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**COGNITIVE EGOCENTRICITY OF THE CHILD
WITHIN PIAGETIAN DEVELOPMENTAL THEORY¹**

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In popular usage of the term, an egocentric person is a conceited and boastful individual who is preoccupied with his own self-importance. There is, however, a fundamental difference between the cognitive egocentricity of a child as defined by Piaget, and the egocentricity of an adult as is commonly understood. A child is egocentric because he cannot take someone else's point of view; an adult is egocentric because he will not — in one case, it is cognitive inability; in the other, social insensitivity. "Cognitive egocentrism," according to Piaget, "... stems from a lack of differentiation between one's own point of view and the other possible ones. . ." (11,p.4). Decentering is defined as the "ability to shift mental perspective, in social relationships as well as in others." (11,p.8) Egocentricity may also be defined as "the inability to decenter, to shift the given cognitive perspective (manque de de'centration)." (11,p.3) Piaget has justified the use of the term "egocentrism" as opposed to "centrism" because "the initial centering of perspective is always relative to one's own position and action. . ." (11,p.3)

All children are egocentric as they pass through the Piagetian cognitive continuum. Egocentrism is a developmental necessity which the child cannot escape. It is as unconscious as it is natural. It is a cognitive mode of dealing with reality, different at each developmental level. This term has been the most criticized and least understood of Piaget's concepts, but he has "insisted upon its epistemological meaning. . . rather than on its popular or 'moral' meaning." (15,p.118) At one point, however, even Piaget succumbed to the mounting criticism and stated:

We no longer call it "egocentric," as one of us once did, in deference to the criticisms from many psychologists who are still not familiar with the practice in the exact sciences of using a term only in accordance with the definitions proposed, irrespective of its popular meanings and associations. (15,p.61, footnote 6)

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Pinard and Laurendeau, however, engaged in replicating Piagetian research on large samples in Canada, Africa, and other places report: “. . . it seems reasonable to conclude that, at least in the development of projective spatial concepts, the egocentric attitude is regular enough to suggest that it reflects a genuine and consistent form of mental organization.” (4,p.436)

It matters little what we call it: egocentricity, or cognitive egocentricity, or Piagetian egocentricity, or X-egocentricity. The important point is that it is significant enough not to be dismissed easily. Broadly speaking, cognitive egocentricity is a lack of differentiation between self and nonself; between subjective and objective; between psychological and physical; or it is an imbalance between assimilation and accommodation. In one of his books, Piaget defines it as:

. . . primacy of self-satisfaction over objective recognition . . . and on the other, distortion of reality to satisfy the activity and point of view of the individual. In both cases it is unconscious, being essentially the result of failure to distinguish between the subjective and the objective. (10,p.285)

Egocentricity is decentered when differentiation between the two polarities is achieved.

There are various aspects of cognitive egocentricity as the child moves along the Piagetian cognitive continuum through four developmental sequences; sensory motor (birth – 2 + years); preoperational (2 – 7 + years); concrete operational (7 – 11 + years); and formal operational (11 – 15 + years).

Sensory motor egocentrism (birth – 2 years)

At the beginning of postnatal life, the neonate is directly *egocentric*. According to Piaget, “. . . consciousness starts with an unconscious and integral egocentricity,” (14,p.13) where self is at the center of reality, but is not aware of itself. “Psychoanalysis has called this . . . “narcissism,” but it is important to understand that it is a narcissism without Narcissus, i. e., without any sense of personal awareness as such.” (14,p.16) For the neonate, then, the self and the nonself are undifferentiated and global. The universe of the neonate, so to speak, is centered on his own body and on his own movements.

During the next few months, the infant becomes *indirectly* egocentric, that is, the focus now shifts from his own body to objects around him. Also, the activity primarily centered on his own body now extends to objects in the environment. For example, the thumb-sucking (action centered on his own body) now extends to sucking anything the hand can grasp.

The next important step in the decentering of cognitive egocentricity is

the acquisition of object permanence. When an infant searches for a hidden object, it may be inferred that, for the infant, the object continues to exist independently of his perceptual activity or perceptual field. This behavior also suggests that some differentiation between self and nonself has taken place. “. . . the construction of solid and permanent objects is the first example of the transition from primitive total egocentricity to the final elaboration of an external universe.” (14,p.14)

The evolution of practical space helps further in the decentering process. The uncoordinated sensory spaces (oral, visual, and tactile) on the neonate's own body and centered on his own movements gradually develop into a practical space furnished with permanent objects. The ease of locomotion in the surrounding space during the second year of life also helps the child to coordinate his own displacements as well as the displacements of other objects. Here again, self is the reference point. The relationships and displacements are first coordinated between self and other objects, and only later between one object and another object.

Piaget also refers to the primitive precausal egocentricity of the infant as “magico-phenomenalistic.” “Phenomenalistic” because two events contiguous in time and space are causally linked; “magico” because the infant almost appears to have a magical belief in his own activity as the casual agent. For example, when an infant pulls at the cords of a toy hanging above his crib, almost anticipating and hoping to produce an event at a distance, it is inferred that he has a magical belief in his own efficacy or that feelings and longings are sufficient to bring about an event. By the end of the second year of life, however, the child begins to understand the necessity of spatial contacts between objects. He can push an object, but he can be pushed also. The magical efficacy is diminished, but the differentiation between the subjective and objective is far from complete and has to be mastered during the next stage.

To summarize, then, the sensory motor egocentricity during the first two years of life implies a lack of differentiation between self and nonself, and a confusion between the activity of the self and the activity of the external world. This egocentricity is gradually decentered through a series of cognitive achievements which include the mastery of object permanence and evolution of practical space. There is a “miniature Copernican revolution” (14,p.79) which implies that for the child: (1) objects are external to self and self is only one object among many objects, and (2) objects exist independently of the activity of self and objects can act upon self just as self can act upon objects. Thus we find that the sensory-motor egocentricity becomes decentered and a state of equilibrium is reached. But as the child advances to the next developmental level – the preoperational period – a new form of

egocentricity will have to be decentered, and a new form of equilibrium will have to be reached.

Preoperational Egocentricity (2 – 7 years)

The transition from the sensory motor to preoperational level is marked by the appearance of mental representation or what Piaget prefers to call “semiotic functions.” The semiotic functions include deferred imitation (imitation in the absence of a model), mental imagery, symbolic play, drawing, and language. The cognitive functioning on the plane of representation as opposed to the plane of sensory motor action of the previous stage is a definite advancement over the previous cognitive mode of dealing with reality. But this itself traps the child in a new form of egocentricity. The sensory motor child had to master the object; the preoperational child has to master the symbol or the object symbolized. The sensory-motor child had to learn to cope with the physical world of permanent objects; the preoperational child has to learn to cope with two new additional worlds – the social world of people, and his own subjective world of inner representation. Preoperational cognitive egocentricity, then, implies a lack of differentiation between the symbol and the thing symbolized, between the inner psychological world and the outer physical world, and between self and the social world of people. Piaget has elaborated upon the cognitive egocentricity of this period at great length in several of his books: *Language and Thought of the Child*; *Judgment and Reasoning of the Child*; *Child’s Conception of Reality*; *Child’s Conception of Physical Causality*; *Moral Judgment of the Child*; *The Psychology of the Child*. According to Piaget, the preoperational egocentricity has two forms: logical egocentricity, and ontological egocentricity.

Thus there are two forms of egocentricity, the first logical and the second ontological. Just as the child makes his own truth, so he makes his own reality; he feels the resistance of matter no more than he feels the difficulty of giving proofs. (13,p.167)

The first provides the key to the child’s judgment and reasoning, and the second provides the key to the child’s conception of reality and causality.

Logical egocentricity, lacking reversibility, reflection, or deduction will be discussed as:

- (a) Intellectual egocentricity,
- (b) Linguistic egocentricity, and
- (c) Symbolic egocentricity

Ontological egocentricity will be discussed in relation to the child's conception of reality and causality.

Logical Egocentricity

a. *Intellectual egocentricity*

"The intellectual egocentricity is . . . nothing more than a lack of coordination, a failure to group relations with other individuals as well as with other objects." (8,p.61)

The first aspect of intellectual egocentricity manifests itself in the child's inability to compensate or coordinate differences in two dimensions. The three classical conservation experiments dealing with mass, weight, and volume are too well known to be discussed here in detail. It is sufficient to say that the child bases his judgments on only one dimension, or on one element of the situation. It is longer, therefore, it is more; or it is higher, therefore, it is more. The things as they appear have priority over things as they really are. The child's judgment is perception bound; he looks at static configurations rather than at transformations. His intuitive reasoning based on perception lacks reversibility; therefore, he cannot coordinate or compensate two dimensions in a given situation.

The second aspect of intellectual egocentricity is the child's inability to view a situation from any other perspective but his own. For example, a child's judgments about the left and right side of a person seated or standing opposite to him would be absolute judgments about his own left or right side. Or in the well-known experiment of the three mountains viewed from different perspectives, the child's judgments are based on the way the mountains look from his own particular perspective only. He cannot cope with the multiplicity of possible perspectives and remains blind to all but his own perspective, as if that were the only one possible.

The third aspect of intellectual egocentricity is the inability to handle the logic of relations. "Paul is a boy" remains the same whatever the perspective, but in statements of brother-sister or brother-brother relationships, two points of view have to be coordinated at one-and-the-same time. A child will answer correctly that he has two brothers, Paul and John, but has difficulty answering correctly how many brothers John or Paul has; he will leave himself out because he cannot view himself from the position of John or Paul. If three objects are placed as A, B, C, the child will have no difficulty in stating that B is in the middle, but will have difficulty making a relative judgment that B is to the right of A and to the left of C, at one-and-the-same time. ". . . the child fails to grasp the logic of relations for lack of having established reciprocity, first between himself and other people, and then between himself and things." (7,p.197)

The fourth aspect of intellectual egocentricity may be seen in the moral

reasoning of the child. In the early stages of moral development, the child has unilateral respect for the adult and is constrained by adult authority.

Constraint, on the other hand, is always the ally of childish egocentrism. Indeed it is because the child cannot establish a genuinely mutual contact with the adult that he remains shut up in his ego. The child is, on the one hand, too apt to have the illusion of agreement where actually he is following his own fantasy. . . (12,p.61)

Lessening of adult authority and increase in mutual respect and cooperation helps in moral development and decentering of egocentrism. Also, in making moral judgments about situations involving lying or dishonesty, a preoperational child disregards the intentions of the wrong doer and judges an act moral or immoral from the external or material consequences only. This attitude of objective responsibility in moral judgments is also an aspect of egocentricity. (12)

b. *Linguistic egocentricity*

During the preschool period the child has acquired sufficient language to engage in verbal exchange but surprisingly enough much of the spontaneous language of the child is egocentric: repetition, monologue, or collective monologue. After analyzing the spontaneous speech of children over a period of one month during free play and free activity, Piaget found that 54-60% of the spontaneous speech of children between 3-5 years of age could be termed egocentric speech. For children between 5-7 years of age, 44-47% of spontaneous speech was egocentric. (7,p.206) Most of the time children talk to themselves, about themselves, as a sort of running commentary accompanying their action, assuming that everybody knows and understands what they are thinking or talking about. For example, one child will say, "I am going to put a nail here;" another may say, "I am going to paint the hat red." They believe that the other person always knows what they are thinking about and is acquainted with their reason for doing so . . ." (7,p.28) Very often the monologue will be sprinkled with "because," "you see," but it is to be understood that the child talks about his actions to no one in particular. "To put it quite simply, we may say that the adult thinks socially, even when he is alone, and that the child under 7 thinks egocentrically, even in the society of others." (6,p.60). Egocentric speech becomes socialized speech vis-à-vis others. During play, when children are collaborating in action, a fight or disagreement may take place. It is solved first by hitting or pushing at the sensory motor level and only after some time at the symbolic level by means of a primitive dialogue, when each child will make his own assertions. It will be some time before there is even an attempt at primitive discussion when the child will try to communicate or will try to understand the

viewpoint of the other child, or will defend his own point. The egocentric speech of the child becomes socialized speech only in social collaboration. Disagreements, contradictions, and genuine discussion decenter egocentric language. Piaget (11,p.7) recognizes that environmental and situational variations may increase or decrease egocentric speech, and suggests systematic studies of children's discussions.

c. *Symbolic egocentricity*

The symbolic play is one of the main activities of the preschool child. The symbolic play is "the purest form of egocentric and symbolic thought, and it is the assimilation of reality to the subject's own interest and the expression of reality through the use of images fashioned by himself." (8,p.127)

The symbolic egocentricity implies a lack of differentiation between the symbol and its referent. Children believe that names are part of the physical property of objects and that by distorting a name, you distort the object itself. In their symbolic games, also, the same lack of differentiation between the symbol and the thing symbolized is quite apparent. When a child pretends to be father, mother, butterfly or bunny, he is engrossed and enveloped in the symbol he has created to such an extent that he forgets to be himself. Symbolic play is, therefore, pure assimilation or incorporation of the external world into the subjective world of the child; where there are no rules, the child makes and violates his own rules. By means of symbolic play the child corrects external reality, resolves conflicts, and "above all, he compensates for and completes reality by means of a fiction." (14,p.23). When children create imaginary playmates, they do not differentiate between what is real and what is imaginary. The imaginary companions are real, who dictate order, dispense justice and correct reality. The drawings of preoperational children have a certain element of "transparency." For example, a face in profile will have two eyes; potatoes will be seen in a man's stomach because he had them for dinner. Piaget refers to this "transparency" as "intellectual realism" in children's drawings, in contrast with the visual realism of a more advanced stage. Piaget explains this as an aspect of egocentricity, because the child draws what he knows should be there rather than what he sees there. (15) Logical egocentricity, discussed as intellectual, linguistic, and symbolic is the key to understanding the limitations and achievements of the preoperational child's reasoning, thought, language, and play. Limitations are explainable in terms of cognitive egocentricity, and achievements help in the decentering of that egocentricity.

Ontological egocentricity: relates to the child's conception of reality and causality.

During this period of life the child may pester the adults with “why” questions or with questions relating to the origin of things.

In order to answer children’s questions at their level of understanding, we must first understand what the child’s conception of reality is; and second, we must understand his particular cognitive mode of dealing with the reality at that time. Piaget has answered these questions in two of his books: *Child’s Conception of Reality*, and *Child’s Conception of Physical Casualty*. What is reality to the child? At the beginning of life there is no distinction between “the I” and the external world. The self and the world are one, but “a progressive splitting up of this protoplasmic consciousness into two complementary universes – the objective and the subjective” constitutes the idea of reality. (9,p.242) The ontological egocentricity is basically this: the inability of the child to differentiate between the subjective and the objective universe resulting in immature concepts of reality and immature judgments about physical causality. On one hand, mental phenomena are materialized – dreams are pictures on the walls, thought is a voice in the mouth, names reside in the object; on the other hand, physical phenomena are attributed psychological characteristics – clouds know where they are going, lamp posts send dreams to annoy us, wind is alive. Through progressive differentiation of the internal and the external, the realism of the child moves towards objectivity; but still, the self and the world remain very close. “. . . there is never complete objectivity: at every stage there remain in the conception of nature what we might call “adherences,” fragments of internal experience which still cling to the external world.” (9,p.244) Piaget distinguishes five forms of “adherences” which confuse child’s judgments about physical causality: (1) Participation – almost magical belief that objects in the universe participate in human affairs, the sun and the moon follow us; (2) Animism – endowing life and consciousness to inanimate objects – the wind is alive; (3) Artificialism – everything is made for man: “the I” is replaced by “we;” – night comes so we can sleep; apples grow so we can eat them; (4) Finalism – everything has a function or purpose: rivers have to go to the ocean, or where else would they go; ships must float on the sea; and (5) Dynamism – notion of force: things have power almost like the muscular power of man; the air pushes the clouds.

Piaget has attributed these various manifestations of precausality or “adherences” to the egocentricity of the child – the inability to separate the inner from the external world. The child sees the world in terms of and with reference to his own self.

There is therefore an egocentric logic and an egocentric ontology, of which the consequences are parallel: they both falsify the perspective of logical relations and of things, because they both start from the assumption that other people understand us and

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agree with us from the first, and that things revolve around us with the sole purpose of serving us and resembling us. (9,p.302)

But the very existence of precausal thinking among children has been denied by some researchers and upheld by others. Pinard and Laurendeau examine this issue and reconcile the differences between Deutsche and Hazlit (who reject the concept) and Dennis and Russell (who uphold it) by concluding that methodological differences in analysis of data confounded the results. (3,p.16-28) Their own replication of Piaget's research confirms beyond doubt the existence of precausal thinking and hence of ontological egocentricity.

These beliefs are manifested with such frequency that they cannot be regarded as purely individual or accidental. Out of a total of 500 children, ranging from four to twelve years of age, 28.6 percent use realistic terms at least once during the examination; 64.4 percent, animistic terms; 69.6 percent artificialistic terms; 46.6 percent, dynamistic terms; and 50.6 percent finalistic terms. (3,p.245)

By the time the preoperational child has learned to differentiate between the psychological and the physical (attained objectivity), or has learned to view a situation from a perspective other than his own (attained reciprocity), or has learned to differentiate and coordinate multiple perspectives (attained relativity), the egocentricity has been decentered. He is functioning on a new cognitive plane – the plane of concrete operations. The concrete operations, then, are instrumental in overcoming the preoperational egocentricity.

Concrete Operational Egocentricity (7 – 11 + years)

Piaget has devoted very little space to discussing the egocentricity of this period. But if the cognitive development is orderly and continuous, the same principles of egocentricity, decentering, and equilibrium which apply to other periods apply to this period also.

The emergence of concrete operations – concrete because they are performed on concrete objects – enables the child to do several things which he was unable to do formerly. For example, he can handle logico-mathematical operations such as, numeration, seriation, classification, all of which involve reversibility. But this new cognitive achievement imposes its own limitations and generates its own brand of egocentricity.

The concrete operations are applied to the perceptual “givens” of here-and-now. So his mental formulations are attached to the empirical reality only, and are thus limited by it. His thinking is “describer-thinking” and the direction it takes is from actual to possible. His formulations are derived from the data; but if some evidence contradicts his formulations, he either rejects the data or tries to arrange the data to fit his own formulations. Thus the concrete operational “child often fails to distinguish between his

concrete thinking; and secondly, it shows a lack of differentiation between mental formulations derived from data and the data themselves, especially when contrary evidence is presented.

Formal Operational Egocentricity (11 + years)

The emergence of formal operations frees the child from the limitations and egocentricity of concrete operations. Reasoning now becomes deductive based on verbal hypotheses of it . . . , then . . . It is capable of taking into account unlimited possibilities beyond the data, beyond the here-and-now. The child can now think about thoughts rather than about things that exist or he can perform what Piaget calls "second-order" operations. Reflection takes a round about turn, so to speak, similar to the Copernican revolution of the sensory motor child. The concrete operational child reasons from what is real to what is possible: the formal operational child reasons from what is possible to what is real. Thus there is a complete reversal in the direction which thinking takes. Reality now becomes one sub-set of N possible sets; formerly, possibility was simply an extension of reality. "Formal operations provide thinking with an entirely new ability that detaches and liberates thinking from concrete reality and permits it to build its own reflections and theories." (14,p.63) According to Piaget all preadolescents and adolescents functioning at formal operational level have their own systems and theories to reform the world. This idealism is a natural and logical corollary of the hypothetical-deductive mode of thinking, which is the culmination of cognitive development. It is the belief in the *power* of his own reflection which is at the root of adolescent egocentricity. "It is metaphysical age par excellence; the self is strong enough to reconstruct the universe and big enough to incorporate it." (14,p.64) The infant incorporates the universe into his corporal activities; the preschooler assimilates the world to his symbolic play; the concrete operational child assimilates it to his empirical formulations, and the adolescent incorporates the world into his grand schemes and theories. Once again, this supreme pinnacle of human achievement enslaves the preadolescent in a new kind of egocentricity — the metaphysical egocentricity. The messianic zeal to save humanity, to reform the world, and to change the establishment all stem from a cognitive mode of thought which transcends reality to the endless realm of possibilities. The egocentricity lies not in dreaming dreams, or formulating theories, or thinking possibilities, but in not recognizing the limitations which practical considerations of reality impose on the theoretical possibilities. Metaphysical egocentricity, then is a lack of differentiation between possibilities engendered by thought, and limitations imposed by reality. "The metaphysical egocentricity of the adolescent is gradually lessened as a reconciliation between formal thought and reality is effected. Equilibrium is attained when the adolescent

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understands that the proper function of reflection is not to contradict but to predict and interpret experience.” (14,p.64)

Elkind, in his scholarly essay on “Egocentrism in Children and Adolescents” has interpreted this concept somewhat differently. He states:

I have tried to illustrate the egocentric behavior of each major period of development with particular emphasis upon the egocentrism of middle childhood and adolescence. Much of the material, particularly that on assumptive realities and cognitive conceit of school-age children and the imaginary audience and the personal fable of adolescents is speculative, in the sense that it is based as much on my clinical experience with young people as it is on research data. (1,p.50)

Any facet of human behavior is complex and multidimensional, therefore, interpretations “provided by dynamic psychology and psychiatry” (1,p.55) and integrated insights provided by Piaget, Freud, Bruner, and others are fruitful, but this writer has tried to stay within Piagetian framework in this essay.

Piaget and Inhelder have referred to the process of equilibration in several of their writings, but more recently at the opening of the Jean Piaget Society at Philadelphia in 1971 they elaborated upon this concept more fully (16). Three classical factors – physical environment, innateness or hereditary program, and social transmission (language and education) – have been generally accepted as pertinent to cognitive development. Piaget has postulated a fourth factor, equilibration, which coordinates those three. This coordination itself is a kind of equilibration. A subject may go through trial and error, or compensate contradictions, use feedback information, or may resort to other regulations which are mostly self regulations.

There are regulations in the course of embryological development, what Waddington calls homeorhesis. At the physiological level, homeostatis is a self-regulatory mechanism; similarly, in the nervous system, the reflex arc is a homeostat. On the level of human conduct and even at the level of logical operational thinking there are similar self-regulatory mechanisms. (16,p.12)

The equilibration process is mostly self regulatory. Equilibrium is the attained compensation as a result of self regulation. Piaget insists on a difference between equilibration as a process and equilibrium as an attained state. He discusses three kinds of equilibrium: (1) Equilibrium between assimilation and accommodation; (2) Equilibrium between subsystems; and (3) Equilibrium between parts and totality of knowledge at a given time (16).

First, the child assimilates and integrates the environmental stimuli to the existing “competencies” and structures and in so doing it accommodates and modifies these very schemes to environmental stimuli.

hypotheses and assumptions on the one hand and empirical evidence on the other. It is this lack of differentiation between assumption and fact that constitutes the egocentricity of the concrete operational period.” (1,p.55) The egocentricity of this period has two characteristics: it is limited by

There is a bipolarity, where the subject is assimilating the object in his schemes and at the same time accommodating his schemes to the special characteristics of the object. And in this bipolarity and sharing of processes there is already a factor of equilibration between assimilation and accommodation. (16,p.2)

In another place Piaget states, “Egocentrism must obviously be defined not only by primacy of assimilation over accommodation, but by lack of equilibrium between the two processes, one or other alternately predominating.” (10,p.290)

The second kind of equilibrium refers to the equilibrium between subsystems. The child may use two systems, e.g. number and length separately and experience no conflict between numerical and ordinal reference. But in experiments conducted by Inhelder and associates (16) where children had to integrate the two systems simultaneously, they experienced conflict and used self regulatory mechanisms. Inhelder reported (16) a learning experiment where subjects had to construct a road “just as long as” and parallel to the experimenter’s road, but with shorter matches. In this experiment, the self regulatory mechanism of equilibration proceeded through four steps: (1) No contradiction was felt and children used the two systems separately; (2) Conscious of the contradiction, they used the two systems alternately; (3) Inadequate effort at integration and resorting to compromise solution; and (4) Reciprocal adjustment instead of posthoc correction. When the two separate subsystems have been integrated or when equilibrium is attained, the child will explain “you need more matches when they are small, and the road goes less far but it has zig zags.”

The third kind of equilibrium is between parts of knowledge a subject has and totality of knowledge at a given moment. There is differentiation into parts and integration of parts back into the whole or the total “structure d’ensemble.” Piaget states that his cognitive equilibrium is quite different from the equilibrium in physics where it is a question of a balance of forces. Cognitive equilibrium is a system in which all parts are interdependent – there is a cycle of interaction among parts and it is open to influences from the outside. “This equilibrium between the integration and the differentiation of the parts in the whole has no equivalent in physics. It is only found in biological and cognitive equilibrium.” (16,p.19)

Each developmental level reflects a genuine and consistent form of mental organization. In other words, each developmental level has its own

brand of egocentrism or centristism. The sensory motor child has difficulty differentiating between self and nonself; the preoperational child has to separate the symbol from the thing symbolized; the concrete operational child has to differentiate between the data and the data derived conclusions; and the formal operational child has to distinguish between his abstract theories and practical considerations of reality. Egocentrism increases whenever the child has to cope with a new field of cognitive action, and subsides when he has mastered it, only to reassert itself. It is an achievement as well as a limitation; equilibrium as well as disequilibrium. The cognitive development over one's life span may be explained by "egocentrism/centristism-decentristism/equilibration-equilibrium" model. "The ebb and flow of egocentrism across ontogenetic development is, of course, an expression – almost a simplified restatement – of the general equilibration model which Piaget imputes to cognitive evolution . . ." (2,p.224)

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