that it has not, and will not soon, become an exhausted and infertile ground for discovery.

Language remains at the center of this problem, because it is primarily via language that the world comes together and things fall apart. Language is both our naturalistic handle upon human nature, and our window upon the 'seat' of human culture and cognition. Language, and its critical absence, expresses and reveals human thoughts, feelings, moods, values, attitudes, beliefs, of the individual's subjective world, as well as communicates information in the social coordination of practices and production. Language has the virtue, in spite of the inherent ephemeral nature of its broadcast transmission, of being quite amenable to scientific methods of analysis and study. It is something that happens as a discrete event of our senses, to which and from which general laws may be applied. Of course, in this work, unless otherwise specified, language will be used in the more general and comprehensive sense encompassing not only spoken and written forms of linguistic discourse, but para-linguistic, pragmatic, contextual, meta-linguistic and even 'non-linguistic' phenomena as well.

The purpose of this work is to promulgate and explore several of the dimensionalities of a basic synthetic theory that I have called organic human development that addresses the central issue of nature and nurture in the form of what I refer to as 'the primary acquisition problem.' Though the theory is synthetic, it nonetheless is not unamenable to analytical treatment of its various elements in relation to one another or as separate complex set of components, or in interrelation to the whole problem. This theory has not only important theoretical and philosophical implications, touching upon diverse fields of science, especially the intersection of developmental psychology, linguistics and cultural anthropology, but also has certain important teleological and ideological ramifications. The study will come to focus upon the life world of my own daughter, whom I shall call by her middle name Alyce, whom I know best of all children of the world, and yet as but one example among many.

Man was nature's mistake--she neglected to finish him--and she has never ceased paying for her mistake.
(Eric Hoffer 1973: 4-5)

[Chapter I](#)

[THE PRIMARY ACQUISITION PROBLEM](#)

Language was invented to ask questions.... Social stagnation results not from a lack of answers but from the absence of the impulse to ask questions. (Eric Hoffer 1973: 55-6)

The problem of the primary acquisition of language by children is an inextricable part of a broader problem of the primary acquisition of worldview and of cultural character by children within the native contexts of their earliest developmental phases. The primary acquisition problem refers to the development process of the child's whole world and worldview, unless specific reference to specific aspects of this problem are made, as for instance linguistic, cultural, cognitive or behavioral subsets. This larger, more general problem of primary acquisition has features of its patterning that are both relative products of nurture (psychologically, culturally, historically, linguistically, cognitively and normatively a part of the social environment) as well as aspects which can be considered to be structurally universal constraints of pan-human nature.

From a child's point of view, it makes little difference whether the development of cognition, language, socio-emotional well being or motor coordination can be technically considered to be parallel but separate processes, or that work in tandem with one another by taking turns. From the everyday world of a child, all of these aspects of development are inextricably bound up with one another into an inseparable bundle of things and their relations. Acquisition represents therefore a virtual Gordian knot. It is from this holistic perspective of the child's whole 'life world' that human development can be referred to as organic. To deprive or stem one or other crucial element of the child's organic growth and development is tantamount to the amputation of a limb or removal of one organ of sense. The child will rapidly grow around the acquired disability as if this disability were a natural aspect of its being and the child's life world remain in a fundamental sense forever sundered, incomplete and lacking in its developmental potential.

It is only for the sake of scientific study that we treat the child's development as if it were separated into distinct domains of physical growth, sensori-motor development, cognitive development, linguistic development, socialization, socio-emotional development of the sense of the self. From the biographical viewpoint, the individual child's development is always a veritable kaleidoscope of skills, actions, mistakes, utterances, emotions, interactions, and intentions.

The larger primary acquisition problem represents, therefore, a complex nexus of synergistically interacting sets of complicated variables. These can be divided for analytical purposes of scientific study into linguistic, cognitive, behavioral, psychological and socio-cultural components. These sets of variables interfunction in a natural and culturally coordinated sense within a kind of organic feedback system of the child's principal or effective environment. The development of each of the component sets are linked in many ways to the development of the child's whole organismic being and life world. The development of each of the traits is actually conditioned by the development of all other sets of variables and of the system as a whole. Acquisition therefore is a complex system of interaction of variables that are both natural and cultural.

This is perhaps an important lesson to be learned from the study of our children. Our everyday worlds always present themselves as is, as somehow integrated and as however willy-nilly, whole. Its analytical sub-divisions into different domains of understanding, such as psychological, linguistic, or cultural, are in part the residuum of our own mostly arbitrary analytical conventions and an important demonstration of the inherent limitations of our language in adequately representing our experience of the world. It is in respect to our children's worlds that we must learn to see them, hear them, and represent them in our scientific theories as they are and not as we decide to make them.

The great divide between nature and nurture, especially as this is focused upon the problem of early child development, underlies what has come to be known as the 'world view problem' that concerns the pathways of causality and determinacy of interconnections between language, culture, cognition and behavior. This has been at the center of both relativist and universalist arguments regarding the deep structural and surface functional uniformity or variability of the phenomenal patterning and organization of language, culture, cognition and behavior. As aptly argued by Del Hymes (1966) this problem in itself is

from a purely analytical framework, extremely complex, involving many different kinds of possible combinations and possibly much transpersonal and cross-cultural variation. The problematic of the relativity/universality of structure of worldview should nevertheless be most apparently evident in the differentials of patterning of the primary development of children, involving many variables of primary acquisition. It is in terms of the child's primary acquisition of language, culture, cognition and behavior that the worldview problem becomes focused in terms of discovering how these different domains of human experience become interconnected and interfunctional.

It is from this standpoint of the primary acquisition problem that the worldview problem can best be answered. In this regard the major theories of child development, of Sigmund Freud, Jean Piaget, Noam Chomsky, L. Kohlberg, L. Vygotsky, and M.A.K. Halliday, need to be reconsidered to understand the modern history of thought and research into early childhood development.

Sigmund Freud looms large in the background of thinking about child development. Freudian psychoanalytic theory, whether it remains correct or was but the predominant dogma of the day, must be regarded as a seminal theoretical contribution to the human sciences. It gave the world not only a new theory, but a new paradigm. It represented a whole new way of looking at the world that set the tone and the later direction for much subsequent psychiatric and anthropological research into the human condition. For a period, its cross-cultural validation and elaboration provided the impetus to many anthropological 'culture and personality' and social ethnological studies. Though the central tenets have been severely tested and criticized, largely because its central theoretical concepts are problematic and difficult to operationalize for scientific investigation, it has made significant contributions to the early study of child development. It has served to focus attention upon the principle that the early stages of child development, especially interrelationships between the child and parents or significant others in the formation of the child's self-identity and social conscience, may have major consequences upon the whole life of the resulting adult personality.

The classical Freudian tripartite structure of the human psyche into the superego (conscious values), the ego (self concept and conscious thought) and id (unconscious impulses), and the resulting dynamics of personality between the levels of conscious, pre-conscious and unconscious, remains an exemplary model and central tenet of scientific psychology. This schema is fit into the psychoanalytic theory of the psycho-sexual development of the personality and the central struggle of the id with the internalized superego and the resulting formation of the mediating ego. It involves a series of developmental stages, the oral, anal, phallic, latency, adolescent and mature. It is in terms of the interactions and influence of significant others that a child achieves cathexis, or a cognitive emotional loading of symbolically and linguistically expressed relations, and 'fixation' or fluidity of personality at each of the stages of development.

Freud related different kinds of adult experience anxiety as being the by-product of the lack of important experiences during the early psycho-sexual stages of development 'which failed to fulfill basic and psychological needs during the early stages of infancy.' Thus he distinguished between:

1. Reality anxiety that might be related to certain stressors or noxious agents in the environment.
2. Neurotic anxieties, or 'the fear that certain antisocial, sexual or aggressive urges will become uncontrollable and cause individuals to do something that will eventually cause them to be punished.' (Zaichowsky 1980: 182)
3. 'Moral anxiety' that is guilt or fear of one's own conscience and of being punished or persecuted for one's actions.

Inordinate restriction of early development during any of the critical psycho-sexual stages can result in the fixation of personality upon that stage and arrested socio-emotional development that shows up later in life as 'the return of the repressed.'

Later stages of this psycho-sexual development occurring during adolescence become critical in the formation of the individual's sexual identity, internalization of conscience, and ability to form healthy sexual relationships later in adult life. Young boys undergo an 'Oedipal conflict' that effectively sundered their strong bond with the Mother and results in the internalization of the sexual identity of the Father. Failure to resolve this oedipal conflict can result in an 'Oedipus Complex' in which the individual's gender identity and sense of conscience are incomplete or impaired. The result for males is a kind of 'castration anxiety' and for females there is a corresponding 'Electra Complex' in which the female becomes incapable of forming close bonds with males.

Like most psychological theories, its cross-cultural validation and research has yielded mixed and ambivalent results. As a general 'hypothetico-deductive' model it is still widely applied in revised and weak forms in explaining observed phenomena, (Ward Kracke 1978, Melford Spiro 1967, Ganath Obeyeskeere 1981) even though most of its components have failed to stand up to more rigorous cross-cultural testing (Richard Sweder 1979) and its near exclusive reliance in psychiatry has been severely criticized from several directions. (Thomas Szasz 1970, John Townsend 1979) In this regard, the association of orality and later development of personality has received some cross-cultural validation in the exhaustive 'Six Cultures' study by John and Beatrice Whiting, and its more sociologically oriented criticism has yielded important insights into labeling, stereotypes of mental illness, and the social construction of reality and the negotiation of power in psychiatric wards. (Irving Goffman 1961, Susan Estroff 1981) Non-Freudian theory has been fruitfully applied in psycho-historical studies (Erik Erikson ?), in studies of authoritarianism (Adorno 1950, Bettelheim 1950, Fromm 1947, Hoffer 1958) as well as studies in 'psycho- geography' (Howard Stein 1987).

Jean Piaget has been perhaps one of the most influential authorities upon the cognitive development of children. His interest in children appears to have been secondary, for he was really interested in how knowledge developed. To Piaget, what better way to study knowledge development than to study children. (Zaichowsky 1980: 87) Piaget studied the changing patterns of children's thinking quite exhaustively. Children have mental structures different from those of adults--'they have their own distinct ways of determining reality and of viewing the world.' (ibid., 87)

Cognitive development occurs in definite, fixed stages that are the same for all children, even though children vary at the rate at which they pass through these stages. Cognitive development is critically influenced by several interactive factors of maturation and experience with the physical and social world. Development is based upon two sets of biological constants. These innate constants are the organization of simpler cognitive processes into higher order mental constructions and continuous adaptation to changing environments, involving assimilation of experiences into the cognitive system and accommodation of the child's structure of understanding to environmental experiences. Cognitive development over the whole individual's life-span is a process of continuous balancing between assimilation and accommodation, a balancing process Piaget referred to as 'equilibration.' Equilibration provides stability to the child's world, where as experiential changes result in an imbalance and a lack of equilibration, resulting in a transition period in which equilibration is restored at a new level of cognitive organization. 'Whenever an individual is nudged further to more advanced thinking, the process of equilibration is going on.' (Maier 1978, in Zaichowsky 1980: 87)

Piaget applied the term schema to refer to the hypothetical constructs 'that Piaget sees as a cognitive analogue of a bodily structure.' (Zaichowsky 1980: 87) Early cognitive schemas of children are simply reflexive actions such as looking, hearing, naming, touching, but these eventually become transformed into schematic representations of actions or concepts. These later develop into more complex operational schemas involving such thinking processes as adding, subtracting, classifying, and ordering, and involving the cognitive manipulation of symbols. Operations are characterized as 'reversible thought processes; that is, they can be done and undone.'

Piaget divided cognitive development during childhood into several stages. The sensori-motor stage occurs until two years of age; the pre-operational stage subdivided into the pre-conceptual stage between two and four years; and the intuitive thought stage developed between four and seven years of age. The concrete

operations stage occurs between seven and eleven years, and finally the formal operations stage begins beyond eleven years.

Childhood cognitive development is constrained by the factors of attention, memory and logical thinking. Attention refers to the ability to orient, select and focus upon certain stimuli for sustained periods of time, and its range determines the 'effective environment' that the child attends to as opposed to the total environment. Young children attend to stimuli that are changing, discontinuous or discrepant but only for relatively short spans. The lack of attention is related to relatively poor registration and memorization of experiences.

Young infants rely mostly upon recognition, while recall memory is dependent upon language acquisition and develops later. In young infants both long and short- term memory are relatively restricted. Cognitive operation in the earlier stage is sensori-motor relying upon sensory experience and motor activity. Primary and secondary circular reactions are built upon primitive reflexes. They are the repetition of responses that tend at first to occur haphazardly and become built up into a complex set. Children then begin experimentation and exploration with their environment.

Children begin to use rudimentary symbols in the last stage of the sensori-motor period--rudimentary actions begin functioning symbolically. As children progress through later stages of cognitive development, their attention and memory grow, while logical thought processes pass through several stages, a pre-operational stage characterized by perception-dominated processes, transductive reasoning, and classification skills. The later operational stage of development is characterized by unidimensional classification skills, ego- centricism characterized by the de-centering of attention to attending to more than one object at a time, the use of recall strategies that are related to labeling and developing language skills. Logical thinking is characteristically concrete operational, moving away from 'specific to specific' thinking toward more symbolic manipulation. A child can perform multidimensional classifications, class inclusion, seriation or ordering of sequences of events, or transitivity and conservation. The formal operational stage is achieved with adolescence and is characterized by more adult-like cognition.

It is important to note that Piaget's stadial schema of childhood cognitive development remains open to much doubt and speculation. Various researchers have attempted to apply its principles in cross-cultural contexts, and it has been suggestive of an implicit evolutionary framework in which more advanced societies achieve statistically higher rates and percentages of cognitive development. More 'primitive cultures' are characterized by the lack of achievement of more formal operational thinking processes and possible fixation at concrete operational stages of cognitive development. Cross-cultural generality of Piaget's schema remains open to serious question, and brings in the doubt that perhaps his schema is more fitting Western literate cultural contexts. Its unrevised and whole hearted application to non-Western, traditional, semi-oral or non-literate cultures often begs the problem of how cognition, communication and different cultural systems and different linguistic codes rely perhaps on different cognitive models, orientations and operations than those scientific ones privileged by the West as markers of intellectual achievement. The invariant universality of Piaget's schemas runs up against the possibly ethnocentric and classical problem of the so-called 'primitive mentality.'

In the culture and cognition connection of the worldview problem, the central question is posed as to whether or not or how much social environments, especially composed of collective belief and behavior systems, or 'collective representations,' facilitate or retard the full cognitive development of human mentality. C. R. Hallpike was perhaps the most vocal example of primitive mentality. He focused upon the relative enrichment or deprivation of the social environment--the relative presence or absence of educational social structures that allow for the individual to complete innate stages of cognitive development. 'Primitive Mentalities' can be explained by the failure to complete these purportedly universal stages of cognitive development. The primitive mind remains thus childlike in form and function (recapitulating the 'ontogeny recapitulation phylogeny' principle of evolutionary development), and by implication the stages of cultural development must somehow be reflective of the purported stages of child development.

It seems to me that these considerations entitle us to place the evolution of the 'closed' to the 'open' culture in a more general framework of cognitive development, and that there are some resemblances between the evolution of collective representations and of cognitive growth in the individual. (Hallpike 1976: 267)

Piaget is noteworthy for his position upon the secondary place of language in the primary phases of cognitive development. Primary acquisition of cognition precedes and is independent of later language acquisition. As a child responds reflexively to its environment, she/he begins to imitate and become aware of her/his own behavior and of others, and with increasing intentionality begins to respond meaningfully to and explore her/his environment. The child begins internalizing experience and this is the beginning of its symbolic representation, and these perceptually derived internalizations form the basis of later language development, while the association of meaning with language comes later. Language thus reflects rather than determines cognitive development. 'This conclusion of Piaget's theory contradicts the Whorfian hypothesis about the linguistic determinacy underlying cultural cognition--the view that language provides the primary means for experiencing the world, focusing and predetermining the internal representations or thought about experience.' (Zaichovsky 1980: 107)

The work of Vygotsky has represented the attempt to bridge Piagetian view of language and thought with the Whorfian hypothesis. He proposed that thought and language have different origins and initially develop concurrently and independently in a 'pre-intellectual stage' of the development of speech and language, and a 'pre-linguistic stage' in the development of cognition. These separate pathways of development converge and eventually become interdependent such that 'thinking becomes verbal and speech reflects rational thought.' (Zaichovsky 1980: 107)

Piaget characterized thought and language of the pre-operational period as essentially egocentric--not intended for communication. It is repetitive and echoic, or as monologue and verbal incontinence. It is a kind of thinking aloud of the images of the child's thought as related to surrounding action, reflecting its experience and serving as a feedback mechanism to focus and direct subsequent interactions, but not relating in any way to the listener. Vygotsky assumed that the child was unable to distinguish between self-communication and communication with others, but in either sense assumes the presence of a listener. 'Thus, Piaget's egocentric speech is for Vygotsky inner speech vocalized for self-guidance in a social context. As the child matures, the monologues do not just disappear, they become internalized as inner (self guiding) speech.' (Zaichovsky 1980: 108)

Piaget's pronouncements upon the relation between cognition and thought in primary acquisition has been referred to as strong cognitive determinism. 'The facts of cognitive development are sufficient to explain language learning...' (Slobin 1985: 961) This is opposed to a weak cognitive hypothesis that holds that cognitive facts only partially explain language learning, and to skepticism whether 'cognitive facts promote, or determine or account for language in any way.' (Dore 1979: 129, in Slobin 1985: 962)

Noam Chomsky made an important contribution to the study of primary language acquisition by his hypothesis of an innate 'language acquisition device' seated in the human brain which governs the onset and course of child language acquisition and its syntactic generative capacity and creativity. Chomsky's focused upon deep structure underlying surface phenomena and tended to emphasize the linguistic competence of the 'ideal speaker-hearer' and to downplay the importance of performance. The child is with a built-in receptivity for the acquisition of the linguistic structure and competence of her/his primary linguistic environment. The child learns and analyzes the structural relationships of the language that he/she hears, allowing the generation of new utterances at increasingly sophisticated levels of linguistic competence. 'Linguistic competence (comprehension of the rule) precedes linguistic performance (expression of the specific linguistic form); that is, the child comprehends linguistic form prior to development of the maturational acquisition, from the emergence of the first word at 12 months to the basic mastery of the sentence form at 8 years, the child relies on an elementary expression of a more complex form.' (Zaichovsky 1980: 110)

Chomsky's seminal work Syntactic Structures stimulated a revitalization movement in American linguistics, giving direction for the surge of interest and research in psycho-linguistic theory, and providing a new basis for the study of cognition and learning. It usurped a long-standing behaviorist orientation that dominated thought on primary language acquisition based upon the model of child imitation or the adult ordered environment. Chomskian Structuralism viewed language as an innate, preprogrammed, biologically based universal competency that becomes triggered by environmental experiences. 'What children "learn" are not specific words and strings of phrase units but rather the rules that predict and regulate the patterns by which sounds and words sequenced, the forms that determine a word's function within a sentence (noun, verb), the restrictions of form and sequence (past-future tense, singularity-plurality, and so on) and the manner and potential of attaching meaning(s) to particular sound-word sequences.' (Zaichvsky 1980: 102)

While of original importance to the problem of primary language acquisition, Chomsky's theory has been criticized on a number of points. First, though several focal areas of the brain have been related to language function, the notion of a 'Language Acquisition Device' as the seat of universal structure of language in the brain has yet to be discovered. This in itself is of little consequence, except when it is coupled with the second criticism, that his theory privileges structural competence over the functional performance of linguistic phenomena. (Del Hymes 1971: 3-21) A structural emphasis upon the competence of the ideal speaker-hearer in a homogenous linguistic context is 'unilluminating' from the standpoint of the imperfect and partial competence of one child. Linguistic performance, from a structural standpoint, is primarily associated with imperfection. Structural linguistic theory is lifted from the problematics of socio-cultural factors influencing performance. There is allegedly an ideological aspect to this leaving out of performance and socio-cultural context (or 'semantics and pragmatics') 'that underlying linguistic structure is taken as an endpoint in itself and linguistic use is devalued.... The advantage of this is that by focusing on readily structured data, one can enjoy both the prestige of advanced science, as well as retaining the prestige of dealing with something fundamental to human life, in spite of ignoring the social dimension of use.' (Del Hymes 1971: 5)

If performance is reduced to merely the by-products of generative grammar, then linguists run the risk of excluding as irrelevant 'most aspects of speaking' that involve the contradictory notion of 'competence for performance.' 'Theory of language use have been fatally constricted from the standpoint of the communicative development of children...' (ibid: 11)

It is from this criticism of Chomskian structural linguistics that a more recent effort coming from socio-linguistic, as opposed to psycho-linguistic, research has attempted to take into fuller account the role of linguistic performance and of discursive communication in primary language acquisition, opting for an expanded and looser contextual view of the role of linguistic competence and the 'nature' of structure. M.A.K. Halliday emphasized that 'the capacity to communicate is present in humans from birth.' That is to say, a child is born genetically endowed with the ability to take part in acts of communication. 'All discourse is in fact interaction....' (1979:72) From this perspective, a pre-verbal child may not be able to communicate in terms of language, but is capable of engaging in non-verbal inter-activity, or proto-conversation. This 'proto-language' argument of primary language acquisition takes into fuller account the context of linguistic performance.

Typically, there is a time lag such that the child's ability to form semantic structures is always a little bit ahead of his power to create the appropriate grammatical structures that stand as the realization of these semantic structures...(Halliday 1979: 73)

From this systems structure standpoint, structure is primarily functional and surface, formed grammatically by the full realization in the moment of communicative enactment of the clause the several components of meaning simultaneously, intermediating content and expression. From the first moments of non-verbal interaction, a child is engaged not only in reflexive response to environmental stimuli, as hypothesized by Jean Piaget, but is also involved in 'intentional' enactments that are therefore also constitutive of symbolic meaning.

L. Kohlberg relied heavily upon the work of Piaget in his cognitive developmentalist theory of moral development among children. His theory relates sex role development by children to the gender labeling and identification of roles appropriate to their sex valuing and emphasizing aspects that are feminine or masculine, respectively, once the child reaches the concrete operational stage of cognitive development involving consistency in gender identity.

Kohlberg built upon the work of moral development by Piaget that proposed a two stage scheme of development from heteronomous morality that viewed rules as fixed and constant, and 'autonomous morality' in which rules come to be seen not as unalterable but as conventionally established and maintained by social contract. Moral development, according to Piaget, corresponded with the stages of cognitive development, and thus was seen as parallel and interdependent processes that resulted from cognitive development in interaction with environmental experiences. In the case of moral development, these environmental experiences 'allow people to broaden their perspective about authority. (Hoffman, 1970, in Zaichovsky, 1980: 141) 'A child needs to progress through the stage of perceiving authority as absolute to one of relativism or being able to "walk in another man's shoes" before making judgments.' (ibid: 141-3)

Kohlberg extended Piaget's work in a three-tiered, six-stage model of moral development, with two stages at each developmental level. These were the pre-conventional level, with stage one 'punishment and obedience' orientation and stage two 'instrumental relativist orientation.' This is followed by the conventional level with the 'good boy-nice girl' orientation, and stage four 'law and order' orientation and then, at least in theory, by a post-conventional or autonomous or 'principled level' involving stage five 'social contract' legalistic orientation, and stage six 'universal ethical principle orientation.' This stage model is based upon certain cognitive characteristics:

1. Stages are organized systems of thought. People are consistent in their level of moral development.
2. Stages form an invariant sequence. Movement is always forward, and stages are not skipped. This is true across all cultures.
3. Thinking at a higher stage includes within it lower stage thinking. (Kohlberg and Hershi 1977: 54)

People may function variably upon several levels at the same time, and individuals may reason morally at a next higher stage than at which they function. Children tend to reject moral judgments below the child's functioning level.

Kohlberg's theory is suggestive, and has been applied in cross-cultural studies to demonstrate that the moral stages are achieved sequentially across cultures, but at differential rates and end states. Many cultures, and most people, do not advance beyond the fourth or fifth stage. But different cultural orientations may promote fundamentally different moral worldviews, for instance rights- based versus duty- based orientations, (Richard Sweder 1991, Louis Dumont 1966) that leave the question of universal moral stages open to the speculation of cultural, value and normative relativity.

It can be seen from these several various important and influential theories about child development that the primary acquisition problem is a necessary precursor and logical outcome of the broader worldview problem. It is a problem in which the solution depends more upon one's theoretical point of view than upon the intrinsic nature of the problem itself. It has been studied from many different points of view. As Del Hymes perceptively noted:

One could point to several available models of language, Trager-Smith, tagmemic, stratificational, transformational-generative (in its several variants) and, in England, 'system structure' (Halliday 1964); ... and pick and choose, according to one's problem and local situation, leaving grammarians otherwise to their own devices. (1971: 4)

There is a necessary vice and potential virtue in both the complexity and inherent intentionality of seeing the primary acquisition problem as from the standpoint of the child's eye view as something like Humpty

Dumpty. It is a human egg that straddles a high fence between different worlds, working and playing with words to make them mean what we want them to, or to mean so many different things at once. Or we can choose the Lilliputian curse of the making war over which is the appropriate end to break our egg.

In conclusion, we are left to reconsider the cross-cultural research of Beatrice and John Whiting as fairly and faithfully convincing evidence that several important, interdependent factors--culture type, sex, age and target status--are involved in child acquisition. These factors were linked empirically in the determination of possible paradigms of social behavior that were held to be surprisingly similar and consistent across many different cultures. These paradigms could be ordered along just two dimensions of polar contrasts--'nurturant responsible versus dependent dominant' and 'sociable intimate versus authoritarian aggressive' (1975: 173-4.)

"Various positions have been taken as to the major determinants of a child's behavior...We suspect there is a grain of truth in each of these positions. In fact, we would add one more factor as possibly having some weight, that is, whether the child is a male or female." (Whiting 1958)

Primary acquisition will long remain a problem waiting to be solved because the promise of its solution is more than the mastery of the process of human development, but its potential for complete control. Perhaps it was the epitome of the Nature's cunning that she left humankind in such an unfinished and imperfect condition, for then humankind was provided with the most unproblematic means for the creation of its own conditions. Nature conferred upon humankind the potency for its own empowerment while at the same time making humankind without the power of nature.

Man started out as a 'weak thing of the world' and evolved 'to confound the things that are mighty.' (Eric Hoffer 1973:24-25)

PART II

ORGANIC HUMAN DEVELOPMENT

Nature attains perfection, but man never does.... It is this incurable unfinishedness which sets man apart from other living things. For, in the attempt to finish himself, man becomes a creator. (Eric Hoffer, 1973: pg. 3)

The problem of primary acquisition must be construed from a holistic and synthetic point of view as a single, organic developmental process of the child in interaction with her or his world, from which the components of language, thought, cultural values, social behavior and communication, and sense of biological being, cannot be clearly or sufficiently distinguished. The viewpoint of the primary acquisition problem entails a theory about organic human development that sees human development from birth to be relatively continuous throughout life, with a great deal of individual and cultural variability in the rates, ranges and expression of this developmental process. It is an analytical paradox that it may also nevertheless be characterized by certain critical transition periods and marked by many minor cycles of patterned, and perhaps serially timed, episodes of inauguration of new capacities and abilities, and by a few more-or-less major phases or 'stages' or gross growth, development and maturation. These developmental stages may be based upon the principle of 'stacking' more sophisticated traits and skills upon more rudimentary and 'primitive' abilities that must be mastered before more sophisticated expertise in interacting with the world can be learned and developed.

There are several crucial points about a theory of organic human development. The first is that the human being, from its first day in the world, is a social being who is not only aware of and responsive to the presence of care-givers in her/his environment, but is, even more importantly, interactive with and intentionally manipulative of significant others in its effective environment. The neonate's primary significant other is, of course, her/his mother, but as the child grows, many others come within the compass of the child's effectively significant 'life world' as a viable source of gratification and object of intense interaction.

The child is born endowed with a basic symbolic capacity, which, though undeveloped, is working from the start in processing and interpreting the world of her/his experiences in ways fundamentally qualitatively different from the life world of a dog, a cat, or perhaps even a chimpanzee. The human newborn is not a neonotous equivalent of a proconsul, and its capacity to smile, to cry, to babble, to notice, discriminate and touch objects with her/his fingers put it light years apart from the facial gestures and response patterns of any primate or Prosimian. (Leonard Williams 1977) The difference is clearly and simply demonstrated when my three-month-old daughter was clearly responding to some pictures of a children's book which was laid upon the coffee table, while the dog ten years her senior who was trying to muzzle in on the situation was apparently unaware of, and probably incapable of, recognizing the pictures, but was merely responding favorably to the human signals in her environment. This is just not a difference of degree, but of order, of awareness. From the Piagetian standpoint, the dog could be said to be primarily 'sensori-motor' in its instinctually derived responses in its human ordered environment, but my daughter's responses at three-months-old was clearly something more.

The primitive, undeveloped symbolic recognition capacity of the newborn human child is fundamental to the structural organization of the human mind, and forms the basis of all subsequent cognitive organization, no matter how sophisticated and formally complex in operation. The exceptionally long 'latency' period of infant dependency and primary childhood development is a necessary function of the evolution of this symbolic recognition capacity of the human mind. Symbolic recognition is a mechanism integral to human evolutionary development. The prolonged period of childhood development has been a necessary part of the 'coming together' of the human mind in a gradual process of waking up to the world and integrating a cumulative fund of experience relating to the 'effective' environments. Attention span and decentering, as well as multi-dimensional and serial and transitive cognitive operations, are the consequence of this 'coming together' of the child's worldview, as is the more sophisticated language competence. In this gradual development process, the growing fund of cumulative experience plays an unconscious, but decisive, role in the shaping of individual personality, in the realization of individual capacities, and in the accumulating fund of experience that we refer to as 'long term memory' and that is largely a function of age.

This basic symbolic mechanism in its underived form can account for all of the more complex cognitive, linguistic and motor-coordinating functions later in life. Complex social patterns and organizations of simple creatures like ants can be accounted for on the basis of the algorithmic transformations of a few basic functional characteristics. So also can the extremely complex cognitive processes and symbolic patternings of later life be accounted for in terms of the many transformations undergone by a few functional transform operators. These include the progressive development of basic orality, of 'emblematic pattern recognition' of basic word and word-string association, hand-eye and body motor coordination skills, improving vocal skills and voice quality. These are accompanied by continuously decreasing 'concrete presentational immediacy' of primary experience and increasingly sophisticated levels or widening spheres of stimulus generalization, affective displacement and consistency, conversation and visual-spatial proportionality, increasing transitivity, object constancy, increasing cognitive capacity for abstraction, symbolic representation, imaginary integration of different 'non-immediate' domains of experience. It is also accompanied by an increasing homological ordering of experience, reversibility, apperceptive awareness of the self as if an object in the environment, increasing awareness of the world of others, increasing orders of short term recall and long-term memory capacity. It is characterized as well by

increasing normative development of the individual conscience in an evaluative, ethical, decision making and 'reasoning' and growing 'sense of responsibility'.

The basic symbolic recognition mechanism of the human mind has several distinctive, panhuman characteristics. It is essentially emblematic and iconic in its visual modality, forming the basis of what can be referred to as emblematic pattern recognition. It is basically tonal in its aural acoustic modality, and it is 'synaesthetic' in its tactile modality. In its synaesthetic integration of experience it is capable of transforming the patternings of experience from one modality into another. It is structural dichotomic, and from the standpoint of its basic design, is constituted by an essential 'duality of patterning' which is verbal/nominal, or analogical/homological or paradigmatic/syntagmatic, or temporal/spatial, in its structural patterning. Finally, its evolutionary ground can be said to be constituted by what can be called certain 'prototypical' basic forms, shapes, sounds, sensations, which are fundamentally 'organic' and thus are embedded in the very capacity for human's to experience their environment in a symbolic sense. These prototypical forms are hand sized, face shaped, arms length, human proportioned 'objects' which can be found to recur naturally in many environments.

The development of these basic symbolic pattern recognition capacities of the human mind is characterized by its growing ability to discriminate details. It is marked by the capacity to recognize complex patternings, to generalize these basic patterns to a widening range of different, similar experiences, and, most important, to reproduce and represent these symbolic patterns in a variety of ways. The long moment of human culture history can be seen as a kind of interference and superimposition upon these basic, innate capacities of the human intellect. It was made possible by the implicit pause of its culture-bearer's protracted development and the human infant's basic world-openness. This on-going process of cultural interference in human development has as its long-term consequence the development of art, of writing and literacy, and of civilization itself. Given the evolutionary origination of these rudimentary basic human capacities, sophisticated technological civilization was only a matter of time and chance.

Language has always been an inextricable, and perhaps therefore, inexplicable, part of this process from its first inception in the history of humankind. Emblematic symbolization is characterized by the basic word association with an image or icon, that is first spoken and then more abstractly written. It is this basic emblematic word association-Mama's face, Mama's breast, Mama's touch, Mama's soft sounds-which has made human language, unique in nature's kingdom, so strongly implicated with primary human development.

Likewise, there are possibly certain inherent personality orientations, affective predispositions and temperament types, as well as fundamental panhuman needs, that characterize the wide arc of human possibility and account for much of the individual differences and variations within cultural groupings. These differences become taken up thematically and ritualistically by different societies in different archetypical configurations or patternings of culture. These basic predispositions of personality are rooted in the physiological and psychological being of the individual, and constitute the clay that becomes worked on and subsequently shaped by the moulding forces of human experience.

Language, and the acquired symbolisms of experience, become incorporated into the child's very being, deposited in the layers of growing tissue in the body, embodied organically by experiences as much as in experience. Thus, from the beginning, language takes on a naturalized, native presence in the life world of the individual-an intrinsic, organic element of the individual's being. As it becomes naturalized in the child's life world, it takes on a basic force, a power, and a presence in that world which is akin to the power of instinct. Indeed, it is the possibility of human possibility, of human unfinishedness and biological indeterminacy and incompleteness, which makes possible this deep intrusion and interference of social and cultural realities in the life world of the child.

Culture historical processes and patternings are superimposed upon this basic process by virtue of its developmental incompleteness, and symbolisms are in turn constrained in fundamental ways by it, and its externalized representations are an expression rooted in its organic nature. Thus the human size and shape

of the civilized world is an indirect function and permutation of this organic development of the child, and its basic symbolic forms and functions derive their power and their primary from this organic developmental process.

Several other characteristics of the primary acquisition problem are related by organic human development. First, it is a social psychological process that involves an environment of interpersonal interaction, communications, transmissions and constructions and which also becomes open to the possibility of destructive and distorting patterns of development). Indirectly, the growing expertise of the child in her/his world constitutes a basic parameter of the degree of secondary socialization and social institutional organization, which is, affectively and symbolically, a kind of surrogate extended family. When society does become more 'multiplexly diverse' and organically compartmentalized, it must do so in conjunction with the basic parameters of organic human development. It cannot violate these parameters without doing damage to its own social development and reproduction.

Thus, primary socialization and native enculturation is to be seen as an indirect function of organic human development. Culturally constructed realities become internalized in the process of primary acquisition as if these were naturalized, inextricable and integral components of organic human development, and organic human development constraints in certain basic ways the range of possibilities and potential perversities of primary socialization and enculturation. The young child may be a 'tabula rasa' at the mercy of its culture historical situation, but it is one which had a definite organic size, shape, consistency and capacity.

There are two interrelated points about the native acquisition of culture, language, cognitive orientation, in the primary acquisition of WorldView. The first is the organic source of the experiential formation of the sense of self, of uniqueness, difference, identity and individuality in the world that is rooted to the very ground of the symbolic recognition mechanism. This brings with it an intrinsically symbolic sense of self-cognition, and this gains its individual expression and uniqueness by the shaping forces of biographical and wider historical experiences. The uniqueness of voice, of personality, or character, of expressive style and emotional tenor, are all bound up by the many diverse experiences which simultaneously and paradoxically separate and unite us, around the organic center of our original being.

The second point is the purpose and vital importance of play in the interpretation and incorporation and mediation of our experience. If humankind is distinguished by its language capacity, it is also to be characterized by its richness and preoccupation with symbolic play behavior by which the sense of self comes to shape and know itself in the world.

It is the unfinished possibility of our natural being, that our capacity to learn, to continue to develop psychologically, emotionally and cognitively, even though our body has grown old and brittle, is to be found. The function of play in mediating this lack of boundary between our being and our world is to be seen in the inability of children to distinguish, in their naïve innocence, the difference between reality and fantasy. The symbolic fantasy world of the imagination encroaches continuously upon their everyday worlds, always crowding out and competing for space with the adult pretensions of reality. It is the continuing and persistent need for both play and fantasy long into adulthood which distinguishes humankind by the richness of its cultural symbolism, its mythology, its rituals and celebrations, its superstitions and illusions.

The concept of basic orality is part of organic human development. It concerns the fundamental, innate ratification which humans have in satisfying their needs for orality-for evocation, for intonation, for eating, for speaking one's thoughts and for making oneself heard in the world. Hearing our own voice spoken in the world can both a pleasurable and empowering experience, as hearing the voices of others can be similarly gratifying or frightening, empowering or depowering.

It has been a matter of some speculation the extent and kinds of attachment of drives, feelings, dependencies, anxieties and thoughts that to our basic orality. Basic orality can be seen to be working away as an illocutionary and expressive discursive conversational apparatus of our everyday world, even in

highly literate societies and in linguistically sophisticated circles. The conversational apparatus has been posited as essential for the maintenance of once sense of subjective plausibility and identity is social reality. 'The most important vehicle of reality maintenance is conversation. One may view the individual's everyday life in terms of the working away of a conversational apparatus that ongoing maintains, modifies and reconstructs his subjective reality....' (Berger and Luckmann 1966: 152)

The importance of basic orality is evident from birth in the babbling and cooing of the neonate—a continuous, daily oral play that never ceases until it develops into full-blown language. Basic orality continues to retain its central importance throughout life—it becomes the primary means of maintaining one's psychosocial sense of self-identity and status-role identity, vis-à-vis the many others of one's world. Code switching/mixing, different speech styles become pragmatic strategies in the control and empowerment of one's sense of self in the world. Words texture the subjectivity of our realities. The inter-subjective plausibility of one's primary psychological identity can hinge crucially upon one's ability or failure to master a certain preferred style of speech or to acquire competence in a particular argot or to effectively switch codes in the appropriate way at the appropriate time.

Humans are inveterate creatures of habit—we establish for ourselves in our day-to-day life-worlds many kinds of habitus within which we can feel comfortable and ordered. Children very much reflect this facet of human nature. They fit quite comfortably into the routines that the adults establish for them, and from the earliest stage, establish for the adults a routine of their own—sleeping patterns, feeding schedules, playtime, crying time, which may be quite out of synch with the adult rhythms.

Children come to expect their routines and expect that their rhythm be met on demand—they are rarely as compromising as adults in this matter. They know their bath times after dinner, and the morning play time with Daddy before he is out the door. They expect their milk bottle as they fall off to sleep.

But the first acquired habits and routine are never set in stone, and they do necessarily have a long lasting or deep, irreversible impact upon the child's character. They can be interrupted, interfered with and altered quite frequently and drastically, and children as a whole are quite flexible and resilient to the changes—much more so than their parents. In fact, it is possible that young infants begin making 'rules' for themselves—prototypes of behavioral 'structures' to come—which they then must inevitably break for want of fit or adequacy with the environment. The efforts of the child in establishing her or his many daily practices and regimens in 'effective,' everyday life-worlds can be construed as strategic and tactical attempts to cope with the unfamiliarity of the new. The immensely complex adult world—attempts which no doubt lead to frustration, sometimes punishment or negative reinforcement, but by which the child teaches itself important object lessons in what works in the world and what doesn't. Even if they work, such practices soon lead to boredom and disinterest, and soon become displaced, either buried over in the growing unconscious of the child, or simply discarded. The child, often unlike the adult, rapidly moves on to other, more interesting involvements.

It is in such a manner that a child acquires a skill in ordering the world, and relations with the world. The make sense of experiences of the world and feelings about the world, and learn as well how to continually test and retest the world, to explore and examine it, and to validate, verify or disconfirm their rudimentary theories and ideas about it. The natural inquisitiveness, innate wonder of the new, love of novelty and endless quest for attention and interaction with their world, is what makes childhood such a special and unique time of life.

It is possible that humans have an innate need to superimpose cognitive, even linguistic, order upon their life worlds. They need to seek that order and consistency in their experience and in their environment, because they do not have it imprinted or ingrained in their own biological programs. Because nature endowed them with a marvelous mind, it took away the innate habits of instinct. In their biological insufficiency, and insecurity, they seek comfort in acquiring naïve habits that become tried and true, which become internalized as if naturalized parts of their being.

As much as humans must play with their mouths they must also work with their hands. Idle hands make mischief and children's hands are seldom idle. Children touch everything and anything without regard. Their fingertips are the extension of their developing dendritic connections of their brains, exploring everything in their environment in a very literal sense. What is their effective environment can be defined in a very direct way as being everything in their world that comes within their fingertips. It is not enough that children must see their world, but they must feel its shape, its texture, and its substance. There is an important connection between their experimenting with their mouths and their exploring with their fingers. This is directly demonstrated in their natural tendency to put everything they can touch and hold directly into their mouths—a capacity that can, from an evolutionary ethnological standpoint, only have evolved under intensifying adult supervision.

A child learns to coordinate the experimental words of his senses. They put together the world of sound with the world of sight, to bring the eye into alignment with the mouth as well as with the hand, and to bring the hand into alignment with the mouth. These are early important achievements of the first sensor-motor stages of development. This is not only because human beings are among the few creatures to eat with their hands, or to make and generalize the use of tools, or to have evolved a complex aural-acoustical system of language, though these too must have been early prerequisites of primeval human development. It is also because they are critical experimental channels in the connection between the brain and the rest of the world. They have become the principle means by which humans have arrived at the organization of their brains. If we are to search for the broken up molecules of proto human instinctual 'FAP's' then we must find their residue in the earliest reflexes of grasping, suckling, crying, which all infants exhibit in first response to the world. It is these basic retarded reflexes that become worked and reworked into supremely sophisticated pattern recognition and pattern creating devices that are under the direct supervision of the conscious willpower of the mind. It gives us the ability to deliberately say the things we want to say, to make the things we want to make, and even to see and hear the things the way we want.

The brain itself, including its sensory organs as the environmental extension of the body into the world, must be seen as the emblematic symbolic recognition, recall and creative device par excellence. The complex nature of the patterns which the human mind picks up, produces and practices arise from the fact that they are intrinsically multi-modal and thus multi-purpose. They become symbolic because by their very organic structure they cannot but help bring something which stands for something else, something which can be generalized and put to a wide variety of uses.

In human experience, objects that can be seen, can be touched, and can be named a name that can then be called out to attract the attention of others. Not only can the objects be touched, manipulated and molded or pulverized, but also they can be tasted and tested with the teeth. And so goes the evolution of human development.

There are several major events in a person's life time—events upon which the biological survival of the individual organism, and of entire species, depends. In a very real way, the biological components of human development are organized around these events, in the order in which they fall. This natural ordering of these life events may be a general case in which ontogeny recapitulates phylogeny—the order of these events occur in the same order, and perhaps in the same proportionate time spans, as these facets were acquired evolutionarily by humankind in general.

It seems obvious that the first, most important event is conception—for humans a problem of conception which entailed year round sexual receptivity and a fairly frequent, continuous estrous cycle.

The second major event in a person's life is being born—a major moment in any and every individual's experience which the whole body and being in the womb is geared around. A nine-month gestation period, a relatively large head, and the heavy parental investment in the whole pregnancy entail that this event must be made to go smoothly and on time. The couple of months of the neonatal period can be seen as the recovery of both the baby and the mother from the trauma and difficulty of the event—the mother heals and regains her strength, the baby's legs begin unfolding and its head falls back into shape.

The next major event is the cutting of the first teeth, which signals that the infant can now be weaned from off the mother's breast to more solid foods.

The next major event is learning how to walk, and it seems that the first two years designated as the sensori-motor period are actually oriented around the organism acquiring the ability to walk upright and to then master this skill in its exploration of the environment.

The next event, or problem is the acquisition and perfection of language-this is something which requires several years to bring to maturation, and which is accompanied by the development of other, perhaps related skills-drawing, using tools, writing, reading, simple cognitive operations, dressing, tying one's shoes and playing simple organized games.

The next major event is the onset of puberty at adolescence and with it, the sometimes abrupt initiation into young adulthood-a phase of inception marked in most societies by some kind of rites of passage and the superposition of certain sex related taboos. This is a period when the body goes through some fairly rapid and major changes, the result of which is the irretrievable loss of youth, and with it, the loss of innocence and ignorance of childhood.

Then comes the problem of forming a family, and with it, biological reproduction-with the conception of a new generation, the cycle is complete, except for the new parents who must continue to struggle to survive while 'raising' their children into adulthood.

The final, biographical event of an individual's life is death, and this is an event, if natural, which the body begins preparing itself for with advancing age.

The later the event, the more and more socio-cultural and historical processes encroach upon its development and expression. Events that form a biological standpoint, though necessary and important, become nevertheless decreasingly marked by biological constraints. Cultural process steps in more and more in place biological control, even to the point where man made machines are implemented to sustain the life of a body that would otherwise be lifeless. It is in terms of these events, that human biology and culture, that nature and nurture come together in the single purpose of development and evolution. It can be seen as well, that it is in the critical early phases of primary acquisition, that the processes of nature and nurture have the greatest overlap and the greatest contention for control over development.

The entire primary acquisition problem can be seen as the progressive development of the individual's life world, as a two-way process of environmental extension of the organism's experiential sense of the world in increasingly wider spheres of interaction and inter-influence. It is a means of increasing degrees of 'experiential embodiment' of the environment into the organic identity of the individual.

This suggests an absolute base line for the measurement and comparison of different individuals, as well as varying cultural contexts in the degree to which the individual's life world becomes developed--its extensive range, its intensity of involvement, and in terms of its basic health and disease.

Organic human development, in a non-threatening and controlled environment of trust, security, object permanency, perceptual constancy and enriching stimulation, will produce a healthier life world. This is in absolute and qualitative terms fuller, broader, more organically complete, and in a socio cultural context is relatively unmarked by threatening interpersonal relations, spurious interactions, insecurity, object transience and perceptual disruption and deprivation.

To the extent that a great deal depends upon affective, emotionally expressed relations of the organism with its environment, this affective component of organism-environment interrelationships is integral to experience which is also cognitive and conatively expressed. In this sense, an environment involving negative cathexis will tend to retard the organic development of the individual and to restrict it in certain

'dysfunctional' ways. To the extent that affective attachment or cathexis with the environment is either neutral or positive, in the sense of being developed in an atmosphere of basic trust and security, then human organic development will tend to be immanently induced to its 'natural/normal' ranges of its effective life world.

This suggests an absolute normative basis by which to compare the effects and consequences of different culture historical contexts by the degree to which they nurture and develop the individual's life-world, or to the extent that they tend to frustrate, hinder or distort its development. Different cultural pathways may lead to the same general consequences in the organic development of the child-although inducing alternative characteriological manifestations. Organic human development may be more fulfilled in naturally primitive contents than in more civilized, technologically equipped environments. In terms of basic organic development we must view the benefits of our technological civilization with decidedly mixed results-the tyranny of natural selection sometimes replaced by the tyranny of the machine. We can only regard with grand ambivalence modern necessities' like cars, airplanes, and television that extend our effective life worlds by certain exponential orders and yet with superimpose greater constraints in other, more natural ways. A social structure based upon the differential designs of well developed individual life worlds--a mosaic of oddly shaped and differently sized components--is much stronger than one which is founded upon the mechanical principle in order to achieve a high degree of social organization, stratification, specialization and centralization.

On the other hand, historical evidence reveals that great achievements of civilizations occur during particularly enriching periods during which culture historical processes tended to cultivate and promote the development and expression of individual's life worlds in certain critical, stylistically distinctive ways. 'It is the mark of a creative milieu that lesser people can become the instruments for things greater than themselves.' (Eric Hoffer 1973: 53)

Of course these are basic truths that have been reiterated by schoolteachers for generations. If you want to improve society, then you must improve the individual. With such a dictum, we can refer to nurturing environments that cultivate individual organic development to its fullest potentials of expression, and of spurious, alienating environments that tend to deny, stem or frustrate such development.

You dehumanize a man as much by returning him to nature-by making him one with rocks, vegetation, and animals-as by turning him into a machine. Both the natural and mechanical are the opposite of that which is uniquely human. (Eric Hoffer 1973: 6)

PART III

THE BLACK BOX, LIFE WORLDS, and TOTAL CONTEXTS

A plant needs roots in order to grow. With man it is the other way around; only when he grows does he have roots and feels at home in the world. (Eric Hoffer 1973: 51)

Trying to look into a child's inner world, to figure out how his cognitive and linguistic mechanisms work, is a little like looking into a black box that emits no light except that which is refracted through our peep hole. The black box of the primary acquisition problem remains essentially locked and closed to our techniques, no matter how scientific, to get inside. At best, we can only make hypothetical inferences based upon consistent and continuous observations of responses and interactions which are always environmentally expressed and directed, and even then, the power of our inferences remains always quite limited and ultimately depend upon implicit premises which must remain themselves unsubstantiated.

It is something of a paradox that from the child's point of view the big adult world must seem equally opaque and indeterminate. But it is not so much an inherently impenetrable black box; so much as it is a confusing complex world of seeming contradiction and 'noisy' nonsense which nevertheless has an influence upon the child's life. The adult world is not so much a black box as it something of a total context that always surrounds the child's world like a vast impenetrable forest. In the experiences of the child the adult world always presents itself as a full-blown realization of possibility-mediated only perhaps by the caring hands of proximate adults. It always surrounds and impinges indirectly upon every waking experience of the child—a background which it must somehow successfully figure out and come to terms with, and from which it must configure some sense of order.

The paradox of the adult's Black Box and the child's Total Context is that while the interested adults are trying to unlock the secrets contained in the box, to figure out its contents and how it works on the inside, children are simultaneously trying to wrest the secrets from the adult-built context, to make sense of its constraints and to figure out how to make it work for themselves. Because both processes are occurring simultaneously in opposite directions, there is often mistaken understanding in the meanings and interpretations which both children and adults give to the worlds of the other. Adults read into the child's reactions to its context those signals actually reflecting from the world, as if these signals were emanating from the black box, and the child is reading the constraints and freedoms of its adult-ordered context as if they were the natural cues of its own inner being.

It is in this way that we can speak of the child's natural psychological 'personalization' of the greater world around her/him, as if it were an expression of its own inner being. Developmental cognitivists have called this, the child's egocentricity of orientation that the world centers around the gratification of its own sense of being. But this kind of interpretation must be seen as a supremely adult view cast into the inner shadows of the black box. Adult's around the world, and especially in the achievement oriented West, are no less, and probably much more egocentric than the young child.

What the adult is actually observing in the child's behavior is its attempt to make sense of the adult imposed world in the organic terms available to the child's own being. The black box is working in the world by the immanence of the child's organic sense of being into the larger world. The child 'glows' with life, curiosity, naïve interest which becomes cast upon the objects of the world around her/him, at the same time incorporating those elements which it can effectively, affectively, cognitively and linguistically as well as behaviorally, 'personalize' as an organic extension of its inner experience.

What the developmentalist mistakenly calls 'egocentrism' in the child is actually the child's natural organic need to subjectively animate the world around it, to displace upon the world its own inner sense of animation upon the world. The adult version of this same process is referred to as a 'fallacy of anthropomorphization' and 'over-emphasis.'

The child's personalization of the world around in terms of its organic sense of self is paralleled by the adult's contrapuntal tendency to 'personify' the child's inner world as if this were the extension or

reflection of the adult's own world. Personification comes with the adult's need to identify with the child in terms that are appropriate and meaningful for the adult. It involves the 'fallacy of mistaken identification' and 'misplaced concretization' in which the child's individual identity is assigned adult-like attributes of the adult's sense of identity and difference in the world. Depending upon the prevailing attitude and orientation of the adult, the child can be transformed into either a little animal or monster or into a young achieving adult.

Both processes are innate psychologizing tendencies of organic human being. They are processes which are preeminently, personally 'symbolic' and that involve the necessary 'projection/repression' of the sense of self upon the world of significant others. The child naively projects upon the adult world the raw attributions of its own native animation, while the adults unwittingly, but less innocently, project onto the child their own ego conflicts and values.

It is because there is a boundary between the black box and the total context, and more generally between 'nature' and 'nurture,' that the mutual processes of organic personification and ego personification become possible. They are projective 'veils' of illusion that reinforce the sense of boundary between adult and child worlds as much as they are mechanisms that help to penetrate the veil. As Gregory Bateson so aptly describes in his metalogues with his child, adult 'models' are children's muddles, and adults 'muddles' are children's models.

The boundary between reality and fantasy for the child is perhaps too fluid and incomplete, whereas the same boundary for adults can become too rigid and too complete. The important part of becoming an adult is to achieve some degree of closure and structure between the worlds of imagination and reality, to strengthen the boundary between them, and yet the possibility of both worlds always remain throughout life.

The child's world remains in a fundamental sense a mystery of the imaginary world that is in critical ways a reversal of our own world. Children's worlds are ones of anti-structure, of liminal transaction, of continual play, that becomes increasingly punctuated by the ritual routines of age and experience, by the acquired habits of growing up in an adult-ordered world. We adults come only then to superimpose back upon their worlds our own sometimes spurious sense of order and meaning that is not so much generic to their own understandings of our world as it is a reflection of our own understandings of their world.

The two worlds of the child and the adult come together in the 'no man's land' of what can be called the 'effective' significant 'life-world' of the child. This is the intermediate realm between the 'black box' and the 'total context' in which the child attempts to establish its own sense of 'habitus' in its experiential environment, and in which the adult attempts to impose its own sense of order upon the incomplete organic character of the child.

The life-world is all that which is part of the wider 'total context' which comes within touch of the child's organic experience, and it is those pieces of the 'black box' which becomes touched by the adult's sense of order and presence. The child's life-world can be one of quite unnatural conflict and confusion, or it can be one of natural integration and development. It can be enriched or deprived by both the adult and the child.

The child's life-world is more importantly an 'inter-actional' world that is fundamentally social and in which things get done one way or another. It is a meaningful world, informed by the communicative bridge between the child and the adult. Needless to say at first it is an intensively personal world occupied by both the child and its principle care takers. As it increases its range of extensiveness, it becomes increasingly impersonal-either safety neutral or threatening, but less and less a consequence of the child's organic personalization of the world. As the child's character also matures it becomes less and less the consequences of the adult's own personifications-it increasingly gains a sense of independent self-consistency in the world.

Many psychological dilemmas and difficulties of adults have their source in the incomplete self-consistency of the organic being of the individual. These are personality characteristics of significant dependency, of inability to form impersonal object relations with the wider world, or to extend the self into the wider spheres of the social world, and of a consequential sense of fundamental, organic inadequacy or insufficiency of the sense of self. They become the wellspring of irresolvable anxieties, fears, guilt, shame, feelings of incompetency, insufficiency, inferiority and a generalized sense of 'persecution' or threat in relation to the environment. They are what are referred to as 'ideas of reference' that represent the continued childlike fantasy world of basic organic personification into adulthood. The incomplete adult remains an overgrown child acted upon, and reacting to an adult world which it cannot make sense of, instead of an actor in an adult world willing and able to personify many different roles and models in the world.

The source of this incomplete identification, internalization and individuation in human development must be seen to come from what amounts to an 'ineffectual' life-world. It is one that is unable to mediate the boundary between the black box and the total context, resulting in the general lack of integration between the two worlds of fantasy and reality, childhood and adulthood, and a continued perseveration of separation between these worlds.

Furthermore, the ineffectual life world, must be seen as the general failure of the child to establish its sense of self in the adult like world and as the failure of the adult world to incorporate itself into the organic being of the child. This failure can come from the negative reinforcement of the withdrawal of love and attentiveness, and of a lack of deprivation of care, interaction, and affective and cognitive involvement. It also can stem from the disruption of the adult context, from the threat of punishment and actual realization of abuse and victimization of the child, from older siblings and children as much from impersonal significant others and alienating adults. This is a pattern that is naturally and continuously resisted by the black box, by the natural organic development of child which seeks what it needs-the love, attention, care, play, stimulation, whether it finds it or not, or makes the most of whatever it finds.

The continued frustration, aggression and dependency of adult character can be seen as an organic and symbolic quest for childhood fulfillment of its natural development in ways and in contexts which are no longer appropriate in any adult world. The consequence is one of the 'structure of the conjecture' and of the long run, depending more on the persistency and continuation of negative factors which cumulative build up in the experientially based unconscious of the individual until it comes to have a decisive influence in the adult's life-world.

Given the appropriate contexts of an effective life world, the child's development can be expected to continue naturally to its normal organic conclusions.

As previously mentioned, it is not difficult to see how the problems of the adult generation can be visited upon subsequent generations, and how the unconscious of the child can represent the 'return of the repressed' for the unconscious of the adult. Via life-worlds, adults transmit to their children many of their own dilemmas of incomplete or frustrated socialization. Such transmission can form a virtually unbroken chain that extend through several subsequent generations such that children are socialized into a primary world with problems and hang-ups whose historical origination may be traceable to an earlier epoch that otherwise has no bearing upon the present world. It is this chain of the 'historical unconscious' of the individual which educators, psychotherapists and social reformist attempt to intervene in and to break to give children a new lease of life.

There is in this theory of organic human development a viable solution to the understanding of the dilemma of culture historical relativism of worldview and values. Organic human development offers the possibility of a panhuman baseline by which to measure relative fitness of development of the life-world--its health and disease in a social milieu, and the possibility for its 'cure' and prevention.

There is also a sense in which the 'total context' of a wider world above and beyond the effective control of the adult care-giver critically impinges upon the child both indirectly by its influence upon the significant adults and more directly, and covertly, by its direct impingement upon the effective experiences of the child. In this way, larger historical events come to influence and be expressed in the development of the children who inherit these historical circumstances. Larger social influences may occur like 'wave patterns' at a general level beyond the discrete, day-to-day conscious recognition of the individual, come to have a cumulative influence upon the child.

In such a way, broader social cultural processes of assimilation or segregation, of imperial conquest or bureaucratic colonization or bureaucratization, as well as processes of modernization, acculturation or social movements of revitalization, can come to have a shaping influence upon the character of the children of its historical moment. The attitudes of four years old or younger in regard to race, embodiment of feelings of ethno-racial inferiority or superiority, or of religious or cultural difference, have been well-documented in cross-cultural studies. (Ellen Goodman 1957, 1968, 1969)

It is possible to refer to a 'cultural inferiority complex' and of sub-cultural value, ideational, linguistic, and behavioral complexes of 'codependency' that have an historical origin. These may have a critical role to play in the formation and character under the subordination of white cultural dominance, or of lower caste character under subordination or Brahmanic or higher caste control and manipulation of symbols.

In India, caste identities and rules are heavily emphasized parts of the culture of early childhood. It has been reported that 'Every child imbibes caste prejudice before he takes his first steps. Never does he permit himself to be touched by one of the sweeper children. If in an unguarded moment he runs the risk of pollution, he is snatched to a zone of safety by a big sister or brother.' (Ellen Goodman 1969: 41)

The development of a relative effective life-world as the experiential expression and environmental embodiment of organic human development is critically tied to what is referred to as the process of primary socialization and enculturation of the individual. This involves the internalization of cultural value orientations and conventional worldviews, the identification with significant others and with the sense of group boundary consciousness which mediates social relations in a larger world, and upon which the transmission and reproduction of culture depends.

Primary socialization and enculturation are to be seen as inevitable by-products of development that is constrained in critical ways by the wider total context. Primary socialization takes place in contexts that are ultimately beyond the control of the child, and this inevitably makes its fact of internalization and primary identification 'native' and naturalized in the character of the child. Without choice, the child must accept the life world mediated for him/her by the significant others. 'The child does not internalize the world of his significant others as one of many possible worlds. He internalizes it as the world, the only existent and only conceivable world, and the world tout court.... Primary socialization thus accomplishes what.... May be seen as the most important confidence trick that society plays on the individual-to make appear as necessity what is in fact a bundle of contingencies, and thus to make meaningful the accident of his birth.' (Berger and Luckmann 1966: 135)

It is by this means that the culture historical force of tradition comes to impinge upon the unconscious character and worldview of the individual, and how it is that so much of character becomes 'conventionally' cultural. What amounts to the conventional weight and indirect constraint of traditional values and customs comes to mold individual character and consciousness in crucial ways.

It must be noted that the processes of socialization and enculturation in the organic development of the individual are never really finished, and that the human, as a bastardized creation of both culture and nature, remains in a perpetually unfinished state. This is both the eternal source of human ambivalence and paradox about the world, and a source of human creativity and possibility the potential development.

Freudian theory that posites the tripartite structure of personality, as the formation of the ego as a mediator between the internalized conscience of the superego and the deeply unconscious impulses of the id, can be seen as the expression of the formation of the effective life-world of the individual in mediation of the boundary between the black box and the total context. The effective life-world can be considered to be the conscious and pre-conscious experiential awareness of one's significant environment, the sense of 'ego-identity' and 'ego reality' that mediates between the subjective and objective worlds.

Similarly, Piaget speaks of equilibration of the child by which growth is achieved in a balancing between processes of accommodation of the internal character of the child to the outside constraints and assimilation of elements of the world into the child's character. The sense of equilibrium and the transactions that accompany its dialectic of change can be seen as the balancing act of the child's effective 'life-world' in the mediation between the incorporation of the total context into the organic development of the child, as well as in the extension of the black box of naturalness into the wider world.

The effective life world of the child must be seen as the formation of the consciousness of the child, and of the child's unconscious character, in the mediation between nature and culture, the black box and the total context, subjective internal and objective external realities. It is this 'world view' of the individual that exhibits its own topography of meaning and differential salience or significance of value in the world. Consciousness is the expression of the effective life world that grows in ever widening circles and even deeper dimensions with accumulating experience of the total context and acquired expressiveness of the black box.

The life-world is in a precarious state of balance. The consciousness is a symbolic mechanism for the mediation of change in the world and of the organic being, and for maintaining the sense of equilibrium and balance. What is referred to as 'secondary socialization' can be seen to be the superimposition of the largely impersonal total world context upon the character of the child, and what is known as 'primary socialization' is largely the expression of the organic development of the 'black box' in the external world. It is the occurrence of discrepancy between these processes, and the resulting asymmetry of identity occurring between them--that the relative sense of imbalance and lack of ego identity occurs.

The formation within consciousness of the generalized other marks a decisive phase in socialization.... Society, identity and reality are subjectively crystallized in the same process of internalization. This crystallization is concurrent with the internalization of language..... It must always be produced and reproduced in actu. In other words, the relationship between the individual and the objective social world is like an ongoing balancing act.... (Berger and Luckmann 1966; 133-4)

The differential consequences of assymetry between primary and secondary and internal and external realities are variable in expression, resulting in different kinds of psychosocial profiles of biographical character. Similarly, the encounter of discrepancies later in life that conflict with primary socialization tends to relativize and transform one's fundamental orientation in the world, possibly resulting in full or partial 'alternation' or 'conversion' of personality.

In the balancing between these two worlds, there is an ongoing dialectic between nature and culture that is intrinsic to the human condition and 'manifests itself anew in each human individual'. Social reality and organism interpenetrate one another in important ways, especially in terms of nutrition and sexuality. For the individual it unfolds from the primary phases of organic development throughout life in a 'pre-structured' culture historical context. 'Externally, it is a dialectic between the individual animal and the social world. Internally it is a dialectic between the individual's biological substratum and his sociality produced reality.' (Berger and Luckmann 1966: 180)

Sleep must be seen as a biological need. It is a temporary return of the organism to nature, a relapse to the surrogate womb, which is often illustrated by the fetal postures of those who sleep. Sleep represents a temporary and important suspension of the critical consciousness of the brain, and withdrawal from one's

original life world, allowing the possibility of recuperation and restoration by the end of the day, or disturbed by events which radically disrupts one's ability to maintain an organic sense of balance.

Depression, as an organic form of regression, 'in service of the ego' is characterized by sleep induction and conscious disorientation and lack of drive or motivation. Marginal events can precipitate minor or major episodes of depression, and a lack of symmetry rooted in one's past can be the source of continuing and unmitigated depression-so deeply rooted that sleep fails to accomplish its normal function of restoring a sense of balance.

Dreaming must be seen as an internal reflection of that process of symbolic mythologization and rationalization by which we mediate our boundaries between the inner and external worlds, between reality and fantasy. Conscious mythologization is a process of symbolic mediation of this boundary that holds the culturally superimposed realities in control of the biological substratum of the unconscious. It is an attempt to reinforce the horizon of reality by systematically and symbolically circumscribing the realm of fantasy. In sleep, reality gives way to fantasy in a kind of unconscious anti-structure of the consciously ordered and symbolically mediated reality.

Levi-Strauss identifies the dual structure of the nature of mind that he claims is panhuman, and which underlies and informs all mythology by the same set of dichotomously contraposed symbolic oppositions between nature and culture, which becomes effectively mediated by intermediate forms. We must see human mythologization of reality as the working away of the symbolic mechanism of the organic mind-as the way in which the organic sense of being imposes order upon normal experience-an order which becomes reversed in dream states, the relaxed anti-structure of conscious overdetermination.

Language must be seen to be at the center of the mediating process of the effective life-world--it allows the embodiment of experience and the environmental expression of organic being. 'It is language that must be internalized above all. 'With language, and by means of it, various motivational and interpretative schemas are internalized as institutionally defined ... Finally, there is internalization of at least the rudiments of the legitimating apparatus; the child learns 'why' the programs are what they are....' (Berger and Luckmann: 135) It is via language that experience becomes symbolically mediated and deposited as experience in memory, and which gives shape and textuality to the topography and operation of consciousness.

As such, we may refer to a natural organic symbolic logic found in all language, in its ability to recognize, order, make sense of and define experience. This organic logic of language must be found rooted in the organisms innate capacity for language acquisition, and must be reflected in the socio-historical conventions and surface patternings that all languages must take. This structural logos of language in its symbolic mediation of experience and formation of the effective life world of the individual, is the basis from which all other more formal cognitive operational systems are derived. The capacity for and structural symbolic organization of language arose on the basis of the emblematic symbolic mechanism in organic human development, and as such it must be seen as an integral part of the mediating function of the child's effective life-world.

We must see the possibility of ineffectual or frustrated organic development of the individual's life world as reflected by and related to the occurrence of linguistic pathologies that result in conflicting, self-contradicting sets of signals. It arises from the possibility of deception that comes with the prevaricative function of the linguistic validation of experience in the life world. There arises in language the possibility of the double bind and the possibility of a signal referring to itself on both the lexical and the meta-communicative level, or of contradicting each other on both levels.

In this sense, the aesthetic, integrative aspect of poetic language is seen as the reverse of linguistic pathology, bridging the two levels of the lexical message and the relational, meta-linguistic message, and of the past and the present, in a meaningful way which leads to a kind of 'understanding' that is the opposite of the 'misunderstanding' of pathology-bridging the expressed message from the black box and the relational constraints of the total context.

...Many...have argued that the imagination is an aspect of language, or at least 'structured like language'...It is obvious to us all that we imagine constantly, waking or sleeping, yet it is very difficult to get at our imagining and examine it, and it takes considerable skill and confidence or wildness or naivete' to brush aside the conventional to speak from the imagination...(Ernest Becker 1979: 213-215)

It is important that a general theory of organic human development, and about the primary acquisition problem, is primarily synthetic and nonanalytical. Any attempt at scientific analysis in order to discover the order of contents inside the child's black box is liable to be destructive of the a priori sense of order of the box. In unlocking its secrets we run the risk of disturbing its contents and losing forever its original organization.

It seems more important that a scientific understanding proceed with a systematic analysis of all that is not in the black box, in order to recognize all those attributes of the adult world which become reflected by our attempt to represent the mysteries behind the veil of childhood. In a similar way it is important that a child begin its natural 'analysis of the total context of the wider world by learning to distinguish all those things which are the fantastical illusion whose origin is in its own black box of organic being.

Somewhere between the two worlds, there is an important convergence of consciousness and language in the formation of an experientially embodied, environmentally expressed 'effectively significant' life world. Our scientific understanding of the child's world, and the child's aesthetic understanding of our adult world, must somehow come to terms with one another in this 'no man's land'. This life world is an on going phenomenological process of organic development that nevertheless carries with it an inner sense of an evolutionary past, and an extrinsic sense of a historical past. Science comes upon the phenomenological, hermeneutical horizon of its own linguisticity in the attempt to understand the developmental life world of the child.

There is a critical sense in which science is an adult defined and adult ordered way of understanding, noticing, constructing human reality which becomes particularly inappropriate when applied in an unmodified, and unselfconscious way to the attempt to understand the inner world of the child. Science typically construes the world and world view of the child in adult like ways. The way the child makes sense of and goes about ordering its experiences may be for this reason relatively intractable to the analytical techniques of scientific observation, inference, and experimental hypothesis testing-especially in the earlies, 'proto linguistic' phases of a child's primary acquisition. In an opposite way, the child may go about making sense of the adult ordered world in a way anti-thetical to science, in an inherently 'nonscientific' way. It may, like magic and myth, be an important precursor to science, in the way that it explores, names, tests and validated its experience of the world-and yet the rigid boundary between the real and the false is not there for the child. Its growing awareness of reality comes almost by default, by accident, when its childhood symbolic models runs up against and becomes defeated by unexpected constraints of the adult world. But maybe this is the essence of genuine science after all.

It is just as important to remain childlike but not childish in our adult representations of reality, as it is important that children learn to become 'adult like' but not 'adultish' in their organic sense of order in the world.

We find it hard to apply the knowledge of ourselves to our judgment of others. The fact that we are never of one kind, that we never love without reservations and never hate with all our being cannot prevent us from seeing others as wholly black and white. (Eric Hoffer 1973: 82)

PART IV

ANTHROPOGENESIS, CREOLIZATION and

IMAGINARY DINOSAURS

Due to the imperfection of man's instincts, there is a pause of faltering and groping between his perception and action.... Both iron discipline and blind faith strive to eliminate the pause of hesitation before action, while the discipline that humanizes and civilizes aims at widening the interval between impulse and execution.... Art humanizes because the artist must grope and feel his way, and he never ceases to learn.
(Eric Hoffer 1973: 5)

Theories about the emergence of humankind, or 'anthropogenesis,' broach one of the most central and important problems of general anthropology. Many such origin stories have been elaborated, but the genuine facts and general truth about actual human beginnings remains a grand mystery which will never be known with the degree of certainty that strict versions of science demand. Anthropogenesis is the 'black box' of humankind's own primary acquisition of culture and language, before time itself.

Because anthropogenesis is such a black box, its theory tends to be the stuff of dreams, legends and the mythoi of our collective consciousness. It has become the favorite target of our deepest projective fantasies and rational fallacies. It is easy to make rather ridiculous or far-fetched claims that seem to make sense because evidence of any kind, circumstantial, supportive or counterfactual, is largely, and probably permanently absent. Anthropogenesis has become the stuff of dreams, the origin mythology of our scientifically secular modern age, happening to explain in one form or another how we arrived at what we are today--the rational civilized creatures capable of both so much good and so much evil in the world. Its siren's call has been the hapless fate of many blind leaps of faith. Its answer has helped to close the gap between our social consciousness and our own deepest, innermost nature. It has helped to abbreviate the gap between conscious thought and instinctive reflex.

All radical social movements need some kind of ultimate origin myth to justify and maintain its closing of consciousness to the openness and unfinishedness of the human condition. Transforming such mythoi into a linguistically logical, social construction of collective conscious simplifies the universe for social solidarity and social action. It is the stuff of illusion that Nietzsche recognized as being so important for human action--as ideology it is the antithesis of real truth.

The fallacy of such origin mythology, framed in however a scientific terminology and ideology, is that of retrojective explanation--the so-called functionalist fallacy of explaining the purposes of the past in terms of the functions of the present. It is the fallacy of on 'post hoc, ergo propter hoc' or of believing that an occurrence which follows another must somehow be its result (homologous or derivative evolution) whatever the other intervening variables may have actually been. In symbolic logic, this is known as the fallacy of 'modus tollens' or of inferring an antecedent from a consequent--a principle that is supposed to apply to the so-called pre-logical 'primitive mentality.' 'Primitives are undoubtedly prone, as much as, and possibly more than civilized beings, to the fallacy of post hoc, ergo propter hoc.' (Levy-Bruhl 1926: 73)

Anthropogenesis and human origin mythology in general, however substantiated by the reading of well-reasoned texts into the fossil evidence (as fragmentary and punctuated as it is), must always run up against a horizon of evolutionary and scientific history in general. This is what might be called the principle of critical absence, or of 'missing presence'--something anthropologists have been renowned for. It is the principle of inferring a probable presence from a definite absence-to bridge the enormous gulf of imaginary possibility between the always encompassing unknown and the always encompasses known. In our stories, we can never be quite sure enough if something important is lacking from the picture-when just a few pieces of the jigsaw puzzle are firmly in place.

Most thinking of anthropogenesis follows a certain symbolic structure which refers to a core complex of primarily anthromorphic characteristics or traits which are seen as prerequisite to culture and to the development of civilization--the origin of these characteristics are held to explain the origin of culture. Often one or another of the traits are separated out and put as primary before the others, as evolutionarily predominant-but all are unusually fit together into some kind of evolutionary dialectic or cybernetic interdependency. Was there a prime mover to the form and function of our nature/culture models or is it better modeled as a systemic, multi-variate model? Did it come in a long, gradual series of small steps or in one quantum leap of a biocultural miracle?

In this thinking, human hands beget tool invention which in turn beget tool differentiation and generalization begetting tools-to-make-tools to transform the natural environment and to extend artificially material culture, in turn leading to tool manufacture/industry begetting a long teleological railroad track aboard Leslie White's Quantum Train toward an energy affluent technological civilization.

There is, alternatively, the tongue-mouth-ear connection that begets human aural vocal gesturing begetting a tremendous capacity for human social organization begetting in turn full-blown orality begetting ideographs and syllabaries. These beget in their time reading/writing alphabetic literacy, begetting public printing and mass media, begetting electronic media and T.V. Imperialism begetting the age of computer based information technologies.

There is the brain-hands-mouth connection begetting increasing cerebral capacity, begetting greater symbolization, religion, art, the wheel, and fire, begetting more sophisticated civilization and bureaucracy, leading to the modern nation state and the World System.

There is a distinctive complex of physiological traits-bipediality, partuition, for a big headed infant, prolonged infant dependency and learning, begetting social relationships, the beginnings of institutionalization, exchange and 'law and order' leading to the modern morality of consumption/production.

Though suggestive, all such structural-functional models of human evolution, of anthropogenesis, are cyclical beginning with a simple origin point in a long sequence or chain of oscillating cycles that grow wider and become increasingly complex and convoluted. Such basic models often beg the questions of the first acquired characteristics or the history of culture, and beg accountability for how function exactly interrelated with form to produce culture. This is related to formal-functionalist thought in socio-cultural anthropology. Malinowski believed socio-cultural forms and functions were isometric with biological forms and functions-Culture in general is isomorphic with and explainable in terms of the structure of Nature. In this chain of reasoning for transitive connector is human nature. 'It has been said that for Malinowski culture was a gigantic metaphorical extension of the physiological process of digestion.' (M. Sahlins 1976: 4)

These models depend upon the dichotomization of Nature and Culture--the great divide--that becomes then the role of their great indeterminant intermediary, human nature to synthesize and transcend. Human nature becomes some kind of mechanical 'motor' driving human evolution-some kind of 'evolutionary engine' underlying the development of culture. The formal functional structures of society and culture history have evolutionary analogues that explained in terms of the adaptation of human nature.

These models are all based on an organic analogy--as they suffer other informal fallacies of reasoning--anthropomorphism and overemphasis--functional and formal homologies between animal behaviors and human behavior, smuggling in certain importantly tacit propositions about the culture of animals and the nature of human culture. War becomes territoriality, leadership dominance, marriage sexual competition and aggression sexual agonism, and insect societies have queens, castes, and workers and warriors. Such isomorphism between form and function is based upon the presupposition of a direct, evolutionary causal, linkage between biological predispositions and socio-cultural constraints. Ultimately, in actual anthropogenesis, there is no way of knowing if form and function are even homologically related. Such models suffer other fallacies of over signification or reductionism, and of inferring a probable cause from a possible correlation. We must remain cautiously skeptical of the social implications of the 'natural' determinisms of socio-cultural 'Biologism'. 'Between Aggression and Vietnam...Biology offers us merely an enormous intellectual void.' (M. Sahlins 1976)

'What is inscribed in the theory of socio-biology is the entrenched ideology of Western Society; the assurance of its naturalness, and the claim of its inevitability.' (Sahlins 1976: 101) Like the 'Hobbesian vision of man in the natural state', human evolution inscribed in 'naturalistic' terms becomes the origin myth of Western Civilizations. 'It is remarkable,' Marx wrote to Engels, 'How Darwin recognizes among beasts and plants his English society with its division of labor, competition, opening of markets, 'invention' and the Malthusian 'struggle for existence.' (Morris 1983)

Adam Smith produces a social version of Thomas Hobbes, Charles Darwin a naturalized version of Adam Smith; William Graham Sumner thereupon reinvents Darwin and Society, and Edward O. Wilson reinvents Sumner as nature. Since Darwin the movement of the conceptual pendulum has accelerated. Every decade, it seems, we are presented with a more refined notion of man as species, and a more refined species of 'natural selection' as man. (M. Sahlins 1976: 93-4)

It is in light of this sobering and somewhat disillusioning critique of our anthropogenesis mythoi that a credible conception of our human origins is necessary to our sense of universal order, purpose and destiny in the natural world. We must make a review of a rather controversial and interesting theory in linguistics which connects in an interesting kind of complex the natural origin of nature, the universal rise of creoles from pidgins, and the hypothetical innateness of children's primary language acquisition. This theory has become known as the 'Language Biogram Hypothesis' as advanced by Derek Bickerton. Bickerton makes his argument on the basis of a restricted definition of a rather exclusive class of creole languages that meet the following two conditions:

1. Arose out of a prior pidgin that had not existed for more than a generation.
2. Arose in a population where not more than 20% were native speakers of the dominant language and where the remaining 80% was composed of diverse language groups. (Bickerton 1981: 4)

It is in these special cases where the actual origin of a full-blown creole language is datable to a certain historical base line period spanning not more than a single generation. In these cases there is a polyglottal social situation of great complexity, and the pidgin performs the function of a lingua franca mediating the structural relations between different members sharing the same social situation. The time span is held to be too brief for the pidgin to develop into a 'stable, systematic, and referentially adequate language. (ibid: 4) Immediately prior to the emergence of the creole language, there existed a 'highly variable, extremely rudimentary language state' (pg. 5) which has been referred to as a 'jargon', a 'pre-pidgin continuum' rather than a 'developed pidgin language'. 'Since none of the available vernaculars would permit access to more than a tiny porportion of the community, and since the cultures and communities with which those vernaculars were associated were now receding rapidly into the past, the child born of pidgin speaking parents would seldom have had any other option than to learn that rudimentary language, however inadequate for human purposes it might be.' (ibid: 5)

Everywhere else in the world it goes without saying that the parent knows more language than the child; here, if the child is to have an adequate language, he must speedily outstrip the knowledge of the parent. Yet every study of first language acquisition that I know of assumes without question that the more general situation is universal; every existing theory of acquisition is based on the presupposition that there is always and everywhere an adequate language to be acquired. (ibid; 5)

It is claimed that in such situations that the children must somehow invent the syntactic rules and semantic categories for grammaticization, and a set of 'formal devices for the expression of such categories.' (Dan Slobin 1984: 209) It is held that this represents the evidence for the operation of the 'Language Biogram'-a biologically for innate language acquisition that is, in Bickerton's terms, 'highly modular and species specific cognitive devices' and 'equally modular and species specific processing component.' In other words, in such complex situations, children naturally invent the creole language based upon and derived from the Language Biogram. This argument is further supported by the fundamental, near universal structural similarities of all creole languages which fit the same criteria of inclusion. 'It defies belief that a language formed by the leveling of several substratum influenced versions of a pidgin should exhibit the degree of identity that will be illustrated with languages so diverse in their origins, all of which must have evolved in a similar manner; the odds against this happening, unless some set of external guiding principles was conditioning the result, must be fantastic.' (Bickerton 1981: 17) The Language Biogram hypothesis finds further support in cross-linguistic research in child language acquisition which reveal that 'some formal devices are more accessible to early learners than others'. (Slobin 194: 209)

Careful and detailed analysis of instances of both precocious and delayed acquisition, however, suggest that additional factors may also be at work. Eventually, studies of characteristics common to creoles and cross-linguistic patterns of acquisition will provide a more precise definition of the biogram (or what I have called, more broadly, the 'language making capacity'). (Dan Slobin 1984: 209)

Bickerton's "LBH" theory must be contextualized against an historical background of the study of creole languages. This study has seen the advancement of several different kinds of hypothesis grouped under three basic headings: the 'universalist hypothesis;' the substrate, 'monogenesis' hypothesis; and an 'acculturative-diffusionist' hypothesis that imposes universal constraints of socio-cultural interaction and the genesis of new languages. The substratal monogenesis theory holds that creoles result from the confrontation of two linguistic systems-'the native languages of the colonized groups and the dominant colonial language,' (Muysken & Smith 1986: 1) and that the native language leaves traces upon the common linguistic substratum of a 'reflexified Portuguese West African pidgin or an even earlier Mediterranean Sabir as the genetic ancestor of all present day creoles.' (Glenn Gilbert 1986: 16) 'The maritime spread of creole languages along the tropical coasts exploited by the Europeans facilitates the substratum and family tree explanations of creole language similarities (ibid: 16) The 'acculturative diffusionist' hypothesis holds that the critically determining factors in creole formation are similar socio-cultural structural constraints in the contact situations imposed upon people of different culture historical and linguistic backgrounds.

The 'universalist hypothesis' is an 'essentially acquisitional and biological hypothesis' based upon universal psycho-physiological laws operating in language development and acquisition. This hypothesis includes Bickerton's LBH and 'maximally unmarked core grammar' hypothesis, and 'has always been an attractive alternate explanation for creole universals of simplification and otherwise'. (Gilbert 1986: 16) Particular grammatical properties of creole languages reflect universals of human language capacity, which is held to be either Chomskian, Bickertonian LBH, or a 'functional pragmatic' view. This view has it that fully developed, historically rooted languages have accreted a great deal of surface 'noise'- 'that ordinary languages are burdened with a tremendous amount of irregular structure left over from historical change and that this has overridden the original innate properties....' (E. Woolford 1984: 211) Creole genesis involves the shedding away of 'the accretions of language history' (Mysken & Smith 1986: 1) and its simplified structure provides a critical revealing 'moment' of the underlying 'universal grammatical program.'

Bickerton's LBH, 'in its modern form, it carries heavy overtones of Darwinian evolution and of the explanation initiated by Mendel and De Vries of the transmission of inherited genetic traits.' (Gilbert 1986: 17) From this standpoint, it bears resemblance to revised scientific socio-biological arguments by Wilson and Lumsden about the genetic hardwiring of the templates of human culture and social behavior (1983) in the form of 'epigenetic rules' and of recent gene culture coevolutionary models linking the origin of language to genetic distribution by Cavalli-Sforza and M. Feldman (1981: ?) and more elegant, 'system's oriented,' 'dual inheritance' models (Boyd and Richerson 1985) which carries strong 'genetic behaviorism' overtones.

The LBH theory has been criticized on a wide variety of grounds-relevant here is to delineate its broader connections to evolutionary theory. A pre-Darwinian evolutionary typology of language incorporating creoles was based on a view which regarded creoles as derivative of rather than retrograde to the syntax of Romance or Germanic languages. Such a schema consists of a chain of primitive languages leading to polysynthetic languages leading to inflectional/agglutinative languages leading to analytic languages leading to patois-avance's, from which creoles are derivative. (Gilbert 1986: 21) This view holds that the grammatical reduction is an evolutionary advancement, rather than the reverse. A proposed Darwinian typology of language is a cyclical feedback chain in which natural development of languages leads to complex, heavily marked settings which in turns leads to creolization resulting in 'simple' grammars which in turn leads back to natural development of greater complexity. This model views creoles as essentially retrograde 'throwbacks' to an earlier stage of human language. Regression is not only possible, it is inevitable...

...Creolization is seen to offer a precious window onto the early stages of language. Following Haeckel's dictum, it should apply equally well to phylogeny and ontogeny-to the development of language in human prehistory and to its development within the infant first language learner. This is exactly what the LBH proposes. (Glenn Gilbert 1986: 22)

Bickerton's theory implicitly regards creoles as a throwback to an earlier stage of language development in human evolutionary development. This argument has very strong biological and genetic implications for the acquisition and social articulation of language.

There are a number of objections to such an evolutionary universalist approach to language acquisition and development. Most important of these objections are that they necessarily leave out a great deal of history, both the deep pre-history of the original development of 'proto language,' and the more recent histories of contact and acculturative change. They must be necessarily reductionistic of what must actually be extremely complicated multi-linguistic/multi-cultural social situations.

To defend the thesis that a substantial portion of the grammatical structure of existing creole languages was created by children drawing on their innate language capacity, Bickerton attempts to show that there was no other possible source for these languages, such as a pre-existing pidgin or contact with other languages. This is a difficult task since there is so little historical documentation on the formation of creoles...(E. Woolford 1984: 211)

In regard to social complexity, the central objection to the LBH is that it obscures the socio-historical and linguistic process underlying the rapid transition from a pidgin into a full-blown creole. It is difficult to imagine the possibility of a community of speakers, however restricted, that has an 'insufficient' linguistic code, or for that matter any adult language speaker whose grasp and performance of a code, however reduced, is less than competent or insufficient to the purpose of community sharing and existence. What is more likely and commonly the case is that in such situations adults are engaged in certain 'code switching/mixing' strategies based upon a limited knowledge of a foreign, but dominant language.

The functional dominance of a language, even if it is promoted and well represented by only a small minority of speakers be somehow less linguistically competent than the child learners, allowing the child's innate capacities to fill in the gulf. It seems likely that what the children learn to become are expert code

switchers and a kind of permanently 'fused' bilingual which can be seen to result from the relative lack of formalization of the grammatical codes. Functionally dominant linguistic codes are also likely to be more formally crystallized and codified than various local dialects and vernaculars. Adults who are less than competent in the dominant code are likely to rely upon other codes for the major purposes of everyday life. Their children acquire the dominant linguistic codes through 'diagonal transmission'-a kind of indirect osmosis of the total context which goes mediated by the primary significant others in only a partial and incomplete way, forcing children to seek, and find, the alternative, more or less available, and functionally predominant codes. The linguistic fusion that becomes the creole is a by product and direct consequence of the asymmetry and linguistic discrepancy which is the result of the partial primary acquisition of either codes, and the latter developed performance/pragmatic strategies which seek and find a balance in the situation.

This kind of argument is extended and derived from studies of primary socializations and cognitive development-the discrepancy between primary and secondary languages, institutions, identities creates incomplete primary socialization and acquisition which opens the possibility for multiple subjective realities under the aegis of a single biographically objective culture historical reality. This supports one important criticism of LBH, that the biologically based 'linguistic equipment' is probably available to be used for a variety of different tasks, 'without being specific to any particular one of them. The devices used in language are also involved in more global (and evolutionarily prior) tasks of cognition, memory and perception. Our goal is to elucidate how these general purpose devices interact with the social requirements of learning and using language. To posit any device specific to language, in the sense that it serves no other linguistic function, seems to me not called for at this time.' (William S. Y. Wang 1984: 210)

From this alternative standpoint, several interrelated factors are apparent. First is that language is a shared, social phenomenon relying upon certain mutually understood conventions of style and pattern, both syntactic, semantic and pragmatic, which become transmitted both formally, functionally and casually, in both settings of primary and secondary 'socialization-institutionalization.' Second, the history of language transmission and survival depends upon an relatively unbroken transgenerational chain, the linkages of which are nevertheless capable of a great degree of flexible variation and transformation. There can be no such thing as natively linguistically incompetent adult speakers, except in terms of the superimposition and destructive consequences of a dominant but non-native code. The community and individual survival interests would be unserved if a community of such language speakers in fact were possible. Of course, there are speakers who are more competent linguistic performers than others in any other given code, especially in more marked and elaborate codings-but this does not reflect their basic 'native speaker' oral competence. This fact perhaps explains why Bickerton extends his arguments universally but derived from the evidence of only a small set of special creole languages that have been comparably well documented. Linguistic acquisition is always imperfect, incomplete and partial as is socialization and enculturation in general. This explains that from the standpoint of formal competence and pragmatic performance, even monolingual speakers of a single linguistic code never fully master their language. This is much more the case with multi-lingual speakers and contexts in which different linguistic codes compete for the same mental ground. Children growing up with several codes, become excellent 'fusers' and code switchers, but unless given the appropriate opportunities, may never come to master any code completely-the master the performance art of code-switching between codes which results in the psycho-socio-linguistic fusion of the codes. The ideal of the independent bilingual remains just that-an ideal of separate but equal linguistic competencies.

The relative rapidity with which the prototypical creoles are held to emerge is explainable in terms of the rapidity with which children ordinarily and naturally acquire their primary language. In fact this is no more rapid than is total immersion secondary language acquisition, but it tends to be more subjectively complete, internalized and natural seeming. Also, children's primary encoding of their social environment is a more straight-forward task, because unlike their parents secondary acquisition of a second code, they do not have the added problematics of translating back and forth between a previously acquired code. The natural chaos of a child's linguistic context is fundamentally, qualitatively different from the adult's chaos of second language acquisition. The first is the kind of 'white noise' chaos of the 'tabula rasa' while the second is the grey area chaos of destructive interference between contradictory codings.

This brings up a final objection that is related to the first. Language is preeminently a shared, ritualized, social phenomenon depending for its transmission upon agreed upon constraints and common practices. The only way that could explain how many different individual children come naturally by the same agreed upon creole in separation must depend upon some innate mechanism like the LBH, which seems extremely unlikely from a competent performance standpoint. Genes cannot alone provide a socially coordinated program for behavioral interaction and effective social communication, unless it is totally guided and preprogrammed by instinct—a possibility only of social insects. The fact that a creole stabilizes only after a biological generation of 25-30 years is that it takes this long for a common linguistic code, creole or ‘proto-language’ to iron itself out in casual and informal settings.

The indirect constraints of social interaction and effective communication and transmission demands that an adequate level of performance competence be attained. This encoding of the new language in the social environment will gradually from a biographical, ontogenetic standpoint, but extremely rapidly from an evolutionary, phylogenetic standpoint, become schematically crystallized in an increasingly conventional and formal functional way. In other words—it requires at least one generation for the new code to become routinely and ritually institutionalized, at both primary and secondary levels, and the same amount of time for the new encoding to be ‘reproduced’ as a ‘native’ language in the next generation. When the first creole speaking children come of age and become the majority of adults in the new society, they will have children in which the fused creole code is ‘nativized’ in a completely, unequivocally subjective way.

Evidence of the first objection is found among young second-generation Vietnamese speakers whose Vietnamese speaking parents know only a rudimentary English that is rarely spoken in the home. Yet the children, via other, diagonal channels, acquire the socially dominant code of SAE in a linguistically competent, ‘near native’ way by the time they are four or five years of age. Evidence for the fusion and code-mixing basis of creole languages is available in some cases or creolization of languages in which Europeans had only a late influence. This is the case of Peranakan or Baba Hokkien Chinese-Malay Patois which only subsequent and indirectly come under influence of Portuguese, Dutch and English. In such contexts, codeswitching is the competence that is acquired and mastered. Different codes become the available cultural schemata in the background of the total context. Such speakers acquire a ‘bastardized’ version of Chinese, Malay or European with differential densities of code switching/mixing points. Depending upon their innate and acquired capacity, such speakers can use a relative wide variety of different linguistic schemata and become ‘jacks of many trades, but master’s of known except jackship.’

Such an alternative hypothesis suggests that we view normal, (as opposed to standardized) and native (as opposed to naturalized) languages as occurring along a linguistic continuum which is parallel and convergent/divergent with a broad background ‘cultural historical continuum’. Along such a continuum there are few if any sharp discontinuities or boundaries, in either time or space, and the relative fusion that is the consequence of change and cross-linguistic contact the rule rather than the exception. There is a corollary to this linguistic continuum hypothesis in terms of the primary acquisition problem. Language as part of the total context is always complete in the sense of always filling in the total background of linguistic performance, no matter how partial or imperfect may be its acquisition and transmission, and no matter how drastic its transformations. Language ‘fills’ whatever container it is poured into. It is like a liquid in its bio-cultural fluidity and in its culture historical substance. Language, and its acquisition and transformation must always be found ranging somewhere in between its structural competence and its surface functional performance.

Finally, from the standpoint of language acquisition, the biological component must have a universal basis in the reproduction and critical ‘moment’ of its cross-generational transmission of all languages if it is to be held to be underlying any language, whether creole or otherwise:

Bickerton’s view that ordinary languages are burdened with a tremendous amount of irregular structure left over from historical change and that this has overridden the original innate properties has no basis in fact. This view is based the mistaken assumption that the biological component of language only plays a role in the initial creation of language and that subsequently languages can develop in entirely orthogonal directions. (E. Woolford 1984: 211)

Looking back to the beginning of humankind from the vantage point of modern science is like trying to peer inside the child's 'black box' from the worldview of the adult's 'total context.' In this case, it becomes a matter of 'phology recapitulating ontogeny' as much as it is a matter of 'ontogeny recapitulating phylogeny.' In either case, the central problem that seems most relevant and urgent is not explaining the past in terms of the present, but rather of trying to explain, or unexplain, the present in terms that are derived from the past, or of trying to explicate modern civilization in terms of its human origins. This results in a decisive shift of critical focus, one that is akin to the shift from 'scientific evolution' to 'human social history.' Human nature becomes not so much the central problematic to be explained, but what might be referred to as 'the human condition.'

It is with such a shifted focus that the concern of 'imaginary dinosaurs' in the problem of language acquisition and development come into play. It begins with the deep fascination all children have with the images of dinosaurs. Dinosaurs and other monsters have a deep evocative power and hold over the child's curiosity and imagination. The learning process, for adults as well as for children, can be an exasperating and frustrating, even painful, process. For children, it means making mistakes repeatedly and having to suffer and endure the consequences of such actions until they figure out the correct way--the way that works. In this sense, what is construed as the natural 'structure' that children figure out for their language, can in fact be construed as being only implicit within and evidenced by the child's growing competence in actual linguistic performances. The child does not learn so much which rules work-but how to make the language work, and which tactics fail to work. As the child's linguistic performance improves with practice, its structural competence correspondingly improves in an out of awareness, informal fashion. So also does her-his pragmatic intentionality in the world increase in influence, as well as the semantic compass of the world, both inner and outer.

Fortunately, nature endowed children with a certain, fundamentally precocious propensity for imaginative play-play is the way that nature has made the learning process to be fun rather than painful, interesting rather than frustrating.

It is in children's natural proclivity for play-for a spontaneous form of ritualization-that we find the basic acquisition device which allows the child to order her/his world and to learn what works and what doesn't without the threat or fear of the consequences. We can describe variously forms of linguistic play, behavioral play, symbolic or cognitive play, and social interaction of the larger world.

For children, the boundary between the real and the imaginary is not as clearly defined or as easily distinguishable as it is held to be for adults. For them imaginary dinosaurs have a unique mysterious power which serves to hold the inherent astonishment of the child in a way that it cannot keep most adults. We can see in the kind of natural logic for language the emergence of just such a boundary-maintaining mechanism that serves to mediate between the different realities of the imaginative and the real, the subjective and the objective.

In this we can refer to two fundamentally contraposed, dialectical functions of language-the analytical and the synthetic. The analytical use of language is found in children's attempts to use words to name and contrast different things, to identify and distinguish elements of the environment and to thus 'make sense' of the order of things. The synthetic use of language is that which is used to bridge the gulf between the real and the imaginative. The symbolic use of word associations by which to construct rudimentary cognitive schema of the world. It is found in the verbal play which children continuously engage in, often quite unintelligible from the adult's point of view, but nonetheless meaningful for the speaker. Such spontaneous verbiage is reflected in the seeming chaos of children's early drawings which are often confusing scribbles, but from which nevertheless emerge sun shapes, mandalas, then faces with hair, eyes, hands, and feet, and then full form figurines with fingers and toes.

The analytical use of language by children is that by which the child distinguishes and differentiates significant patterns from the complex background of 'adult noise.' The synthetic pattern of language activity is that by which the child quite deliberately reconstructs her/his own symbolic patterns drawn from its linguistic analysis of its life world. Thus we can see the dialectical structure inherent to and informing the 'natural logic' of language, a fundamental linguistic dialectic in which the child learns about and begins constructing her/his own life world.

We are left to reconsider, perhaps revive, a semantic origin of language which links its function to spontaneous evocation and the kind of symbolic transformations which Susanne K. Langer has referred to 'the primary need in man of translating his experiences all the time into symbols.' In this we can find a close association between language, myth and magic, in which the language emerged from a 'dream state' in which 'its native element, so to speak, would be world in which everything desired was being thought of.' (H.H. Price, *Thinking and Experience*:140)

This kind of origin of language hypothesis as advanced by Toshihiko Izutsu (*Language and Magic*, 1956) holds that the domain between the sacred and the profane, as dichotomized as they have become in our modern scientific and secular world, in which 'God is Dead,' were never separated by a sharp break, but are connected by an intermediate phase of a kind of 'spontaneous magic'-natural human responses to 'overwhelming emotion or obsessive desire, uncontrollable outbursts of emotion in words and gestures...the natural flow of words of malediction against the enemy, the spontaneous mimic reproduction of the wished for result, and so forth.' (pg. 5) Also, the interaction between language and its magico-religious environment upon each other in the creation of the mythical picture of the origins of language and cognition. 'Whatever may be said of the hypothesis of the magical origin of language, whether, in other words, there was or there was not an essential, organic connection between magic and language from the very first, it will be at any rate remain certain that at some prehistoric period the two came into a most intimate connection, interpenetrated and permeated each other until at last language as a whole and as much came to be, as it were, consecrated....' (Izutsu: 5)

Thus language, on this assumption, will be conceived as a very complex and characteristically double faced halfway thing, neither purely magical nor again perfectly logical, but always fluctuating in varying degrees between the two poles, from the lowliest, i.e. openly superstitious, use of words to be the most objective statement of fact in the scientific type of discourse.... (Toshihiko Izutsu 1958: 13)

Language emerges in its growing relationship with the world as if from a dream world. Language, and the culture, cognition and behaviors to which it is so strongly attached, arises *sui generis*, organically autochthonous to the world. It emerges from a kind of germinal plasma of human consciousness, a creative plasma that in its germinal state is proto-linguistic, proto-cultural, proto-cognitive and proto-behavioral.

This organic plasma of subjective human potentiality is inherently symbolic and fundamentally emotive-in its emblematic synaesthesia in interrelating the different modalities of experience, it creates feeling and a transcendent possibility of being which becomes internalized, apperceptive and 'meta-physical.' Experience emerges from its presentational dream state of sensation and reflex toward an increasingly representational life world of subjectively coordinated experience. It is a process of discovery in which the human being realizes its own organic and synergistic integrity. It is a process in which the environment becomes embodied in and by experience, and the body becomes expressed in the environment.

The source of man's creativeness is in his deficiencies; he creates to compensate himself for what he lacks.
(Eric Hoffer 1973: 4)

PART V

FERAL CHILDREN, CHILD PRODIGIES and the

LAW OF AVERAGES

It has been said that all places are equidistant from heaven, and all eras equidistant from eternity. It is also true that all experiences are equidistant from a truth or regularity they illustrate. But it is to the creative mind only that a common occurrence can be as revealing as an outstanding event. (Eric Hoffer 1973: 52)

The problem of understanding primary acquisition and early human development has been approached from another promising direction—the study of ‘wolf children,’ of child prodigies, and of other anomalies of the child development process. These exceptional children are those few who manage to defy the hewing away of the ‘law of Averages’ which tend to pull most children somewhere toward the medium of the normal bell shaped curve of development. There are many different kinds of reasons why children might fall upon the very extremes of the curve, defying all the odds, or even completely outside of the curve, as in the case of feral children or other children raised under extraordinary circumstances of social deprivation.

In this regard, the forces and factors of both nature and culture are engaged in a kind of conspiracy in turning the wheels of the lottery of life. They tend to push and pull children in such a way as to make it most probable that children shall tend to fall somewhere within the first or second quartile range of the normal curve. Parents may stack the odds in favor of or against the child by providing all the environmental enrichment devices and social stimulation guaranteed to turn the average child into the above average, the above average into the exceptional, and the exceptional into the miraculously gifted. Or by sufficiently depriving or destructively abusing the personality of the helpless child such that otherwise exceptional children are averaged out, and average children are rendered into moronic miscreants with a few fine points and no sharp edges, making ‘catching back up’ a life time existential problematic. Such stacking may pull the child up or pull the child back a few notches on our social scale of being, but this is betting against the odds of ‘house advantage’ and often misfires or backfires. Exceptional miracle children can somehow manage to rise above the most pessimistic predictions and predominant problems, and average children born in exceptional circumstances of environmental enrichment and social stimulation, can still sometimes manage to ‘blow it’ and turn out quite average. Mentally retarded children can sometimes be born of exceptionally gifted professionals or professors, and geniuses may sometimes be born of incredibly average, working class parents.

The exceptions to the rule are of many different kinds. There are numerous instances of feral and gazelle children, children locked in closets, children raised in concentration camps or in refugee centers, children of extreme social segregation or ethnocide, children raised in the midst of war time, dull, slow witted sociopaths and master minded criminals, children abused from birth to adolescence, orphans and on the other extreme, musical or artistic prodigies, eight-year-old graduate students, and young independent multilinguals. It is not insignificant that nobody wants to be saddled with taking care of a human monstrosity, but everyone loves and hopes to have a child prodigy. They represent the epitome of humanity, even though chances are million to one that the child will turn out just above or below average, in spite of and because of the multitude of circumstantial variables.

Consideration of the law of averages and the few exceptions to the many rules bring to focus the sense of nativized subjective inevitability of primary acquisition. This is the possibility of its failure, frustration or

alternative pathways, which may result in the child's 'black box' to remain unopen or only partially open, or to open upon dream worlds or upon wild worlds, or to close back down again. Primary acquisition and the corresponding socialization may become somewhat less than 'subjectively inevitable' and nativistically ingrained, and may even sometimes become downright inevitable, alterable and unbegun.

The study of the extreme exceptions, the mistakes, the unwanted bastards, the belated and failed abortions, the psycho-social misfits and the extraordinary, bring into sharp relief the outline and parameters of the 'normal' development curve. A biogram hypothesis must posit certain critical doorways during which certain capacities or natural devices become inaugurated or 'turned on' by the developmental lock. Such hypothesis will suppose either that certain social 'keys' and handles must be available at these critical moments to unlock and open the 'black box.' Else the black box will somewhat mysteriously attempt to unlock and open itself, and try to fill in the gulf between the child's developmental 'needs' and its gratification, or else the important moment will be missed, or come belatedly, and the box will remain closed or only half-open. Extreme environments may effectively turn off the natural mechanisms of development and stunt the growth of the child's effective life-world. It is by the counterfactual evidence of the exceptions to the normal rule that we might possibly find clear cases of how such a developmental 'biogram' is timed, and how critical is the socio-cultural environment, and just how subjectively uninevitable primary acquisition can possibly be.

The study of *Homo ferus* reveals over fifty historically reported cases of such children, some of which cases are better documented than others and at least a few that are probably hoaxes. These children were discovered in European hinterlands, in Africa, in South America, and in South Asia, as well as a few cases of manmade isolation in North America. Though these cases have been relatively few and far between, their incidence is not unexpected. It is possible that many more unreported forbidden experiments occurred but either eventually failed or passed by civilization unnoticed.

The remarkable feature of these cases is not so much that they happened at all, but that these children managed to survive at all under almost completely alienating conditions. In almost every case, similar patterns of human behavior and of cognitive regression emerge. It is held that in many instances of long term human isolation and deprivation may have similar, sometimes permanent effects upon human mental functioning, including the loss of memory, the loss of linguistic capacity, the loss of perceptuality and feeling, the loss of sex drive. In the case of feral children, almost all are found incapable of standing upright and bipedal locomotion. They are also usually linguistically mute. They are frequently immune to extremes of temperature, have a high threshold to pain, and may be hypersensitive to certain minutely discriminant environmental stimuli. Though the children usually learn to stand and walk, and in time learn to dress and become self-consciously shy, they rarely develop any great language capacity and learn to do only simple tasks. Depth perception, reflexive self-awareness, abstraction and the motor coordination of their hands and fingers are all largely lacking when compared to the normal human ranges of these capacities. These children seem never to lose a basic desire for freedom, and show a strong attachment to certain animals. Though they may, in 'captivity,' evince a strong desire to please surrogate significant others, this is weighted against the original separation and they seem never to bond well or function socially to other human beings, and in general show an 'amorphous' lack of sexual desire or interest.

These children fall into three general categories, depending upon their nature of their isolation—children raised in complete confinement, children raised in the wild, often by animal care takers, and children raised in virtual isolation. All three types of cases demonstrate similar kinds of lasting consequences upon the child—the severity and permanency or irreversibility of which is directly linked to the extent, duration and relative completeness of the isolation. 'The personality develops in exact proportion as the educative value of the environment offers the correct cultural support at the right moment.' (Paul Sivadon, *Esprit*, Nov. 1965: 636-7)

The case of *homo ferus* seems to demonstrate clearly and unequivocally the tenuous nature of the linkage in the primary acquisition between nature and nurture. Human nature, when left on its own, is not up to the task of organic human development. The appropriate effective environmental relations must be present in order for development to proceed normally and 'on schedule.' The 'wild child' Genie is a well-examined if

controversial case of missing syntactic structure in belated and deprived language acquisition, which suggests that the "biogram" of human language may not be so innate after all, but does occur as a critical stage of development.

Maintaining the approximate schedule seems important as well. If the child misses the bus catching up in later years becomes next to impossible. There seems to be a critical period from birth to the first few years of life in which the child's nature 'comes together' in a socially 'human' way. The basic cognitive, linguistic and cultural skills are learned at this time, or else it is as if the child's personality and mind remains forever underdeveloped or 'retarded.' The child remains in the sense 'fixated' in a relatively permanent, and extremely abnormal, infantile state of being. In this case, the 'subjective inevitability' and all subsequent acquisition become in essence something less than 'native,' therefore somewhat superfluous and possibly 'ephemeral.'

From the standpoint of linguistic acquisition, it appears that its native inevitability of primary acquisition is inseparably linked to the formation and elaboration of effective life worlds which are principally mediated by interaction with significant others. 'The child's acquisition of language will take the same form as its relationship with its mother: one of identification. To learn to speak is to learn a series of roles, to adopt ways of behaving and linguistic gestures...The child must learn to think reciprocally...The intellectual elaboration of our experience of the world is indissolubly linked to the elaboration of our interpersonal relations.' (Maurice Merleau-Ponty 1958: 13-18) In a more recent and much better documented study of severe child isolation, the case of 'Genie' (Susan Curtis 1977, 1980) seems to support the 'weak version' of the 'critical period hypothesis'-that 'normal language acquisition cannot occur naturally beyond the critical period.' (ibid 1977: 208-9)

These features of abnormal language development include (1) a larger than normal comprehension/production disparity (Ingram 1969), (2) a large competence/performance distinction (Eisenson & Ingram 1972; Leonard 1972), (3) abnormal variability in rule application (Salus & Salus 1973; Baltaxe, C. & Meyers D., personal communication), (4) stereotypic speech (Menyuk 1971; Lee 1966), (5) a retarded rate of development (Morehead & Ingram 1973), and (6) in certain cases, failure (perhaps inability) to acquire specific syntactic forms and mechanisms always present in normal grammatical development. Genie's language reflects all of these characteristics. (Curtiss 1977: 209)

It is fitting to consider the other extreme of the acquisition continuum, and to see what similar patterns of the unusually 'gifted' child reveals about the primary acquisition problem. In terms of linguistic acquisition, which is held to at least parallel cognitive growth, there is evidence of a great deal of variability of rate and style of acquisition. There have been many cases of children acquiring complete linguistic virtuosity by the time most 'normal children' are just beginning to put language together. There have also been cases of 'idiot-savants' who had the uncanny ability of 'hyperlexia'-to read fluently in several languages, and yet be abnormally deficient in many other areas of development, and not to comprehend what they read. In a study of genuinely precocious reading ability, 'the pattern of skills appears to be similar to those found in poor and average readers, though very early readers seem to be diverse in their specific skill patterns or reading styles.' (Jackson, Donaldson and Cleland 1988 in John Radford 1990: 8)

Evidence seems to point to the importance of early environmental enrichment in the cultivation of such excellence--'the children whose early intellectual feats stand out have enjoyed at least adequate cultural resources, from which they have been able to construct their own rich environment.' (Radford 1990: 3) 'It is not suggested that having access to books and adult conversation will by themselves lead to exceptional developments; merely that such resources, on the face of it, seem to be necessary for general intellectual stimulation and for specific knowledge.' (ibid: 4) Evidence also tends to support that great achievements come only as the result of long term development and 'a great deal of previous work'. Genius must also undergo a long period of intensive training in order to achieve its superlative level of performance. Genius

must also receive some form of early environmental enrichment, and usually does not derive from or despite the inherently frustrating circumstances of environmental deprivation, social disadvantage or destructive interaction. 'When biographies are studied closely, it is found that in apparently deprived homes from which an exceptional person has emerged, there was in fact more intellectual stimulation and support than might be thought.' (Radford: 11) Great Achievers have typically had in their backgrounds the appropriate 'screens of opportunity' which enabled them to achieve their greatness. Finally, training does have a decisively critical influence upon the precocious development of such early achievers. 'What an immeasurable amount a child will learn in six, eight, or ten years, that is, in 3,650 days, in 36,500 hours, reckoning the day at ten hours, if every conversation with him or in his presence teaches him something!' (Witte 1975: 86)

...Vygotsky (1962) showed that human cultures, internalized by children largely through the mediation of social interactions, not only provide access to skills and knowledge but also determine the fundamental sign systems that underlie knowledge and thought, as well as the particular languages which meanings are expressed, and the sense and significance of even such basic concepts as space and time. (Michael Howe 1990: 9)

While there are instances of late bloomers and late and latent beginners whose childhood precocity passed by unnoticed and un nourished, only to become realized later in life, but by and large 'Indeed it is true: most child prodigies emerge in circumstances where the parents are educated, concerned about their children's early education, and both will and able to make a larger than average practical contribution towards providing their children with opportunities to learn.' (Howe 1990: 144-5)

While there must undoubtedly be an 'inherent' potential or innate talent present in such children to begin with-they are but the extremes of a normal organic developmental curve, it is apparent that the relatively presence of absence of vital environmental stimulation and enrichment can have a decisively critical influence on its 'effective expression'. 'Those with near zero musical capacity are extremely rare, as are those with the greatest endowment. How many individuals develop their potential, to what degree, and in what form are determined by society.' (Radford 1990: 12)

One might properly regard such children not as hothouse plants but robust outdoor specimens naturally fulfilling their potential for growth. What total good accrues in the long run is more difficult to say.... It is by no means clear, however, whether more races are won by front runners or by those who come from behind; anecdote and biography supplies numerous examples of success after a relatively slow start, though this does not necessarily mean that ability was absent, merely that it did not show in a way that attracted attention. (Radford 1990: 12)

It is a paradox that while the study of Homo ferus tends to be framed in a 'culturalist' interpretation that holds the view that 'nurture' tends to be the primary determinant of human development. Human nature, whether universal or individual, when left by itself is quite 'meaningless' and even merely a mythical construction. The study of precocious child prodigies and great achievers tends to be framed in a predominantly 'naturalist' interpretation that gives predominant place to the role of inherited human nature in the determination of talent. Rousseau's assertion that 'Man is born free' is to be taken literally; and 'it makes sense only as a description of our innate constitution, as something positive, already determined, and conflict with what society does to us.' (Radford 1990: 5)

Both perspectives tend to converge upon a set of common conclusions regarding human development. These conclusions are namely that nature and nurture are fundamentally intertwined and interdependent for their expression in a child's organic development. On one hand, the innate human constitution contains a capacity for development, under appropriate circumstances, 'what we like to think of as characteristically human features. Among these are the achievements we regard as exceptional. The circumstances must include, as a minimum, human culture and language.' (Radford: 5)

The influences which shape a man's life, to which he can submit but which he can also resist, are partly of his own making. As the subject and object of his own history as well as the history of all, he both creates himself and is created, rising above any attempt to engulf him in determinism. ... (Lucien Malson 1972: 13)

'Heredity and environment are not two separate things to which human actions are added. They are not independent variables. They are rather two poles of a dialectic which, by giving form to a "total luminosity," brings into being the human subject...'(ibid 1972: 24) Furthermore, it is certainly significant that in both set of cases, the critical linkage in the child's development is a particularly intensive interactive involvement between the child and the child's principal care givers who in important, meaningful, even mysteriously magical ways, mediate the world for the child. They provide the kind of 'umbrella' under which the child can establish and elaborate her/his own effective life world, and this is related to the central trauma of rejection and separation to the child's subsequent isolation and developmental regression. This might be referred to as the 'mothering hypothesis' of primary acquisition: '...(there is) a very close relationship between the acquisition of language and the child's family situation...Children suddenly and permanently separated from their mothers always suffer a linguistic regression. This is not only because the first word which a child speaks is 'mama' but because all language is, so to speak, maternal....The child's acquisition of language will take the same form as its relationship with its mother: one of identification....(Maurice Merleau-Ponty 1958: 13-18)

This might also be called the 'bonding hypothesis' of primary acquisition and probably applies in the case of child prodigies as much, or more, than in the case of its critical absence in 'wolf children.' With child prodigies, excellent development seems to be a function of the relative intensity of early parental guidance and involvement-an exceptional degree of intense intellectual interaction that is probably unavailable to most parents who are preoccupied with earning a living, and hence, is effectively unavailable to their children. This is not to claim that any child, given enough of the right kind of enrichment, will become a prodigy. Such enforced 'hothouse' programming can back-fire and be as detrimental to the normal development of the 'over achieving' average child as can be relative deprivation and disadvantage. But such enrichment can help to identify and encourage the potential development of whatever exceptional abilities that might be hidden away in the child's 'black box.' From the linguistic standpoint, the term 'mother tongue' is more than a fitting descriptor of the subjective importance and 'nativeness' of primary language acquisition '...Acquiring the mother tongue ...makes the child intelligent at an early time, for it puts his attention and his several mental powers continuously in action. He is obliged always to search, distinguish, compare, prefer, report, choose, in short he must work, that is, think.' (Witte 1975: 75, in Howe 1990: 230)

It is fitting in conclusion to briefly reconsider the 'law of averages' that at the outset was held to work to centripetal draw children over the course of their development somewhere towards the middle range of the normal curve. This law of averages can be seen to work both ways, first, in tending to prevent the occurrence of such abnormal cases as 'wolf children'. In this instance, children's inherent inquisitiveness is reflected in their natural inquisitiveness and curiosity which compels them to seek out sources of gratification of their developmental needs, whether such stimuli are available or not. This perhaps accounts for the somewhat remarkable fact that more than a few children have been able to survive, cope with and adapt at all in essentially wild or alien environments. Even in less severe cases in which children are left alone for a large part of the day, or are neglected by their parents, or spend the better part of their early lives in relatively impersonal socializing environment such as a day care center, children will attempt naturally, and more or less successfully, to compensate for their relatively lack of personal attention and the availability of the appropriate effective stimuli, by seeking and finding alternative or indirect sources of developmental gratification. And chances are that they will fill in the gap with something, no matter how rudimentary and insufficient. This has some bearing on the Language Biogram Hypothesis-the minimally marked structure of creoles developed by children of primarily pidgin speaking parents is accounted for by the fact of children find alternative, indirect, 'diagonal' sources of linguistic interaction and modeling-either from other children, other adults, or via the media. Either way, the law of averages dictates that chances are better than none that both the acquisitiveness of the child's black box and the vastness of the 'total context' will tend to resist any tendencies to effectively exclude and isolate the child except in the most extreme and unusual of circumstances.

On the opposite end of the continuum, the law of averages would assure that most people will not have the affluence and focused reserve energy that seems necessary for the consistent cultivation of effectively exceptional capacities of the child. Both the complications of the total context and the relatively impulsive inequities of the black box will tend to interfere with and frustrate the continuing efforts of the principal caregivers to achieve the level of developmental fine tuning that is the distinguishing characteristic of the prodigy. On the other hand, the same law of averages will also guarantee a high positive statistical correlation between the parent's socio economic class, status and affluence, and the relative frequency of above average developmental achievement.

This points up another important aspect of the law of averages. What is defined as abnormal or as exceptional in one culture historical context or period may be differently defined in another. The definition of developmental anomalies, abnormalities and exceptions among children may vary widely depending upon the predominant cultural value orientations and worldview. What may be counted as superlative achievement in one time or place may be counted as deviance in another, and what may count as deprivation in one context, may be the developmental norm of another. Genius may be stigmatized as 'divine madness' in one epoch, or as linked to 'eccentricity' or peculiarity requiring social justification, may be well regarded as quite ordinary in another context.

One parent's precious gift or special child may well be another parent's precocious brat or natural curse. Furthermore, definition of what counts as normal is difficult to connect directly and unproblematically to what is statistically 'average' in any sense of one to one correspondence, hence what can be counted as above or below normal may tend to defy the normal curve of Nature's law of averages.

...But we do not know what is the range of behavioral and social conditions within which humans might flourish and produce prodigies.... Child prodigies, whatever else they are, must by definition be exceptional, but in comparison to some group. (Radford 1990: 21)

Definition of genius can be critically connected, and dependent for its cultivation, expression, or frustration, by the predominant style patterns and historical processes of a civilization. (Alfred Kroeber) Different Historical Civilizations have yielded different styles or exemplars of achievement-promoting and fostering such development in certain directions while perhaps hindering the expression of greatness in others. The frequency and relative occurrence of such Genius in a given epoch has been used as a culture historical index of that civilizations relative state of vigor, genuineness or of decline and spuriousness. Children can also discourage and effectively alienate or marginalize certain predispositions or character orientations that might be quite superlatively successful under the aegis of another cultural configuration. (Ruth Benedict 1933, 1938)

Finally, the law of averages may occasionally reverse itself and work the other way around. Not only of 'not keeping a good woman down,' but of occasionally producing a relatively random 'butterfly' effect which may nevertheless have non-random and significant subsequent developmental consequences upon an individual's life world-such chance occurrences yield a whole alternative, counterfactual history. 'The smallest events that chance dictates can have momentous consequences. It is sometimes tempting to speculate "What might have happened if only....?" About the conceivable outcomes of seemingly minor happenings.' (Michael Howe 1990: 238)

To end on a different note, we would be prudent to acknowledge that our best efforts to explain, understand and predict the course of individual human lives are pre-empted at many points by chance influences that we can neither see nor control. (ibid: 237)

Whatever our cross-cultural or transpersonal comparative evidence for human development and the primary acquisition problem, this must always be construed relative to the individual's own 'idiographic' base line. Longitudinal, biographical, life history study of individual cases must provide the principle and influences upon human development and the primary acquisition problem. It is only from the biographical perspective-even the 'auto-biographical' as opposed to the nomothetically psychological or sociological approach-that we can derive in any realistic sense a kind of 'absolute base line' for plotting the trajectory of an individual's achieved progress or developmental failure. While individuals may be in some general sense broadly comparable, we cannot ignore the great range of individual variability and possibility that exists and has long existed in our common life world.

One must also expect chance to play a greater role in the lives of men than in the lives of animals.But in the unfolding of the individual's life, chance is everything. In a vigorous society, chance and example have full play, and in such a society the talented are likely to be lucky. (Eric Hoffer 1973: 34)

PART VI

A CHILD'S WORLD

Good and evil grow up together and are bound in an equilibrium that cannot be sundered. The most we can do is to try to tilt the equilibrium toward the good. (Eric Hoffer 1973: 18)

In attempting to characterize and understand the world of a child we are left with an insuperable dilemma while that the child's world is one fundamentally dependent upon the world of its adult's care takers. Its world must always intersect and mostly overlap with the larger world. It remains in some important sense also a separate child's world that is fundamentally different from that of an adult. It is at once in its beginning an 'incipient world' of its own. It is one that grows daily in its range and complexity. But it is also at the same time an original world whose unique difference daily increases and gradually diminishes as it merges and becomes indistinguishable with the adult world. It is almost by definition and necessity a genuine 'sub-culture' of the larger, dominant adult cultural world. As such, it is an important 'aspect' of this adult culture, one that contains its own elements and constraints that are reproduced and transmitted with the successive generations of childhood.

Children inherit and receive certain kinds of toys, children's toys, lessons and adult interactional patterns that are typically characteristic of the dominant culture. They are told stories passed on from one generation to the next, and are inculcated by the values that the parents profess to live by. And yet, this sub-culture also by necessity and definition has certain constraints and design patterns which distinguish it as apart from the adult culture and which it shares in broad outline form with similar child sub-cultures all over the world. This fact is quite striking when one discovers a small child's doll buried in a grave several thousands of years old--a doll not too different in shape and form from modern equivalents we buy for our children in the toy stores.

In describing the world of children, it is most important that we not construe it as only and simply a miniaturized and simplified version or reflection of our own adult world. It is important to recognize the overall similarities between our world and their's, and while it is important to delineate the many ways in which our world comes to impinge upon and to decisively, predominantly influence the child's world. But it is also equally significant to isolate and clarify the essential differences between the two worlds, and to better see the ways in which the child's world might and maybe often does, stand upon its own in its own terms.

Our adult reality can be claimed to be a 'socially constructed' reality that is to some extent the cumulative by-product of our own somewhat arbitrary, if conventionalized, intentionalities. It is the externalized reification of 'cultural tradition' that our children inherit and that, in our attempts to strike a balance, we attempt to modify and influence. It is therefore also possible that the child's world too is in some measure a 'socially constructed' reality. It is one that is not just the consequence of our own ossified customs and conventions, and our own adult oriented intentionalities and externalizations. The children also actively construct and reconstruct, produce and reproduce their own cultural reality, one which is at least partially informed and influenced by the children's own intentionalities and externalizations in the world. This influence by the children upon their world is not just an ephemeral or superficial one, but can and often does have a deep and relatively permanent influence upon the child's and its adult life worlds.

It is not that the child's world is caught up in dialectic with the adult world, which it is. Parents must have their lives reoriented in sometimes decisive ways by meeting the demands and needs of their children. Parents sometimes become so caught up in their children's worlds that it transforms them and consumes them. They can identify with their children to the point of losing an independent sense of their identity. Parent child interdependencies can become a life long affair, and a trans-generational phenomenon. But a child's world also contains its own dialectic which is to some extent separate from that of the adult world, or to which the adult world is more coincidental or peripheral than central. This is a dialectic in which children alone or with one another create a separate social reality with its own rules and constraints, which in turn influences and is influenced by the subjective internalizations of the child's ego.

It is this internal dialectic of the child's world which is most mysterious and most interesting, for it can and sometimes does come to exert a powerful shaping force upon the wider adult world, in ways which are often beyond the control of adults.

The dialectic within the child's world, and between the child's world and the adult world, speak for several degrees less 'subjective inevitability' and 'totalization' of the process of internalization and identification of the child during primary acquisition and socialization; than even social constructivist's might care to admit. Not only is primary acquisition and socialization always partial, incomplete and imperfect. It is also often alternate, less decisive and fixed, and perhaps more transient and impermanent in the formation of the adult character and personality than it is frequently claimed to be. It is exactly this somewhat less than inevitable and indecisive problem of incomplete and partial primary acquisition and socialization that extends into adulthood and allows for the possibility of later alternation and transformation of character and personality, and for continued human growth and development throughout the life cycle.

In this sense, we all run around all the time with something less than completely formed characters with imperfect personalities. In this sense as well we are always and ever human children who never stop learning and growing. As eternal children, we do not really give up childhood interests or involvements or intentions-the childhood dialectic does not stop when we suddenly turn twenty-one, go off to war, or get married and have children.

Because of this eternal incompleteness, human beings, as perpetual children not only have unbounded potential for creativity and growth, but always suffer the narcissistic fate of never fully growing up. We can and sometimes do become like Frankensteins with child like souls locked inside monstrous adult bodies-and in our anger and frustration to be free we can become boundlessly destructive and regressive.

And the same childhood dialectic that extends throughout our lifetimes becomes another link in a long chain of such child world dialectics that extend into the subsequent generation. A large part of our identification and fascination with our children is the recognition in their lives the direct expression of our own internal child. When the dialectics of our own childhood become caught up and inextricably entangled with the new dialectics of our children's world, perhaps in many unconscious and uncontrollable ways, this can be the source of much meaning and joyous gratification as much as it can be the source of much friction, conflict, misunderstanding and transgenerational difference.

The purpose and pleasure of play that lasts throughout life, the fascination with the novel, the grotesque, the different, the vicariousness of the imagination, the residual fear of darkness, of shyness, timidity with strangers, are all expressions of the childhood dialectic that coarses throughout our lives and gives our lives much of its antinomality and flavor.

The dialectic of a child's world gives to that world a sense of being a kind of self-fulfilling prophecy. Not only do adults begin labeling and tracking infants from the earliest years, molding them to their own prejudices, preconceptions and expectations, that the children then live up to in confirmation of the theory. Lower class children are typically canalized in education into 'lower class' occupations, and 'upper class' kids are typically over achievers who can do no wrong in school. This sense of self-fulfilling prophecy works in other ways-the adult world can become the self-fulfilling prophecy of the expectations, preconceptions, intentions of the child as well, however much partially or pre-formed they may have been to begin with. A young child's preferences and predispositions can initiate a long chain of incidences and events that culminate in the externalization and social realization of those early preferences and predispositions. A child with low self or cultural esteem can end up creating a social reality that justifies that low self-esteem. Even more, though, the child's own internal dialectic can become something of a self fulfilling prophecy in which the child's personality and life world becomes consistently (or inconsistently, as the case may be) the self fulfillment of its own early intentions, desires, imagination and predispositions.

It is always the unfinished child of our character, its self-fulfilling prophecy and self-constructing dialectic that renders each new life a totally unique and biographically incomparable pattern of personality. It is the source and sum of our own humanly unique sense of individuality and of the 'I-ness' of our own self-awareness in the world. Each new link, each new birth, is a brandnew beginning-each person's death an unfinished ending. In our own uniqueness and unfinished childness of our character is our ground for universal understandings and empathy for others in the world-for the difference of otherness-and for human socialibility as something more than social animals or insects.

The child's world, and the individual's whole life world, is in a sense always encompassed by the 'total context' which always forms its existential horizon of perplexity. The child's world grows, and the life world eventually changes, but its new realities are never totally subsumed within its past. Though it may carry many elements of the past with it in enduring structures, in the structure of the long run it becomes something mostly different than what it once was. Perhaps a little more extensive in experience, but now occupying a different terrain of the universe than it once did. The elements and patterns of the new life world are hardly cumulative or subsumed by the consequences of the past. It remains a limited and limiting horizon in which old elements must give way to the new, and new elements must be incorporated only under the aegis of the old. The entire elements and patterns predominating in one phase of a person's life are not necessarily the precursors of the elements and patterns that follow in the next phase. While there must always be some measure of overlap-inexorable, one way change will dictate in the long run that the new elements cannot be the same, or predicted completely by the previous patterns.

This creates a case for a kind of biographical relativity in the understanding of an individual's life world-that what it is one period may not be what it had been in a previous life, though it must be somehow informed by its preceding phases in important ways. It remains always a consequence of interaction between both its own past and its present contexts. One individual may have several or even many different periods of her/his life span, each under a different biographical aegis, and in each of which the child's world and the individual's life world has different parts to play.

These considerations make it apparent that the child's world may be something more than just a simplified, reduced version of the adult world-that it may have inherent existential and phenomenological complexities of its own equivalent to the complicatedness we normally attribute to the adult world. Granted that a child's world is usually not challenged by the kinds of degrees of dilemma which continuously confront adulthood-but it is not a world without its own intrinsic kinds of dilemma and paradox, with its own sense of depth of being. Furthermore, unlike the straight forward adult world with its strict boundaries between the sacred and the secular, the real and the imaginary-the child's world is characterized by its own peculiar kind of perplexity in which the normal adult boundaries defining reality are not fixed or well defined. The day to day problematics that confront the child in her/his world may not necessarily be any less serious or subjectively experienced as if real and important than the adults.

The consequences of a child's actions in her/his world can be as grave as those of adults, even if we normally do not shoulder children with full responsibility but tend to defer this responsibility onto the nearest adults. To reemphasize, the child's world is not different merely by a matter of continuous degree from the adult's world, but the child's world is qualitatively discontinuous with the adult's world, even though they overlap and are irresolvably entangled in each other.

The child's world has a fundamentally different dimensionality than that of the adult's, even though they share the same spaces. We all have memories of childhood. We all have returned to a place of our childhood memories to recognize the many features, but only to be struck with how small everything seems to have become. The child lives literally in a world of giants, and the child's sense of perspectival depth is much more hyperbolically distorted than is the adults. Distances are proportionately further and further away, and everything is proportionately larger. Very little is 'child sized' except certain kinds of environmental equipment like playground swings and slides and climbing bars, or miniaturized play houses, furniture, tables, or chairs. Because it lives in a world of giants, the child often finds spaces in out of the way places quite habitable-under tables, in closets, in a big box, behind furniture, which the adult would be quite pressed to squeeze into.

A child's world is also set to a slower moving clock than the adults-rather, though it is changing more rapidly than the adults, its perception of the duration of time is much slower. As we all grow older, we all gain the sense of time slipping away at ever faster rates-a day, a month, a year may suddenly pass us by as if only yesterday. With children, an hour can seem like a day, a day a whole life time, and a life time can seem like a never ending eternity. It is not just that a day in the life of a two or five year old is proportionately longer span of time than is the same day in the life of a twenty or fifty year old-seeming perhaps ten times longer or shorter, as the case may be. But children's sense of time is fundamentally different than is the adult's sense of time.

For children, a yesterday can seem as distant from today as the year ago seems to an adult. Time for children does not have the same coercive unidirectionality and irreversible sequentiality as it does for adults. A child's schedule is not so set or determined by the same standard times that are universally applicable to the adult world, except where those two sets of schedules intersect, as when and in how long an adult is available for a child, or when a child must be carted off to day care. A child's schedule is not so well synchronized or ordered as in the adult's. The social calendar and the cosmic clock that sets of the rhythms of the adult world do not apply strictly in the child's many cycles of growth and activity.

Children do not have a strong sense of yesterday, not do they have a definitive sense of the distant future or of the inevitability or understanding of death which waits at the end of the line. A child has not acquired the patience to wait-it experiences its needs and its environment as an immediately pressing problematic in which history or teleology makes no sense. A child can, and frequently does, reverse its temporal ordering. If and when it fails to get things into their proper sequential order, the consequences are not so imperative as it would be for adults. If a child learns to walk today, and its teeth erupt tomorrow, this is of little long-term consequence. If a child misses something on its timing, like learning to walk or read, then it can always catch back up to 'normal' tomorrow.

A child's sense of temporality and temporal structure of its activity is constrained in fundamental ways by what for the adult's are its restricted attention span-its short attention span combines with a 'short term' memory to segment up its experiential world into smaller bits and pieces than the adult's world. For a child an hour or a day may be composed of several or many juxtaposed, paratactic activities or involvements that for an adult would seem frustratingly schizophrenic. But if the day of a child were projected over a week of an adult-a similar kind of schizophrenic segmentation of juxtaposed activities being pursued in tandem would appear.

A child's sense of involvement with its world is qualitatively different than is the adults. It can in a sense be described as multi-sensorial and sensori motor involvement. It is a kind of polymorphous perverseness, while the adult's experiences of reality are often predominantly uni-modal or bi-modal, focused and unidirectional. A child goes in many directions at the same time, and switches modes of perception and involvement in surprisingly rapid succession. Adults are more generally ordered and their switching between different modes of experience tends to more predictable, regulated, deliberate and predetermined.

Little in the adult world is set up functionally for the sake of children. Though they have their special car seats and their potty training toilets, their high chairs, cribs and toy boxes, most of the adult world presents a series of obstacles to the inquiring and exploring child, which challenges and more often than not frustrates the child. A child learns to climb onto higher and higher things in order to reach all those interesting objects the adults regard with so much importance. In such activity it runs the risk of falling or of being reprimanded or punished. The adult world and adult activities in this world present the child with many challenges, and many insurmountable obstacles. It is a giant world which surrounds the child's own environments like an immense mysterious forest. Even simple activities which adults take for granted may be quite problematic for children-stacking books upright upon the shelves, turning on and tuning the television, opening the door to get into the other room, opening the refrigerator to get food.

A child is easily distracted from one set of attention oriented involvements by another. She/he may be on their way to get something for mommy or to visit daddy in the other room, when something new and different attracts and diverts their attention along the way. It becomes a moot point whether they ever really get back to what they started with. In such a manner they move from one kind of involvement to the next-often so wholly engrossed in the immediate that they pay no attention to the wider environment around them, the biddings of their parents. But if and when their attention can be attracted, they can easily be diverted from one thing to another. Mothers who know this employ a manipulative and very effective tactic of diverting a child's attention from something which is causing it to cry or be fussy to another set of involvements which pacify or immediately resolve the child's frustrations-to the relief of its care takers. In this manner, what would be a five-minute walk around the apartment complex for the parents, turns into an hour long series of exploration and meanderings of the beaten path. It is a chance to explore a new world alive with curious things, to play in the water puddle, to walk in the leaves, to balance along the curb, to frequently turn back and run the other way.

Finally, it can well be claimed that a child's 'metaphysical' tography of its phenomenological landscape-its differential saliences rooted to its environmental experiences-is fundamentally different than that is for adults-it is not just a more shallow projection of the adult's life world. A child is fascinated by bright colors and contrasts and patterns which for adults appear quite garrish or vulgar. A child becomes enamored of crudely stereotypical and cartoonish emblems which for adults appear ridiculous and devoid of interest or animacy. A child is fascinated by basic objects, by their form, functionality feel and appearance, which for adults tend to be quite mundane things to be typically ignored or thrown into the trash. Nothing which the adult regards as sacred or important is out of touch or reach as a potential object to be played with by children-many things which are a transient matter of life and death for the child seem as utterly trivial to the adult. On the other hand, much of what the adult regards with utmost attention and importance, like reading a book or talking upon the telephone, is quite opaque and mystical to the child.

We, as adults, entertain the arrogance that our world is more refined and preferable to the child's, that the child's world must always be an imperfect and partial rendition of our own. But sometimes a child proves to be the nemesis of our hubris. She or he can regard with utter, fearless fascination the intricate design of a

spider or fly or butterfly or flower that we would just as soon squash beneath our feet, brush aside or walk by in a hurry to be where we think we need to be.

Alyce's world overlaps in many ways with our own. For twenty-one months old she has lived in six different worlds. She was born in a New York winter- time. She spent her first spring and summer in three different California settings. She spent a couple of months in different hotel rooms, and her second Spring time she spent learning how to walk on a Texas university campus. She was back for a couple of months during her second summer in Southern California and now is spending her first fall and winter in mid-Missouri. There is no telling how much effect all this transition has had upon her early personality formation. I seriously doubt whether she has much memory of any of her previous life-worlds, although they were transformative for her in some successive sense.

She looks at photos of herself in her previous life worlds without much obvious recognition and she relates early pictures of herself with children's names that are of the same general age in her immediate environment. On the other hand, she missed her grandmother whom she had grown attached to in California quite a lot-recognizes her in all the photos, play calls her on the telephone. In some of the hotel rooms she would wake up crying for her Grandmother. I think more importantly than consistency of her environment has been the consistency with which we, as her primary significant others have attended to her and have always been there for her. Her insecurity is evinced whenever one of us leaves her world, even for temporary excursions. One night her mom was doing the laundry at the laundry room and though I gave her a bath and tried to play with her, she hung by the front door calling for mom, until I took her to see her mom. Before she would have a fit whenever I would go off to school-especially in Texas, and when she sees me driving off in our old truck. She will waken from her nap, and if I am gone, my wife usually reports that she cried a great deal for me to come back. Only lately is she beginning to 'let me go' with the implicit preunderstanding that I'll soon come back. She will come to the door and tell me to kiss and hug her, and say goodbye to me while closing the door on my face, without any tears or yelling.

Important also has been perhaps that we've managed to carry many of our as well as her possessions with us from one world to the next. So whatever the dimensions of the rooms we occupy, they most frequently become filled with familiar objects from previous worlds. The many other possessions we've had to give up were often infant toys that she had outgrown and were disinterested in, thereby giving them up posed no real threat to her sense of security. She rarely missed them, and soon received other more interesting substitutes. Likewise, whenever we rearrange furniture, she takes a serious and playful interest in assisting us in the move-we must explain to her the new arrangement and provide within the new arrangement some space or place of her own.

In her world, the so-called 'identity of perceptions' that is so important to maintaining a balance between our ego and our environment is more tied to the most significant and most immediate objects of her environment. Only secondarily and somewhat derivatively are they linked to the actual environmental spaces or background in which these objects become configured. On the other hand, it is evident that objects that in previous environments were significant and immediately salient, such as Salty the dog, her Grandmother, the backyard, the university fountain and the steps where she first learned to walk, have become lost in the background of her consciousness to be replaced by new and different objects.

This transition is reflected in the shifts in her vocabulary that we recorded of her while in California compared to her present vocabulary. She has lost certain names and expressions which were associated with salient objects in her previous environment such as 'woof woof', 'dumb dog', 'woosh woosh' (associated with her plastic slide in California) and 'yum yum' which she associated with her Grandmother. On the other hand, she's retained most of this early vocabulary related to things still available in her environment and she has added to it several fold.

The problem of separation and of the psycho geographic identity seems to be one that increases with age and experience and the extensiveness of one's effective life world. Struggling to maintain an identity of perceptions between past and present life worlds, and the reliving of past separation episodes during and after the process of rapid or drastic transition, is more of a dilemma for the parents than for the child. Children adapt readily to virtually any and every environment in which they find themselves and rapidly adjust from one day to the next. Adults do so only with increasing unease and difficulty

Alyce's present life world is one that is growing at an almost noticeably daily rate. She has come to acquire her own corner of the bedroom where she keeps all her dolls and stuffed toys, her own playroom in the living room where all her push and ride on toys, her toy basket, and her book shelf with books have recently been placed. Several weeks ago she suddenly added drawing to her daily routine after I showed her how to hold a felt tip pen and then bought her poster sized newsprint to draw upon. She has a little box of plastic blocks we bought for her about a month ago, a plastic container of dinosaurs we got for her a couple of months ago, a container of plastic jewelry and cosmetic items I got for her about six weeks ago. She has her familiar bathroom tub toys that have been added to over the months by different people's gifts. She has taken possession of the futon couch which has become her favorite indoor climbing gym-if she fall she has a soft cushion to land on. She also has her plastic shopping basket that she fills with her toys on occasion, her little ride on three-wheeled scooter that she pushes through the house, her little metal rocking horse that I refinished for her, her other plastic pull cart her Grandmother bought for her, and her plastic clothes basket full of different toys.

It is within this interior world that she spends most of her time, with the exceptions of our daily short excursions out to go shopping, to walk to campus, or to play in the local playground or walk around the apartment complex. Within this world she has developed her routines and her different habits of play and interaction. If we did not pick up after her, her things would be scattered haphazardly about the entire house. Her routines are not very strict and are quite flexible-she intersperses reading, television viewing, drawing, talking, eating, dancing and running and climbing, with playing with her other plastic toys, her blocks, her dolls, her tea set and cosmetic items, quite liberally. She mixes it all up quite extemporaneously.

Her activity can indeed be characterized as 'multi-modal' and polymorphous. She combines talking, word association, verbal articulation, hand manipulation, visual and aural emblematic pattern recognition, body movement and motor coordination into various testable and workable patterns of interaction with her environment. Her world seems to be one that is literally 'coming together' in the most literal of senses. She is learning how to coordinate in the most basic ways her activities and experiences, into increasingly systematic arrangements. She must figure out whether to bring the donut too her mouth or her mouth to the donut. Sometimes she's not sure which is the best path to take, and sometimes she makes mistakes. But it is in this way that she explores and experiences her environment, and learns to coordinate her different activities and modalities in a fashion that allows her to more effectively navigate in her growing life world.

In this way she sometimes gets her order confused or mixed up. She may tell us poo-poo or pee-pee after the fact, intending to set on her potty trainer. She may put the word before the act, or the act before the word-but she almost never gets the word order mixed up-she always says 'go out' rather than 'out go,' 'lets dance' rather than 'dance lets,' 'get up' rather than 'up get.'

In this way it is possible to identify recurrent cycles of her activity which are placed within other cycles, and to see her life as being a multi rhythmic, polytonous moire' patterning rather than a monotonous or single rhythmic ordering of events. One of her basic cycles seems to be a pattern of need gratification that leads to attracting attention, which in turn leads to play activity, that leads to environmental exploration, that leads to independence and results finally in 'negativity' that leads to 'mistakes' and reprimands, or else sometimes results successful actions that brings positive encouragement, generating repetition until she makes more mistakes. With mistakes and reprimanding, she becomes frustrated and 'aggressive' in her reactions, which bring further withdrawal of positive support, or 'negative reinforcement' which in turns leads back to basic deprivation of her needs for attention and gratification, and which repeats the whole cycle over again. This cycle repeats itself many times over again-forming a kind of oscillating wave pattern-or series of sinusoidal wave patterns of different and varying frequencies of her daily activity. As

her life world comes together and grows, these cycles become larger and perhaps of longer duration and decreasing frequency.

a child's basic learning cycle, leading to negative feedback and frustration and withdrawal.

This cycle may go in both directions, being a vicious regressive cycle primarily ordered by the negativity, frustration and negative reinforcement, as much as it can be a positive feedback growth cycle. The ordering of the elements may be different depending upon the prevailing circumstances or dispositions of the parents or child-lack of attention may generate negativity that may generate aggressive responses that may culminate in punishment or rejection and separation. Needless to say, its overall directionality is largely dependent upon the caregivers ordering and responses, and the availability in the environment of significant stimuli and of significant others to mediate the process.

It is not difficult to see how and why this 'acquisition cycle' may be reversed. A child may seek attention from parents too caught up in their own need gratification or too preoccupied with survival only to be ignored or punished, leading to deliberate attempts by the child to attract attention and resulting in a kind of negative rather than positive independence, and an emotionally reinforced withdrawal or delayed reaction with the environment. In this reversed cycle, a child's frustration precedes rather than follows its gratification, and a child's acquisitive learning is oriented towards dependency in reaction to negativity rather than towards independence that eventuates in negativity.

In this kind of cybernetic growth process, we may hypothesize certain first order and second order feedback mechanisms that maintain equilibration between environment and a child's experience. First order mechanisms maintain the stability of the cycle in a closed state. These must be variable factors, but all of which are some form of negative reinforcement, punishment for mistakes, withdrawal, separation or deprivation, which set a ceiling to the growth and acquisition of the child. To these negative first order mechanisms are increased in the overall system it will tend to reverse the process and lead to a vicious regressive cycle characterized by frustration, dependency, negativity, and aggressiveness. Second order mechanisms are factors of positive stimulation, environmental enrichment, playful interaction, and increasing degrees of freedom that allows the child to expand the cycle in a positive way.

There are in this basic theory, two fundamental factors that are important to the acquisition process. The first is that the process is primarily mediated by the interaction with significant others who provide through their reactions to the child both positive and negative, first and second-order feedback mechanisms, and that the overall process is characterized as an inherent, natural drive towards the 'organic independence' of the child, towards increasing autonomy of the child's effective life world. A child's drive is naturally inclined toward the acquisition of functional independence in the world that stems from the mastery and extension of its effective life world. There is evolutionary survival value in this drive that is quite self-evident. Furthermore, the drive for independence can be interfered with and basically frustrated through the failure of the mediation by primary significant others. This may result in the failure to achieve a sense of functional autonomy and organic independence in the world, one that remains fundamentally dependent and negatively oriented towards its functional achievements in the world. The individual who is frustrated

in her/his drive towards organic independence will have arrested or distorted development, and will exhibit acquisitive patterns which may be authoritarian, criminal, socio-pathic, insane, abusive, manipulative, neurotic in reaction to the larger world.

This basic acquisition cycle is repeated several times a day everyday of an individual's childhood and youth. It grows in complexity and drifts into an informal, out of awareness orientation. In its many sub-cycles it is polythematic and polythetic-it may be at one time the problem of eating, at another the problem of playing with blocks, another time the problem of taking a bath, or the problem of playing with other children. Development is marked by increasing coordination and convergence of the subcycles until they become more characteristically stable and consistent from day-to-day. As the subpatterns converge, they become increasingly oriented into a single predominant pattern which is in a sense a meta-phenomenological, and conceptual paradigm of an individual's self awareness and meta-physical understanding of her/his life world. As such a 'hyper-coherent' pattern emerges, a pattern that is synergistically transcendent to the actual phenomenological subpatterns that compose it, it provides a predominant orienting model or template which provides consistency and coherence to the individual's life-world. As this template solidifies in our understanding, it provides a means by which we gain independence from the mediating influence of significant others, by becoming an internalized substitute mediating mechanism which enables us to function autonomously in our life world.

It can be seen that whether the overall development of the individual becomes grossly positive or negative is dependent upon no single decisive factor or set of influences in a person's life-later positive influences might effectively counteract earlier negative development, and vice versa. The overall orientation of an individual's organic development must be seen as a cumulative consequence, a statistical averaging of the many daily events of an individual's experience. The developmental cycle never ends, either-it never achieves completion or full convergence. It always remain open upon the world either a positive or negative sense. To the extent that development is always unfinished business, our personality is always open to the new, unforeseen possibilities of change and transformation. We never completely internalize the mediating mechanisms into our own character, and we thus always remain dependent to some degree upon the presence or relative absence of significant others in our lives. We give up our primary significant others of our childhood, and find substitute others in our spouses, our friendships, our occupational or recreational affiliations, and even, most importantly, in our children. Our children become the rerun experience of our own childhood. We become their significant others and we suffer a kind of role reversal. We relive the experiences of our childhood through our relationship with our children, and they become a reflection of ourselves as we were in relation to our significant others. Later in life, we find we still need others who help to mediate our life worlds for ourselves. Functional autonomy is never completely achieved.

It is at this point that larger cultural worlds come to have a constraining influence upon our personality development. Certain cultures with different adaptations value differently achieved social independence, dependency, aggressiveness, sociableness, nurturance and surrurance, hierarchy and equality, and it is within these relative ranges of what is valued and acceptable, and what is devalued and unacceptable, that our personality is developed and configured against a larger culture historical context. Given the proper social context, certain traits which might otherwise be seen as negative or regressive or aggressive may be positively valued, relations of basic dependency may be encouraged, and relative autonomy may be seen as threatening to the social welfare that defines its security in terms of monotonic, hierarchical and stereotypical social conformity. This difference of cultural worlds may mark the transition from childhood to adulthood as particular stressful and difficult, as a sharply discrepant period contrasting previous and future life worlds, or else it can be a gradual and peculiarly unmarked transition. The adult being but an established and legitimated continuation of behavioral patterns begun in early life.

The central mediating mechanism that becomes internalized in a person's organic development is language. It is the positing of meaning and order via language that a person creates an inner sense of separate, autonomous self. The achievement of linguistic competency and performance competency in general is the

process of the internalization of subjective consciousness of the patterns. Language precipitates and focuses the coordination of organic functioning, and facilitates the human beings interaction with the environment. It is through language that experience becomes ordered and synchronized. Linguistic performance or linguistic incompetence or incoherence is a measure of the relative lack of development or regression. Because language is the principle mechanism of the internalization of the environment, it is via language that cultural worlds come to have the largest influence and interference upon the development of the individual's personality. The child inherits, acquires and grows up in a linguistic environment that is shaped by larger socio-cultural and historical forces-and it is in terms of a particular language that a person comes to express and know her/his life world and independence.

The end comes when we no longer talk to ourselves. It is the end of genuine thinking and the beginning of the final loneliness. The remarkable thing is that the cessation of the inner dialogue marks also the end of our concern with the world around us. It is as if we note the world and think about it only when we have to report to ourselves. (Eric Hoffer 1973: 87)

PART VII

A CHILD'S WORLD VIEW

Action is released by emotion, and emotion is stirred by words. What, then, is the role of thought in the release of action? For all we know its role is as an instrument in the production of potent words. (Eric Hoffer 1973: 39)

We are left with the problem of understanding, in terms which are not to destructive of the original meaning, of how a child makes sense of her/his world. Given that a child's world is in fundamental ways qualitatively different from the adult world, it follows that the way that a child views booth her/his own life world, and the wider surrounding world, must be in some essential way fundamentally different from the way an adult would normally construe her/his world. We must, so to speak, get 'behind the veil' of the child's world as it is presented to us, to understand the subjective patternings which construct that world. We must say that these subjectively rooted patterns are neither rational nor merely habitual or customary in the way that the subjective constructs of adult reality have been held to be. It is similar to the adult subjectiveness in that it is fundamentally an emotional process, a pattern of feeling that comes to be attached to habit and customary practice, and which is fundamentally 'integrational' and creative in its developmental expression and in its incorporation and environmental embodiment of experience. In this sense rational consciousness is more of an epi-phenomenal by-produce of this largely unconscious subjective experience of the world.

But a critical difference between the subjective world of the adult, and the subjective world of the child, is that the range and expression and influence of feeling is fundamentally different. Adult feeling is marked by its tendency towards rationalization and sublimation and displacement through symbolic ritualization. This is largely accomplished through the mediation of the internalized mechanism of linguistic translation of experience and its subsequent reinterpretation. It furthermore becomes symbolically 'acted out' in meta-

linguistic and paralinguistic behaviors. Children, especially when they are most young, do not have this fully formed linguisticity by which to rationalize and ritualize their subjective experience of the world-for them this experience is expressed 'proto linguistically' and becomes enacted 'proto symbolically.'

Their feelings are not yet fine tuned by the words they command to express them, and their behavioral responses and expressions in their life world are not yet firmly fixed or well defined. For children, the world comes to have, subjectively, a concrete presentational immediacy about its experience which is largely alienated and intermediated by the adults internalized representational linguistic and behavioral strategies. To put it another way, children do not make a sharp dichotomy normally maintained in the ego identity of the adult, but which on occasions of stress sometimes breaks down as well. From an adult standpoint, children are normally and naturally hysterical and hyper-suggestive to the stimuli of their environment. From a child's standpoint it makes little difference whether their behavior is judged hysterical or hypnotic or not-what matters to them is that it seems most real when it happens.

If children come to and identify with and internalize their parent's character, then they must do so in a way that is fundamentally different from how the parents come to acquire their own adult personalities. The adult's personalities have been shaped many ways by experience and have been ordered and integrated on the basis of functional and formal homology. What works and what is pleasurable becomes incorporated into the adult character as something intrinsic to it. If the children receive any of this by transmission, then they must be receiving largely as analogy and as somewhat arbitrary and empty conventionality-it is superimposed and internalized as if it were an external facticity about their world and not as something as profoundly derivative of experience with the world. What for adults are deeply ingrained insights, lessons and eternal verities about life, become for their children but superficial constraints and superfluous values that they must live by. If the parent's strongly and strictly reinforce their values and teachings upon the children, then it will be the strictness and the strength of the reinforcement that they incorporate into their character, and the understanding attached to their acquired values and attitudes will be mostly understanding derived from this strictness and strength rather than from any intrinsic properties of the experiences themselves from which the values were originally derived.

In this way each new generation must begin to learn for themselves the lessons long since learned by their parents and ancestors. They will come to apply and amend in their own world in their own way the lessons that have been bequeathed upon them by their parents. Each new birth witnesses the beginning of a whole new subjective world-a world which will have to make itself for better or worse in the larger world, in conformity and in contrast with the wider world into which it has been born.

It is to be wondered whether a child is subject to the control of natural instincts before cultural habits and constraints come to be inserted in the child's character. If so, we are left with understanding in the child the substrate of human nature underlying all subsequent changes. If not, we are left with a sense that the young child is a half formed creature-neither subject to the controls of nature nor yet subject to the constraints of nature. The case of feral children argues strongly for the conclusion that though the capacity for language and culture may be inborn, its acquisition is subject to the vicissitudes of the social environment. The evidence of the wolf child teaches us that even as basically human a trait as bipedalism is not necessarily an inevitably acquired natural capacity-human children must learn how to walk, and they must have the appropriate social environment-the role models-which instruct them in this marvelous feat.

The case of homo ferus also informs us that if left on their own in nature, children do not revert into a regressed, proto human state in their natural adaptation and survival in the wild. Indeed they adapt and survive, but without the social character which marks humankind off as social creature. If left on their own, children acquire whichever kind of minimal social ethos that becomes available to them, whether it is to jump like gazelles, or howl like wolves, or to growl and lumber like a bear. They do not become little Tarzan's or even young Homo Erectus. They become bestial things who remain entrapped in a neverending state of infantile regression. They become as if young infants locked inside of a growing body, without having acquired, and having mostly lost the ability to acquire those vital traits permitting the development of the adult personality.

If this hypothesis is correct, then we must first look to the subjectivity of the wolf child as evidence for the normal child's world view before it becomes rescued and 'ruined' by the intervention and interference of society. Children, if left to their own, will not develop naturally into healthy, robust and virtuous human beings-this Romantic notion of the untrained natural child has been laid to rest by the encounter with the real wild child.

The lack of depth perception; the inability to notice one's own reflection in the mirror and to understand it; the difficulty of dressing and the desire for nakedness; the inability to easily manipulate fine objects with one's fingers; the lack of language and the gesticulations; the typical over-extensions and under-generalization of reference and the concreteness of perception; the crawling locomotion; are all prototypical characteristics of both feral children and very young infants, and taken together suggest that in general, without the proper stimulation and modeling, children will fail to acquire even the most basic skills that define human beingness.

We may speculate further that such a child is just not preliterate in the sense that the so called 'primitive mentality' has been held to be, nor does it yet share in the fundamental 'orality' which is so important to our sense of humanness. Rather, the young child can be characterized as 'pre-oral' in orientation. Such a pre-oral sense of being lacks even the basic structure which linguistic orality provides. It may be speculated that even its emotionality and form of emotional expression is undeveloped and quite rudimentary-gross feelings of pleasure and pain, of satisfaction and lack of gratification dominate the child's experiences. In such a state, experience must be about as perceptually presentational and immediate as is humanly possible. Basic sense impressions remain an unrefined, untransmuted and untransformed stream of stimuli that must be for the most part seemingly haphazard noise of the opaque background of one's own sensations.

Such a child remains a multi-sensorial entity whose basic modalities remain uncoordinated and undifferentiated. No single modality such as vision, hearing, touch will have exclusive predominance or a central orientation over the other modalities. Rather it is possible that it is the relative salient strength of the stimuli itself which will tend to attract the greatest focus of attention, and which leads to predominance of development of one modality over the other. Thus, if a child is raised in an environment without much visual contrast, but a great deal of aural stimulation, then it can be expected that the child will develop a preference for, and a possible talent with, distinguishing sound and tonality, while a child brought up in a relatively muted, but visually enriched environment, may come to select and develop a predominantly visual modus operandi. Not to be ignored are the modalities of smell, taste, and touch which may be differentially developed in different kinds of environments.

It is possible that the young child does not yet have a lateralized brain function-lateralization and possibly relateralization of brain hemispheric function are acquired later in development. A primarily unlateralized brain has certain implications about the way a child might experience the world. Either hemisphere may be struggling for control at any given time, the control can pass intermittently from one to the other side of the brain, affecting the child's mode of experience, and the conflict between the two modalities might result in the effective functioning of both being frustrated and seemingly unorganized in the early experience of the child. The child is as if rudimentarily dyslexic in its balance and coordination. This state may have something to do with the adaptability of the child to alternative environmental stimuli-the acquisition of lateral dominance may be in part dependent upon the predominant modality of experience that the child has come to rely upon it her/his adaptation and development. The occurrence of dyslexia may have something to do with the child's lack of acquisition of cerebral hemispheric lateralization.

In spite of the basic performedness of the child's character and sense of being in the world, it must be hypothesized that the child has inherited a basic 'mechanism' of consciousness which allows all subsequent acquisition to be possible. Such a device of human nature would be the basic building block of all human consciousness-of cognition, language, feeling, memory, dream, motor and manipulative activity and of perceptuality itself. This device has already been suggested as something that is basically organic, and

fundamentally occurring in an undifferentiated, multi-modal state of form and function. It is the presence and innate functioning of this basic mechanism which allows the subsequent integration and coordination of the different skills, capacities, and characteristics typical of human beings. It is successful because it is generalized, polymorphous, multi-modal, even 'polythematic' in form and function, and because it is inherently unspecialized and undifferentiated in the way that a specialized 'instinct' or 'biogram' for language, cognition or manual dexterity might hypothesized to be.

It is the central thesis of this work, underlying the theory of organic human development, that this central mechanism is the rudimentary, undeveloped organization of the brain, and primitive organic being itself. It is fundamentally a symbolic and emblematic pattern-recognition process which allows the multi-modal transmutation of experience, a kind of organic synaesthesia, and results in increasingly complex and fine tuned stimulus generalization and response specialization. It is the form and function of the emblematic symbol to allow one mode or form to be associated with, and translated into, another mode, and which allow the accumulation of symbolic forms independently of its experience, which nevertheless function as internalized, secondary stimulus for generating and direction inner experience. The emblematic symbol allows a duality of patterning that becomes increasingly independent to experience but is subject to and dependent for its effective communication and development upon conventional environmentally rooted social constraints.

This same symbolic emblematic recognition device is the building block of language, cognition, culture and behavior. In short it is the atom of primary acquisition and the basic subjective molecule of human worldview.

This innate device is, in other words, the innate, undeveloped human consciousness itself-naked of its cultural acquisition, bereft of its environmental experiences. In a fundamental sense, human consciousness is basically organic and symbolic-it is neither primarily cognitive, linguistic, motor sensorial, manipulative or behavioral. But it does have a basically primary 'emotive' form and function that can be thought of as precognitive, proto-linguistic. The experience of emotion can be thought of as primarily symbolic, allowing the intermediation and coordination between body and brain, and brain and mind, such that feelings become fine-tuned in its expressively, sensitivity and sensibility. Because this device is fundamentally emotive, its development is primarily socially dependent-it is the interaction and emotional, intersubjective communication between people which cultivates and makes possible its refinement, differentiation, specialization and overall organic development in adaptation to the environment.

The elusiveness of emotion, as bodily impulse, as upsurging, hydrodynamic forces of the id, and as the salience of meaning underlying thought and metaphysicality of human consciousness, and the elusiveness of confirmatory evidence for any single, specialized primary acquisition device, suggests that circumstantial evidence for this fundamental, organic emblematic recognition device must be found in many different aspects of human awareness, but is defined by not particular or distinguishing set of features.

Evidence may be found in the basic prototypicality that seems to underlie much of human cognition and language. Children, like cultures, acquire colors, language, cognition skills, artistic patterns, in much the same general order, and in much the same basic prototypical forms. The near universal prototypicality of the acquisition of human consciousness suggests that the emblematic, symbolic forms which are the precursors of later, differentiated functions of language, cognition, perception, are somehow basic and organically rooted in the physiology of brain function. This basicness and prototypicality of human consciousness is suggested by the holophrases of a child's first words, by the first circles and mandalas of a child's drawing, by the general shape and color and form of the first 'hand sized, face shaped' objects which fascinate all children. Later, books, pictures, utensils, tools, jewelry, toys, are all made to a convenient hand-size.

It is not to be wondered whether or not these basic elements of consciousness do not form the basis of the allegedly universal 'collective archetypes' underlying human consciousness. Basic elements of percussive sound, tonality, unilateral figures, transitivity, unidirectionality, have all been suggested as possible candidates of a universal consciousness. It also suggests the basic power which basic, fairly abstract emblematic devices and symbols have in holding and moving the human consciousness in a way that defies conscious understanding.

In considering the possibility prototypical paradigms that such basic 'universals' entail for the general, panhuman organization of experience, may have a basis in both cultural and biological constraints. Being more than merely limits to long-term memory or the way the cells of the retina are able to process information about different frequencies of the color spectrum, there is a 'communicative' function that demands a modicum of common simplicity for the maximization of the carrying capacity of any information system, whether this is culture, language or a symbolic system of representation. It is not necessarily by accident that human beings, given the same basic biological equipment to play with, would have only a limited number of ways that it could use this equipment in a way that would promote both biological and cultural survival. It is hardly surprising that different cultures and different individuals, given similar kind of circumstances and a similar range of challenges, would 'invent' similar kinds of patterns and culture, cognition and behavior. Another way of putting this is to say that the 'design features' of the human world view impose certain universal and basic sets of constraints on human development which cannot be violated and which channel such development along certain, broadly predictable directions. The arc of human possibility is a grand arc, but not unlimited by nature and by structure.

The infinite variety of speech sounds that a human is capable of making are reduced to between twenty and forty phonemes in most cultures. Most cultures have six or less primary terms for colors and not more than eleven. (Berlin and Kay 1969) The number of distinctive features used to construct these taxonomies are limited in number and most are used in all cultures....Although individuals can and do many more distinctions in these domains, it is evident that the need for agreement between two people puts a severe limitation of the size and complexity of any taxonomy used in general social interaction. (Whiting 1975: 171)

The organic and symbolic, basically emotive, emblematic recognition device of human consciousness underlying primary acquisition and human development leads to a view of the child's subject sense of reality as being in a kind of somnambulant dream state, and the drawing of memory, attention, language, cognition and of willful self consciousness is a kind of gradual awakening from a primeval dream state-a state of magic and suspension of credulity. It is the dream state of a young child that renders our fragmentary earliest memories but momentary flashes as if our memory of dreams when we awaken. Perhaps it is the organic, developmental function of dreams and sleep to periodically and nocturnally return us to such a primary, temporarily 'regressed' state of primitive beingness. Though we may grow free of the womb, we never leave the need for the womb-state that we carry within us. It is perhaps also this basic dream state of dawning human consciousness that we recognize a correspondence to our mythology, and to what some believe to be our basically mythological consciousness. The analotical, dichotomic, transformative structure of the myth recapitulates the basic structure of our dream stare. It is especially in origin myths the world over that we find the rudimentary parallels to early organic consciousness-many such myths begin with the enactment of authothonous creation of the world by thought, speech or deeds.

One characteristic feature of the dream-state and of alternative states of consciousness is that the self becomes magically empowered in supranormal ways, or else it becomes rendered helpless and imprisoned in passive control by the symbolic enrichment that surrounds it. The sense of reality upon which waking consciousness depends becomes temporarily suspended during the dream-state in order that the symbolisms of the mind can have some free reign and free play.

It must be emphasized that this basic, organic form and function of the human mind in primary acquisition is in its inherently symbolic structure an inherently creative process-a child creates its reality in much the same way that human beings regular create and recreate their cultural worlds.

The infinite creativity of a child's world-view accounts for the symbolic generative capacity of language, cognition and behavior. A child learns to create new patterns from old elements-as it grows its essentially emblematic, symbolic creative capacity increases in its sophistication and power. It is the distinguishing characteristic of regression that the individual is non-creative and often destructive.

How then does Alyce make sense of her world? First, her world follows no sense of order, which is precisely predictable from day to day. Her's is an amateur life world with only a rudimentary and incipient sense of order. An expert's world is one which is characterized by precisely delimited domains of knowledge and skill in utilizing that knowledge-unlike an expert, Alyce's world is one which is characterized by its lack of precisely boundable domains of knowledge. The different categories and the experiences that they are indexical of her in her life world are not clearly separated from one another, but the elements of each are all mixed up with the other. Drawing, reading, television viewing, dancing, talking, eating, are all domains of daily activity which are not clearly separated from one another in the same sense that they become for an adult. Within this multiple, overlapping domains she flits in a quite unpredictable, if not wholly random fashion, mixing up different subcomponents as they seem to fit at the moment.

It is fitting to characterize the amateurish world of Alyce as moderately chaotic-certain patterns are expectable, but never quite predictable. It is a world that is characterized by its increasing sense of 'anti-chaotic' order that emerges somewhat creatively upon the edge of total chaos. It is a world that is thin and minimum of structure-a structure perhaps derived from the operation of very basic organizational functional 'transform' operators-perhaps certain patterns of association and contagion. As much, the structure is a very fluid and flexible state-it has not crystallized into the kind of solidity which is characteristic of the adult's sense of order. And yet her world somehow 'hangs together' in a way that is overall consistent and productive for Alyce.

Expert systems can be characterized as being composed of several orders or levels of increasing breadth and depth-each higher order is exponentially more complicated than the previous order of magnitude. The expert is characterized by his or her specialization and focus. A certain point of breadth in world knowledge is achieved, before subsequent levels must be increasingly delimited and focused in order to allow for such specialization and expertise-otherwise the individual would be overwhelmed by the sheer enormity and complexity of the total breadth and depth of world knowledge. Part of the constraints in determining the subdisciplinary focus and hyperspecialization of knowledge must be related to the intrinsic constraints of attention span and of the human capacity in processing so much information at one time, the number of elements that can be held in short term memory, and the overall capacity of long-term memory. There are also certain linguistic constraints that work in delimiting the scope and scale of human specialization.

One set of constraints is in the individual's and cultural world's monolingual/monothetic value orientation versus a polyglottal, polythetic world view and value orientation. The latter orientation produces jacks of all trades, but master of none, while the former orientation produces narrowly focused experts who trade off great breadth of focus for great depth and precision. Related to this set of differences is the acquired capacity for linguistic code switching and code mixing which enables individuals to facily pass from one orientation or world-view into another. Individuals who acquire such a capacity for multi-lingualism can more readily adopt alternative world views and associated value orientations than those individuals who are brought up with a strongly and single dominant language.

Furthermore, it seems that any specialized domain of knowledge becomes defined by its specialized jargon that seems to set rather narrow limits of focus for those who participate in such jargon. It tends to be exclusive and specifically defining of the world which precludes a great deal of cross disciplinary assimilation and amalgamation of divergent worldviews and specializations. Such demands typically surpass the human limits to deal proficiently with so many different knowledge bases.

It can be readily seen that a child's worldview is precisely contradictory to the expert's specialized orientation. Alyce's world is grossly 'generalized' and quite unspecialized. Such common semantic and linguistic errors such as over extension of reference and over restriction of generalization reflect the basically unspecialized and generalistic nature of the child's worldview.

Unlike the expert who has mastered the skill of function at a fifth or even sixth and seventh order of magnitude, the child is still typically attempting to gain control of and master the first and second, and possibly third order of magnitude which are those orders characterized more by their general breadth and openness, and their basicness, of worldview, than they are by their specialized narrowness, specificity and boundedness. In this case, the child is working at a basic, ordinate level from which there is both an ascending superordinate level of greater generality and a descending 'subordinate' level of increasing specificity and detail. It is true of knowledge acquisition in general that greater degrees of discriminatory power and detail are inversely paralleled by corresponding increasingly levels of generality and abstract relation. The child is working primarily upon the ordinate level, sometimes dropping down to a subordinate level or moving up to a more superordinate level, but not managing the movement with the ease and acquired facility of an adult. The child's level is exclusively oriented towards chaining together different basic things in increasing breadth and comprehensiveness of compass-the basic foundation upon which later knowledge acquisition will be built is being demarcated and laid out.

The process of basic emblematic pattern recognition can be seen operating on an everyday basis in interrelating many different facets and modalities of experience. Alyce makes basic relationships of association based upon the similarity of form and function. A microwave beeping is the 'phone' ringing. A happy face on a picture of a kool aid package is a round face of a jack-o-lantern. A dinosaur skeleton on the television screen becomes associated with the 'saurs' in her books. A woman with her arms on her hips in a storybook becomes 'Mommy' and a strange man becomes 'Daddy.'

A similar kind of associative pattern recognition is occurring when she tries to put diapers on her doll, or sees a big hot air balloon in the sky and calls it a ball. It occurs whenever sees a small bird high up in the sky and calls it a bee, or sees a crab in the picture book of animals and calls it a spider. Similarly, when her mother draws a rough outline of a horse, a sheep, a pig, a fish, Alyce makes an immediate and correct association. Daddy with a beard in a picture is not recognized, while any strange distant but similar looking clean-shaven male might be Daddy. Grandma becomes the little gray-haired lady on television or in the magazine ads.

This pattern recognition is fundamental to Alyce's acquisition of knowledge and skills in making sense of and ordering her world. It is a recognition process which involve tactile sensation and manual manipulation as well-the hot water in the bathtub is the same hot of the taste of food, and the cold of an ice cube is the same cold as snow and icy weather outside. Playing with the zipper on her jacket, and learning how to use it, brings a curiosity in the zipper on daddy's pants or on the dolls' clothes or the zippers on plastic pouches. Learning to hold a pen in the right direction quickly becomes adapted to drawing crude circles and scribbles ('fish') that become transferred to a wider variety of drawing and writing instruments and the markings of which soon become transferred onto the floor, the pages of books and magazines, and onto the walls and table-tops.

This association and pattern recognition is the basic element in the ordering of a child's make believe play. Dressing dolls, reading the newspaper or books or letters out loud, cooking food, serving coffee, putting on make up and dressing in jewelry all involve the essential association and transfer of meaningful patterns from the adult's world to the child's level and order of understanding. I watched her climb up onto the toilet seat cover and stand and reach the various bottles there. She tipped the capped bottle of mouthwash to her lips several times, like she's seen her mother do, dust the bath powder onto her body, and squeeze the hand lotion to her hands and rub them together, brushing her hair, bathing her doll trying on Mom's lipstick.

In such play activities, many of which involves a great deal of language play, the child is ordering her experience and relations with her world in a way which is syntagmatically structured as well as paradigmatically referenced. She is learning not only in what groups things belong, but emerging sense of class inclusion in which her dolls occur in one pile, her books in another. Nevertheless she is learning how to string the elements of her world into different serial orders-she stacks the blocks and stack her books, choosing which one she wants to read. She is learning how to put things back into the places in which they come.

The following sequence is anecdotal and typical of Alyce's growing style is relating and ordering her world:

Alyce takes the popcorn by the two handled Chinese cooking pot from the bedroom where I am reading to the living room where Mom is watching TV. She says 'Look Mom, corn.' Alyce eats much of the popcorn (her mother doesn't care for it) and later brings the pot back to me in the bedroom. Together we finish it. She looks at the photographs of the photo album. I ask her who the people are. She recognizes Mom, Grandma and me, but not in our previous states before we had her-at our wedding reception or at Disneyland.

She takes the toy box down from the bookcase and drops it. She waits for consolation from me. I prompt her to pick it up. She hesitates and then picks up the pieces that fell out and carries the box to Mom still in the living room, where she dumps out the contents and plays with them.

She then comes back into the bedroom carrying a plastic teacup with a spoon and a saucer, saying to me 'Daddy, Daddy, kopi dis, kopi dis'. I thanked her and sipped the coffee-she gives me an earnest look of appreciation and delight. She takes the coffee back out and drops it on the floor. She picks up the cup first and puts the spoon in the cup. Then she hesitates as if trying to figure out whether to pick up the saucer separately or to put the cup on the saucer first. She reasons it out, and puts the cup on the saucer, and then picks up the saucer with the cup on it, balancing steadily and slowly not to spill the coffee again. I hear from the living room 'Hi Mommy, Uh-oh', and Mom says 'Did you drop something?'

She comes back into the bedroom with me riding her plastic push-cart and eating a banana. I am writing this down and she points to the letters on the notebook and begins babbling to me as if she is reading.

She drops the banana onto the bed onto the bed and exclaims 'Come, Don't! Don't!' to me.

She leaves a little while into the other room and then comes back in as if she is blind, trying to walk with her eyes squeezed shut. She peeks out one eye as she stops short, and then orients herself and falls across my lap.

She sees the baby on the cover of the book I have been reading and exclaims 'Baby! Baby!'

She walks back out closing her eyes again, opening them at the doorway to see where she is going. She walks to the bathroom door where Mom is now taking a shower and calls out to her while trying to open the door.

Such a sequence of activities and responses are not exceptional, but are quite a typical, everyday performance. It never happens in quite the same order or fashion from one day to the next, and she adds new things which she learns as she goes along in her extemporaneous enactments of her play world-getting better and more sophisticated with each passing day. A much similar kind of action sequence was recorded when Mahala was just about thirteen months old:

Alyce gets up, climbs inside the bookcase. I give her a pillow. She gets our Dr. Seuss book from her book bag and turns the pages with the book upside down. She begins playing with the blinds. Rosie tells her to

stop. She ignores Rosie and I slap her on the thigh. She slowly grimaces and begins to cry, letting go of the blinds. I feel like a heel. Rosie picks her up and hugs her. Alyce points to the TV. I turn it on. Garfield. I get up and put on my pants. Rosie gets a bottle of formula and lays Mahala on the futon and changes her diaper. Alyce watches Garfield intently, not resisting Rosie as she usually does. Several commercials for children's toys. The MacDonald's Happy Meals. The 'Home Alone' movie ads. Another commercial. Alyce reaches up and pats my shoulder. She gets up and sit next to me as I'm writing this. Still watching cartoons. Lucky Charms. Rosie gets to shower, Alyce follows her, throwing her bottle down and crawling through the bedroom, pushing the bathroom door open and entering. I hear her calling 'Mommy'. Rosie talks to her. Alyce comes out. She begins pushing her plastic cart, then takes her little black doll out. She sits there with it. A Gulf War update, a missing pilot and a Texas funeral for a twenty year old Lance Corporal. Then 'Teenage Ninja Turtles'. Rosie gets dressed, putting on her jeans. Alyce stands up and pulls plastic pieces from her cart. Rosie picks up the pillows and folds up the blankets while I lay on the futon writing. She tells me 'Hey get up lah' I tell her to hold on while I finish this sentence, and then I get up and sit on the couch. Alyce follows Mom back into the bedroom. As I continue to write Rosie comes back out and picks up the toys and folds the linen. Alyce goes to the window again and looks at me. Then she comes to my feet. Rosie makes cereal and comes to feed her. Alyce goes to the kitchen chair again. Rosie asks me if I wrote down what Alyce did in the bedroom-she took out half the clothes from the hamper again. Alyce goes back to the bookcase and bangs on its back wall. Calling out she puts her soft doll Rebecca beside her. Alyce then comes to me and pulls my paper away. I pick her up and put her on my lap. Rosie gives her a spoonful of cereal-smells like squashed banana. I make a face. Rosie tells me not to make faces. I ask her if she would eat what she is feeding Alyce. She says not, but she's always been feeding Alyce this. I said 'it's gross...I bet Alyce doesn't go for it much longer. Why don't you give her regular cereal and a whole banana.' Alyce sneezes and blows squashed banana onto the carpet. Rosie laughs. I move my foot away. Alyce kisses her doll, and Rosie tells her she'll get banana on it. Rosie gets a wash cloth to wipe her off. Alyce complains, climbs onto the couch, and throws down the pillows, stuffed animals and the telephone/clock/radio. It's 9:35 a.m.

There is a sense that, even at twenty months, Alyce's language is still not necessarily the center of her world. It is just one alternative modality of experience that is nevertheless becoming increasingly salient as it facilitates her social interaction, communication, her expressivity and intentionality, and in her organization and sense making of her world. Language until now has been for Alyce primarily just one alternative way of going about making things happen in her world. This was made quite clear to me the other morning when she woke up first, quietly climbed down from the bed, and stood at the threshold of the doorway while waiting and watching me with her wide eyes, as if her salient beckoning was enough by itself to tell me to get up and come with her. Her intention finally dawning on me, it struck me how pensively silent she was being as I got up and fetched another bottle for her and sat down to read to her in the other room. Children can be quite taciturn and tactile when they want to be-seeming not to need language exclusively to express themselves.

But this state of affairs seems to be rapidly changing for Alyce. We recorded her vocabulary at sixteen months of age at about forty-one words. Now at twenty one months plus her effective, expressive vocabulary has increased to approximately 270 words which can be divided into a number of interrelated but separable categories relating to the emerging domains of her life world. This compares favorably to what is listed as the average rate of acquisition, which at two years old is held to be just over one hundred words. We estimate that she is adding one to two new words a day to her vocabulary, in which if the rate remains the same her vocabulary will almost be doubled by the time she is just over two years old-or approximately 450-500 words. If this rate continues, by the time she is three it will have trebled-adding perhaps seven or eight hundred words to her vocabulary. We also estimate that her recognition vocabulary is much larger than her effective vocabulary that are the words she can generate spontaneously on association with things in her world. She seems to understand a great deal more of what we say to her than she responds with.

As her linguistic competence and performance grows, she is coming to recognize and effectively understand the functional value of her language in helping her to order and organize her experiences. Her repertory in how she uses her language is increasing about as rapidly as is her basic vocabulary. She can well understand simple instructions we give to her-like helping us fetch paper, or throw away trash, or to take something to Mommy or Daddy, whether she pays any heed or not. She began with basic interrogatives like 'what's that' or 'who's that,' and then added simple commands like 'get up,' 'lie down,' 'come out,' 'stop it,' 'lets go,' 'go dance,' 'sit on,' 'read book,' 'go out.' These expressions she often emphasized with a brusque motion of her arm or a push or pull against our bodies. She uses repetition of a word, a question, or an exclamation to emphasize something that she does not understand or wants to attract our attention to.

In such a manner she may repeat a word several times over to the exasperation of her parent's patience. Her two-word sentences function similarly to her 'holophrastic' one-word expressions. In a sense, even her sometimes more complex three or even four and five word utterances, which are usually only muttered and semi-intelligible (lets go in the other room) are strung together like a single long 'holophrastic' clause. It is to be wondered whether all basic oral phrases and utterances are not essentially complex holophrastic explanations-even adult statements.

In this manner, these phrases come as unbroken units that do not get reversed or mixed up. It is the generative, creative capacity of an endless array of such new utterances in ways that remain syntactically correct and semantically faithful which is the interesting aspect. Adults come to handle typically five to seven, or even longer strings of syllables as if schematic units of discourse. Many such units are cultural or personal cliché's which become repeated over and over again-and yet new oral schemata are being invented and old ones revised or discarded in systematic ways which do not violate the structural patterning and communicative function of language.

A remarkable aspect of a child's worldview is that it is largely with only a minimal sense of order, a bare skeletal outline of systematic structure which is surrounded by large pockets and open spaces of experience which remain essentially unordered in any but a random, chaotic way. In talking about how Alyce orders her world, it is as my wife remarked, she doesn't have any overall sense of order meaningful, predictable pattern, at least nothing that is directly intelligible to the sensibilities of the adult. She goes about mixing up things in her daily activities in a more or less haphazard fashion, leaving behind many messes that her parents must then pick up after.

This is clearly evident when we gave to Alyce a shelf in my own bookcase to prevent her from further pulling my own books off all the shelves. Her ravaging of my books more or less abated, but by the end of everyday all her books wound up on a big pile on the floor at the foot of the bookcase. She prefers the floor arrangement best, as it is easier for her to pick and choose and see many more of the covers of the books for us to read to her. Every evening we would put the books back onto the shelf in neat arrangement, only to have them pulled down the next morning in our exasperation. Finally we reached a compromise solution in which we just randomly piled the books onto the shelf into a kind of supercritical stack-she would pick and choose books from this pile at random while for the most part the stack retain its overall structure. But once in a while she would bring much of the rest of the pile down to the floor with the book she managed to pull out.

The apparent delight in disorder and its apparent adult lack of any sensible arrangement is evident in her pre-oral, proto-linguistic babble and expressive activity. From her first few months she would regular babble quite loudly in extended soliloquy's about seemingly nothing in particular. A sociolinguist friend of mine who heard her while on the phone at three months old was quite amazed by her performance. More lately we've recorded her reading her books and stories to herself or to her dolls, quite out loud, in the fashion of a long extended narrative discourse, turning the pages and pointing to the figures. At the most

one or two names relating to the prominent characters in the stories will be noticeable amidst such extended babble.

It is to be wondered whether she also does not experience our adult world. Our many written words in the books she always finds us preoccupied with, in our extended discussions in which she has at best a peripheral part, in our dialogues over the mysterious telephone with her strange Grandma who lives in California, or in our engrossment in the long movies on TV that to her are but a long train of people and words. It happens in much the same way that we experience her nonsensical babble and disordered clutter. Much of our world must remain effectively incomprehensible to her as so much background noise from which she only occasionally recognizes a few meaningful words and expressions.

This relative delight and sense of the fundamental disorder is apparent in all her domains of her life. Her scribbling patterning of her drawings, which she calls fish, and puts in eyes and mouths, remains completely illegible to the adult eye. The kinds of stack of blocks she makes are basically without any systematic design. They occur as a randomly developing stack of interlocked blocks. Similarly, her overall ordering of her world remains without any apparent overall sense of order. It only consistency is in her own assured bouncing from one set of activities to another, for as long as her attention span will entertain her, starting, stopping, restarting, and sometimes getting several activities going concurrently and intermittently.

It is important that from a child's point of view, the adult's sense and need for order makes little sense—that a child's must bring down and tear apart a great deal of the world that adults try to keep so fastidiously in tact. A child's 'deconstruction' of the adult's world to its own basic terms is a prelude to its exploration of the world, and precursory too its acquisition and reconstruction of its own sense of order in the world. It is equally important that the adult retains some measure of sanity against the entropic incursions and chaotic influences of the child. The adult provides the child the framework and model for order that it itself lacks, and which it will soon need when it begins its reconstruction of that world in its own inner subjectiveness. "But, Daddy, isn't that a funny thing—that everybody means the same when they say 'muddled' but everybody means something different by 'tidy'." (Gregory Bateson 1972: 4)

This is particularly true of his creativeness, which is essentially life giving. It introduces order into the randomness of nature, builds associations which qualitatively transcend the constituent parts, and is actuated not only by the present environment but by memories and goals. (Eric Hoffer 1973: 23-4)

Chapter VIII

ALYCITA: A CHILD as an AMATEUR SYSTEM

There is something inhuman about perfection. The performance of the expert strikes us as instinctual or mechanical. It is a paradox that, although striving to master a skill is supremely human, the total mastery of a skill approaches non-human. They who would make man perfect end up by dehumanizing him. (Eric Hoffer 1973: 3-4)

The guiding question has been, 'how does little Alyce make sense of her world.' It is apparent that her world view is one that has been emerging upon the verge of chaos, one which is just beginning to acquire form and function in a most skeletal of ways. Alyce's world is one that is inherently inimical to a normal adult sense of order. It is the need to pick up her things strewn throughout the house by the end of the day, to reorganize all her books back on the shelf, to put all her blocks back into its plastic container, all her

watercolor pens back into the plastic pouch. Or it is a matter of having to continuously deal with her rather haphazard flitting from one object of interest to another, and to continually be on the guard against her frequent intrusions into the adult ordered realm of objects.

It is hypothetically interesting to try to capture some of her sense of order by means of a computer program that attempts to heuristically simulate her daily actions, movements, household domain and life world, and her utterances and lexically expressed understandings of her world. Alyce's emergent worldview represents something that might be called an 'amateur system' as opposed to the computer based expert system. Such an amateur system is something fundamentally different from an expert system, not just by a matter of degrees of complexity or orders of magnitude, but qualitatively different in several vital ways.

First, the expert's world is one that is by definition well bounded and specialized. On the other hand, a child's 'system' is almost exactly the opposite. It is almost by definition unbounded and unspecialized--in a sense that it is almost completely over-generalized and unfocused. The child has an almost inherent delight in disorder that is intrinsically inimical to the expert's need for order. The chaos of the child's world is exasperating to the crystal-like structure of the expert's mastery over a domain. An amateur system then is one which is fundamentally undetermined while the expert's system is precisely the opposite--it is over-determined by rules and formulas, habits and norms..

This kind of contrast can be carried even further in a basic distinction between the child's amateur system as being one which is sub-critical versus the adult's expert system which is in important ways supercritical. In spite of the child's overall lack of order and its incompleteness and under-determination, there remains an inherent stability to its emerging sense of order that is expressed in terms of its resiliency and inherent flexibility. Anyone who has been around children long enough has been witness to their many falls which, if it were an adult, would have proven to be major, near fatal, accidents but which the child merely shrugs off.

Similarly, relocations and major separations that may even permanently upset the adult's order and 'identity of perceptions' become only a trivial episode of a few days for a child. Children have this inherent capacity for fitting in, in situations when and where 'dis-eases' like culture shock may functionally incapacitate the adult. The expert's sense of order and mastery is fine tuned to an expectable range of experience, and can deal with certain kinds of anomalies in expectable ways. The child's lack of tuning at all renders it much more adjustable to large scale alterations of its environment that would find the adult expert at nearly a total loss.

This is related to another fundamental difference between the adult and the child and the expert and the amateur--the expert system is one that is tried and true knowledge, while the amateur system is basically one of untested learning. The expert system is one based on knowledge already acquired. The amateur system is one that is based upon the problem of the acquisition of knowledge. The expert can use knowledge in the solution of other problems, for the amateur it is knowledge itself that poses the primary 'problem.'

But a child's amateur system is not exactly the same as an adult amateur's system, so that the analogy between child and adult and amateur and expert can be pushed too far. An adult amateur must have some previous knowledge base or understanding from which to work in the acquisition of a new knowledge system. It is the difference between second language and primary language acquisition--where the former is as much a problem of translation from one linguistic code to another, while the latter is almost exclusively the problem of the interpretation and encoding of new experiences in relation to and in terms of other new experiences. With the child, unlike the adult, there are no trite, previously acquired knowledge structures that must be sometimes quite painfully and frustratingly torn down to rebuild new structures, old knowledge that may often conflict and interfere with the acquisition of new knowledge.

What makes the child's primary acquisition experiences so interesting and wonderful is that the child experiences many events and things and the relations between them for the very first time. Whatever order

it has to make sense of its experiences, must be the order that is intrinsic to the experience itself, and to some unknown degree, extrinsic in the environment. Without such an extrinsic sense of environmental order upon which to model its internal experiences of the world, the child will remain fundamentally undeveloped--to become a perpetual 'wild' child as evidenced by the few instances of feral children. Because a child so thoroughly internalizes this extrinsic environmental order and identifies with as if it were inherently its own, the original structure becomes part of the character and experience of the child in fundamental and irreversible ways that cannot later be simply undone without destructive consequences to the individual's very organic sense of integrity.

The child is also, in an important sense, a kind of 'expert' in a way that it is impossible for any adult expert to be. In a sense, the individual gives up one form of natural expertise for another form of cultural expertise, and this is the price every individual must pay for admission to adulthood. No child is the absolute amateur and no adult becomes the perfect, non-amateurish expert. I believe it is this innate expertise of the acquisitive and pattern-seeking child that some have referred to as a specific 'biogram' or 'acquisition device' for structure rooted in the brain. The child's mind, and whole organic being, is a product of evolution biologically adapted just for the purpose of such knowledge acquisition and order seeking.

The child does not superimpose its sense of order from within, but naturally discovers it and internalizes it from without, in ways that are nevertheless evolutionary, organically and structurally constrained. A child cannot and does not see with the eyes of an insect. A feral child cannot ever 'learn' to see and hear the world in the same way that a wolf or bear does. The human child must always be able to recognize in the presentational patterning of its experience the potential for symbolic, generalizable forms that are significantly absent in the world of a wolf or a bear. But what makes a wolf child's survival in the wild accompanied only by wolves and bears so incredible and miraculous is that it is able to acquire form and pattern from its environment, in spite of its extreme deprivation and alternation from the normal human experience--albeit in an inherently feral form.

At the heart of the child's natural expertise may be no single device or 'biogram,' rather it may be the generalized orientation and natural evolved organization of the individual's whole sense of organic being which is rapidly coming together in the life world of the child. There are no a-priori, inherited representational structures through which a child automatically filters and organizes its experiences. But there are a priori and inherited 'presentational structures' that serve to constrain, channel and organize experience in certain uniquely human ways, and that constitute the evolutionary and developmental platform for all latter knowledge acquisition. It is through the acquisition of culturally and historically derived knowledge of the world that the child is soon able to transmute and transform these basic presentational structures of perception, sensation and motion into what become more conceptually abstract representational structures of knowledge that takes the symbolic place of the former presentational function in the experiential mediation with the world. It is to language primarily that such representational and symbolic transformation of experience depends for its sense of organization and order.

There is a fundamental sense in which experience itself, and the perception upon which such primary experience depends, becomes transformed from a basically, originally presentational modality characterizing especially the first year of life, into an increasingly representational modality that involves the increasing problem of symbolic translation and interpretation of new experiences in terms of previous experiences already acquired and embedded. Perception itself becomes transformed with development, both in terms of the biographical development of the individual and historical development of human culture, from its basic sense of primary presentational immediacy into its derivative sense of representational generality. Experience becomes telescoped out and broadened in both its depth and range, as well as in its sense of local and overall detail and pattern. Experience is transformed by its development from that of being perception based primarily to becoming increasingly interpretive and therefore symbolically and normatively intermediated by increasing human intentionality, arbitrariness, understanding, valuation and creativity.

Furthermore, this process of the developmental translation of experience from that of raw percepts into fairly general and precise concepts of awareness, that then become the filters through which all later experience is channeled and shaped, is one that is fundamentally and primarily dependent upon linguistic acquisition. Language intermediates this process of developmental translation of experience, and provides the basis for the human pulling together of both the world and world view into an organic whole. Without it, experience must remain disparate, disorganized and inchoate.

The problem of capturing the child as an amateur system runs up against the dilemma of trying to explain the functions and basis of cultural acquisition in organic human development in terms that are by-products of the same basic evolutionary forces of such development. Language, culture and world view, with all its connotation of being civilized, is, even more than simply a super organic history separate from evolutionary process. It is the long term consequence of the same, evolutionary based, developmental capacities of the human being.

We must refer then to a feedback mechanism between the human organism as a natural product of evolution, and the cultural world that is the by-product of the potentiality of such development--the historical development of language, culture and of civilization that has made possible in cybernetic fashion the extended development of the human organism in place of, and perhaps in determination of, its biological evolution. All language, all culture, all civilizations continue to reflect certain basic universal constraints of human nature because they have been the indirect consequence of these developmental possibilities, and they continue to constitute the principle environment in which human development is realized. 'In the external aspect, it is still possible to say that the organism posits limits to what is socially possible....Biological factors limit the range of social possibilities open to any individual, in its turn imposes limits on what is biologically possible to the organism. The dialectic manifests itself in the mutual limitation of organism and society.' (Berger and Luckmann 1966: 180-1)

In this sense we can speak of the historical emergence and development of all human culture and of civilization in the sense of achieved progress over natural constraints upon the human condition. Sociocultural systems have been emergent informational or cybernetic systems from the chaos of the natural world. We can posit that earlier cultures must have been in a sense incipient amateur systems in the same sense that the child is an emerging amateur system. Civilizations became expert systems founded upon the mastery of environmentally-based knowledge.

Alyce's world is not unlike an expert system in being relatively limited and relatively easily circumscribed. But it is bounded for different reasons. The expert system is bounded in order to delimit the complexity of knowledge that specialization entails and the child's amateur system is bounded by its relative lack of knowledge. Its sense of complexity comes from the lack of experientially derived understanding with the world, while the expert's sense of complexity is derived from too much knowledge in the world.

At the moment of this writing, Alyce has a vocabulary of almost three hundred words that adequately represent the several different domains of her daily experiences that are centered in the household. A pile sort of the terms by my wife revealed approximately twenty-four basic domains of her knowledge (the list includes: parents, love, work, diapers, dressing, eating, bathing, sleeping, outside, falling down, friends, house, photographs, family, books, animals, drawing, toys, television, exercise, questions, exclamations, verbs, opposites, numbers and body) which were subdivided into from one to several subordinate groupings of basic terms in each main grouping and their cross-category verbal and action associations, and seven or eight tentative subordinate classes (bonding, restriction, dependency, social activity, emblems, play activity, illocution, counting).

One category especially might be seen as residual--this is the 'counting' category. Two categories, play activity and emblematic recognition, were grouped into a higher class which we called 'imagination.' Arranging these domains on a preliminary basis in relation to their cross-category associations revealed basic dimensions and differences between the various domains, that were not intuitively obvious. These basic dimensions of contrast include mental-verbal activity versus physical dependency activity. It is

interesting in these dimensions that imagination is closely linked with bonding and mental activity, and that exploration is closely linked to physical activity, restriction, the problem of falling down and basic child dependency. It is also apparent that the use of language is the principle means of the child expressing its sense of autonomy. The counting category, though residual, remains salient because it is one form of 'verbal-mental' activity that is possibly linked to physical activity--it is not so much a function of imagination, of emblematic recognition or play, but of direct verbal-mental association or indexing with acts or things that are automatically acted upon.

The apparent saliency of the 'falling/restriction/exploration' dimension seems somewhat centrally salient. This interconnects the 'verbal-mental' and 'physical dependency' groupings--or rather falls clearly at their intersection. It is to be wondered whether or not the concern of the parents in the physical safety of the child is opposed to the needs of the child to physically explore its world, the resulting restrictions that become superimposed upon the child by its dependency and domination by its parents, and perhaps the negative verbal responses, illocutionary requests and imperatives, do not constitute a general paradigm in the organization of the child's world. Also important is the saliency of imaginative association activities that are focused in play and in emblematic recognition and which seem closely related to succoring and attention getting, and bonding with parents, and to restrictions on the parent's time by work activities.

It is interesting to speculate upon the latency of some of the domains, such as friends, outside, counting, opposites, drawing, television and toys. The friends category doesn't seem particularly salient at the moment, but its increasing importance can be expected to eventually emerge. Television is also such an emergent category, as is drawing. Toys and play activity in general is a category that is being incrementally elaborated, while illocutionary and verbal activity is increasing almost exponentially at several words a day.

As several of the latent categories begin emerging in greater relative saliency, other categories can be expected to gradually recede in importance, these include most of the dependency categories of diaper, bathing, eating, and possibly the bonding category.

As some domains emerge and become elaborated, and others recede and disappear, the overall dimensionality of her world can be expected to shift in fundamental ways. As language grows, so to will the sense of autonomy and mastery over her life world. Her direct dependency upon her parents for her basic physical needs will gradually disappear. It can be expected that the centrality of 'falling/exploration/restriction' will become transformed, or effectively disappear or merge, into other kinds of intermediation, such that 'accidents/explorations/restriction' may not focus upon the problem of falling down so much as it might become focused upon other kinds of survival challenges and other forms of restriction. The importance of friends can be expected to emerge in inverse proportion to the decrease in direct closeness to the world of the parents. Similarly, the indexical connections of counting can be expected to emerge as the associative functions of naming and emblematic pattern recognition become less salient.

Semantically speaking, there are several interesting contrasts. It is apparent that the child's tacit, passive awareness of her world is somewhat larger than what is directly represented by her total lexicon. Many of the same words are used in several different ways in different contexts. On the other hand, a great deal of her understanding seems to be contextually dependent and some of her systematic errors in responding to our statements, such as saying 'no' when we ask her something when it is apparent she probably meant 'yes,' is not only evidence of her own incipient negativity and self assertion, but also of her fairly consistent failure to understand our messages when they are not associated with a paralinguistic context, such as being near the door when asking her if she wants to go out, or the use of 'key' markers like 'bathe,' 'bottle,' and TV. Though there are approximately three hundred words that we hear her use on occasion without our prompting or her imitation, these remain for the most part words that remain tied to direct association or context and that are therefore relatively infrequently used.

The most actively used words, which appear least context dependent and most frequently used, are of a relatively small number and range. I will call this her active vocabulary, versus her total lexicon or 'passive vocabulary' that is embedded by association to her life-world context. Her most active vocabulary can be established on the basis of the greatest frequency of their occurrence, and number approximately twenty basic terms (in relative order of frequency: mommy, daddy, that, what's this, juice, candy, toons, mermaid, book, dog, come, sit, again, hug, I love you, no, hunh (yes), toys, you okay, grandma, saurs, baby). Of these terms, only a few are of the list of her vocabulary that we compiled at sixteen- months- old (including book, Dad(dy), no, this, what's that, dog) out of a total number of thirty-seven words (baby, babble, ball, boo, bee, book, bye, chair, car, cracker, kaki, keys, daada, dumb dog, dau, doll, eye, moo, ooh, ouch, hot, here, ello, no, go, hi, sho, read, sock, shoe, shh, what's that, who's that, woof woof, woosh woosh, yum yum). This is just about ten percent of her previous lexical repertory.

It is apparent that Alyce uses basic repetition of her words for emphasis, when she doesn't understand a remark, or wishes to underscore to us a desire or need on her part.

Several approaches to developing an amateur system of Alyce's world of words, things and deeds are available. The first is to do a number of successive triadic designs and to plot the relative associations between terms on a multidimensional scale in order to reveal other possible dimensions, patterns, relations and saliencies that are not apparently obvious in the preliminary work. The second approach is to make an exhaustive list of all apparent associations across domains to construct a semantic network on the basis of these associations and then to discover any 'hypergraph' patterns within this network.

A related alternative is to do a mapping of her physical world and to do an 'object oriented' mapping of her verbal-material-behavioral associations overlaid upon her different environmental domains. Finally, a list of basic rule sets can be compiled into interlocked chains of association in reference to certain basic goals, such as attention-seeking, autonomy, dependency, sociability, exploration, learning, etc. This list can be entered into an expert system shell to see what kinds of patterns and results are generated by a computer-based program.

There has been repeatedly demonstrated to me a basic 'acquisition device' that I have referred to as 'emblematic recognition' and verbal association that entails the generalization of basic pattern recognition to other objects and images in the environment, their naming or verbal identification, and the formation of rudimentary concepts based upon these inter-linkages in the life world of the child. Interlocking chains of symbolic associations occur across many of the domains of her experience, and seem to serve as the basis of its conceptual-verbal-behavioral-cultural organization, or the emergence of her worldview as a sense of order derived from, and superimposed upon, her effective life world. The goal of devising an amateur system is to isolate basic instances of the operation of this acquisition device, discover the variety of possible patterns that seem to be salient in her (and our) associations, and then to experimentally model and test these patterns by a computer- based program.

It is hypothesized that what eventually emerges from the continued daily operation of this symbolic acquisition device are a consistent and relatively coherent set of 'conceptual representations' of her world that are themselves interrelated, which are based upon her experiential associations with her effective environment, and which in an imperfect and partial way reflect the sense of order and pattern that is extrinsic in her life-world. Furthermore, this learning game is a complex feedback process in which her cognition, language and coordination grow. So too will her environmental range increase and her life-world become enlarged, leading to further internal growth and development, in turn begetting a greater environmental range and larger life- world.

Her emerging sense of order in her world is a direct function or the 'conceptual symbolic' convergence of her disparate activities, cognition, language, domains, modalities of experience, into a coordinated system which becomes at the same time increasingly representational over and above her presentational experience of her world.

A similar analysis of a list of Alyce's effective lexicon at sixteen months of age supports this kind of picture and at the same time reveals basic differences. A pile sort of her thirty-eight word vocabulary yielded eleven or twelve basic domains, that were subdivided into several 'one word' or two word subordinate domains. The ordinal domains were: 'dad, read, baby, round, animals, shoe-sock, food, questions, hello, hi, bye, exclaims.' Superordinate domains included: 'father, reading, creatures, eating, negativity, play objects, outside and language.'

Preliminary grouping yields a relatively undifferentiated set of domains, both in relation to subordinate/ordinate/super ordinate and in terms of the dimensionality between the domains. The basic role of language at sixteen months has a different relation and saliency than later, serving not so much as the basis for the expression of autonomy and independence, but more as a basic reference/expressiveness in association with the other domains. It is interesting that "mama" was apparently not Alyce's first word, but that "daddy" and perhaps "papa" actually preceded it.

Perhaps this is due not to greater bonding with the father than the mother, but to the child's need to take fully into account the relative presence/absence of the father, which similar status was more or less taken for granted in the case of the mother. Daddy at this stage was associated with several things--punishment and verbal 'no's,' reading, and going out for walks and rides in the truck. Animals at this point are not primarily or only associated with pictures in her books--but the names she has are for animals that she had the occasion to actually see and touch. They were effectively strange creatures in her environment. Besides eating, words for the dependency category have not yet emerged. It is interesting that the super ordinate category of 'play objects' is occupied by round objects which names start with a 'b' (balloon, ball, bubble) and with dolls that are associated with herself, as 'baby' and with 'eye/I.'

This seems to be the extent of her word association with pattern recognition at this stage, although it is apparent that she recognized many more objects and emblems in her books and her environment than she had names to give them. It is worthwhile speculating whether roundness, seeing and the face are not nouns so much as they are 'sound associations' (for instance, woof woof for dog; moo moo for cow). Not only is her world relatively undifferentiated at this stage--confusing a bird flying high up in the sky with a 'bee' and a fly with a 'bee'--but the pronunciation of her words is also similarly undifferentiated--'babble' for bottle and for bubble, 'sho' for Hugh and for shoe.

The importance for 'negativity' and its relationship to falling down (ouch, boo boo) are already salient and central in the child's paradigm of its world at sixteen months. It is apparent in this stage of her development that the kinds of associations that she was establishing with her world were ones that were tied more directly to the presentational experience of real life objects in her environment--birds, duck, dogs, Grandma, books (versus the pictures in the books)--than to emblematic or symbolic representations of objects. At sixteen months of age what determined whether or not Alyce would have a name for a certain object was in part due not so much to its availability or saliency in a book or emblematic form in her environment. It was rather that it was a real, touchable object in its environment that could be named and which especially attracted Alyce's attention and interest.

An analysis of participant- observation of Alyce's activity over five consecutive mornings from the moment she arose from bed until she had her afternoon nap, revealed several other interesting facets about her activity and her 'system.' It revealed at least twelve or thirteen 'morning' domains of her activity, excluding the brief episodes of going shopping and to the 'market' (discourse, play activity, television, reading, touching, dressing, eating, helping, blocks, drawing, dancing and photographs).

By far, discourse with her parents, her toys and with herself, were the most frequent activities that served to effectively punctuate and highlight all her other activities. These activities were divided up into 'schematic sets' that were linked in longer schematic chains of activity. Typically, Alyce would move from one action schema to another, then another, and then back again to the first or second one, in a way that seem to serve to interrelate the different activities at another level of displacement. Where she did what she did was not as important to her as what she was doing and who was paying any attention or not. Preference for the

physical location of any particular activity is more a residuum or the superimposition of the adult world and its sense of organization.

During these five periods, she added quite a few words to her effective vocabulary (cat, window, shit, lion, Rapunzel, man singing, watch, see light, turn on light), and she managed to put on her pants by herself for the first time. She began to clearly and emphatically use her language to assert her own will power in a situation to show her own preference and independence from her parents. It became apparent that the increase in her vocabulary was not just additive, in the sense of adding several words a day to it. Something else was also happening in terms of an increasing differentiation, discrimination, and sophistication in the use of language as well, such that though her vocabulary may be increasing only arithmetically, it is possible the effectiveness of her linguistic competence and performance is increasing exponentially.

It is apparent that association is made on the basis of sound and image similarity--for instance 'cat' is called 'candit' because of its phonological similarity to 'candy' and may be a rabbit, because of its overall similar appearance when sitting. It is also apparent that the child is formulating kinds of 'rules' on the basis of these associations, which are then generalized and 'tested' for fit to other cases. Learning to call an older looking woman 'aunty' in a photograph, is applied to a middle- age conservative looking woman on television on the basis of some sort of rule about what constitutes an 'aunty' versus a 'mommy' or a 'grandma' (an older woman with gray hair) or a 'nanny' (a rotund looking woman who can either be a good fairy in Sleeping Beauty or 'Nanny' in 101 Dalmatians) Similarly Bambi becomes any kind of 'deer' with antlers--either a reindeer or a moose on 'The Adams Family' or an African antelope on a nature program.

Her desire to help her parents emerges concurrently with her need for autonomy in her actions, to do it for herself. Language is being increasingly used as the principle means of expressing her own identity and communicating to her parents and herself her needs, feelings and thoughts. Other, less effective means of communication have been available to her, touching, throwing, biting, hitting, but it is via language that things in her world are getting done in a way that does not incur an unexpected backlash from significant others and that proves to be the most functionally effective.

It is worth speculating for the purposes of designing such an amateur system whether or not there are salient contrastive dimensions that cross- cut and paradigmatically predetermine little Alyce's acquisition and developmental trajectory. Mental activity is to be contrasted with physical activity, and the former is associated with autonomy, independence, increasing verbality and emerging self-identity, while the latter trait is associated with contraposed values of restriction, dependency for physical needs and emerging sociability. There is another cross- cutting dimension that seems to contrast affective bonding with parents and significant others, which is strongly associated with emblematic representation and play activity, with latent but emerging hand-eye coordination and cognitive operational activities like counting that involves non-affective, 'indexical' relations with the manipulation of physical objects.

It is also to be wondered whether the schematic chains of her daily activity might be represented by kinds of decision tree models that set up various alternative pathways and acceptable choices based on various sets of criteria such as previous activity, object immediacy and availability, target-orientation, interest and attention, and relative need dependency/satiation. Whatever choices Alyce makes must be in part predetermined by the relative challenge, interest and saliency of the object or activity in question. Like their parents, children become quickly bored with one thing and must soon move on to another, more stimulating and rewarding set of involvements.

A computer-based amateur system may be able to capture one of many critical moments in the child's acquisition of her/his world and in their development, and by means of being able to deal efficiently with the massive complexity of the problem, to some extent triangulate and approximate that moment of the child's world. Such a moment is also part of a larger historical moment of the human reproduction of its own social reality in their life experience.

But it remains doubtful that any computer program can capture anything more than a fictive, frozen moment in the acquisition process of human development. Even now, a week after most of the observation was conducted, Alyce's world seems to be changing, 'emerging' in sudden and unanticipated ways. No computer can capture this chaos, the chance nor the subtlety of the process and problem of primary acquisition. Alyce's language as it is being used today, is not the same language that was being used six months ago, and will differ structurally and semantically in fundamental ways from the kind of language she will be using in six more months or in six years from now. The same may be claimed for Alyce's thoughts, feelings and whole world and worldview.

We are faced with the dilemma of Zeno's arrow, of the virtual, never ending infinity of the process of human development, in which no single instant or moment may be forever frozen.

It is enough if such a system provides at least one alternative avenue to the problematic patterning of primary acquisition. A paradigm of primary acquisition goes something like this:

1. Acquisition is an informal process of preliminary deconstruction of previous 'designs' in the environment and then rebuilding from the basics.
2. Acquisition involves the incorporation of environmentally related pattern into the organic life world of the individual, and the effective environmental embodiment of organic experience.
3. Acquisitional development involves increased fine tuning in the convergence and coordination of the diverse elements of experience, an improving refinement that carries over into language, drawing and hand-eye coordination.
4. Acquisition involves development from presentationally immediate structures of experience that are organically innate and constrained into conceptual-symbolic and representationally derivative structures of experience.
5. Language is the principle mediating mechanism of this translation and developmental reinterpretation of experience. It is implicated and intrinsic in the process from the beginning.
6. Development involves the organic symbolic transformations of play activity and environmental exploration of an individual's effective life world.
7. Acquisition involves an organic 'device' employing a basic mechanism of emblematic pattern recognition which involves sound/image/action association.
8. Acquisition involves stimulus generalization on the basis of the principle of analogical, associational and pragmatic similarity of form and function.
9. Acquisition is both symbolically evocative and affectively expressive of the individual's organic sense of being, involving the primary mediation of significant others via language.
10. Acquisition grows from an object oriented view of the world into one which becomes increasingly 'situated' and context bound within a generalized environmental frame of reference. Development involves increasing organic displacement of experience into the effective environment, which results in experience being increasingly 'fixed' by the world in which it is situated.
11. Acquisition involves a basic feedback cycle of need elicitation/exploration/play activity/interaction/experimentation that eventuates in error, and entailing either successful resolution and need satiation or else effective 'punishment' or negative reinforcement, leading to withdrawal and separation and leading back to the re-inauguration or frustration of basic needs of acquisition.
12. This feed back cycle has both first order, negative constraints and second order positive constraints that result in either progressive growth or regressive retardation of development.
13. Acquisition begins evolutionarily with the unfinished nature of the human being, and, ontogenetically speaking, is never culturally finished business. Human development is never complete nor perfect, neither biographically nor historically.
14. The central task of education is to implant a will and facility for learning; it should produce not learned but learning people. The truly human society is a learning society, where grandparents, parents and children are students together.

In a time of drastic change, it is the learners who inherit the future. The learned usually find themselves equipped to live in a world that no longer exists. (Eric Hoffer, 1973: pg. 21-22)

Part IX

ALYCE in ANTHROPOLOGIA'S ASTONISHING WORLD of WORDS

It is still true that a misunderstanding takes place not when people fail to understand each other, but when they sense what is going on in each other's mind and do not like it. Pascal feared that if men knew what each thought of the other there would be no friends in the world. (Eric Hoffer, 1973: 15)

The primary acquisition problem is a central part of a more general Worldview Problem that makes the study and understanding of human development, both ontogenetic and phylogenetic, a particularly anthropological affair. The black box of the child's world is part of a larger "Pandora's Box" of Human Nature and Culture that has long come to define the subject and object of Anthropological inquiry. The solution to the problem of primary acquisition might possibly serve as a ground for the theoretical and paradigmatic unification of the major subfield of Anthropology that has become increasingly affected by its intradisciplinary divisiveness and theoretical disarray. It offers a general problematic that is part of a larger, more general, problem. It is thus related to other theoretical problematics that may be thought of as being "paradigmatically prototypical" for general, theoretical Anthropology. To the extent that it represents a common ground of theoretical convergence upon which all four subdisciplines, linguistic, archaeological, biological, and sociocultural, can make substantially significant contributions. To the extent that all four subdisciplines can mutually define their central theoretical objective in the scientific definition and explanation of human reality.

It is not too difficult to see where and how each of the subdisciplines might make such a contribution to the primary acquisition problem and to the understanding of human development. Biological theory can offer an understanding of the genetic constraints and expression of human nature. Linguistic anthropology can explicate the vital connection between language, culture and cognition that is central to the acquisition problem. Socio-cultural anthropology can help to explicate the cross-cultural dynamics of which the primary acquisition problem is the Archimedean fulcrum. Archaeology can delineate the larger and finer outlines of the prehistoric and historical patternings and processes that have influenced, and been influenced, by this problem. Neither is it very difficult to see how the solution to the primary acquisition problem can from a general anthropological point of view, go a long way toward explaining and elucidating other problems in all the four sub-disciplines. Its explication might help to elucidate many other theoretical problems in all the subdisciplines.

The theoretical problematic of understanding Alyce's world brings us to the edge of our own adult worldview, where we experience the vertigo of attempting to describe in our own terms what remains fundamentally "wordless" and therefore indescribable understandings. In so doing, we must face the ultimate indictment that we are superimposing our own adult-like sensibilities and sense of order upon a child's world, and our own world is one that consists mostly of words and many things that they symbolize.

Trying to get behind the veil of the child's world view and so translate this in anthropological terms brings us face-to-face with the problem of hermeneutical reflexivity of our own linguisticity of knowledge. In trying to capture in words the world and worldview of Alyce we must come to terms with the inherent referential descriptivism of our knowledge statements. This descriptivism tends to undermine the plausibility of verifying our truth claims in regard to the child's world, as it is based upon the assumption that language must correspond to the actions to which they refer. Language and its world of reference exist only in a very loose, contextually dependent, conventionally arbitrary relationship. "Commonly we take the language of social description to stand in some roughly correspondent relationship to discriminable patterns of action. Thus, whether in science or daily life, description is assumed to be informative about actions independent of it."(Kenneth Gergen, ?, pg. 136)

We are engaged in theoretically reconstructing a model of a child's reality that is held to be generalizable to many or most children's reality, and yet the primary constraints of this reconstruction is not the world of the child itself, but by the constraints imposed by our own linguisticity and the preunderstandings that are implicit to our interpretation of the world. It is likely that any such general construction is, at least from the child's point of view, fundamentally closed to empirical verification in a way that a strongly positivistic paradigm of science demands.

On the other hand, if we accept a more humanistic role for anthropology, one that entertains a wider role for philosophy than the analysis of referential language, then we are allowed to accept the positive value of alternative interpretations of the same basic realities. We must accept the criteria of each interpretation's relative productiveness in generating new insights, new avenues of investigation, and, most importantly, new questions. We can also validly accept the criteria of relative, achieved progress by which we can select some interpretations and more interesting, if not more correct, than others, and that we can therefore eventually "triangulate" such different worlds as the child's in a scientifically systematic, fruitful and faithful way. Such triangulation does not lead to the ultimate conclusions of a final bottom-line truth on such worlds, but do allow a limited, relative exclusion of the impossible in the separation of the known, the unknown, and the unknowable. If all of reality remains fundamentally solipsistic and therefore objectively unknowable, we are still left with the problem of understanding and making sense of world knowledge, whether this is subjective or objective, shared or private.

Alyce is like Lewis Carroll's Alice, and our looking glass world of Anthropological verbiage is not unlike Alice's world of Wonderland. It is an astonishing, "unpetrified" world in which words take on a life and animating power of their own. In Anthropology's world of words, like Wonderland, we are faced with the problematic of words, in both their literal and figurative senses, as both denotative and connotative, becoming the symbolic replacement for the world that they represent. Alyce, like Alice, trips through our astonishing world of anthropologia with a naïve, innocent faith in the common sense and practical verisimilitude of her first words. As adults, as anthropologists in real life, it is we who seem strange and unfamiliar, and not Alyce. Alyce, like Alice, will have many accidental encounters in her journey through the forest of anthropological astonishment, but it will be she who somehow manages to escape every episodic entanglement that we ourselves become inextricably entrapped within.

Alyce will eventually find her way out of our anthropological world of words and back into her own world of play and make-believe. She will learn in her encounters with her new environments how to overcome the many obstacles that stand in her way. She will eventually learn how to make sense of our astonishing world, and achieve the independence that comes with such understanding.

We have become, by the process of our own inversion, the strangers in her world—she is not the stranger in our world.

Alyce's acquisition of her world, its internalization and socialization with its many inaugurations of special skills and capabilities, is the human pathway towards achieving independence in the world that has been our natural endowment. Even at one-year's-old, Alyce's drive for autonomy in her own constructed life world has been superordinate to her inherent dependency and to our continuously frustrated attempts at superimposing our own constraints and spurious sense of order upon her world.

We have learned as many lessons from Alyce as she has learned from us, and it is in the openness of this mutual learning that we have together created a larger, more interesting world in which to live.

To get to know Alyce's world has been to toy with the anthropological possibility of becoming, however imperfectly and partially, a child once again. It is to renew an old acquaintance with a hidden side of our selves in our adult-oriented, adult-dominated world. It is to reinvigorate and revitalize a simple wonderful sense of astonishment about our larger world in a way only children seem to know best.

If in some manner the voice of an individual reaches us from the remotest distance of time, it is the timeless voice speaking about ourselves. (Eric Hoffer, 1973: 97)

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