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THE CONCEPT OF THE CULTURAL-HISTORICAL DEVELOPMENT OF THE MIND AND ITS PROSPECTS

Vygotsky's concept of the cultural and historical development of the mind, which he worked out together with his co-workers and students, never achieved finished form. It did, however, contain basic ideas that, when later systematically developed, opened paths toward knowledge about what Vygotsky considered to be the most important problem of psychology — knowledge of the human personality.

Central to Vygotsky's concept was the notion that new, systematic structures are formed during the process of ontogenesis, i.e., individual development. These new structures are the outcome of the subject's having assimilated the products of human culture. Vygotsky saw the essence of this development as follows: Mental or psychological functions that initially are elementary (natural) are mediated in the process of activity and social contact with others through a socially elaborated system of signs. This mediation alters the content and structure of these functions, and the result is mind, a phenomenon specific and unique to human beings as social creatures.

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Thus, in Soviet psychology Vygotsky pioneered concrete psychological studies employing a historical approach to the study of the human mind.

It is difficult to do justice to the full content and variety of the ideas that stem from Vygotsky's concept. The most important of them are known not only from Vygotsky's own published works but also from studies that further developed and expanded them. Some of the ideas are: the view that activity plays a dominant role in human mental development; the idea that the higher mental processes and functions are the result of internalization of interpersonal forms of communication and activity; and the notion that the emergence of the higher forms of mental life is related in some way to the formation of new physiological structures.

The purpose of the present article is to trace the logic of the development of Vygotsky's scientific thought, to outline its general features, and to determine the possible directions that further studies based on it might take. We should point out that this logic is also the logic of the empirical facts on which Vygotsky always drew in working out his concept of the psychological aspect of the human personality as a complex, structured system.

I

Vygotsky continually stressed his view that the chief concern of psychology was the human personality. In his criticism of traditional psychology for being divorced from real life, Vygotsky observed: "Psychology until now has approached man's inner life metaphysically. . . . It separated mental processes from the integral, whole person and his integral personality and viewed them in isolation. It was perforce condemned to operate with empty abstractions." (1) Elsewhere he asserts, "Until now the central and most important problem of the whole of psychology, namely, that of the personality and its development, has remained a closed book for child psychology as well" [6. P. 60].

It is not unreasonable, therefore, to say that the entire logic of Vygotsky's scientific thought was aimed at a final resolution of this problem. Yet he realized that to do this, psychology had to find other paths than those it had traversed in the past. He wrote:

In the person of its best representatives, child psychology has come to the conclusion that the description of man's inner life as a whole belongs to the poet's or historian's art. This is essentially a declaration of bankruptcy, a testimony to the shaky underpinnings of child psychology, a confession of the impossibility in principle of studying the problem of the personality within the methodological framework that set the stage for the emergence and development of child psychology in the first place. Only a resolute break with the methodological constraints of traditional child psychology can bring us to a study of that higher mental synthesis which has been quite correctly called the personality of the child [6. P. 60]

Our purpose in the present article — to trace the development of Vygotsky's theory of mental development — has been made easier by a paper he read on October 2, 1930 (2), in which he tried to map the path traversed by his research up until then and to outline its further prospects. "What I am about to discuss with you," he said, "has grown out of our experiments together; it is an attempt, albeit an unfinished one, to map the theoretical contours of an approach that has guided a number of our studies, namely, the effort to bring together two lines of research, the developmental and the pathological."

Essentially this was an attempt to outline the new problems that had arisen from a comparison of data obtained in studies of the development of complex functional systems in the course of the child's overall mental development and then, later, in studies of the disintegration of these systems as the adult becomes ill.

This talk reflected Vygotsky's own attitude toward the general orientation of his original studies and toward the fact that he saw where these studies were leading only in the most general outlines, which were occasionally quite vague even for him.

In its very first stages, Vygotsky's study of the child's mental development led him to the following cardinal position. Mental development proceeds along two lines. It includes the process of maturation, i.e., the refinement and perfection of the systems and tissues that constitute the organic basis of any mental process, and, secondly, it includes cultural development, which involves the emergence of new mental structures. When the child learns to master tools such as language, mathematical symbols, letters, etc., the structure of his mental processes undergoes a change (these processes become mediated) and becomes more perfected and productive. This development, in contrast to maturation, Vygotsky called functional.

During this period the chief method used by Vygotsky and his colleagues in their empirical psychological studies was a method of double stimulation. Essentially, the subject (usually a child of a certain age) would be presented with a specific psychological task (e.g., to remember a list of words) and a system of devices or instruments that would enable him to perform the task successfully (e.g., pictures). The experimenter then studied whether the child used these instruments and, if so, in what way, how his activity changed, and what sort of modification took place in the mental function that was being studied in the particular experiment. (A. N. Leontev's book [8] gives an impressive description of this stage of the research.)

Other psychologists had previously called attention to the emergence of the ability to employ various means and instruments to improve performance in mental activity. In particular, Binet had pointed it out in his study of the exceptional memory of one of his subjects. He, like all the others, however, saw this as a fictive development; and when he encountered it in memory, he called it the simulation of basic memory.

Vygotsky objected strongly to this viewpoint, which he considered the result of the faulty methodology that was at that time prevalent in child psychology.

In Vygotsky's view, the chief psychological error of traditional child psychology was its global, undifferentiated approach to mental development. It did not perceive that the historical and biological lines of development that in phylogenesis seem to be independent and self-contained (and in fact are even covered by different fields of psychology) in ontogenesis, or individual development, come together and fuse into one single (though not undifferentiable), complexly organized process. Clarity on this point, according to Vygotsky, was a necessary precondition for the proper study of human mental development [4. P. 38]. Later research proved him right.

A study of language and thought, perception, memory, attention, and other mental functions showed that as the individual learned the cultural forms of conduct and behavior, genuine qualitative changes took place both within these functions and in the way they were interrelated.

An analysis of how a child remembers with the aid of pictures showed that his memory relied not so much on natural memory capacities as on the use of the instruments and devices offered him as memory aids. He compared the thing to be remembered with a particular device, found what was similar and what was different in them, sometimes made artificial and arbitrary associations among them, and thus, by means of thought, solved his memory task. In a certain sense memory is replaced by thought; and in the final analysis, this gives birth to a special kind of memory, with its own special structure, namely, logical memory, in which reasoning, now enlisted to resolve a problem that is not specific for it, loses many of its features, whereas natural memory, developing now through the aid of reasoning, acquires a unique structure of its own. This new, higher, mental function that emerges during the course of development is not just memory plus reasoning: it is an indivisible whole, which cannot be broken down without

eliminating the function itself. This new structure is the outcome of the historical, not the biological, line of child development and is specific to man.

A study of other mental functions reveals the same pattern: as the individual develops, they begin to be mediated, intellectualized, and rendered voluntary, i.e., they become conscious and controllable by the will. Perception becomes categorical, thinking becomes conceptual, attention becomes voluntary, etc.

The leading methodological approach at this stage is the investigation of mental phenomena as unitary wholes. Just as one cannot, to use Vygotsky's example, study the properties of water by breaking it down into hydrogen and oxygen, since these elements have completely different, and in fact even diametrically opposed, properties, so it is impossible to study the higher mental functions by breaking them down into their primary constituents. (They are united, so to speak, in an organic, not a mechanical, way.) Vygotsky thought that great harm had been done to classic psychology by its failure to understand this point and by the element-by-element approach it used; because of this it was incapable of inquiring into either the process of development or the complex forms of human mental life, to say nothing of being able to study the human personality.

It was undoubtedly this historical, materialist, systemic approach to the study of integral psychological structures Vygotsky had in mind when he spoke of the need to go beyond the methodological limitations of traditional psychology.

At the next stage of his research Vygotsky's notions of mental development became even more complicated. In his talk (October 2, 1930) he said that the conceptual system he wanted to outline was much more complicated than the system he and his fellow workers had used up to that time, although even this new system was much simpler than the actual complexity of the actual psychological processes they were meant to study. (It seems that this new stage in the development of Vygotsky's scientific concept was directly related to his coming to a neurological and psychiatric clinic, which gave him the chance to

compare data on the development and disintegration of psychological structures.)

The main thought dominating this period was that development was accompanied by changes not so much in the structure of individual mental functions as in the connections and relations among these functions. The modification of these connections and relationships gives rise to new kinds of higher mental functions that had not existed in the preceding stages of development. Vygotsky called these interfunctional structures psychological systems.

Following this line of reasoning, he began to look at the development of even particular mental functions as the formation of psychological systems — although, to be sure, simpler ones. Vygotsky then came to believe it necessary to study first the more complex systems of which the higher psychological functions were a part and which constituted human consciousness.

Also at this stage Vygotsky expressed the view that the higher mental functions and their more complex systems were not related in an elementary or natural way to the personality. In contrast to primitive, unmediated responses (which are characteristic of animals, small children, and some patients), these relations are active manifestations of the individual personality [8. P. 118]. Any reaction, any response of a human being is mediated by his personality, the highest and most structured system he has, and in this way acquires a conscious and voluntary character. "The development of the personality and the development of individual responses are essentially two aspects of the same process" [6. P. 119]; hence "in tracing the cultural development of mental functions we are, at the same time, mapping the path of development of the personality" [6. P. 118]. Vygotsky regarded this approach as fundamental to psychology, since it was pointing in the direction of creating a genuinely human psychology. "Psychology," he said, "is becoming human" [6. P. 118].

On what empirical facts did Vygotsky base his research during this period, and what generalizations and hypotheses did he formulate?

From his analysis of the age-linked developmental characteristics of children Vygotsky concluded that at each stage in development a child's consciousness has specific, qualitatively distinct, structural features. "It is difficult to compare the memory of a child at this age (1-3 years), his thinking, and his attention with the memory, thinking, and attention of an older child. This difficulty stems from the fact that we find here a specific system of functional relationships, a specific system of consciousness, in which the dominating function is perception, all other functions operating exclusively through and as the result of it" [6. P. 369]. Indeed, the memory of the small child is manifested as recognition, thinking is ideational and geared to action, and emotions occur as a result of what the child perceives at the particular moment: he cries bitterly when his mother goes away, but if he does not notice her going away, the emotional response does not take place.

Vygotsky analyzed other age groups in a similar fashion: the elementary-school age, when memory undergoes its most intense development and hence begins to assume a dominant position in the structure of the child's consciousness, and adolescence (the transitional period), when thinking begins to take place in concepts, giving rise to a conceptual system.

Of course, this theory about the age-linked developmental features of child development was not completed by Vygotsky, nor was it worked out in sufficiently concrete and elaborated form; but an analysis of the empirical data of psychology from this perspective enabled him to formulate a number of postulates of paramount importance for the further development of this problem and for psychology as a whole.

First, Vygotsky postulated the need for a systemic approach to the characterization of the developmental features of a child's consciousness. "Consciousness does not consist of the sum of all its functions; on the contrary, each function develops according to the development of consciousness as a whole." But as each function is differentiated and acquires its own discrete form in the course of a child's development, all the interfunctional connections and relationships, i.e., the entire system of

a child's consciousness and its activity, undergo a restructuring as well.

Studies have shown that initially (in infancy) consciousness is global, diffuse, and undifferentiated. Later the function of perception begins to take shape within consciousness, though it still remains undifferentiated, and all the other elementary functions begin to operate with reference to it and through it. Thus, somewhere between infancy and early childhood a system of consciousness specific to this particular age appears for the first time.

Next, as we have said above, all the other mental functions begin successively to assume discrete and differentiated form, in each case undergoing a restructuring (rearrangement) of their interrelationships, i.e., a new system of consciousness, again specific to the particular age, is formed.

In the light of these considerations Vygotsky formulated one of the most important laws of development of a child's consciousness: that a mental function, assuming a discrete form and becoming differentiated within the age period specific to it, also assumes the central and dominant position within the overall system of a child's consciousness, defining and guiding, in some measure or other, the activity of all the other mental functions and hence the structure and activity of consciousness as a whole. "Consciousness has a hierarchical structure. It is not built up as a set of democratically organized, discrete functions that operate on a completely equal and independent basis, side by side; the very idea of differentiation in mental development implies that some form of complicated hierarchy and organization is involved." (3)

We should point out that the process of differentiation of functions and, accordingly, the sequence in which they come to dominate consciousness are by no means a chance phenomenon; this process, too, follows a definite pattern: first, a mental function develops, providing the necessary groundwork for the development of the next function. Thus, thinking becomes the dominant function and its higher conceptual forms take shape; it is also the most complete structure of consciousness, the

highest stage of its hierarchical organization.

Vygotsky also applied the concept of the systemic structure of consciousness in investigating individual characteristics of adults. He thought that in terms of differential psychology, one individual differed from another not so much in that the memory of one might be better than the memory of another, but in that their power of attention and the force of their drives differed. In comparing individuals, it is not the primary or even the secondary relationships within the integral system of consciousness that are important, but rather the relationships that exist on some third level and the way the individual himself makes use of his own capacities, i.e., the place they occupy in his personality and activity. (4)

Vygotsky's clinical studies played a major role, at this time, in the development of the basic postulates and hypotheses of his theory.

In his analysis of the psychological changes that took place in a patient with aphasia, schizophrenia, Parkinson's disease, etc., Vygotsky not only found a confirmation of his ideas concerning the mediated nature of the structure of man's higher mental functions but even was able to pinpoint general patterns characterizing a human being, his consciousness, and his personality as a complex, integral system arising on the foundations of second and third levels of interfunctional relationships.

Vygotsky showed that different, higher mental functions and their systems, including speech (the higher forms of memory, attention, voluntary behavior, etc.), broke down depending on which speech function was disordered in patients with secondary aphasia.

He summed up the results of his findings as follows: All the higher mental functions are built up according to the laws of man's cultural and historical development. They emerge in the process of the child's social interaction with others and operate in accordance with the laws governing the assimilation of social forms of behavior by the individual.

In the process of development, mental functions are mediated and transformed into qualitatively new psychological structures.

This brings about a transformation in the inner structure of consciousness seen as a whole and in the relationships among individual functions and in the different kinds of activities on the basis of which new dynamic systems are formed for integrating the numerous types and elements of human mental activity.

Consciousness always operates as a complex hierarchical system, the highest form of which is a hierarchy at the top of which stands conceptual thinking. The outcome of this development is that the child becomes a conscious being, capable of controlling his own behavior. Thus, at this stage in Vygotsky's research, the development of generalized thinking and thinking in concepts was seen as the central process determining the development of the human mind, man's consciousness, and his personality.

II

The next stage in the development of Vygotsky's scientific thought does not exist — at any rate it was never completed and expressed in print. But an analysis of some of his statements and archive materials, some of which were published posthumously, enables us to infer how this stage would look [6, 7].

Vygotsky himself was apparently not satisfied with the intellectualism implicit in the theory of consciousness and personality that capped the second stage of his investigations and was troubled by the fact that the postulates at which he arrived from his study of cognitive mental processes were not a sufficient basis for an analysis of the higher systemic structures that determine the human personality. Hence, he devoted the entire last period of his life to a theoretical development of the problem of affect, its relationship to intellectual processes and to the problem of the transition from elementary emotions to the higher feelings characteristic of man.

In addition, in his analysis of the findings of clinical and child psychology he found himself more and more posing and

trying to solve questions concerning the role of affect in the development and disintegration of psychological systems.

Vygotsky's interest in the problems of man's affective life was also spurred by the difficulties he encountered in his research, particularly in trying to analyze clinical findings obtained on normal people.

For example, in his essay on "psychological systems" Vygotsky analyzed the abnormal psychological symptoms accompanying schizophrenia and raised the question: Why is it that these patients, who display no gross impairments of any functions, have a totally confused consciousness, peculiar behavior, etc., i.e., disorders of mind and consciousness that go far beyond anything that might be observed in aphasics?

The key to understanding this, from his point of view, lay in the emergence of specific systemic structures during the process of individual development; the disintegration of these systems would inevitably bring about the disintegration of the personality as well. The psychological nature of these specific systems was not elucidated in this essay, however.

To be sure, Vygotsky traced out schematically the pathological process that he thought was at work here: alienation from the social environment and the appearance of autism (a central symptom of schizophrenia), which also alters the patient's relationship to himself, since this relationship (like all other new structures) is the outcome of internalization of the forms of individual communication and contact with others.

Of course, this explanation is still too general and sheds no light on the psychological content of the new structure which determines a person's relationship to himself and effects a unity between consciousness and personality, and whose disintegration produces the schizophrenic syndrome.

But it was not only an analysis of schizophrenia that revealed the limitations of an approach that did not take into account the development of a person's affective life and needs. This limitation showed up each time an attempt was made to shed light on the more complex new structures associated with the formation of the personality. In these cases Vygotsky

turned again to concepts referring to human needs and affect: he spoke of experience as a unity, whose study would enable us to understand the interrelationships between the child's personality and his immediate environment. He says that at the top of the hierarchy of consciousness in young children is affective perception. He poses the problem of the conflict between affect and intelligence; and the emergence of voluntary control over the higher mental functions remains one of the central points in his theory. But no matter how thoroughly and concretely Vygotsky discusses and describes the cognitive structures of consciousness, his reference to the higher (sometimes third-level) systems characterizing the personality remain general and ill defined. There is, indeed, nothing surprising in this since during his lifetime concrete empirical research was confined to the development of cognitive processes.

We may conclude from the foregoing that to continue research following Vygotsky's line of reasoning would first of all entail making empirical studies of the development of human affect and needs in the light of his theory of the development of the higher mental functions and their systems and analyzing the new psychological structures emerging in the process of this development. This should be an asset in furthering the cultural-historical theory of the human mind and should ultimately provide us with insights into the nature of personality.

We may also conclude from what we have said that the development of man's affective life and needs is basically governed by the same laws as the development of his cognitive functions: they are mediated by socially acquired experience, enter into complex relationships with other functions, and together with the latter form new psychological structures. Furthermore, it may be assumed that affective processes are necessary constituents in the development of cognitive structures as well, without which the study of the human personality would remain one-sided, to say the least.

Systematic research (in the spirit of Vygotsky's ideas) into the development of the child's personality, on the assumption that the development of affective life and needs was key to it,

has been in progress for quite some time (since 1946).

These studies not only are based on Vygotsky's theoretical views but also attempt to maintain a consistent methodological approach: complex psychological structures are not dissected into elements or units, but are regarded in terms of their functional relationship to the individual personality of the child. Empirical studies are widely employed, observing these conditions [1, 2, 3, 9, 10].

In the light of these studies it has been found that as the child develops, his needs and drives are, in fact, mediated, and thus become part of the general cultural and historical development of the human mind.

The empirical findings accumulated in these studies indicate that when a need cannot be directly satisfied, it is mediated by consciously posited goals, deliberate decisions, and intentions to be realized, as a result of which unmediated, impulsive behavior becomes voluntary. Consequently, we may say that the goals posited by the individual himself, the decisions he makes, and the intentions he formulates (all of which guide the subject's behavior and activity, with the energy derived from the needs they mediate) are the higher new functional structures, which emerge in the course of the ontogenetic development of an individual's affects and needs and which become for him specific drives determining his behavior.

The development of affects and needs also gives rise to the psychological system constituting the human will, i.e., man's capacity to organize his motivational sphere in such a way as to ensure that the motives that guide his behavior toward his own consciously posed goals maintain a dominant position [2].

Finally, individual development also sees the emergence of new structures (fusions of motive with modes of behavior) that in psychology are referred to as qualities of character (e.g., responsibility, meticulousness, organization, etc.). Once these new structures appear, they begin to serve as motives in their own right. An analysis of the inner organization of all new structures emerging in the process of individual development has shown that in psychological terms they amount to a fusion

of affective and cognitive components, which, in fact, serves as the guarantee of their motivational force. Consequently, when a goal is posited (or an intention is stated) in a purely rational way, i.e., when affect and reason do not meet head on in this process, the required new functional structure does not emerge, and consciousness does not acquire any motivational force.

So we see that even in the sphere of affect and needs, a person's behavior does not reflect elementary (natural) needs and drives, but new, mediated structures of these needs and drives.

Vygotsky's thoughts were apparently also moving in this direction when he seconded Lenin in the idea that only man is able to formulate intentions, observing that it was this capacity that distinguished civilized man from primitive man and from a child, and that it "distinguished man from animals to a much greater degree than did his highly developed intelligence" [6. P. 455] (my emphasis — L. B.).

The development of emotions is very closely related to the development of needs. In some sense each is but one side of the same process, the process of development of the sphere of affect and needs.

Initially the experience of comfort (or discomfort) occurs as a particular form of reflection of the degree of satisfaction of some need of the individual; the associated emotions orient the individual in his relations to his immediate environment, impelling him to be active and thus serving as an elementary mechanism of self-regulation.

This experience, however, will vary in its structure and content as a function of the object that satisfies the need (whether direct or mediated). Thus emotions begin their path of cultural and historical development. This process, like any other process of development, involves the following: elementary emotions undergo a qualitative change and are transformed into complicated, specifically human feelings: moral, esthetic, intellectual, etc.

Vygotsky also foresaw this path of development of emotions. In criticizing the naturalist theory of emotions he reproached

its advocates for remaining blind to the fact that in the course of a person's life, his feelings are constantly displaying new qualities, and that these new qualities are essential; they occur abruptly, and can by no means be understood as simply the further development of more elementary forms [7].

Hence, in this area, too, Vygotsky perceived the same law of transformation of elementary (natural) mental processes into new functional structures, whose content and organization depended on the social experience they mediated. Love between a particular man and woman, for example, is different not only from the sexual drive of animals but also from the love of people living in other historical periods and from the love of people having a different individual experience. (This is why Stendahl described various forms of this feeling, each of which differed from the others in the components it embraced and in the specific content of each of these components: love-ambition, love-habit, love and the sense of property, etc.).

A study of the development of man's emotional life is still in its beginnings. But even in these early stages we already have evidence that the experience a person has during the course, and as a result, of satisfying a need may assume, for him, a value in its own right and thus itself become the object of a need. This is fraught with consequences: first, a need can become insatiable, which would make its development a process without end; second, new needs (I do not want to eat, but I want an orange), often in direct contradiction to the primary need on whose basis the new need arose, may appear; and finally, and most important, the function of experience and its place in the overall structure of the individual's personality change.

Subjective experiences and feelings become the focal point of a person's inner life and its principal content. And whereas elementary emotions may once have served as goals for the individual's self-regulation at the natural (zoological, to use Vygotsky's term) level, man's feelings, especially his moral sentiments, become the foundation for the individual's self-regulation.

Studies in the spirit of Vygotsky's theory of the development of man's affective life and needs will therefore bring us closer to solving the problem of the conflict between affect and reason and hence to an understanding of the individual personality as a higher systemic structure.

Consistent application of the notion of system in psychological analyses, based on empirical findings, not on abstract reasoning, was not only one of the hallmarks of Vygotsky's creative thought but also a principle of scientific inquiry he consciously embraced. "Premature theorizing," he said in his talk of October 2, 1930, "is wrong, in my opinion." Perhaps it is because of the consistent application of this principle that Vygotsky's scientific work always impresses us with the profundity with which he penetrates into and explains real mental phenomena such as we encounter in the experiences of everyday life. This is why his work has always served and will continue to serve us in our practical efforts to deal with the problems of education and upbringing and the problems of defectology, medicine, and art.

Notes

1) L. S. Vygotsky [Pedology of the adolescent]. Moscow-Leningrad: Uzhpedgiz, 1931. P. 471 (Private archive).

2) A talk that, unfortunately, was never published, presented to a circle of his closest co-workers. The subject was "Psychological systems."

3) L. S. Vygotsky [Foundations of pedology. Notes from talks given at the 2nd MGPI]. Moscow, 1934. P. 111.

4) L. S. Vygotsky [Talk on psychological systems, notes]. 1930.

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