

**The reflexion : a H.O.T ( Higher Ordeer  
Thought ) starting in childhood. Self -  
reflecting consciousness and the self-  
regulation in the frame of the historical  
cultural Theory of Activity**

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# Abstract

The reflexion as a form of knowledge and a level of personality development at the same time. The growing concern to the development of consciousness in human ontogenesys and the attainment of selfconsciousness has emphasized attention to the analysis of explanative theories of the genesis of human knowledge and activity, as connected with language and self-regulation. Though important acquisitions were recently predisposed by the methodics of neuro-imaging, seminal contributions to the upper mentioned topics were already realized by L.S.Vygotskij, founder of the historical - cultural psychology and by the representatives of the Activity Theory Approach, A.N.Leont'ev, V.V.Davydov, V.V.Rubzov, to quote but some, among the followers of the first.

Important empirical research were also produced by J.Piaget, by J. Bruner and others, which this presentation will briefly refer to.

# Consciousness, and the invention of meaning.

"The word is microcosm of consciousness (L.S.Vygotskij 1934,ch.7) ", stated Vygotskij concluding the 7 th chapter of "Thinking and speech" and, still more specifically, " The meaningful word is a microcosm of human consciousness" .

He moved from the position that language and consciousness are genetically connected, insofar the word , as cultural stimulus, causes the regenerating of experience on an inner plane and on a functionally higher level. This way, all the psychic processes are transformed into self-controlled, voluntary and consciously regulated higher mental processes , as prerogative of the human kind.

The "history" of the higher psychic functions has not been written yet, according to Vygotskij ( 1931/60) because of the fact that, in the psychological research, wasn't put the aim of individuating the specificity of the human psyche .

Human kind, in fact, presents, among the other species, a unique typology of social activity, which introduces a multiplier effect of the individual experience, that we call *historical* experience. Depositary of such experience is the language. The semantic structure of the words, in many different cases, which Vygotskij ( 1934, chapter 7 ) quotes from Russian, still evidentiates traces of such experiences, referable to practical activities of the previous generations.

This social historical meaning of language is put by Vygotskij (1925) at the foundation of consciousness, when he defined the latter as a complex structure of behavior, representing a duplicate of immediate, direct experience. So, he stated, is consciousness the product of human practical experience as mediated by language.

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What is very important to consider is that the generating function of the language is not exhaustively explained by the semiotic dimension of the word .

In no case – he stressed - (1934, beginning of the 7 chapter) these are the pre-conditions of man's formation, but its product .

Behind language , he stresses from his first writings , there is the drama, the "role " of the concrete, practical experience (Vygotskij , 1926, 1934, 1931/1984), like more than an Italian scholar has evidenced ( G. Trimarchi ,2007) in recent readings of Vygotskij's contribution.

This explains why his conceptualization may be considered as the first formulation of a theory of Activity in psychology.

Knowing the objective reality means not just to reflect it on an abstract, mental plane, by means of signs (Vygotskij L.S. & Lurija A.R. 1930). Man is a social subject always related to a set of social relations. Therefore considering every form of man's knowledge: theorizing, doing research, cooperating, reflecting, reasoning, thinking, learning, playing, as forms of Activities means to give an account for their deep genetic connection with his/her concrete forms of experience.

In human ontogenesis, among language, conscience and experience a deep genetic connection exists, that Vygotskij has had the worth to notice as first, recognized A.R. Lurija (1976). He clearly wrote that consciousness and social experience originate at the same time, in a parallele way ( Vygotskij,1925, par.6).

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Even if he didn't formulate a conception of a theory of activity, like Rubiņstein S.L. (1935,1957) and A.N.Leont'ev (1975), he, nonetheless, stressed the genetical priority of the social experience and of its meaning for the successful psychical development of the child. Moreover Vygotskij introduces a very strong concept, or, to use his words, a systemic concept, (1931,1984/2) for explaining the genesis of personality of the child, which is the "personal experience" or "experiencing" (in Russian *pereživanie*), the place where an external event meets a personal meaning.

The child's knowledge stems from the social experience that, in the first steps of development, exists on the external plane, in the context of the caring that the others devote to the child, who is concretely depending from it.

Such conception, referred to as "sociogenesis" of the cognitive processes (Vygotskij 1931/60, 1934) could, only apparently, present analogies with conceptions of other authors, frequently quoted by Vygotskij.

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Experience generates, therefore, the conscience, which is the social derivate of it, according to Vygotskij (1925, 1979<sup>2</sup>, 1983, it. tr ,p.84) . With the present position, as we know, he entered in conflict with a current Marxist conception, according to which is the social experience to be produced by the conscience. His theory has to be considered as an explanation of the psychological genesis of consciousness – and this provides us with a genetic delineation of the formation of the higher psychic functions, today commonly defined in psychology as HOT, Higher Order Thoughts (Sternberg 1996).

Such explanatory model, today generally accredited, is abitually referred to as "the metaphor of the triangle" in the human psychic development (Zittoun, Gillespie, Cornish and others, 2007, p.208).

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If attention is paid to this, it should be ascertained that, in Vygotskij, the concern for that dimension defined "pragmatics" of communication, later analyzed on the empirical plane by J. Bruner (1983), is already precisely individuated. But let's consider the next step of the spoken word, becoming a process of inner thinking of the child.

In the most disseminated writings by Vygotskij, devoted to the development of the higher cognitive processes (Vygotskij 1931/60, 1934) greatest attention is reserved to the concept of "transplantation", a "regrowth" (*vyrašivanie* in Russian) of the meaning of the word on the internal plane. In fact, this interiorizing of the word brings about a consistent restructuring of the upper psychic functions, resulting in the acquisition of voluntarily, controllable functions by the subject.

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This step of “verbal thinking” or inner language, constitutes the *genetic medium* of the process of thought and, more specifically, of that form, that will be able of accomplishing internal planning of the behavior itself .

Such function is tightly connected with the experience of the child, with the concrete perception and ,only through age , assumes the ability that El'konin, in its analysis of the child's play, defined the "separation from the thing" (1978, cap. 4, par.3), the possibility to use linguistic denominations that don't reflect ,or even that are in conflict with, the concrete experience of the perception of real objects.

"The position of Vygotskij, for which the human psychic development has social sources for its origin and is mediated from these sources (or, more exactly, from his/ /her own activity on the plane of the social reality) has a great theoretical meaning – wrote V.V. Davydov and V.P. Zinčenko (1986) – inasmuch as it allows to overcome the idea that the influence of the social environment on man *directly* defines (my relief, S.V.) his/her psyche, his/her consciousness . In fact , between this influence and the conscience a particular reality exists, without considering which, it is not possible to understand the internal connections of the social reality with the development of the human consciousness , generated by his/her own activity in it " (op.cit. , p.111).

The language, from one side, develops the controlling function of voluntary movement and behavior through the internal planning, from the other, produces in his/her experience the possibility of controlling other people's behavior, according to his/her own expectations , needs, wishes.



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"The experiences ( realized with the clinical-critical method by Piaget and with the test of the choice, devised by N.G. Morozova, through the analysis of the verbal accounts given by the child) show - Vygotskij writes - that for the child, in the game and in language, the consciousness of the conventionality , of the intentionality of the connection between sign and meaning, is lacking. To be able of being sign of the thing, the word must (*in the child's conception* ,S.V.) find support in the characteristics of the designate object. Not "everything can be everything else " in the game of the child («*He всё может быть всем в игре ребёнка* » sic in Russian , 1930/84,1996<sup>2</sup>, p.401).

The concrete properties of the thing and their symbolic meaning present, in the child's game, a complex structural interaction. Word is connected with the thing through its characteristics , in a common structure." ( 1930/84,1996<sup>2</sup>, p.402)

The child's answers to the question if it could be possible to change the name to the things, is that it is not possible to call, for ex., the table "lamp", "because it wouldn't be possible to write on it and the table will not light" . Or, to take another example, it couldnt be possible to change the name of the floor with the name of glas, because it isn't possible to walk on it. ( 1930/84,1996<sup>2</sup>, p.402)

According to V. this shows that the child doesn't discover the connection between sign and meaning at the beginning of the acquisition of language and for a long time is not aware of it.

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The denomination is not the result of a discovery *una tantum*, but has a specific history . What is acquired at the beginning is not just the discovery that every thing has its name, but that with the things a new form of relationship becomes possibile, through the use of their name. (1930/84,1996<sup>2</sup>, p.402).

The process of the internal structuring of this form lasts about ten years.

The use of the concrete tools by the child, only during the preverbal period can be compared to the use done by the apes. With the acquiring of language a different way of controlling his/her own behavior and a different relationship with the external environment begins .

The first and prioritarian characteristic of it, is the great freedom of these forms of mental operations, accomplished by the child, and their incomparable independence from the visual field and from the practical situation. We can identify this form of mental interaction, as the *reflective abstraction*.

In the second of the works quoted before, Vygotskij and Lurija (1930) analyze the use of tools in the “problem – solving” by apes, according to the observations by W.Koehler (1921), comparing it with the behavior of the primitive man, and with the behavior of the child.

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These three levels of observations cannot at all be considered as three different genetic levels. The experience of the ape is - and remains - anchored to the structure of the perceptive field. On the plan of the activity, whatever tool - created and used by this animal for solving the problem of reaching a distant object, *which happens only if the perceptive field presents him the necessary elements* - never assumes the symbolic value of the tool used in human social practical activity, where it gives way to the continuous technological development. A tool doesn't become, in the animal behavior, a shared mean for creating useful products to address the present and future needs, susceptible of refinement, as it happens in the technological development throughout the human history. M. Cole has defined such products "artifacts" (1996).

The primitive man, is, on the opposite, an historical-societal subject, and the tool /he/she introduces, in his/her activity, changes the form of the practical activity.

The child still has to be introduced, across the psychic developmental process in this dimension, to become representative of the human kind.

The tool-using doesn't transform - observe Vygotskij and Lurija - the type of the adaptation of the monkey to the environmental context. In man, even primitive, the adaptation is interiorized, assuming the dimension of conventional signs, which expands the experience of the spontaneous individual abilities, restructuring the natural psychic functions into higher mediated cognitive processes. So the transformation of the outer concrete experience, in man, brings about not only the transformation of the natural context, adapting it to the immediate problem - situation of an organism, but, at the same time, generates the transformation of the inner experience of the subject. This transformation can be transmitted to the future generations, by means of the conventional sign-system.

# Consciousness, and the invention of meaning

His empirical research on the formation of concepts, (in cooperation with Saharov) represents a universally known aspect of his entire production, may be the most disseminated all over the world.

To analyze his research on this topic, which will bring us to the formation of the reflexion as higher form of self-regulation, main reference will be made to the critical exposure by Davydov (1972,1994/95) since, in the criticism of this scholar , we will find evidence of the model reflective self- regulation presents .

Characterizing (1934, 1982<sup>3</sup>, ch.1) the word's meaning as an act of thought, Vygotskij defines it as unit of "thought and language" , but also of generalization and sharing (*obobšćenie* and *obščenie*), "communication and thought" (*kommunikacija* and *myšlenie*) and aims at pointing out the genetic continuity among the different forms of generalization, through the development of the conceptual meaning.

As we all know, he identifies (1934, chapter 5) three levels of generalization, qualitatively different, but genetically connected, the *sincretic groups* , the *complexes*, among them their last form, the *preconcepts* (*pseudo-concepts* is the term used by Vygotskij ) and the *concepts*. The first ones are characterized by what he defines as "disconnected connection", ( Vygotskij, 1934,5,par.5) since these groups (of objects) are built without isolating any objective characteristic of them, but thanks to the spatial position, or of some single dominant trait.

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In fact, comments Davydov , in the traditional formal logic, a single case of generalization is presented as the only possible and referable to all the possibilities.(1972,2000<sup>2</sup>, p.224).

Therefore Vygotskij, comments Davydov – though identifying pseudoconcept and concept for the object reference and also for the type of generalization, states that the intellectual processes, through which the child forms the one and the other are different, without giving an indication of the process itself ; moreover he a) considers the pseudoconcepts , which he identifies with the higher forms of the complex , putting them among the spontaneous concepts, and b) attributes to the scientific concepts different sources .

In the research considered (Vygotskij 1934, ch .6) are well delineated also the ways they follow, being the ones, the spontaneous concepts, produced by the child's coping with the real objects. Among these, by means of prolonged comparison, he individualizes some similar lines and, through the word, it refers them to a certain class of objects, or builds up a general representation of it.

# The genesis of the reflective consciousness

The world of the meanings, observes Leont'ev, is not in itself psychological. What rises to the conscience of the subject is not the meaning in itself, but the corresponding *psychic image*. Object of the psychological analysis can only be this subjective form of existence of the meanings (Leont'ev 1975a).

The human activity as meeting-place between subject and object, pertain, therefore, to psychological investigation, moreover the external Activity, with its macro-structural dimension, and the inner activity, micro-structural, are genetically connected and have a common structure.

This allows an analyze of the two forms, without splitting them, since they constitute a *relational unit*, to use an expression by Vygotski, stated Leont'ev. (Leont'ev A.N. 1975, p. 84-85 it trs.).

# The genesis of the reflective consciousness

Actions , defined by their purposes, and operations, (this term has a technical-practical definition, different from the meaning the same term has in the psychology of J.Piaget) , account for the realizing of the Activity (op.cit.,p.92)

The human activity, considered in its subjective dimension , has different levels, one of which is the human consciousness in its specific property of orienting man in reality. The other is the personality.

In order to properly understand it , we are forced to overcome the "postulate of the immediateness" (which was basic in the conception of the Activity formulated by S.L. Rubinštejn), that is to say, we have to exclude the idea that consciousness results from the direct relationship with the things, with the concrete real events.

# The genesis of the reflective consciousness

Personality and consciousness represent inside moments of the human activity, connecting, therefore, both the poles: object and subject. (op.cit. ,p.141 it. tr) . Not the conscience, nor the personality exist before the activity, but both are produced by this.

The method based on the activity or , to use the Russian words *dejatelnostnyij podhod*, becomes a prioritarian methodology in analysing learning for Davydov, who strictly cooperated with the Russian philosopher and epistemologist Ewald Il'enkov.



# The genesis of the reflective consciousness

On this basis he conceptualized the theoretical thinking, a higher cognitive process implying at the same time a meta-cognitive level, represented by the strategies of self-regulation (Wood 1988, 98<sup>2s</sup>). The ability of ascending from the abstract to the concrete is the specific strategy of theoretical thinking, attaining at the highest level, the reflection. Knowing in the most general form means to appropriate the universal system of interactions from which an object results. This system is continuously evolving and transforming itself. So is the knowledge of a single thing always referred to a *system of modifications*. An empirical knowledge can observe and verbally describe things, but never attains the entire systemic process of their transpassing from their sensorial to the idealized dimensions.

# The reflexion as cognitive process and personality level

The empirical research on the formation of number as an abstract quantity (Davydov 1957) gives evidence of the interiorization of the intellectual act of the counting . This contribution represents the PhD research he accomplished with P.Ja. Gal'perin.

Focussing upon the formation of the number 20 years later ,in cooperation with a team of mathematicians and psychologists, he redefines the transformation of the materialized action of the counting following its interiorization as mental intellectual act (Davydov 1982), resulting in the symbolic action of the additive calculation , made up by the synthesis of quantity and serial order, *with understanding* of these operations by the child himself.

The dialectical form of thinking is acquired through the mediation of the "ideal" or of the culture, conception elaborated together with E. Il'enkov.

The psychic development with the interiorization of the act of thinking cannot be generated by himself , since it acts together with the learning, with the sharing experience, with the communication: " Learning and development cannot act as separate processes, being correlated as the form and the content of a unitary process of the human psychological development ". (1996, p.85)

Considered in its content, is the psychic development an autonomous process, but it always takes place in the forms of the sharing, of the learning, of the instruction, of the education. It must be taken into consideration through the prism of the connection between content and form, through the dialectics of their interactive relationships.

The theoretical-dialectical knowledge is, however , never produced by the only abstract conceptual knowledge : its prioritarian role is the orientation in the practical activity. Davydov, following P.Ja. Gal'perin who was his tutor for the Phd courses , as stated before, accepts the conception of this scholar, related to the prioritarian function of the orientation in the practical, external, activity in the formation of the concepts (Gal'perin P.Ja. , coauth. Talyzina N.F. 1957).

# The reflexion as cognitive process and personality level

Following to Davydov (1972), the content of theoretical thinking is *mediated, objective reality, in its concrete form. Theoretical thinking represents the idealized form of the substantial trait of human practical activity, which consists in picking up the process from which this activity is produced.* The theoretical thinking addresses the general forms of the concrete reality in their defining laws or principles.

The first encounter with the concrete reality takes place in the objective sensorial experience, which acquires a cognitive dimension on the mental plane. Here the object undergoes to mental transformations and is generated in the full context of its interactions, which gives way to the production of the real object, by means of a process of abstraction from the properties of the concrete object. Therefore we meet, on the idealized form, a supplementary productive process which discovers the peculiar content of the concrete object. At this moment a scientific concept is built up, which reflects the universality of the concrete object, explains Davydov, (1972,p.255 it. trans). The process of mentally transforming an object, by re-building it on the mental plane, is an action of comprehension and of explanation of it, by getting into his essence (Davydov 1972,p.256). Davydov maintains following Kant, that every thinking form is an action. (Davydov, quot. ). Thinking about a line means to mentally draw a line. This means that, by thinking an object, man cannot refrain from re-producing the object itself on the mental plane, which according to the definition by Hegel, means to have the **norm**, or the **measure**, for reproducing it.

# The reflexion as cognitive process and personality level

The problem, maintains Il'enkov, is that the knowledge is provided not as real knowledge but as a substitute of this. In the didactics never the student is set in front of the possibility of elaborating the image of the object, during his/her activity with this. Even if the knowledge is given to him through the aid of ready images, (visual supports), these are already elaborated by others, instead than by him. " The real thinking is formed in the real life when - and only if - the linguistic engagement is indissolubly joined with that of the hand, organ of the direct object -activity " (ibid.).

The conception of the learning as a form of social productive activity, exposed by Davydov, in cooperation with Il'enkov, completes the genetic explanation of the human knowledge in its higher levels, by attaining the personality in its whole dimension, particularly expressed by the conscious reflective function it has.

The genetic epistemological conception exposed by J. Piaget and B. Inhelder, (1955) about the genesis of the elementary logical structures or the empirical research by the same authors about abilities and forms of knowledge, implied for by the deductive hypothetical thinking (1959) give evidence, at the primary level of the sensory-motor intelligence, of elaboration of the sensory-motor cognitive schemes by the child, and of the conflicting contradictory relationship these have with the perceptual schemes, (cit., 1959, p. 39it. tr.) .

Relationships of these elaborations with the linguistically based experience (D. Gargani 2004) are, nevertheless, supposed not essential for the genesis of these structures (Piaget & Inhelder 1955), while the perception is considered a facilitating element for the acquisition of the serial order (seriation), but not for the logical operation of classification. Therefore seems, indeed, the development of these higher forms of knowledge to be accounted for by an autonomous developmental process.

