

A Genetic Reading of the Szondi DRIVE DIAGRAM [SCHÈME] Based on the Theory of Jean Piaget

by
Jean Pierre Van Meerbeek

Jean PIAGET presents a theory of the genetic development -- in fact primarily of the cognitive and logical development -- in four great periods:

- The **Sensory-motor period** from 0 to 18 months - 2 years: the child develops a practical intelligence, based on the coordination of actions, before starting to speak and to use representation.
- The **Preoperative or Symbolic System period** from 1 1/2 to 7-8 years: the child reaches various aspects of representation (language, symbols, imitation...) and learns how to use them, without however reaching logic.
- The **Concrete operational period** from 7-8 to 11-12 years: the child reaches the logical reversibility in concrete situations, but is not capable of hypothetical-deductive reasoning.
- The **Formal operational period** from 11-12 to 14-15 years: access to hypothetical-deductive logic.

Within the framework of the theory of the circuits of Jacques SCHOTTE, we put forth the hypothesis that each one of these genetic periods may correspond to a vector of the drive diagram [schèmes], that is to say:

- Contact Vector: sensory-motor period
- Sexual Vector: preoperative-symbolic period
- Paroxysmal Vector: concrete operational period
- Sch Vector: formal operational period

This hypothesis is thus two-fold, since it relates at the same time to the genetic development in its overall structure and to the problem of the appearance of logic in one's development.

PIAGET derives intelligence from the biological organization and its functional properties; he regards it as an adaptation, resulting from two complementary functions: assimilation and accommodation. Assimilation is the incorporation of external reality with the patterns [*schèmes*] of activity of the subject, while accommodation is related to modification of the assimilated patterns under the influence of external reality. The intellectual adaptation is nothing other than the progressive setting into a balance the assimilatory mechanism and a complementary accommodation.

This functional model suggested to us the hypothesis of an association of the assimilation with the first diagonal [*editor: a diagonal is a diagonal splitting of the whole $\pm \pm$ into - + or + -*], and accommodation with the second diagonal of these same circuits. This assumption proved to constitute an extremely invaluable guide for the development of this work. However, as the reader will be able to note -- if traces of this hypothesis are perceptible in our developments on the Vectors C and S and with the genetic periods that correspond to it -- the reference to the functional model disappears when we approach the central vectors P and Sch, associated with the appearance of logic itself properly speaking (concrete, then formal). This is not an indication of a deficiency as to the validity of our assumptions but the index of the insufficiency of the functional model of biological inspiration to account for the whole of the development, comprising that which concerns the emergence with logic.

The Contact Vector and the Sensory-Motor Period

The Position “m+” and the First Sensory-Motor Stage:

The first sensory-motor stage, known as “the exercising of reflexes,” thus covers the first four to six weeks of life. The reflex actions of the newborn baby constitute a diversified range: suction, gripping, cries and phonations, and gestures of the arms and the head. These are innate actions, and if the intervention of the external medium is essential to the putting into effect these patterns [*schèmes*], this environment cannot alter them.

In the article entitled “Sich anklammern - Auf Suche gehen” [“To Cling to – To Go on the Search for”], from which SZONDI borrowed in order to construct the Contact Vector, HERMANN explores a particular aspect of this reflex equipment [actions]: that which has to do with the management of the eagerly seizing: the contraction of the fingers during

breast feeding, the " grasping reflex," the Moro reflex, fists closed at the level of the shoulders during sleep. HERMANN establishes a connection between these reflexes of the new-born baby and the reflex of eagerly seizing of the monkey. However, he does not clearly express the idea that this reflex has a biological function to make it possible for the young to hang onto the maternal belly when she takes flight to escape from a predator. This aspect is, on the other hand, highlighted by Albert DEMARET in his work "Ethologie and psychiatrie."(1) These reflex reactions concerning the initial stage of the extra-uterine life of man as in the monkey would thus not have an exclusive relationship with nourishment and thus ought not to be interpreted exclusively in terms of orality.

In addition, it is neither useful nor adequate to introduce an unspecified concept "of object" from PIAGET's functional point of view, where the needs do not exist independently of the functioning that makes it possible to satisfy them. There is, could one say a "guarantor" who encourages the operation of the actions [*schèmes*], and that makes possible a first "catching" onto the world, but certainly not on an "object."

All things considered, through the imprint of HERMANN's ideas on SZONDI's concepts, the bringing together of certain archaic reflexes of the new born and the position "m +" was already made! It only remained to place this first behavior of the nursling in the whole of the Piaget's conceptualization and to widen the bringing together of it with the whole of the innate reflexes, even if, in fact, the suction-gripping preserves a privileged place.

The Position "d -" and the 2nd and 3rd Stages.

The second stage, "the first acquired practices," is characterized by the repetitive conservation of the results obtained on one's own body and the third stage by the also repetitive conservation of the results obtained on objects in the external world. The essential difference between the first stage and the two following is thus not founded on the opposition "own body - external objects," but indeed on the opposition between the behaviors with the innate structure and others that find their form of balance in an interaction with the environment. The new results are discovered by chance during spontaneous activity, without preliminary intentionality, and are preserved by the play of the circular reaction, "a functional exercise leading to the maintenance or the rediscovery of an interesting new result." The

installation of the systematic sucking of the thumb is an example illustrating the second stage; to strike again a rattle initially hit at first by chance is an example of the third stage.

The significance of the “d-” selection: conservatism and perseveration unite the functioning mode of the 2nd and 3rd stages. Classically, “d-” is regarded as typical anality. In fact, the oral relation that the nursing child establishes with his/her mother relates also to this level, insofar as one regards it as an “acquired practice,” hanging on to its own conservation. In connection with “d-,” SZONDI speaks about the need (drive) to remain “stuck” to the maternal breast while sucking and to be opposed to any challenging of this advantageously acquired position.

The Position “d +” and 4th and 5th Stages (8-9 to 18 Months)

Let us note at the start that the chronological period covered by these stages is that of the appearance of walking: the child at this age starts to be in the position “to go on an inquiry” [pursuit, investigation, search]!

The essential asset of the 4th stage is the coordination of two constructs [*schèmes*] between them, in situations where, to achieve a goal, it is necessary to use an intermediary or to avert an obstacle. PIAGET sees there the appearance of intentionality or the awareness of the desire: the construct appears in the form of a tendency and not in the form of an immediate realization. WOLFF sees in these situations the outline of the principle of reality. We could also express these assets in term of “triangulation,” which has the effect to break the preceding ‘self-stimulating’ -- in order not to say ‘autoerotic’ -- functioning of the preceding stages, in the sense that “all that exists in reality is not directly able to be ‘assimilated’ by the constructs acquired earlier and does not lead directly to satisfaction.”

During the 5th stage, the child becomes able to develop behaviors of inquiry and active experimentation: “experiments to observe.” Here is an example: the child, knocking a plate by chance initially, afterwards strikes on it several times to study the sound of it and then compares this sound with that produced by other objects subjected to comparable shocks. The event emerged by chance gives way here not to a simple repetition, but is used as a

starting point with a true exploration, which becomes an end in itself. This obviously connects with the significance of “d +.”

It would seem that the appearance of these behaviors centered on the search for novelty has as a condition that the baby initially is freed from the “assimilation” function to the advantage of a first access to the “principle of reality.” The exploration and the discovery which prove possible then constitute an opening onto the world that does not have anything of a “search to replace the lost object.”

The Position “m -” and the Sixth Stage (18 Months - 2 Years)

PIAGET names the sixth stage “Invention of the new means by mental combination.” The child on this level becomes capable of invention, by combining already mentally previously elaborated patterns [*schèmes*]. However, at the beginning of this stage, the patterns can be evoked by imitation, rather than by a mental image, which allows the direct observation of the mechanism. Here is an example: *seeking to take a watch chain in a half-opened box of matches, the child mimes initially the opening of the box with its mouth, before opening it finally, and without another attempt.* This act of invention is an abrupt reorganization of patterns constructed previously and simply evoked in place of being really carried out.

This last sensory-motor stage appears like a moment of release of the thought and like a “creative” moment: the subject is detached from the objects while ceasing to manipulate them, which makes it strictly dependent on their immediate presence and their physical movements. He “withdraws himself,” leaves the objects temporarily, becomes aware of himself again and takes up again his last experiment (his former activities [*schèmes*]), conceives a “solution” and “renews contact” then with an increased freedom.

The sixth stage is the “the exit position” of the sensory-motor period: it still belongs to the sensory-motor stage by the mode of combination of the patterns [*schèmes*], while it is not entirely any more in the sense that direct manipulation is abandoned. It is in this sense that we consider that this stage “cuts the contact,” compared to sensory-motor operation implying the immediate presence of things.

Conclusion

The general significance of sensory-motor constructions is the establishment of a network of ties with the nearby environment, in particular the physical environment, and that is not without evoking the expression “to come to the world”; to take contact with the world while including oneself there as a physical object and like it also subjected to the laws of this physical world.

The term inclusion evokes the fact besides that the sensory-motor patterns [schèmes] require the effective presence of the objects, i.e. a “direct contact” with them. They function in the present and keep, without any distance, always “a direct seizing [prise]” of the world. It is also by these characteristics that one finds the justification to bring them together with the Contact vector.

It was possible to align the six stages with the positions of the vector, i.e. to extricate a “circuit” with material presented in the form of a relatively linear succession. This “putting into a circuit” releases among the stages a set of oppositions, complementary to the accounts of the sequence presented by PIAGET:

- On the first diagonal of the circuit: “m+ d -,” the stages 2 and 3 prolong the stage seen from the perspective of the prevalent repetition of the designs.
- The passage of “d -” into “d+” reflects the inversion that takes place going from stages 2-3 to the stages 4-5, where one passes from the prevalence of repetition to the prevalence of change and seeking [searching, inquiring, investigating].
- The second diagonal of the circuit, “d+ m -,” the 6th stage prolongs the 5th in the direction of an acceleration of seeking (combinations in thought faster than the activities), implying a connotation of creation.
- Finally the 6th stage, close to “m -” is opposed to the first, associated with “m+,” as it implies an “unhooking” compared to the physical functioning and manipulation of the patterns of behaviour [schèmes].

The possibility of carrying out such a circuit reading of the sensory-motor stages is the index that the sensory-motor period is already in itself a complete course, where one can locate the draft of an anthropological problem, being foreseen by the evocation of the “reality principle” that appears at the stage 4, like the creative dimension implied in the operation of the 6th stage.

The sensory-motor phase tells the history of “putting into the world” and of “making contact with world” in the very physical sense of a passage from the maternal body to the ground, if one takes into account the period that goes from the birth itself until the time when walking is completely acquired, with the explorations and the discoveries that it implies.

The Sexual Vector and the Preoperative and Symbolic Period

Being given the very particular complexity of this genetic period, it is desirable at the beginning to give the global principle of the comparison with the problems of the Vector S, before even approaching the paths of the circuit. It will be necessary in any event to remain with a simplified presentation and to try to seize the essential.

This second genetic period is correlative with the appearance of the representation that, in its Piaget definition, wishes to say: “the significance is different from the signified” (“le signifiant se différencie du signifié”). Representation thus defined relates to various modes of expression: the different imitation, the mental image, the pattern [dessin] or the symbolic play and not only the language. PIAGET uses the concept of the “symbolic function” to account for the whole of the methods of the representation.

In regard to this definition of the representation, let us try to propose a complete formula to grasp the Vector “S.” MELON and LEKEUCHE suggest the following formula: “the capital fact in “S” is the concentration of the libido on the body that appears and is perceived in the visual field as a “complete” and “lost” object, correspondent to a differentiated “form” (Gestalt). (2) It is thus the problem of the mirror that it is the primary question. Consequently, the only way of putting clearly into focus the affinity between the Vector “S” and the preoperative symbolic thought is to consider that the child who reaches the “symbolic function” is the child who has had access to the image of the mirror and who thus has formed a unified

and complete representation of its own body. To remain in Piaget's terminology on the distinction between the significant and signified, one could say: An image that has the statute of the significance of his "I."

Let us try to show that this "representation of oneself" is implicitly implied in all the evolution of the genetic period in question here. We have support about the subdivision of this genetic period in two stages, which we will associate the two diagonal axes of the circuit "S":

- In the beginning of the representation at approximately 4 years, says PIAGET, there is an absolute prevalence of the assimilation, under the particular form of individual symbolism such as it appears in the use of the play symbol.
- From 4 1/2 years to 7-8 years: accommodation becomes increasingly prevalent, in the form of a socialized imitation of increasing complexity (being prolonged in the mental image).

Play and Dream Symbolism "h + s -"

The principle of symbolic play is that the child uses new and functionally inadequate objects, which are "the significances" [signifiants] of the objects being used for the habitual exercise of the patterns [schèmes]: to take a fringed linen for its pillow and to pretend to be sleeping by sucking its thumb, to pretend to eat a sheet of paper, or to pretend drinking while using any box.

The fiction or the symbolic play is thus characterized by the meeting of two conditions: specific behavior patterns [schèmes] are applied to inappropriate objects from the point of view of an effective adaptation, and these new objects do not give way to any new accommodation but are used with the only aim to mimic or to evoke the behavior patterns in question. One can add that the search for pleasure as such is manifest, and that there is a requirement of satisfaction that pushes the child to take anything for support or as a pretext for this activity. Besides the child attributes an entirely subjective or egocentric significance to the symbolic play, which is "pure assimilation." It would not be consequently extreme to consider that the play symbol functions like the "object of the drive," defined as "... that in which or by which the drive can achieve its goal." (3)

The child evokes the former patterns [schèmes], out of their context, for the pleasure of it, says PIAGET, thus underlining the continuity with the sensory-motor period. But couldn't one also say, by more accentuating the caesura -- the pause -- between the sensory-motor one and the symbolic system, that the subject puts itself in the scene and "is represented" by reproducing former patterns? That would be precisely to take account of the "wholeness" of the mirror image, presumptively underlying what occurs now again compared to the sensory-motor one. From such a point of view, the "displacement" of the real object (and situation) towards a fictitious situation having as support a play symbol is only a pretext for the subject to play its own representation. There would be thus not only the pleasure related to the execution of a behavior [schème] (reproduction of the sensory-motor functional pleasure), but also, and perhaps even more so new pleasure in evoking its own image, to represent "oneself" and to put oneself in the scene by means of "doing this or that." At the end it is a question "of being seduced" by evoking one's own image as a totality, as the source of the pleasure evoked in the play action, which justifies connecting it with the position "h+."

What is it then for the second position: "s -"? For PIAGET, the symbolism of the play is prolonged in the dream symbolism, which also is it, and speaking more forcefully, the assimilation of reality to the ego, without the compensation of adapting. The sleeper assimilates reality "in imagination" and with the way in which the symbolic play proceeds: the individual symbolic thought forms only a whole.

However, the position "s-" has a connection above all with the object produced in the fantasy scene, and with a possible fixation on this object, rather than with the return of aggressiveness against oneself. G. DELEUZE says, from a similar point of view: "The masochist needs to believe that he dreams, even when he does not dream." (4) One of the techniques used is precisely the suppressing of activity and movement, in rites of physical suspension, tying up, etc. . . . in order to cause the formal regression and to make prevail the fantasy scene.

Far from us is the idea of pretending that all the problems of the dream could hold the only significance of the position "s -." However, within the limits of this attempt at a structural analysis of the symbolic function that we try to apply here and taking into account the Piaget

presentation of dream symbolism, it seems to us justified to associate it to the second position of the axis “h+ s -.”

The Imitation, the Mental Image and the Axis “h- s+.”

The imitation is primarily of an accommodating nature. It is a technique of a copying of reality starting from accommodation. In addition, inside the field of the “symbolic function,” the imitation is the only aspect that is based primarily on a motor activity. It is a matter of an awareness by way of action or by an acting representation. But this mode of acting representation is not only directed towards the knowledge of objects, it includes also an aspect that concerns people, including oneself. Here is an example: “... J. discovers her face: while I touch myself the middle of my face, she initially rubs the eye, then looks above and touches her hair; after which she goes down a little and ends up putting her finger on her face. The following days, she manages from the start to imitate all elements of this gesture.” (5) What is happening in the course of building up oneself is a kind of “active representation” of the body itself, assisted by the imitation of the gesture of the other. It is the image of the body and representation of the active body. It appears to us that the image of the body thus defined can be regarded as the result of an accommodation in relation to the “Gestalt” of the perceived body or an appropriation again of this image, where the subject passes from the passive position to the active position. It is not a question any more this time of evoking, for oneself, one’s own image by the mediation of the play symbol; it is a question of behaving and of acting “like the other” and within the sight of the other.

One is here in the presence of the problem of the primary identification, allowing the child to place itself in active position, the seducer position of relating to the oedipal relative, and to go beyond the passive position of the child as an “object of maternal desire.”

The “h -” succeeds the position “s+” on the circuit of the Sexual Vector. We will associate this position with the mental image, always within the limits of our structural analysis of the symbolic function. For PIAGET, the mental image is in itself an image symbol making it possible to evoke by thought what was perceived. But it is especially a making internal (externalizing again) of the imitation. It thus “follows” the imitation, if one can say so, and is to some extent the memory of it.

In addition to the problem of sublimation put forward by SZONDI in connection with “h -,” the “h-” subjects would deny their need to be “objects of love” and attention on the part of the other, to play the part themselves more as “subjects for love,” and to identify themselves with “the one who loves and wants to love.” One thus remains here in the “active” dimension of the “seducer,” which could be regarded as the prolongation of the primary identification: to identify oneself with the person who loves.

Conclusion

The problems of the Vector S are centered on the concept of the mirror [*spéculaire*] “Gestalt,” and bring into play the polarity active-passive (seducer-seduced). If one poses the assumption that the child who reaches the “symbolic function” is the child who could constitute a unified body image, the reading of this genetic period becomes clearer, and the comparing with the Sexual Vector appears significant. A structural analysis of the various aspects of the “symbolic function” seems possible on the space of the circuit S, there where PIAGET had proposed an open enumeration (with the proviso of considering that the language doubles each one of its functions and itself does not constitute a pole). Moreover, one can extricate a genetic trajectory going from most passive to most active, for that which concerns the use of the “materials” with a representative or symbolic quality to start with the image of the body itself. This one, initially simply evoked by the support of play symbols, makes the object of an increasingly active appropriation, in which the imitation plays a central role. This concept of imitation, by certain related aspects with the primary identification, is significant of this genetic period and, moreover, reveals significantly the limits of them.

The Paroxysmal Vector and the Concrete Operational Period

According to the observations of PIAGET, from 7 - 8 years, the child understands that it can cancel the result of an action by carrying out this action in an inverse manner. It is the access to the operational reversibility, being defined by PIAGET as the combination of an action and its reverse.

The most known experiment in this field is that of the deformation of the small clay ball: one asks the child to view two identical balls; then one deforms one of them into a long roll, for example. Before the reversibility, the child will say that there is more clay because it is longer, or on the

contrary less clay because it is thinner. He reacts according to perceptive impressions. On the other hand, once he acquired the capacity for reversibility, he will say that there is the same quantity of clay because one added nothing nor removed nothing. He can “mentally” anticipate the result of an action and its reverse. Reversibility plays the role that identity assumed in traditional logic.

Concrete logic works out field by field the operational structures of the “invariables” around concepts like length, weight, volume.... We will not analyze in detail each one of these stages or even the whole of the logical properties of these structures. It is more meaningful for our intention to try to grasp the essential principles of this concrete operational logic.

At first sight, one can stress that the operations are interiorized actions and note that PIAGET qualified the logic as the “morality of thought,” which is already an introduction to the problem of the law.

Notes on Some Experimental Results

On the whole of the seven studies, conducted at the Universities of Liège and Leuven, relating to age brackets between 5-6 and 16 years, one can emphasize the following results: with regard to the factor “hy,” the percentage of the “hy+” decreases regularly to the degree of the development, and the “hy -” increases correlatively. One can propose for these data the general interpretation of Susan DERI, noting that the position “hy+” testifies to the little importance of emotional controls, and of spontaneous and external movements of expression, among others by the assembly of functions of movement. Conversely, the position “hy -” represents more “interiorized” methods of the emotional life. This concerns thus a complete general comment, ascribable to the whole of the evolution of the child.

As for the results of the factor “e,” the more striking figures relate to the reduction of the “e0” to the profit of the “e±” between 5-6 and 9-10 years. (6) With adolescence, the “e±” will decrease, and the “e0” will increase again. The latency period would thus be announced initially by the loading or the investment of the factor “e,” rather than by a polarization towards “-” or “+.” The child in the latency period would feel concerned by

the problem of the law in a new way, perhaps for the first time in a really significant way.

Moreover this “questioning [interpellation] by law” evolves obviously to a “Cain-like” position (e -) when one passes from the age brackets of 5-6 (23 %) to 7-8 (24 %) then to 9-10 years (44 %), whereas the “e+” decreases correlatively while passing from 30, to 32, then to 20 %. Obviously, the child in latency period reacts to the questioning [interpellation] of the law by testing it on a negative or “Cain-like” mode. It is only with the threshold of adolescence that this tendency will be reversed.

The Place of the Factor “hy” in the Appearing of the Reversibility

According to the very short description that has been just made about the operational operation, the hypothesis that is essential on the level “hy” is as follows: the preoperative functioning, where the child is centered on perceptive appearances, can be associated by the position “hy+,” while the operational functioning, where the child reacts more according to “interiorized” structures, can be associated to “hy -.” Besides, to react to what is shown is also to react in “showing oneself” and in “putting oneself in the scene.” The example of the “preservation of lengths” shows it very clearly: one makes note the equality of two rods, then one pushes one of them and the child says: “It is taller because one has pushed it.” The child places himself in the ongoing executed action and reacts almost according to the function of the sensation of this action. He puts himself in the action scene, includes himself in the scene. Contrarily, if “hy -” means not to express its emotional reactions, it can as well mean the control of the immediate reactions inspired by the perceptive impressions, and this, according to an interiorized “system.” However, if “hy” is concerned with the proving of the process of interiorization itself, it is less certain then that we can find there the explanation of the mechanism even of the reversibility. For that it is necessary to turn to the factor “e.”

The Factor “e” and the Mechanism of the Logical Reversibility

The few experimental data that have just been presented incontestably show that the latency period coincides with an increase in the frequency of the “e -,” this factor reaching its maximum with the age bracket of 9-10 years. The child comes up against the limit of the law,

takes offence, and revolts at least internally. It is that he is challenged in a more personalized way, more direct than through the collection of “moral” interdicts, relating to that which one can “show” and that which are represented by the factor “hy.” Here, the subject is literally put again in his place; his place is assigned to him in the family structure and the succession of the generations. It is in any case a possible way to express what happens to the child “excluded” from the primal scene at the end of the oedipal crisis. The child undergoes the constraint of the law, and a place is assigned to him. This “assignment” to a definite place is held back in a cognitive function while making it possible to the child to keep a constant “viewpoint” on a situation, and by this being able there to reach the reversibility. Indeed, the preoperative child changes point of view constantly and centers itself successively on one and then on the other aspect of the object to draw thereby some opposite conclusions.

In fact, even the idea that the access to the reversibility depends on the capacity to take and to preserve a point of view is taken up by Jean-Claude QUENTEL in his recent work “L’Enfant.” In the context of a critical analysis of the concept of egocentrism, he speaks about “the non-existence for the child may be from the point of view of the other or may be from the point of view that corresponds to itself.” (7) He also says that the reversibility and the reciprocity find their place of explanation “in the way in which the child itself is situated.” (8) We share obviously this perspective, but the use of the reflective “se situe” [itself is situated] reveals that the problem is tackled in terms of “the positioning of the subject,” that is to say, in the Szondi terminology, on the level of the Sch Vector. For our part, we would rather say that the reversibility finds its explanation in the way in which the child “is situated” caused by the place that is assigned to him, which brings back the problem into the sphere of the Vector of the Law (P), leaving the problem of the “reflective” to a later time.

If the connection with the law is also essential for the development of the operational structures, it is possible that these structures present some similarity with the psychic instances that have a connection with the law: the superego-ideal of the Ego, ethical conscience....

From the phenomenological viewpoint, the reaction-formation presents a similarity with the operation, as it cancels an unconscious desire in advance. The interest of this comparison would be small if FREUD had not made the reaction-formation as the normal operating mode of the

latency period: “These reaction-formations of the obsessional neurosis are only the exaggerations of the normal character features that develop during the latency period” (9) That is thus literally the origin of the reaction-formation. In the second topic, FREUD lends the superego itself a structure that, itself also, recalls this reaction-formation: “This superego is however not a simple residue of the first object-choices by the Id; it also has the significance of a formation intended to react vigorously against these choices. Its relationships with the Ego are not restricted to address this council to him: “be thus” (like your father), but they imply also the prohibition: “do not be thus” (like your father); in other words: “do not do everything he does; many things are reserved to him and to him only.” (10) The superego such as it is presented in this passage is the authority that assigns a place or a position for the subject, according to terms that we used above and consequently enables him to take into account the two opposite and contrary moments of the proposition, the subject entirely not adhering neither to one nor to the other of these two moments.

In SZONDI, the ethical conscience is also worked out starting from the coexistence of two opposites in the “field of the conscience”: the negative instinctual drives and the disposition for “repair.” The ethical subject no more entirely coincides either with one or with the other term of this pair of opposites. The ethical proposition is also the result of a certain “taking of a recoil” [*prise de recul*], we would say. But however, it would seem that the “ethical conscience” is a much “later” process, which relates to adolescence rather than the latency period, if one believes our experimental results on them, where the frequency of the “e+” increases only starting from the threshold of adolescence. This is why we will not look much further into this hypothesis concerning the “ethical conscience.”

Conclusion

One seems to find oneself so much on the side of the mechanism of formation of the operational structures than on the side of the formation of the “superego” in the presence of a process of the “taking of a recoil,” of being “uncentered,” or “positioning in a point of view,” which allows the subject to apprehend in the same “whole” the movement of its action or its desire and the cancellation of this action or this desire.

What justifies in our eyes the specific bringing together of the operational mechanism with the Vector of the Law -- in opposition to a

standardizing generalization of the process of “uncentering” [décentration] -- is that it is not only the situation of the child as such that is in question but also the fact that his position “is assigned” to him, with a dimension of constraint. It is the interpretation which we propose with the coinciding in the time of the increase in the reaction “e -” with the moment of appearance of the concrete operations. The operational mechanism is according to us intrinsically related to the problem of the law.

The Sch Vector and the Formal Operational Thought

The formal thought is a hypothetical-deductive thought, where the subject is able to reason starting from hypotheses, whereas previously he could only do that on the basis of real situations. The contribution of PIAGET shows that this formal thinking is not based exclusively on language or on a system of learned algorithms, but that it appears spontaneously in situations of the everyday life, such as problems implying the use of combinations.

It is from 11-12 years of age that the child becomes accessible to this form of thinking and reasoning. Faced with a problem, he or she can consider all the combinations made possible by the source data and can check systematically which are those that are presented indeed in reality. Thus there, says PIAGET, is an inversion of reality and of the possible, the possible preceding this time reality in the course of thought.

But a subject that “is authorized” to pose hypotheses is to some extent allowed “to leave” empirical reality to create an “other” reality having a purely representative or symbolic support, another reality of which it is the origin. Here, one can speak in terms of a “reflective subject” and say that it “is situated” [se situe] at the origin of its thought and its reasoning. Such notations obviously immediately evoke the last position of the circuit Sch, “p+,” that one feels underlies the whole process in question here. Thus it is in constant reference to this position “p+” that one can examine the whole of the Sch circuit in the optics of formal thought.

The Projective Position “p -”

Projection regarded as of external origin raises in fact that of internal psychic processes not recognized or not accepted. For this reason, it appears in its principle even as the negation even of thought. The subject

“p -” is the subject that does not think and that does not put forth hypotheses, since for whom things are simply “what they are” and always were. The position “p -” is the “participative” position, by which the subject establishes an “identity of being” between him and the external world, the limit “me-not me” tending to be erased. Projection means the negation of an “autonomous” ego. However, formal thought has precisely as a principle of dissociating the thought (hypotheses) and the reality to which these hypotheses could apply, and it is thus completely antinomic with the principle of projection.

From a psychogenetic point of view, the position “p -” would return rather to the thought of the very young child, in whom “projection” in the field of thought appears by “realism”: the psychical reality is not recognized as such: the dreams are in the room, the words are in the things, etc.... The overall explanation of such features of the infantile thought is that “the world is only made one with the ego.” (11) The work of constitution of reality “supposes a progressive scission of this protoplasmic conscience into two complementary universes, the objective universe and the subjective universe.” (12) The concept of “participation” is thus found to some extent also in certain Piaget texts to indicate a very antiquated form of infantile thinking.

Introjection “k+”

The factor “k” indicates the need to restrict one to the Ego, to maintain its independence, to limit or cut the emotional exchanges with the environment, and it reaches that point in incorporating objects (k+), which leads it “to be sufficient for itself and makes satisfaction of libido fully independent of the external world.” (13)

From the point of view of the development, that which corresponds to “k+” can obviously also relate to a plurality of genetic levels. Introjection obviously makes one to think initially of the obtained [parvenues] operational structures in the state of balance, and which do not have thus anything any more to receive from the external world. That concerns already concrete operations, even certain sensory-motor patterns [schèmes], like that of the permanent object. But our present concerns will lead us to consider the ultimate stage of these processes of balancing: towards 11-12 years, the thinking reaches a state of final balance, which PIAGET names “form of final balance of thinking.” That means that the thought can not

any more be met coming from the external world that can call into question its balance. PIAGET presents its arrival, not as the result of a construction, after the manner of these concrete operations for example, but as the result of process of an internal or endogenous balancing.

That evokes the position “k+,” insofar as it is about an entirely autarchical and self-sufficing structure. But if the “form of balance” is definitive, it is not because “objects” as such would have been introjected but indeed because the structure even of the interaction is interiorized. Introjection memorizes also the interaction, even with the external world. The psychical reality is made at the beginning of these internal objects and the relational patterns [schèmes] that are established between the subject and these objects.” (14) In Piaget’s terms, the “form of balance” is the result of the series of the patterns of conservation of which the first is the permanence of the object. In psychoanalytical terms, introjection ensures the indefinite possibility of re-presentation of the objects that “were lost” in reality. The two points of view relate to the development of an internal reality or psychical reality.

The Hypothetical-Deductive Thought and the Dialectical “k+”/ “k -”

The result of the process of balancing of the thought will allow the subject to reach the hypothetical-deductive thinking, and to use systems such as propositional combinations. Placed for example in front of a problem of the mixture of chemical bodies in which the combination of three elements produces a colouring, a fourth being bleached and the fifth neutral, the child at the formal level will be able to draw in advance the picture of the possible combinations and to select the one or the ones that is actually materialized.

In the example chosen, the collection of the combinations forms a whole, regulated by an endogenous law, which allows bringing one closer to the polarity “k+.” It is a “to have everything” in the order of the thinking, which one finds necessarily in excess compared to empirical reality.

At the other end of the proceeding to a resolution of a problem, the subject is brought to return to reality since it is a question of seeing what are the possibilities that are checked empirically among those that were conceived hypothetically. It seems adequate to associate this moment to the

pole “k -,” intervening here as a “function of judgement.” The role of this function is indeed, says FREUD, “. . .to admit or dispute the existence of a representation in reality.” (15) And SZONDI regards the function of judgement as one of the attributes of the position “k -”; it takes part in the operation of delimitating of the Ego (Ich-Einengung) of which it constitutes the most conscious and most extrovert aspect.

The whole of the operation of the “formal operational patterns [schèmes]” thus uses manifestly the two polarities of the factor “k,” and it is probable that the high frequency of the “k+” observed during the period of installation of these patterns can also reflect this cognitive process.

The Position “p+” and the End of Development

The position “p+,” that of the subject that is authorized to pose hypotheses and situates “itself” as the source of its own thought, does not correspond to any identifiable moment or any developmental “stage.” It is the position that allows the subject to pass from a genetic or developmental “time” to an existential or historical time (to see historically). Genetically speaking, there is nothing any more after the installation of the foundations of the formal thinking and the constitution of the “final form of balance of the thinking,” which, said PIAGET, will not be modified any more for the remainder of existence.

The subject who arrives at the end of its development does not have any more the perspective for the reduction of the variation “child-adult,” and this is reflected in the capacity to distinguish a “possible” from a “reality,” that is to say to take note of the difference between the thought and reality. This variation is really taken into account as of the moment when it is not deemed any more to be completed with a later stage of development or by means of an increase in knowledge. It becomes essential or ontological then and takes part in the statute “of to be-in-a-project” that defines the subject “p+.”

Conclusion

In a way even more absolute than for the Paroxysmal Vector, it appears that the positions of the circuit do not correspond to successive genetic moments, in any case within the limits of the period of acquisition of a formal thought. The Sch circuit could on the other hand reflect the

whole of the development, considered either under the angle of the formation of the successive mental structures, regrouped here in “k+,” but under the angle of the constitution of a subjectivity starting from a state of participative undifferentiation.

The appearance of the formal thought would be subordinated to the last stage of this process, that is to say at the time when the subject is able to assume a proper thought, released from the immediate support of empirical reality. The relation that it maintains with this one and with its own thought is found completely modified.

The access to formal thought, with what it supposes, signifies the end of the development as such and the access to the regulation [statut] of the historical subject.

OVERALL CONCLUSIONS

With the source of each period of the development, one discovers a major and at the same time significant existential experiment of the situation of the child in his or her evolution.

For the sphere of Contact, the dynamics of the innate patterns [schèmes] allows, as of the first moments that follow the birth, “to react” to separation, by reconstituting the relation with the participative mother. The sensory-motor assets are registered in this first movement whose stages are illustrated by the successive moments of the circuit of Contact.

The Sexual Vector has been understood, genetically speaking, as the space opened by the experiment of the unification of the image of the body in the mirror, and the essence of specific work to this period as a work of the appropriation of this specular image.

Within the framework of the Paroxysmal Vector, we tried to show that the operational reversibility does not emerge by only activity of the subject nor by the sole dynamics of its cognitive development, but that the subject has access there because his place is assigned to him by the law, in the continuation of the generations in particular, which enables him to have a stable “point of view” on things.

Lastly, we have just explained that the formal thought is the consequence of the capacity to assume a clear thought and to be authorized to think apart from an immediate tie to empirical reality.

This suggests that a link exists between the human problems with which thus the child is confronted at the successive stages of his evolution and the various levels of cognitive and logical organization that develop along with it.

This framework could also accommodate a description of the stages of drive maturation, with the proviso of considering these “experiments” as moments of rupture, or traumatic moments. That is what FREUD suggests, and with its continuation by LACAN. In addition, the various types of anxiety were already associated the Vectors of the drive diagram [schème]. (16) The contribution of each genetic period can then be seen like a “response” to a specific trauma. And one is there in the presence of a model that approximates PIAGET again: the meeting of new situations causes imbalances requiring new rebalancing. . . .

The drive diagram [schème] provides a groundwork that can probably deal with the whole of the aspects of the genetic development. It is the first opening window to these conclusions.

But this first opening window led to a second level of questioning. Indeed, the fact even as a genetic reading of the diagram makes possible to propose a question: the drive diagram finds its origin apart from any psychogenetic reference and proposes a whole of anthropological and psychopathological “categories” that nothing is predestined to recognize a psychogenetic model. All thus occurs as if a “crystal principle” were also at work in the carving out of development into a given number of essential periods and conferred a “structure” on the “genesis.” This structuring principle emanates from global anthropological problems; one can say that the development is structured itself by these problems.

The idea as such is not new, obviously: FREUD had introduced it with the concept of the “latency period,” which represents in its architecture even of development the existence of the prohibition of incest. The recourse to the drive diagram of SZONDI and the work of PIAGET makes it possible to show more clearly that this principle is at work in all the stages of the development, including in its cognitive and logical aspects.

FOOTNOTES

¹op. cit. pp. 96-97.

²MELON et LEKEUCHE, "Dialectique des pulsions", p. 108.

³FREUD. "Pulsions et destin des pulsions" [Drives and Destiny of Drives], trans. from, p. 19.

⁴G. DELEUZE. Présentation de Sacher-Masoch," p. 71.

⁵J. PIAGET. "La formation du symbole chez l'enfant [The Formation of the Symbol in the Child], p. 58.

⁶ 5-6 years	7-8 years	9-10 years
e± 35%	23%	14%
e0 11%	20%	22%.

⁷J. C. QUENTEL. "L'Enfant," p. 197.

⁸Ibid. p. 196.

⁹FREUD. "Inhibition, symptôme, angoisse" [Inhibition, Symptom, Anxiety], trans. from, p. 204.

¹⁰FREUD. "Le moi et le ça" [The Ego and the Id], p. 204.

¹¹J. PIAGET: "La causalité physique chez l'enfant" [Physical Causality in the Child], p. 277.

¹²Ibid. pp. 274-275.

¹³S. DERI, "Introduction au test de Szondi," p. 162.

¹⁴J. MELON. "Le moi en process," p. 162.

¹⁵FREUD. "La negation," p. 175.

¹⁶MELON et LEKEUCHE, "Dialectique des pulsions", p. 27.

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