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юбилей научной школы

культурно-историческая ПСИХОЛОГИЯ

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cultural-historical PSYCHOLOGY

100 Years of Cultural-Historical Psychology:
Anniversary of Scientific School

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Московский государственный психолого-педагогический университет

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From the Editors

This issue is published on the eve of a significant anniversary. According to A.N. Leontiev, a hundred years ago, L.S. Vygotsky showed him the first draft of the cultural-historical theory of the development of higher psychological functions. Today we would like to summarize some results. What has been done over the past century and what are the main vectors of development of cultural-historical psychology?

Any theory, which deserve such a name, is a system of scientific concepts. Cultural-historical psychology sees in them "the key to everything human, truly human" (L.S. Vygotsky). Tracing the "fate of concepts" in the development of the human psyche, the creators of this theory created their own, new concepts, and sometimes new terms, such as "rotation", "zone of nearest development" or "jointly distributed activity". The authors of the articles published in this issue present the results of a systematic analysis of the content of a number of core concepts of cultural-historical psychology, capturing the main points of its century-long development. From these points the processes of self-regulation of subject activity and the dynamic boundaries of personality are studied. There are some attempts to develop a matrix of cultural-historical analysis of experiential data, and to show how the concepts of activity theory work in psychotechnical and psychotherapeutic practice.

In the last two decades, painstaking archival research has been conducted. Most of Vygotsky's notebooks and notes, A.N. Leontiev's workbooks, and many other valuable manuscripts from the classics of a bygone era were published. Continuing this great thankful work, the journal publishes the transcript of Vygotsky's speech at the 1931 reactological discussion. The scientific and autobiographical reflections contained in it add several unique touches to the Vygotsky's portrait.

Over the past century, the cultural-historical school has become a powerful tree with many branches and offshoots, connected by the mushroom red of the ideas with the forest of scientific psychology and with world culture in general. We would like to present Vygotsky's school as a dialectical "identity of the different," with a palette of bright, original shades and lively internal contradictions that serve as a motor for its development in theory and practice. The editorial board hopes that this approach will contribute to the development of cultural-historical psychology in the next, the 2nd century of its glorious history.

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THEORY AND METHODOLOGY
ТЕОРИЯ И МЕТОДОЛОГИЯ

100 Years of the Development of Cultural-Historical Psychology: Milestones and Directions[1]

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The article gives a brief overview of the emergence and development of the cultural-historical theory of higher psychological functions over the century after it was created. Lev Vygotsky began the development of his theory with the study of the instrumental function of "cultural signs" (primarily words) and therefore he gave it the name "instrumental psychology". The formation of human personality was understood by Vygotsky as the "ingrowing" of social relations into the individual mind and the conscious "mastery of the self", its psychological functions and affects, by means of signs and basing on concepts. The authors of the article point out the main milestones in the development of cultural-historical psychology, briefly characterise its key concepts, methods and the most important tendencies of its development, up to its most recent trends in Russia, which have already emerged in the 20th century.

Keywords: cultural sign, higher psychological functions, instrumental psychology, object-oriented activity, ingrowing, interiorisation, zone of proximal development, double stimulation method.

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Сто лет развития культурно-исторической психологии: вехи и направления[2]

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В статье дается краткий очерк возникновения и развития культурно-исторической теории высших психологических функций за столетие со времени ее рождения на свет. Создание своей теории Л.С. Выготский начал с исследования орудийной функции «культурных знаков» (слова, прежде всего) и в связи с этим он дал ей название «инструментальная психология». Формирование человеческой личности понималось Выготским как «вращивание» общественных отношений в индивидуальную психику и сознательное «овладение собой», своими психологическими функциями и аффектами с помощью знаковых средств и на основе понятий. Авторы статьи отмечают основные вехи развития культурно-исторической психологии, кратко характеризуют ее ключевые понятия, методы и важнейшие тенденции развития, вплоть до новейших отечественных ее направлений, сложившихся уже в XX столетии.

Ключевые слова: культурный знак, высшие психологические функции, инструментальная психология, предметная деятельность, вращивание, интериоризация, зона ближайшего развития, методика двойной стимуляции.

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The first scheme of L.S. Vygotsky's ideas was perceived by me in a one-on-one conversation at my house and was written by Vygotsky on a piece of paper, it was late 1924 or early 1925. I must find it!

A.N.Leontiev

The Birth of the Theory

In the personal archive of A.N.Leontiev, a sheet of paper was preserved for a long time on which L.S.Vygotsky sketched the first draft of his theory. He proposed that the key principle should be *the tool-like nature* of human activity in general and the human psyche in particular. Vygotsky later introduced the term "psychological tools". In human cultural behavior, *signs* serve as such tools. Just as a person uses tools to manipulate the external world, they use "cultural signs" to transform their inner world. The use of psychological tools fundamentally changes the flow and structure of all mental processes, opening up the possibility for a person to control, stimulate, and regulate behavior and psychological development, just as tools allow one to regulate natural processes like the flow of rivers, the growth of plants, or the behavior of animals.

[2] При написании работы использовались материалы статьи: *Рубцов В.В., Зарецкий В.К., Майданский А.Д.* Культурно-историческая психология: современное состояние и направления развития научной школы // Научные подходы в современной отечественной психологии / Отв. ред. А. Л. Журавлев, Е.А. Сергиенко, Г.А. Виленская. М.: Институт психологии РАН, 2023. С. 144—169.

Vygotsky initially referred to his theory as "instrumental psychology" because he saw its goal as "revealing the instrumental function of cultural signs in human behavior" [2, p. 158].

He divided psychological functions into "lower, natural" and "higher, cultural". The latter are always mediated by signs and are carried out in symbolic forms, with language being the highest form. Vygotsky called the process of creating and using artificial signals and signs — "signification", in contrast to the conditional reflexive "signaling" described by I.P. Pavlov.

When selecting "a name" for the new theory, Vygotsky considered "historical psychology" or "the *historical* theory of *higher psychological functions*". In the latter, he noted, "lies all our teaching" [1, p. 161]. He further defined this theory as a special part of "cultural psychology of development," which studies the formation of the psyche in the process of social labor.

"The so-called theory of historical (or cultural-historical) development in psychology essentially means the theory of *higher psychological functions* (logical memory, voluntary attention, verbal thinking, volitional processes, etc.) — *no more* and *no less*!" [7, p. 200].

The term "cultural-historical psychology" varies in meaning depending on how one understands the relationship between Vygotsky's teachings and the "psychological theory of activity" developed by A.N.Leontiev and his colleagues. In a broad sense, which we accept, "cultural-historical psychology" includes all modifications and branches based on (i) the distinction between lower and higher (cultural) psychological functions, (ii) understanding the social nature of human personality, and (iii) the laws of mental development discovered by Vygotsky.

Of course, one cannot forget the contradictions between Vygotsky's research program and the projects of his "willful" students. Such contradictions often indicate points of growth in scientific theory and are therefore valuable and necessary for the development of science. In 1931, they led, in Leontiev's words, to a "confrontation of two lines for the future". He disagreed with Vygotsky on the relationship between action and speech, practical activity, and consciousness in general.

Around this time, the first ideological accusations were made against the "Vygotsky and Luria group" for deviating from Marxism, uncritically borrowing Western psychological theories, characterizing the "primitive thinking" of Eastern workers, and more. Thus, an invitation from Kharkiv to organize a psychology department at the Ukrainian Psychoneurological Academy was timely. L.S. Vygotsky and A.R.Luria decided not to move (possibly due to the mass famine that began in Ukraine in 1932). However, A.N.Leontiev established his school in Kharkiv and began research on the development of the psyche from the foundation of object-related activity. "Object-related" refers to the activities of humans and animals in the external world, as opposed to activities within the organism, such as neural or secretory processes.

A.N. Leontiev, with the participation of A.V. Zaporozhets, created an evolutionary theory of mental development, from the simplest sensation to human consciousness. The four stages of mental development — sensory, perceptual, intellect, and consciousness—correspond to four main types of object-related activity. The highest psychological formation, consciousness, arises and develops within the system of social labor, transforming both the external world and a person's mental life.

Leontiev believed he was continuing the work begun by his teacher in the 1920s, as it was none other than Vygotsky who made the concept of practical activity and labor the cornerstone of scientific psychology. However, Vygotsky, according to Leontiev, then turned away from the path he had opened by focusing on the study of linguistic meanings and the semantic structure of consciousness. The concept of practice took a back seat. Vygotsky considered *affects* to be the driving force of mental development: "Behind thought stands an affective and volitional tendency. Only it can answer the ultimate 'why' in the analysis of thinking" [4, c. 314]. Affects are like the wind that sets the "clouds of thought" in motion.

Leontiev categorically disagreed with this: in his view, thought is born in the processes of *object-related activity* — here and only here lies the driving force of thinking. In turn, Vygotsky reproached Leontiev for underestimating the "power of socialization" and "overestimating the importance of practice".

Undoubtedly, the question of the connection between object-related activity and the psyche was resolved fundamentally differently by the two men, as was the problem of the relationship between "deed" and "word". However, both accepted the "activity" postulate of Faust and Marx: "In the beginning was the deed". Vygotsky wrote about this directly and unequivocally on the last pages of *Thinking and Speech*. He aimed to understand how *a deed develops into a word*, how language allows a person to achieve *freedom of action* — not only in practice, in the external world, but also in the mental, inner world. A person possesses an extraordinary freedom to perform all sorts of actions, even those that are practically meaningless. Such freedom is not yet present in small children, and it is lost in aphasics. The tool for the liberation of the soul is the word. "The word... for us = freedom" [1, c. 177][3].

In the last two years of his life, Vygotsky began researching the semantic structure of consciousness and developing "peak psychology", centered on the problem of mastering affects through scientific concepts. This part of Vygotsky's work did not find continuation in the work of his students. They chose other, their own, paths of developing the theory.

The debate between the creators of cultural-historical psychology turned out to be highly productive. Through

[3] On the psychological content and role of the concept of freedom in Vygotsky's teachings, see A.D. Maidansky's work. [10].

intense discussion, a new powerful "cultural activity" trend emerged, within which outstanding scientists such as P.Ya. Galperin, D.B. Elkonin, A.V. Zaporozhets, L.I. Bozhovich, and B.V. Zeigarnik conducted their research; after the war, E.V. Ilyenkov, V.V. Davydov, and V.P. Zinchenko joined this cohort. All of them rightfully considered themselves part of Vygotsky's school.

Theoretical and Methodological Principles and Key Concepts

Vygotsky's notebooks and their analysis allow us to see how the methodology of cultural-historical theory was created. In the winter of 1926, Vygotsky searched for a "key to human psychology", based on the definition of the essence of a person as "a set of social relations" (K. Marx). What does this definition mean specifically for psychology? From the first day of life, a human individual is caught in a web of social relations, and their entire subsequent life proceeds with the visible or invisible, practical or mental participation of other people, of society. The norms and activity schemes adopted in society are internalized, "interwoven" into the individual's psyche, turning into higher psychological functions. This sociogenic layer of the psyche in cultural-historical theory is called "personality" or the human "I".

"I am the social within us", Vygotsky summarized [1, c. 112]. This, in his view, is the key to the gates of human psychology. Personality should be understood as an *individual micro-society*, a particle of society that has taken over the body and soul of the individual.

"What is a person? <...> For us — a social personality = *a set of social relations embodied in an individual* (psychological functions built on a social structure)" [3, p. 58—59].

From this arises the main genetic law of cultural-historical psychology, according to Vygotsky. It states: "Every function in the cultural development of a child appears on the stage twice, in two planes, first — social, then—psychological, first between people, as an interpsychic category, then within the child, as an intrapsychic category. This applies equally to voluntary attention, logical memory, concept formation, and will development" [5, p. 197—198].

All these higher psychological functions arise "spontaneously," as an involuntary skill, and develop in the direction of their "meaning-making" and conscious mastery. As a result, the initial skill (perception, memory, speech, etc.) turns into a "skill for oneself". This is "the general fate of all higher psychological functions" and "the main content of their development" in adolescents during the transitional age.

To describe the process of a child's appropriation of external forms of behavior, Vygotsky used the concept of *interiorization*. Many authors, he clarifies, have long pointed to the transfer of methods of external action to the internal, mental plane. However, it is necessary to understand this "external" as *social*, as a social relationship between people, mediated by cultural signs.

By introducing the genetic law and the concept of interiorization, Vygotsky bridges the gap between natural and higher mental functions, a division that was characteristic of the psychological approaches of his time: behaviorism and reflexology on the one hand, and "understanding", and "descriptive" psychology on the other.

In his studies of 1933, Vygotsky introduces the concept of the *zone of proximal development* (ZPD), which significantly alters and expands the concept of interiorization. In the system of concepts of cultural-historical psychology, ZPD is key, cementing the entire concept of development, as it opens up the possibility of concretely understanding the path of a child's personality development. ZPD is the domain of actions that a child can consciously perform in collaboration with an adult and more developed peers but cannot yet accomplish independently. Criticizing the prevalent practices of child development research of his time, Vygotsky emphasizes the importance of the ZPD concept for pedagogy. Unfortunately, he only managed to outline this aspect in a series of theses.

The most famous and widely regarded classic definition states: "The zone of proximal development of a child is the distance between the level of their actual development, determined through tasks solved independently, and the level of potential development, determined through tasks solved by the child under the guidance of adults and in collaboration with more capable peers" [6, p. 42].

In fact, this definition should be regarded as a working construct proposed to solve a specific practical task—conveying to teachers and psychologists the idea that it is important to determine not only the actual level of development but also the child's developmental potential. In this perspective, "...all issues of pedology in both regular and special education schools will be approached differently" [ibid., p. 52][4].

Vygotsky strongly emphasized that a child's development depends on the assistance provided by adults during their joint activity, in "collaboration". In the book Thinking and Speech, it is stated that learning not only leads development but, under certain conditions, "...one step in learning can mean a hundred steps in development" [4, p. 202]. A child is taught something small, but they develop significantly more. This means that tomorrow the child will be able to do independently what today they can only do with an adult's help. In the zone of actual development, a child copes with emerging problems without outside help. However, if a task is too difficult, they cannot manage without joint action with an adult (or another, more skilled child).

[4] The idea of such diagnostics was realized in 1976 through the efforts of A.Y. Ivanova (daughter of S.Y. Rubinstein, student of Vygotsky, collaborator and co-author of B.V. Zeigarnik). She developed a standardized procedure for assessing the zone of proximal development.

Since the late 1990s, Russian researchers have been exploring other, non-intellectual dimensions of the ZPD. N.L. Belopolskaya conducted emotional measurements; L.F. Obukhova and I.A. Korepanova investigated the semantic dimension; E.E. Kravtsova argued that the ZPD concept pertains to overall personality development; G.A. Zuckerman interprets the ZPD as a space of diverse developmental opportunities depending on the types of assistance provided to the child.

Research into the processes and forms of collaboration between a child and an adult in learning activities has helped to clarify the ZPD concept for various cognitive abilities and competencies (D.B. Elkonin, V.V. Davydov, V.V. Rubtsov, Y.V. Gromyko, V.A. Guruzhapov, A.G. Kritsky, A.A. Margolis, I.M. Ulanovskaya, G.A. Zuckerman, B.D. Elkonin, and others). The inclusion of the child as an active subject in collective, jointly distributed activities allows the child to consciously assimilate accumulated cultural experience. In this process, the activity itself becomes a source of development of interaction skills with others, communication, and cooperation, alongside reflective and creative abilities.

Vygotsky himself speculated that the ZPD concept could be extended to various aspects of personality development. As an implementation of this hypothesis, V.K. Zaretsky developed a multivector model of the ZPD. Here, development is viewed as movement in several directions, in each of which three hypothetical zones can be distinguished: the zone of actual development (ZAD), where the child can develop activities without adult help; the ZPD itself, where the child succeeds only in collaboration with an adult; and the zone of actual inaccessibility (ZAI), where the child cannot consciously interact with an adult.

Steps in learning alter the boundaries of the ZAI and ZPD along the vector of educational activity, while steps in development represent qualitative changes in cognitive and personal potential. Thus, the formula "one step in learning equals a hundred steps in development" is clarified: one step in educational activity can cause qualitative changes in several directions of development simultaneously [9].

New research methods and educational practices

Vygotsky considered social relations as the source of the development of higher mental functions: "Behind all higher functions and their relationships lie genetically social relations, real relations, homo duplex[5]. Hence *the principle* and *method of personification* in the study of cultural development, i.e., the division of functions between people, the personification of functions. For example, voluntary attention: one person masters it, another possesses it. The division of what is united into one again, the experimental unfolding of the higher process (voluntary attention) into a small drama" [3, p. 54].

This fundamental stance implements a new experimental research method, later called the "genetic-modeling" method. Vygotsky applied it in experiments on mastering attention in children. Attention, as it were, "flowed" from the adult to the child as the child grasped the relationship between object (a nut, cups with lids) and symbolic (color) stimuli.

The principle of mastering a cultural function, initially performed jointly by the adult and the child—divided between them in varying proportions—also formed the basis of the now-classic "double stimulation method". Vygotsky and his colleague L.S. Sakharov modified N. Ach's "search method" (Suchmethode), developed for studying the process of concept formation. In Ach's experiments, the distinction between "full-fledged concepts" and their functional equivalents in a child's thinking, which Vygotsky called "pseudo-concepts", was not taken into account, and the old erroneous scheme of concept formation as the generalization of a series of individual things, moving "from concrete to abstract", was retained.

Subjects were presented with two sets of stimuli—objects and meaningless words—and then given a task that could be solved by associating these words with specific objects. The set of objects was presented at once, while the verbal set gradually increased, making it possible to trace how the words were used in the child's directed psychological operations on objects.

Using the double stimulation method, it became possible to identify the stages of the concept formation process in children: from (i) syncretic imagery through (ii) complex thinking, the peak of which becomes pseudo-concepts, to (iii) the concept in the proper sense of the word. Based on the obtained data, Vygotsky described how a specific symbolic-meaning structure reflecting the content of the objective world arises from the use of words as tools for concept formation. It is important to emphasize that acquiring the meaning of a new word in the process of concept formation is the result of the *joint activity* of the adult and the child, involving all the main intellectual functions. Mastering the concept-meaning of a word is a product of the interiorization of their joint actions.

The transition from the *interpsychic* to the *intrapsychic*, i.e., from the forms of social collective activity of the child to individually performed functions, is, according to Vygotsky, the general law of the development of all higher psychological functions. "It is not the gradual socialization imposed on the child from outside, but the gradual individualization arising from the child's internal sociality, that is the main pathway of child development" [4, p. 282]. In this case, individualization is understood as a kind of "fusion" of the child's personal conscious-

[5] Double human (in Latin) — the name of the section in "Natural History" by J.-L. Buffon. E. Durkheim wrote about the dual nature of man, in which two origins, individual (biopsychics) and social (morality, first of all) are combined and operate.

ness and practical activity in the external world, during which "...things really shape the child's mind... This new moment, this problem of reality and practice, and their role in the development of the child's thinking fundamentally changes the whole picture" [ibid., p. 51].

The idea of interiorization as a method of forming higher psychological functions was further developed in the works of P.Ya.Galperin. In the 1950s, he began developing the theory of "staged formation" of mental actions and concepts. Under his guidance, studies were conducted on the conditions, stages, and methods of forming mental actions. Galperin's original interpretation of the psyche as an orienting activity served as the guiding principle for these studies.

According to Galperin, an action, initially carried out on an external, material level, then transitions into the "plane of loud speech", directed at others, and at the final stage is transformed into internal speech.

Unlike the "cross-sectional method", widely used in Vygotsky's time, the staged formation method not only shows how a child acts but also reveals *why* they act in a certain way, opening the possibility of purposefully shaping mental processes with specific properties.

Galperin's students conducted numerous experimental studies on the formation of attention, memory, motor skills, and scientific concepts. For example, Obukhova managed to trace the process of forming initial mathematical concepts in preschool children. The operations of quantitative comparison of objects, which Piaget believed to be inaccessible to children of this age, were consistently and accurately formed in Obukhova's experiments.

The conceptual breakthrough in the study of children's concept formation is associated with the names of D.B. Elkonin and V.V. Davydov, who developed a system of developmental education for children aged 6-10 years. Its theoretical core is the concept of "substantial generalization" created by Davydov. This type of generalization, unlike formal-empirical generalization, identifies *the essential, "genetically primary" relationship* within a subject that forms the basis of the subject's development and serves as a principle for interconnecting various aspects and properties of the subject.

According to Davydov, educational activities should focus on mastering scientific-theoretical knowledge and concepts, as well as acquiring *generalized methods* of object-related and cognitive actions. Properly setting a learning task means creating a situation that guides students to find a universal way to solve problems of a given type under any variations in the specific conditions of the task.

In the 1970s, Davydov initiated research on collective, "jointly distributed" forms of organizing educational activities. Initially, in the works of G.G. Kravtsov, T.A. Matis, Yu.A. Poluyanov, V.V. Rubtsov, and G.A. Tsukerman, this problem was studied in relation to the task of forming specific scientific concepts. Subsequently, it was proven that the nature of the educational-cognitive process depends on the distribution of activities among its participants and directly on the methods of exchanging actions during the process of jointly solving educational tasks. Extensive studies of the patterns of joint educational activities began, requirements for organizing joint actions of adults and children were formulated, and the zones of proximal development of students' thinking were defined.

Based on the obtained data, a new direction in cultural-historical psychology was created— "social-genetic psychology of development" [11]. The social-genetic method demonstrates the dependence of the origin of concepts in children on the methods of interaction and organization of joint actions. The connection between sensory-objective and sign-symbolic forms of action is established in the process of joint search, analysis, and modeling of a certain subject relationship or the relationship of an object's properties.

New directions in pedagogy and educational practice are emerging on the foundation of cultural-historical psychology—from the "pedagogy of cooperation" (S.L. Soloveichik, Sh.A. Amonashvili, and others) to the "reflective-activity approach" (V.K. Zaretsky); in clinical psychology, A.R. Luria's school (T.V. Akhutina and others) is actively working, and "cultural-historical pathopsychology" (A.Sh. Tkhostov and others) is developing.

The fact that the followers of Vygotsky's school do not always succeed in finding a common language in interpreting the foundations and principles of cultural-historical psychology cannot in any way be considered a sign of its internal weakness. On the contrary, "intelligent" contradictions serve as stimuli for the growth of scientific theory, preventing it from becoming stagnant and dogmatically rigid. The diversity of research directions and practices is an inevitable and natural consequence of the rapid expansion of cultural-historical psychology over the past half century on a global scale.

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L.S. Vygotsky: Reading Anew. Part 1

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The article dwells on the earlier period of Vygotsky's works before the time when the principles of the Cultural Historic Theory were formulated. His report on the 2nd Psycho-Neurologic Congress in 1924 as well as some adjacent works including "The historical sense of psychological crisis" are considered by the author as key moments. If to compare Vygotsky's approach with I.P. Pavlov's theory of conditioned reflex, V.M. Bechterev's reflexology and K.N. Kornilov's reactology,from one side, and psychology, from the other, it reveals Vygotsky's determination to restructure psychology on the objective basis. In his opinion this implies the turn of psychology to higher forms of human's behavior, actually, to human activity. In these methodological changes of Vygotsky's views one can trace certain relations of Vygotsky's early works with P.Ya. Galperin's theoretical survey on subject and method of psychology.

Keywords: objective research, reflexology, psychological experiment, interrogation and instructions, psychic phenomena, object and subject of survey.

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Л.С. Выготский: перечитывая заново. Часть 1

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Статья посвящена раннему периоду научного творчества Л.С. Выготского, предшествовавшему времени, когда были сформулированы принципы культурно-исторической теории. В качестве ключевого момента подробно рассматривается его доклад на Втором Психоневрологическом съезде в 1924 г. и ряд «примыкающих» к нему работ, включая и рукопись работы «Исторический смысл психологического кризиса». Сопоставление подхода Л.С. Выготского к учению И.П. Павлова, рефлексологии В.М. Бехтерева, реактологии Н.И. Корнилова, с одной стороны, и психологии — с другой, показывает, что Выготский исходит из необходимости коренной перестройки психологической науки на «объективных» основаниях. Это, по его мнению, предполагает ее поворот к высшим формам поведения, но, по сути, — к совместной деятельности человека. В этих методологических изменениях позиции Выготского видится связь его ранних работ с теоретическими разработками П.Я. Гальперина о предмете и методе психологии.

Ключевые слова: объективное исследование, рефлексология, психологический эксперимент, опрос и инструкция, психические явления, объект и предмет исследования.

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"The essence of the matter is not exhausted by its purpose, but by its realization, and it is not the result that is the real whole, but the result along with its formation; ... the naked result is a corpse that has left behind a tendency"

G.V.F. Hegel. Phenomenology of the spirit.
https://www.livelib.ru/quote/434926-fenomenologiya-duha-g-v-f-gegel

The dates of L.S. Vygotsky's life and work celebrated in 2024 (the 100th anniversary of the beginning of Vygotsky's work at the Moscow Institute of Experimental Psychology and the 90th anniversary of the untimely death of this outstanding scientist in 1934) are an occasion for not only expanding our vision of his contribution to Russian psychology development but also for deepening our understanding of some key problems characteristic of its current state as well as of certain trends of its development directly related to the ideas of Vygotsky, his collaborates and followers both in our country and abroad.

It's not an easy matter to select the exact date indicating the beginning of his scientific work in psychology, in this case one could take into account various moments of his biography. Thus while still a student of Moscow Imperial University who studied law he simultaneously attended a number of psychological courses in Moscow City People's University named after Shaniavsky including some lectures by P.P. Blonsky and G.G. Shpet. The diversity of L.S. Vygotsky's interests is clearly evidenced by the materials of his "Notebooks", collected and partially analyzed by E. Zavershneva and Van der Veer, published in 2017 [7].

It seems that any anniversary associated with the name of L.S. Vygotsky is a way to stop and think again about the significance of the contribution of this outstanding scientist to the development of psychology in general and that particular field of activity in psychology in which you work as a specialist.

Due to circumstances, I have been dealing with the problems of psychology and pedagogy of higher education for many years. In relation to this and being one of the closest students of P.Ya. Galperin, in my works I showed that in the higher education system we, in fact, must create conditions for the development in a child of those new formations that, in the form of certain inclinations and abilities, act as prerequisites for the successful implementation of their development strategies at the university. In particular, I spoke about this in 1996 at the Jubilee Conference dedicated to the 100th anniversary of Vygotsky's birth, where I made a report "Cultural and Historical Approach in the Formation of the Theory of Higher education" [16, pp. 338-343], in which I showed that we can understand psychological new formations developing in a child only through the prism of developed forms of activity. In this statement I relied on the well-known thought of K. Marx, the essence of which is that hints of the higher that arise at lower stages of the development of the process we are studying can be intelligently understood only when that higher itself is already known [14, vol. 46, p. 32].

The relevance of this thought of K. Marx manifested itself again after three more decades, when I reread one of the key reports of P.Ya. Galperin, which he presented on 05.12.1969 as part of the so-called "home discussion" at the apartment of A.R. Luria [6, pp. 435—447]. In this report, Galperin considered a number of L.S. Vygotsky's ideas as the basis for the development of the theory of step-by-step formation of mental actions and concepts.

It was after my rereading Galperin's report that I turned to the works of L.S. Vygotsky from the early period of his activity. First of all, I mean the report that Vygotsky delivered at the 2nd All-Russian Neuropsychiatric Congress in January 1924 which then was published as an article in 1926 in a Collection of papers [8, pp. 26—26]. The presentation was called "Methodology of Reflexological ant Psychological Research".

The bright and informative presentation was noticed by A.R. Luria, now well known as an outstanding scientist, founder of Russian neuropsychology, Vygotsky's colleague and coauthor who was present at the Conference too and as a result Vygotsky received an invitation to the Moscow Institute of Experimental Psychology due to which his presentation was then published.

I often reread the works of classical scholars, mostly in psychological area, and comparing their thoughts about the role and purpose of psychology with the flow of purely empirical studies systematically published even in respectable professional editions reflecting the state of our science I come to the conclusion that now it's not the time for complacency. In many respects psychology seems to be not in its best state in many directions rolling back to the last or sometimes to the one before the last century. "Psychoanalysis", "Gestalt therapy", "Understanding hearing" — are all of them new or being known before then forgotten for some time?

As A.N. Leontiev sadly noticed at his time just meaning the activity studies: "... the words "activity approach" and other words about activity have been coming across frustratingly often and a lot lately, and not always in a meaning that is sufficiently outlined, defined, somewhere localized in a very wide space of knowledge, a range of concepts. Therefore, they lose their certainty, which they did not lose 15 and 20 years ago, maybe, when these two or three positions were outlined; it is clear what could have been discussed, what needed to be worked

out, and now it is unclear. Now that I see the phrase "and from the point of view of the activity approach," I will tell you frankly: it bothers me" [12, p. 118].

Thus the specific purpose of the article is to draw the reader's attention not to the "core" works by Vygotsky in the realm of the cultural historical theory of psychological development created by him — they are well known since they constitute the corpus of fundamental basics of psychology not only in this country. In the light of the current psychological and pedagogical issues related to the radical reform of the foundations of the education system taking place in the world, which is still based on centuries-old traditions of "transferring" the experience of the past to a new generation, they also require some new reading.

But I got interested in Vygotsky's early works those that are directly related to the beginning of the Moscow period of his creative studies — they allowed him in a short time to become the founder of the so—called "non—classical" psychology [21], which opened up new horizons for many researchers — both in our country and abroad — for the development of the entire system of psychological knowledge.

Of course, Vygotsky's scientific school, which many psychologists of different generations consider themselves associated with now and before, for both historical and personal reasons, has never been a kind of monolith. As Vygotsky wrote in one of his notebooks, "... why is the question of *the unity of work* being raised. Because everyone made *their own step* on their own, starting from common initial positions. But *where* did he put his foot?" [7, p. 297]. It can be assumed that here L.S. Vygotsky is referring to the departure of A.N. Leontiev as his closest collaborator from the general line of research on the role of sign mediation in the systemic structure of consciousness.

Here is what A.N. Leontiev himself noted in 1976 in his memoirs about working with L.S. Vygotsky in the 30s: "Another alternative was to return to practical actions. Along the line of this second alternative, another kind of side, parallel, research cycle arose, which **returned the concept as a whole to the idea of generating and developing consciousness in practical actions** (highlighted by me — N.N.)" [12, p. 115].

It is my own working on the articles that became landmarks for myself that helped me to understand the fundamental differences in the scientific positions of the participants in L.S. Vygotsky's circle. The first of them was devoted to the comparison of the views of A.N. Leontiev and P.Ya. Galperin [15]; the second — to the analysis of the positions of L.S. Vygotsky and A.N. Leontiev [17]. My goal was not only to identify the ideological grounds for a certain divergence of their views that arose during their joint work, but also highlight those real possibilities for the reintegration of their positions that open up in the light of clarifying the methodological patterns of the development of modern psychological knowledge. No doubt, this work was being carried out by P.Ya. Galperin within the framework of the theory of step-by-step formation of mental actions and concepts.

In this paper while considering Vygotsky's views which are especially characteristic of the stage of his methodological positions development studied by me I'll try to demonstrate that

Vygotsky not only constantly returned to the need to solve the problem of the subject of psychological research, but even (I venture to assume) to solve the question of the very existence of the "psyche" as a certain property of objective reality that exists independently of our consciousness, but acts for us in the form of so—called "psychic phenomena" — a question that P.Ya. Galperin not only systematically addressed, but also proposed a definite solution to it, although theoretically he did not fully realize the significance of this step for the restructuring of the entire conceptual system of non-classical psychology.

1.

As it is known the Moscow period of L.S. Vygotsky's scientific activity was preceded by the Gomel period of his active labour in the field of psychology, including work on the book "Psychology of Art", the textbook "Pedagogical Psychology", as well as a number of experimental studies in the field of memory, for which he actually created the author's version of the technique of "double stimulation" and "sign mediation" (perhaps not yet realizing their methodological potential, which will come out only later).

The results of these experimental studies were announced by him in the form of three reports at the 2nd All-Russian Psychoneurological Congress, one of which he delivered on January 6, 1924. (The report was later published in the form of an article "Methodology of Reflexological and Psychological research" in the Proceedings of the Institute of Experimental Psychology in 1926 [8, pp. 26—46]) and reproduced in 1982 in the 1st volume of the Collected works of L.S. Vygotsky [4, v. 1, pp. 43—62].

As it was already mentioned the presentation delivered by Vygotsky at this congress made such a strong impression on A.R. Luria, who was present there (at that time he was an employee of the Moscow Institute of Experimental Psychology, who simultaneously served as the scientific secretary of the institute), that he reported to the director of the institute K.N. Kornilov about a young Gomel psychologist, who, in his opinion, should become an employee of the institute. So Vygotsky was invited by K.N. Kornilov to work at the institute, how-

ever, as a researcher though of only the 2nd category.

Vygotsky's ideas presented in the report were indeed consonant with reactology, the direction of research that Kornilov himself, after becoming director of the institute, "rooted" in the institute research activities after the dismissal of its former director G.I. Chelpanov on ideological grounds. No wonder that to Vygotsky, an already established psychologist with fundamental theoretical and methodological training and a broad scientific outlook in various fields of humanitarian knowledge, understanding the trends in the development of not only psychology, but also art, literature, linguistics, fluent in several European languages etc., Kornilov's "reactological" approach to the problems of psychology for some time seemed a perspective direction for the development of psychology.

Possessing the capabilities of a methodologist, theorist and experimenter, focusing on other contemporary areas of psychology development abroad (zoopsychology, psychoanalysis, behaviorism and Gestalt psychology), Vygotsky seeks to identify both the methodological and, if possible, both experimental and methodological potential of reactology in solving the main problem for him — determining the directions and methods of psychological research of consciousness. Judjing by Vygotsky's works published at this period [4, v. 1, pp. 78—98], [4, v. 1, pp. 132—148], [8, v. 1, pp. 26—46], he actively uses Kornilov's argumentation in order to reveal the content of his own approach. Obviously, during this period of creative scientific studies, reactology seemed to L.S. Vygotsky both relevant and an important stage in the development of psychology as a science — a definite, generally positive movement forward in the knowledge of the subjective world of man, overcoming the "objectivism" of I.P. Pavlov's teachings on higher nervous activity and V.M. Bekhterev's reflexology, and "subjectivism" of the traditional empirical psychology of consciousness, developed by G.I. Chelpanov.

However, at the same time L.S. Vygotsky is already actively working on the manuscript of the "Historical meaning of the psychological crisis", which, according to historians of psychology, was written by him in 1927—1928. It contains serious criticisms of a number of areas of psychology, including the reactological approach in general, and K.N. Kornilov in particular.

It is quite obvious that in this regard, Kornilov's article "Naive and dialectical materialism in relation to the science of human behavior", which opened the second collection of the Institute's works [8, pp. 7—18], published in 1926 (in which, in the section "General and theoretical articles" Vygotsky's famous article "Methodology of reflexological and psychological research", prepared by him on the base of materials of theoretical and experimental studies of the Gomel period of his scientific activity and a January speech at the psychoneurological Congress of 1924 was also presented) became very indicative for L.S. Vygotsky.

Judging by the title of his article, K.N. Kornilov claimed in it the role of a methodologist and the theorist of a new direction in the development of psychology as a science of reactions. This article defends the point of view (in fact, deeply eclectic), which consists in the fact that the psyche, of course, is different from matter, although it is its special property. Here is one of the main theses of this article: "Dialectical materialism believes that being is not reflected in consciousness in the same way as things in a mirror, that these reflections have a subjective character determined by the structure of the perceiving apparatus; that a thing is not at all a collection of "red", "sounding", "smooth", "fragrant", etc., as existing independently of consciousness, but that this "red", "sounding", etc. exists only subjectively, only in consciousness, (emphasized by me — *N.N.*) as the perception of objects, whereas objectively outside consciousness there are only fluctuations outside consciousness ethereal, air waves, etc. (emphasized by me — *N.N.*), as objects of perception, which, of course, are not identical to our perceptions of subjects" [8, p. 9].

The subject of a separate article could be an analysis of the text of this article by K.N. Kornilov, revealing the position of K.N. Kornilov, which actually coincides in its main theses with the position of S.L. Rubinstein, who already in his version of the activity approach also spoke about the unity, but not the identity of the mental and physiological.

Here we can only note that it was this thesis, but already in the formulations of S.L. Rubinstein, that was subjected to serious methodological criticism in the 50s. As P.Ya. Galperin noted at the "home discussion" in December 1969 [6, pp. 435—447], "there is a position in Marxism: consciousness is a product of the brain and a reflection of the outside world. And Rubinstein shouted the loudest about it, and they almost tore his head off about it, because they told him about double determination" [6, p. 444]. In the same report, P.Ya. Galperin recalled this position of K.N. Kornilov in the 30s: "It was only once in the simplicity of his soul that K.N.. Kornilov said that mental activity is a reflection of brain activity. He was well corrected then, because I see things through concepts, but things, objects of the outside world" [ibid.].

Therefore, it is not surprising that, based on his, to put it mildly, "peculiar dialectical" point of view, supported by references to arbitrarily selected quotations from the texts of materialist philosophers of different eras and views, including Lucretius, Holbach, De La Metri, L. Feuerbach, F. Engels, G.V. Plekhanov and even N.I. Bukharin, who was considered at that unforgettable time the leading theorist of the party, K.N. Kornilov

wrote: "Plekhanov expresses it this way: "Every given psychological state is only one side of a process, the other side of which is a physiological phenomenon," or, as Bukharin puts it even more clearly, "the psyche is an introspective expression of physiological processes" [8, p. 12]. Next, K.N. Kornilov continues: "That the subjective state, as an "introspective expression of physiological processes" according to Bukharin's characterization, really exists (emphasized by me — N.N.), no one seems to deny this: neither representatives of dialectical materialism, as we saw above, nor representatives of reflexology. And since this is so, it is clear that these subjective states should be the object of science and study. ... but as long as the existing subjective states remain only subjective, i.e. they are the property of the subject, and are not revealed in any way in movement, music, word, etc.., science cannot deal with them. Only when they are revealed and objectified outwardly, they become the property of science" [ibid., p. 17].

And L.S. Vygotsky shares a similar argument in those years, as evidenced by the materials of his article "Psyche, consciousness, the unconscious" [4, v. 1, pp. 132—148], in which he notes: "The psyche should not be considered as special processes that additionally exist on top of and in addition to brain processes, somewhere above or between them and as a subjective expression of the same processes, as a special side, a special qualitative characteristic of the higher functions of the brain" [ibid., p. 137]. It should be noted that in fact L.S. Vygotsky adheres to this position of K.N. Kornilov in the works of his Moscow period. However, it is important for us to understand how L.S. Vygotsky's thought developed in the future. This article was first published in one of the collections of the Institute's works in 1930, but it was written much earlier, since already in the "Historical sense of the psychological crisis" this position of K.N. Kornilov was considered critically, probably L.S. Vygotsky became aware of its methodological deficiency.

It should be noted that, unfortunately, despite the primitiveness of K.N. Kornilov's argument about the relationship between the "mental" and the "physiological", which became obvious to L.S. Vygotsky, now it still haunts psychology in our country. So many psychologists, not excluding S.L. Rubinstein, A.N. Leontiev, and even P.Ya. Galperin, paid tribute to the famous position formulated by V.I. Lenin that the "psyche" is a function of the brain" [9, v. 18, pp. 84—92]. The ideological grounds for the commitment of Russian psychologists to this thesis are clear, but S.L. Rubinstein enthusiastically defended it in his works and directly pointed out that "... mental activity as a reflex activity of the brain is the mental activity of a person carried out by the brain (highlighted by me — *N.N.*)" [18, p. 7]. "There is no need to separate and contrast one thing with another — the relationship of the mental to the brain and its relationship to the outside world. This cannot be done primarily because mental activity is the activity of the brain interacting (!!! — N.N.) with the outside world, responding to its effects (highlighted by me — N.N.)." [ibid., p. 5]. And P.Ya. Galperin, of course, understood the "internal" inconsistency of this position, but it was only in his famous "Introduction to Psychology" [5] that he tried to overcome this "postulate" rooted in our philosophical and psychological literature. For us, who know about the path that L.S. Vygotsky took in less than 10 years of his work at the Institute of Experimental Psychology, it is obvious that he would not have become Vygotsky if he had not clearly seen all the main methodological flaws of reactology at the very beginning of his collaboration with K.N. Korrnilov.

"It should be noted," L.S. Vygotsky writes in the "Historical sense of the psychological crisis, "that the heterogeneity of the material, fragmentary nature, change of meaning of the phrase out of context, the polemical nature of most statements, **true precisely in the denial of false thought**, but empty and general in the sense of a positive definition of the task, in no way allow us to expect anything from this work — or more than a more or less random pile of quotations and their Talmudic interpretation. But quotations arranged in the best order will never give a system." [4, v. 1, p. 397]. And L.S. Vygotsky continues his thought: "The new theory, following Plekhanov, accepts the doctrine of psychophysical parallelism and **the complete irreducibility of the mental to the physical, seeing in this crude, vulgar materialism.** But how is one science possible about two fundamentally, qualitatively heterogeneous and irreducible categories of being? How is their fusion possible in an integral act of reaction?" [ibid., p. 398]. Next, L.S. Vygotsky tries to formulate possible answers to the questions posed by K.N. Kornilov: "... we," writes L.S. Vygotsky, — have two answers. Kornilov sees a functional relationship between them, but this immediately destroys any integrity: two different values can stand in a functional relationship. **It is impossible to study psychology in terms of reaction, because inside the reaction there are two irreducible, functionally dependent elements**. The psychophysical problem is not solved by this, but it is transferred inside each element and therefore makes it impossible to study at any step how it connected the whole psychology. There the relation of the entire field of the psyche to the entire field of physiology was unclear, here the same insolubility is entangled in each individual reaction. What methodologically does this solution to the problem offer? Instead of solving it problematically (hypothetically) at the beginning of the study, solve it experimentally, empirically in each individual case. But it's impossible. And how is one science possible with two fundamentally different methods of cognition, not methods of research — K.N. Kornilov sees introspection not as a technical de-

vice, but as the only adequate way of cognition of the mental. It is clear that methodologically, the integrity of the reaction remains "pia desiderata" (good intentions — *N.N.*), but in fact such a concept leads to two sciences, with two methods studying two different sides of being" [ibid., pp. 398—399].

Involuntarily we who know about the emergence in the 30s of the ideas of the activity approach by A.N. Leontiev, who to a certain extent relied on his early reactological works conducted jointly with A.R. Luria viewing them as a definite alternative to the position of L.S. Vygotsky, the possible source of the appearance of this assessment by L.S. Vygotsky of K.N. Kornilov's approach becomes clear.

For L.S. Vygotsky himself a conflict arises here: Kornilov brands in agnosticism I.P. Pavlov, who wrote about the significance of subjective experiences and the impossibility of exploring them with "objective" research methods developed by himself. However, Vygotsky in his articles, referring to the same words of I.P. Pavlov, as an important characteristic of the role of experiences argues that we must find a method to explore these subjective states without losing their content.

So this was the subject of that very January 1924 report at the congress and the 1926 article written on its basis [8, pp. 26—46]. L.S. Vygotsky sees a way to improve the reflexological methodology, but suggests including the survey as a rigidly constructed methodology aimed at objective research. At the same time, Vygotsky does not question the point of view expressed by I.P. Pavlov, while psychological research is stigmatized for being fixed on the introspective description of subjective states, without offering a methodology for identifying their objective content. Therefore, he concludes his article with an analysis of the survey methods from the point of view not only of what was positive in reflexology, but also of what was accumulated in subjective empirical psychology. He shows that the survey must very accurately follow the appropriate instructions and the specifics of each specific situation, that it is necessary to compare different "indications" of the subjects in terms of identifying contradictions, etc. — and this, in his opinion, allows for an objective study of the content of the "mental" side of the physiological process.

Knowing about the path that Vygotsky went through, we understand how and why it is the analysis of speech activity that becomes for him the source of his scientific inspiration. Moreover, it is important to note that this understanding of the functions of speech and speech communication as the leading means of regulating the activity of the subject occurred even before the formulation of the "basic law" of cultural and historical psychology — the transition of the interpsychic plan of behavior into the intrapsychic plan of consciousness, in which he found the answer to the question of the psychological mechanisms of the emergence of higher forms of behavior.

Indeed, in his further scientific research, Vygotsky compared his ideas about speech as a way of revealing the content of introspection results with the characteristics of communication given by P. Janet, who proceeded from completely different grounds [3, p. 1021], [4, v. 5, p. 197]. Indeed, for the French sociological school, of which Janet was a representative, it was obvious that speech in the context of communication is aimed primarily at the assimilation of social representations, when individual representations are considered only as forms of "being" of collective representations.

2.

The main methodological issue that is significant for any science is the question of the subject of research. In relation to psychology, it can also be defined as a question about the subject of a psychologist's activity. This activity can be theoretical or practice-oriented — the researcher always proceeds from understanding of what he considers as a subject of psychology. The idea of the subject of psychology as a science if accepted by members of the scientific community is the basis for identifying the subject of activity within the framework of a specific study.

But the answer to this main question presupposes, firstly, the distinction between the subject and the object of research. Traditionally, it is believed that different sciences can distinguish different sides (aspects) in the same object, making them the subjects of their research. From this point of view, different views on the same object create different "subjects of research". However, from a methodological point of view, this point of view is erroneous. Let's try to figure this out.

The existence of a person in the objective world presupposes his activity aimed at cognition and change of this world. But at the same time, we must not forget that any person, including a researcher, from a psychological point of view always deals with the "subjective" content revealed in his image of objective reality, which is, to be precise, mediated by his activity with one or another fragment of objective reality, with which the subject of this activities objectively deals [17]. As a result of this tool-equipped activity of the subject, aimed at some specific fragment of objective reality as an object of his activity, objectively bearing "in itself" certain properties necessary for the subject, there is a transformation of that "subject", which from a psychological point of view, i.e., from the point of view of the subject, acted as an empirical object of activity (a «thing"). Thus, this process of identifying the subject of activity as an objective process from a methodological point of view acts as a process of

"**subjectifying"** the objective world of a specific fragment of objective reality, but in general (already from a psychological point of view) appears to him in the form of "**re-subjectifying**" (reinterpreting") the empirical object of activity.

In a small experiment that I systematically conducted in different classrooms during the lecture, the audience was shown a photo showing some kind of device hidden by a cloth. The participants in the experiment had to answer the question: "What is it?" As a possible answer, they were simultaneously offered the following options: a walkie-talkie, a camera, a desk clock, a tablet, a tape recorder, etc. The listeners expressed various hypotheses. Then the previously hidden object was opened and the listeners saw a smartphone in front of them, acting for them as a familiar object, which, however, due to the "versatility" of this device, it can be considered using all the "subjects" indicated in the answer options. I.e. as a kind of "something", a smartphone, considered no longer as a subject, providing telephone communication, but as an object with a whole range of properties that allow it to be used as a walkie-talkie, a camera, a watch, a radio receiver, a tablet, etc. But if we continue this series of possible uses of this object, then it can be considered both as a commodity, and ... a source of radiation, and even a means of self-affirmation.

Moreover, as a kind of something", this object has properties that allow it to be used as a measure of length or weight, a projectile, etc. though of course, such use of a smartphone" is not obvious. But let's ask ourselves: does our "smartphone" remain a smartphone when used in this way? Or we begin to guess that in reality we are only looking at an object with a number of properties that, thanks to our methods of activity, act as one or another "subject", i.e. an object that we can use in one way or another. And being a smartphone for him means having only those characteristics that allow him to act in this capacity.

Let's fix this "verbal" turnover: we "see" the world by certain modes of action with certain objects appearing in front of us in the field of our possible actions. Let me remind you, by the way, that in one of the tasks of the popular Torrence test, testees are asked to describe the possible use of abstract drawings as fragments to create specific images based on it, and the number of suggested options indicates the degree of creativity of the testees.

Consequently, any object that appears to us as a specific "subject", i.e., the way we already know how to work with this object, is potentially "multi-subjective", i.e. it can act as different "**subjects"** listed above. In other words, any object that falls into the orbit of our activity is revealed as a certain "subject" only in our specific activity with it: everything is determined by what activity takes place, how it is related to the corresponding need that brought this "subject" to life.

In this sense, we emphasize — only in this sense — it can be argued that objective reality is " subjectless". Its "subjectification" is the process and results of our practical activity, the activity of the subject who creates the "subjective" world. It would seem to be a completely understandable idea, but how many copies have been broken and continue to be broken in the process of various methodological discussions, the essence of which is ignoring the creative basis of the joint activity of its practical participants.

It is necessary to constantly take into account the methodological "reefs" of distinguishing between "subject" and "object". Such a distinction is unusual for ordinary consciousness. So, using the term "object", a person can mean an observable object or a subject (a "thing") (in the everyday sense in which it is understood in everyday life) — which implies a certain way of working with an object as with a fragment of objective reality, which, thereby, "constitutes" this object already as a certain an empirical object.

For science, any object is a universe of possible "subjects", which at the beginning act as possible subjects of research, revealing one or another essence of the object under study, which for all "non—participants" in scientific activity acts as an **empirical object**, i.e. a completely understandable "subject".

British scientist A. Fleming, who discovered a common mold in a Petri dish, which killed the bacteria he needed for experiments, became a Nobel Laureate thanks to the discovery of penicillin, which became a means that saved millions of lives dying from bacterial infection. As L.S. Vygotsky wrote., "every thing can be considered as a microcosm, as a universal measure in which the whole big world is reflected. On this basis, they (methodologists — N.N.) say that to study to the end, to exhaust one thing, one object, one phenomenon, means to know the whole world in all its connections" [4, v. 1, p. 403].

Therefore, any empirical object must be considered as a fragment of objective reality, as a kind of "something" containing a universe of entities hidden from us, one of which may interest the researcher from the perspective of the science that he represents. Unfortunately, in the traditional scientific consciousness, it is the idea of a different relationship between subject and object that is much more widespread and thus appeared in Marxist philosophy (V.I. Lenin) and has been entrenched in Russian science for a long time. According to this view, different sciences can distinguish different sides (aspects, functions) in the same empirical object, (i.e. in the subject"), making them the subjects of their research. As an illustration of this view, the example with a glass, proposed at the time by V.I. Lenin, was often used. Reasoning, the authors who used this example showed that a glass can act as a vase for flowers, and a pencil stand, and a paper holder, and a projectile, etc. This position

was formulated most clearly in the 60s by P.Ya. Galperin [5], and after him the same idea was reproduced by other authors [10], [20] and others.

However, based on the above example with a "smartphone", it is necessary to make a certain and very significant adjustment to this position: it is not the "glass" that has certain sides, but the object hidden behind it that acts as a "smartphone" for us, but considered as a fragment of objective reality may have certain properties that, when used by one or another can act in different ways as different "subjects", so to speak, take on different "guises". Therefore, what is empirically perceived in everyday terms as different functions ("aspects", "sides") of the subject (thing) used in the household activity, which thereby became a "new" instrument of our activity, from a methodological point of view means that in reality any "subject" is always a socially developed (during the development of activity) form of the use of objectively existing fragments of objective reality, that exist regardless of our consciousness. They define human activity by their properties, which he obey and which he masters as a side of interaction.

Being a subject of activity and at the same time an objectively existing fragment of objective reality, constantly located — regardless of its consciousness — in various forms of interaction with the conditions of his objective being, a person has the ability to actively use these independently existing properties of objective reality as means and tools of his activity, turning them from objects of consumption into "subjects" of his needs, which they act as such only thanks to certain ways of activity that "subbjectify" his needs [1], [10], [11]. As noted by K. Marx, "The subject as being for a person, as the subjective being of a person, is at the same time the present being of a person for another person, his human relationship to another person, the social relationship of a person to a person" [14, v. 2, p. 47].

Therefore, objectively there is a psychological difference between the representation of the identified subject in the form of an "subject" (thing) in a joint practice-oriented activity and its "scientific" representation: the properties of objective reality revealed in the process of instrumental actions are always revealed from the point of view of those tasks of joint activity for which objective-like "accurate" understanding of the "known" properties of the studied "object" characteristic of specialized scientific activity appears is just one of the possible tasks.

The subject — in his "practical" consciousness — always expresses the "objective" reality revealed to him "biased", in a certain way, about things, providing not only and not so much a certain understanding of these things as a certain attitude towards them.

A common understanding of the activity nature of the differentiation of an object as a fragment of objective reality and an "subject" as a method of action in objective reality, the practical use of any object in a system of joint, always practice-oriented human activity, may be represented from this point of view as the most important psychological characteristic of the essential forces of man himself, which was revealed by K. Marx. "The history of industry and the established objective existence of industry, — K. Marx noted, even at an early stage of the formation of his concept of man as a social individual, "is an open book of human essential forces, sensually presented to us by human psychology, which has so far been considered not in its connection with the essence of man... Such psychology, for which this book, that is, just the most sensually tactile, most accessible part of history, is closed, cannot become a truly meaningful and real science" (K. Marx's italics — *N.N.*) [13, pp. 594—595].

I would like to note that all the leading Russian psychologists, including L.S. Vygotsky, S.L. Rubinstein, and A.N. Leontiev, not to mention their students and followers, systematically reproduced this idea of K. Marx, the content of which is of key importance for psychology based on the methodology of the activity approach. At the same time, many of them systematically confused the concepts of an object (as a fragment of objective reality) and a "subject" (as a way of human activity mastering this objective reality that exists independently of his consciousness). The volume of this article does not allow us to present in detail the variants of such a mixture, therefore I will limit myself to just one, but very illustrative example from the work of P.Ya. Galperin "Problems of activity in Soviet psychology" [6, pp. 281—300]. I quote: "In fact, taken according to its objective content, it (the subjective content — *N.N.*) really does not belong to psychology: the external "subject" content of activity is the material impact on a material object and its successive transformations — what kind of psychology is this? Of course, in itself it is something "subjective", not "mental", it is not psychology!" [ibid., p. 291].

The reason for this confusion of the concepts of "objective" and "subjective" is that both of these concepts — the concept of "objective" and the concept of "subjective" — are interpreted so broadly that the concept of "objective reality" i.e. that which exists independently of our consciousness seems to include everything that exists besides a specific fragment of objective reality we have mastered which de facto has become an "subjective" element of our subjective world.

And therefore it is natural that from a similar point of view, the analogous subjective world of another subject suddenly becomes an "objective world", and only because it exists outside and in addition to "our" consciousness, which, in fact, generates all the methodological collisions of idealism, and, above all, subjective idealism, for which only the world exists his conscious-

ness. These collisions were some time ago analyzed in great detail by E.V. Ilyenkov in his numerous works on the problems of the "ideal". The antidote to this identification of the "objective" and the "subjective" for me was K. Marx's 1st Thesis on Feuerbach, in which the principle of their distinction is formulated very precisely: "The main drawback of all previous materialism — including Feuerbach's — is that the object, reality, sensuality is taken only in the form of an object, or in the form of contemplation, not as a human sensory activity, practice, not subjectively. ...Feuerbach wants to deal with sensory objects that are really different from mental objects, but he does not take human activity itself as an subjective_activity (emphasized by the author — *N.N.*)" [14, v. 3, p. 2].

Therefore, any "object" — as an element or component of our field of action [5], which opens up in the image of the world [11] — is always one or another way of working with an object that satisfies one or another specific need with its properties, a way that once allowed — by transforming certain fragments of objective reality — to form new "subjects" for us, thereby revealing previously hidden properties of objective reality, which have become subjects of research, the results of which will open up new possibilities for further transformation of objective reality into new "objects" of our needs. "The eye became a human eye just as its object became a public, human object created by man for man....Therefore, feelings have become theorists directly in their practice. They relate to a thing for the sake of a thing, but this thing itself is an objective human relationship to itself and to a person, and vice versa" [13, p. 592].

Objective reality is always given to a person in a certain "subjective" form — in the form of certain "things" that serve to satisfy certain needs: "This is a chair — they sit on it, and this is a table — they eat at it," — the heroine of "Cat House" tells her guests, thereby emphasizing the activity essence of any "subject." An object as a fragment of the objective world, as a kind of universe of various properties, due to various **"subject**-oriented" and **subject**-specialized ways of our activity with certain fragments of objective reality, always acts as a specific "subject" designed to satisfy a specific "subjectified" need.

However, behind its appearance in the world of human activity there is always a specific way of activity that has been developed and, one might say, "codified" in the system of activity according to the characteristics of its use. The bearers of this method are the older generation, which, in a system of joint activities with the younger generation, "transmits" it, i.e. creates the necessary conditions, including means of activity, so that this method, as a social relay race, becomes the property of every new candidate for people.

This often creates the illusion that this method belongs to the object itself, acting as a means and/or instrument of activity. This kind of illusion was shared by my teacher P.Ya. Galperin who repeatedly claimed that it was the tool that is the carrier of the way it was used, and A.N. Leontiev, who thought similarly. From a theoretical point of view, this position was overcome only in the early 70s by D.B. Elkonin, another member of the Kharkov group of collaboratesand followers of L.S. Vygotsky. This is evidenced by the entry he made in his diary, which, unfortunately, is missing from his main publications of that time: "Even the theory of the gradual formation of mental actions is not devoid of elements of naturalism. I am right that the human way of using it is not written on the subject. It is known only to society, i.e. to man as the bearer of the method" [21, p. 502].

It is the ways of activity of a social individual with one or another fragment of objective reality included in the area of joint objective activity that transform these fragments as components of the already "subjective" reality of our activity.

In the field of research, in the field of technology, the way of activity appears as a method. Thus, through various methods of activity (methods and techniques, whether it is the exploration of the microcosm through a hadron collider, or cooking borscht according to a new recipe recommended in a TV program about delicious and healthy food), which a person creates/finds /masters/implements, he thereby constitutes his "subjective" world. A creative person is someone who knows how to "reinterpret" the world of "subjective" reality around him, using other previously unknown methods of activity to create new "objects" as elements of the cultural field of mankind, or applying the old method to previously unknown objects of his activity. Therefore, it is necessary to distinguish between **the subject of research**, which must be identified in the course of research, and the **"subject" as that empirical object** (or phenomenon) with which we deal in our practical activities. Their "mixing" is fraught with failures in the study, which "negate" all our efforts, not to mention the funds spent in vain on its implementation. As noted by F. Engels, "This is an old story. First they create abstractions, distracting them from sensual things, and then they want to know these abstractions sensually, they want to see time and smell space. The empiricist is so drawn into his habitual empirical cognition that he imagines himself still in the field of sensory cognition even when he operates with abstractions" [14, v. 20, p. 550].

In the first case, we are talking about the psychological result of the expedient instrumental influence of the subject on a certain fragment of objective reality (object), due to which this psychological result acts as another "subject-specialized" abstraction of the real

way of acting with the object of this activity. This abstraction summarizes the psychological consequences of the subject's interaction with the objective world, and in our "everyday" consciousness this abstraction is "substantivized" in the form of an empirical object (a thing). At one time, K. Marx, as part of the development of economic theory, which L.S. Vygotsky systematically referred to in his works [4, v. 1, pp. 291—436], [7], used the term "objective mental form". Through this term, K. Marx fixed the "sensually supersensible" or social nature of the results of any form of joint activity carried out in the system of social production. [14, v. 23, p. 86]. Unfortunately, this term is not rooted in our psychological literature, although it plays an important role in the works of E.V. Ilyenkov on the problems of the ideal and in the analysis of consciousness in the works of M.K. Mamardashvili, as it most accurately captures the psychological content of the concept of "subject", which I, already as a term, put in quotation marks in order to "turn off" the reader's everyday interpretation of it, which arises when using this term in everyday life and often uncritically used in scientific texts.

The actual subject of research is always only hypothetically assumed, but hidden from the researcher properties or characteristics of objective reality, a fragment of which should actually be considered as an object of research activity. Therefore, as L.S. Vygotsky emphasized more than once, referring to Goethe, when organizing psychological research, it is important to be able to "make the problem a postulate" [4], [7]. The assumption postulated in this way begins to serve as the most important criterion for the selection of research methods corresponding to its theoretically predicted essence, through which the objective reality under study is practically transformed.

The "reverse" course of thought, when the "postulate becomes a problem", allows us to critically analyze the prevailing ideas about the essence of the subject under study, which — due to the results of previously implemented practical interaction with objective reality and the experience of theoretical and experimental research — appear to us as empirical objects or "subjects", i.e. "objective thought forms" — those social filters through which the objective world appears to us, shamefully referred to in some studies as "psychological reality".

In order to make sure of this, it is enough to look at the table of contents of any psychology textbook. Dozens of "mental" processes (various types of perception and memory, thinking and imagination, etc., etc.) located next to each other or "separated" from each other by hundreds of pages, "coexist" in them, acting as active agents of their own "mental" actions, hundreds of "mental properties" and "mental states" that actively influence behavior, etc.

I recently found a certain theoretical confirmation of the basis of my critical attitude to such a nomenclature in the book "Being and Consciousness" by S.L. Rubinstein. On page 279 of this book, you can find a note that S.L. Rubinstein made at the time: "In general, it must be said that the functional structure of psychology artificially breaks up and spreads phenomena under different headings (perception, memory, etc.) that are essentially completely homogeneous, expressing the same psychological patterns. A radical restructuring is also needed in this regard (emphasized by S.L. Rubinstein — *N.N.*). In the future, the main part of psychology will have to be built as a system of patterns common to phenomena related to different functions, to different processes" [18, p. 279].

Therefore, it is necessary to constantly take into account that in any such "subject" — as a result of our interaction with objective reality arising in the course of human activity, **something** always emerges, i.e. something that is yet to be revealed, and only in the possibility, during the development of joint activities. And only in the case when objective reality responds to us with "reciprocity" we manage to "identify" the properties we study and "include" them in the system of concepts about these properties. Therefore, L.S. Vygotsky's 's constant interest to the problem of the genesis of concepts and the correlation of "everyday" and "scientific" concepts is natural [4, v. 2, pp. 118-294].

Thus in the context of activities aimed at an empirically existing object, its "phantom" properties and characteristics, which are "products" of our activity, which we "attribute" to objective reality, can be considered as a subject of description, but not as a subject of research. That is why the methodological distinction between the subject — as properties of objective reality and the "subject" — as our established ideas about reality, is central to the organization of any research, including psychological.

3.

Further steps on the way of presenting the abovementioned problem of the relationship between the **"object"** and the **subject** of research is directly related to the analysis of the relationship between such categories as **phenomenon** and **essence**. Let us emphasize once again our position: the relationship between phenomenon and essence has an activity nature: a new "subject" as a public summary of our joint activities — appears as a natural result of purposeful human activity with an object that acts as an "understandable" phenomenon in front of us/ However, its essence is still hidden, and it has yet to be learned, made public asset for our practical activity and our consciousness as a psychological form of this activity. This is exactly what L.S. Vygotsky "anticipated" in

the early period of his work. Later he tried to express this "premonition" in his concept of the semantic structure of consciousness, which is the essence of cultural-historical theory as a "non-classical" psychology.

The characteristic of any phenomena is what every science began with, including psychology, which, like any science, begins with a description of the content that appears in the phenomenon, thereby replenishing the phenomenology of psychology. Every phenomenon, as our "subjective image of objective reality", is only a phenomenological manifestation in its psychological essence of what is hidden behind this phenomenon, i.e. those properties of objective reality that "appeared" to us in a certain, specially or accidentally arisen problematic situation that requires its solution. We are just "changing the angle of view" — and we have a different phenomenon in front of us.

Kindness and sensitivity or pretense and hypocrisy? Is it true that the same essence stands behind these phenomena and/or does everything depend on our view of the object of our activity, which always acts as one or another "subject"? As L.S. Vygotsky noted, quoting G. Munsterberg, "no abnormal experience can in itself serve as proof that a psychological, not a physiological explanation is required. This is a philosophical question that must be solved theoretically before we can begin to explain special facts" [4, v. 1, p. 132].

The specificity of the presentation of the objective content revealed in the course of activity, which appears to us in the form of the "subject" of our joint, always practically oriented activity — in comparison with its "scientific" representation — lies in the fact that through communication, the identified properties of objective reality are always revealed from the point of view of those tasks of joint activity for which objectivists are "accurate" understanding of the "known" properties of the studied "object" acts only as one of the possible and by no means always significant tasks. The subject — in his "practical" consciousness — always expresses the "objective" reality revealed to him "biased", in a certain way, about things, providing not only and not so much a certain understanding of these things as a certain attitude towards them. Thus, we are talking about the desire to "catch" the essence behind the phenomena.

All serious philosophers, starting with Plato, tried to reveal the complexity of this relationship, emphasizing its dialectic: "the essence manifests itself, the phenomenon is essential" — a textbook phrase written by V.I. Lenin reading Hegel's "Lectures on the History of Philosophy" at the time [9, v. 29, p. 227]. But each phenomenon acts as a potential representative of the objective world as a whole, in the course of always "partial" research of which many different "subjects" appear. As L.S. Vygotsky noted, "Every concrete phenomenon is completely inexhaustible and infinite in its individual characteristics; one should always look for something in a phenomenon that makes it a scientific fact. This is exactly what distinguishes the observation of a solar eclipse by an astronomer from the observation of the same phenomenon by the simply curious person. The first identifies in the phenomenon what makes it an astronomical fact; the second observes random signs that fall into the field of his attention" [4, v. 1, p. 298]. This thought of L.S. Vygotsky is a development of the methodological position belonging to K. Marx, who noted that "... if the form of manifestation and the essence of things directly coincided, then any science would be superfluous" [14, v. 25, part 2, p. 384].

Let's imagine that a specific person is selected as an empirical object (object of observation). There are many definitions of what a "person" is, each of which captures certain empirically revealed properties of that fragment of objective reality that appeared to us as a person — it can be viewed from different positions in a particular situation: "man", "adult", "buyer", "pedestrian", "athlete", etc. All these listed manifestations are different "objective" versions of an empirical object, the essence of which is being a person. One could recall K. Marx's textbook words from the famous Theses on Feuerbach: "The essence of man is not an abstract inherent in a separate individual. In its reality, it is the totality of all social relations" [14, v. 3, p. 4].

Therefore, it is no coincidence that in one of his most important works written during this period of scientific activity — "The Historical Meaning of the Psychological Crisis", L.S. Vygotsky noted: "In this sense, we can say that every person is to one degree or another a measure of the society or, rather, the class to which he belongs, because it reflects the whole set of social relations" [4, v. 1, p. 403].

We define this essence based on our everyday consciousness. It is on such "substantive" differences that differences of professional views and positions are based. A doctor sees a person from the point of view of his anatomical and physiological structure and psychophysiological state; for a biochemist, a person is a conglomerate of organic processes; for a psychologist, a person is a subject with certain abilities realizing himself in a system of certain social relations. Unfortunately, the fundamental definition of man, presented by L.S. Vygotsky after K. Marx, does not serve as a guide for us in organizing our empirical, in fact, human research: it is enough to critically analyze those questionnaires that psychologists have been using for centuries, studying "abilities", "character", "personality as a whole", its "motivation", etc., — all of them are concepts that act as so—called "umbrella" terms that hide the absence of proper conceptual content. Obviously, this list can be continued. Probably, for aliens from other planets this object is not "set" initially as a "person", and they can "subjectify" it in their own way.

At the same time, each person is one in many manifestations: This is due to the multidimensional nature of the world, which sometimes interferes with everyday life. Science proceeds from the fact that each object is a specific manifestation is an abstraction that takes into account only certain characteristics of a given person.

So, we observe objects, but due to our activity they appear to us as "subjects". And the task of the researcher is to overcome the corresponding ideas and deal with their hidden essence, which appears in these phenomena, in order for a new understanding of the phenomenon of interest to arise, so that this phenomenon in our new understanding may become different.

This is exactly what P.Ya. Galperin formulated, also following K. Marx: "... Science studies, in fact, not phenomena, but what lies behind them and produces them, what constitutes the "essence" of these phenomena — their mechanisms" [5, p. 46].

There is another psychological dimension in the analysis of the problem of phenomenon and essence — the ratio of "appearance" and "reality". It's about how a person perceives objective reality while interacting with it. A large range of examples are provided by the so-called visual illusions. It's for example, the Ponzo illusion with the image of railway tracks, as if going into perspective. It is natural for the viewer that the size of the transverse "sleepers" decreases as they are removed, although theoretically we understand that their size is the same.

If the logic of perspective is violated in the image, then we see that the "farthest" element of the image is evaluated as larger. The effect of such illusions is such that a person does not rely on the results of the so-called "objective" measurement carried out using appropriate means, which, in fact, is also "subjective", since this measurement is carried out by the subject, but on what he "as if" sees, making false conclusions based on his previous experience of evaluating the spatial elements of the "visual" field — within the framework of an accepted lifestyle and cultural context.

It is no coincidence that the remarkable psychophysiologist and ophthalmologist of the 19th century, G. Helmholtz, said that the "mechanism" for the occurrence of such distortions of the visual field is not the peculiarities of our perception, but the so-called "unconscious conclusions".

Thus, the problem of visibility and reality is that different people's ideas about the same thing may not coincide. The objective world exists independently of our awareness of it, but, thanks to our awareness of it, it acts for us as our subjective world. Therefore, it is necessary to remember that our subjective representations are only a picture of our understanding of this objective world achieved today, an understanding not free from errors and illusions of our "perception" of objective reality.

The most striking example of such an illusion is the daily observed by man as a "natural" phenomenon: sunrise and sunset. Here, it would seem, the essence of the process is known to us (the Earth rotates around its axis, and not the Sun rotates around the Earth), but this knowledge does not change our perception of this "astronomical" phenomenon, since psychologically we are dealing with "visibility", not reality. We still "see" that the Sun is "moving" and not the Earth is "spinning". Moreover, as a mass VTSIOM survey of a large audience showed, more than 30% of respondents believe that this is really the case and they seem to believe in it [19].

We interpret the visible world all the time — through a system of stereotypes that have developed in our activities, various attitudes, value systems, etc. — of everything that becomes a subject for psychological research. Here is an example of a similar problem that was solved during an experiment conducted under my supervision [22]. In a chaotic set of spots **(Fig. 1)**, the

Fig. 1

testees were supposed to "see" the cow, but for the vast majority this turns out to be an impossible task. The very process of the experiment consists in presenting images of real cows. After each presentation of another realistic image, the subjects were presented with the first image again. And for a number of subjects, this was enough for them to begin to "see" the image of the cow's head in the first image. Note that this always happened in the form of an "insight" — as an unexpected "appearance" of this head for the subjects themselves. Gradually, after presenting the next realistic images of different cows, the number of subjects who suddenly "saw" the cow in the first image increased.

But for some subjects, such an "appearance" of a cow occurred only as a result of the visual materialization of the contour of the head of this animal in the first figure **(Fig. 2)** — its appearance for some time against the background of spots, which also remained stable after this "materialization" disappeared.

The verification of the experimental results, delayed for several months, showed the stability of the phenomenon that had arisen. In fact, the subjects had a restructuring of the "visible" world: an active process of "discretion" by the subjects of a given image was formed.

This experiment shows that our "visible world" is the result of the formation of certain ideas about the world that arise through our activities in objective reality. We must always take into account that we see the objective world through its image — as a "phenomenon of an object to a subject" — the image of the world [11]. Appearance (as an "objective mental form") and reality never coincide and, by definition, cannot coincide. This statement contains the essence of the methodological position on the difference between absolute and relative truth, which is the "core" of the theory of knowledge, as the basis of which scientific psychology should be considered, since it reveals the psychological patterns of formation and development of joint human activity. In general, the process of **resubjectifation** (reinterpretation), which occurs in such cases, always acts as a creative process of transforming fragments of the mosaic, through which we "see" objective reality, acting for us in the image of the field of our possible action [2], [5].

All of us, always dealing with objective reality, fix the results of our activities in this reality only in the form of its phenomena — conditions and the results of our subject-oriented actions. By revealing the essence hidden in phenomena, we create conditions for the development of our activities in objective reality. The universality of objective reality is hidden behind each fragment of the mosaic of the visible world. In the case we are considering, any something is not just a phenomenon, but also a hidden "essence" behind it, which can become both an image and a representation of the subject about reality. Consequently, we come to the conclusion again that each object of our activity is a "universe" with diverse properties — hence the variety of possible phenomena of the same essence. A paradoxical problem arises in relation to scientific research: how can we investigate "something", the essence of which has yet to be revealed in the course of its research, but it is given to us only in the form of a "subject", the result of our activity with an object that represents this "elusive something", and not the subject of research? It is possible to answer this not at all rhetorical question only by taking a certain methodological position.

Fig. 2

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Structure and Distortions of the Activity Autoregulation: a Growing Edge of the Cultural-Historical Activity Theory

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The problem setting of the paper stems from the idea of shifts in research contexts and explanatory emphases in the Cultural-Historical Activity Theory (CHAT) through the history of its development, specifically, from putting the concepts of mediation and self-regulation (autoregulation) to the foreground in the 1980s. The immediate object of the analysis are the elements of activity autoregulation structure and varieties of its possible distortions. In line with the distinction of five elements of any contour of autoregulation as the mechanism of cyclic action correction basing on the comparison of the feedback on the current results with the preset goal criterion, ten arts of autoregulation distortions are differentiated and described: 1A. Lack of goal criteria or lacking selectivity as regards such criteria; 1B. Excessive rigidity of the goal criteria; 2A. Difficulties in the transition from decision to implementation; 2B. Uncontrolled, uncorrectable acting; 3A. Lacking sensitivity to the feedback; 3B. Anxious hypersensitivity to the feedback. 4A. Lack of readiness to detect mistakes and to correct erroneous actions; 4B. Failed comparison of the feedback with goal criteria, spontaneous responding; 5A. Denying mistakes and refusal of their correction; 5B. Painful responding to errors and failures.

Keywords: Cultural-Historical Activity Theory (CHAT), regulation, autoregulation, functional paradigm, goal, action, feedback, distortion, correction.

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Структура и нарушения саморегуляции деятельности: точка роста культурно-исторической деятельностной психологии

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Проблематика статьи вытекает из представлений о сдвигах в исследовательских контекстах и объяснительных акцентах в культурно-исторической деятельностной психологии (КИДП) на протяжении истории ее развития, в частности, из выдвижения на передний план в 1980-е гг. понятий «опосредствование» и «саморегуляция». Непосредственным предметом анализа выступают элементы структуры саморегуляции деятельности и разновидности возможных ее нарушений. В соответствии с пятью элементами любого контура саморегуляции как механизма циклической коррекции действия на основании сличении обратной связи о текущих результатах с заданным целевым критерием выделены и описаны десять разновидностей нарушений саморегуляции: 1А. Отсутствие целевых критериев или дефицит избирательности по отношению к ним; 1Б. Излишняя жесткость

целевых критериев; 2А. Затруднения при переходе от решения к действию; 2Б. Неуправляемое, некорректируемое действие; 3А. Нечувствительность к обратной связи; 3Б. Тревожная сверхчувствительность к обратной связи. 4А. Неготовность замечать ошибки и исправлять ошибочные действия; 4Б. Несоотнесение обратной связи с целевыми критериями, спонтанное реагирование; 5А. Отрицание ошибок и отказ от коррекции; 5Б. Болезненное реагирование на ошибки и неудачи.

Ключевые слова: культурно-историческая деятельностная психология (КИДП), регуляция, саморегуляция, функциональная парадигма, цель, действие, обратная связь, отклонение, коррекция.

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Introduction

Any scientific theory, while retaining its basic conceptual apparatus for decades, at the same time undergoes changes over time. The most noticeable expression of these changes is the shift of the center of gravity of theoretical and experimental research from some problems and concepts to others. In our previous publication [22], devoted to a review of the current state and status of cultural-historical activity theory, or CHAT[1] , we tried to substantiate the key place in it at the present stage of the concepts of regulation and autoregulation. These concepts do not simply describe specific psychological processes, but rather set a general explanatory model, which we labelled "functional paradigm" (see also [8]; [10]). CHAT is one of the approaches that have embodied the functional paradigm in recent decades.

This thesis itself is not new. Back in 1981, B.V. Zeigarnik's paper "Mediation and self-regulation in norm and pathology" was published, in which she noted the key importance of these two concepts for the theory of activity at this stage ([3}; see also [4]). At the birth of the CHAT, in the late 1920s-early 1930s, L.S. Vygotsky emphasized the relationship between the individual psyche and the culture, on issues of social and genetic psychology. At the next stage, with the emergence of activity theory approach, in the 1930—50s, the attention of researchers was focused mainly on the relation between activity and consciousness in genetic and functional aspects, on the issues of the emergence of consciousness and mental reality in general in the process of activity, and on the problems of child and educational psychology. In the 1950s-70s, the emphasis shifted to the relations between activity, action, and operation, to the issues of the structure and functional genesis of activity, mechanisms of its implementation, to the problems of general and engineering psychology, cognitive and executive processes. Since the late 1970s, a new shift of emphasis has been noticeable, the one to the relation between personality and activity, to the issues of regulation and self-regulation of activity and its ontogenetic development, to the problems of personality psychology, including pathopsychology. This shift in emphasis resonated with similar shifts in foreign psychology, where the issues of interaction between personality and motivation, cognitive and attributive processes, and the context of the integral personality came into focus [18; 23].

This new problematic was reflected in a number of research directions, in which activity was considered just in the aspect of its regulatory mechanisms. First of all, we can name studies of volitional regulation (V.A. Ivannikov), regulation of thought activity and goal formation (O.K. Tikhomirov, I.A. Vasiliev, etc.), as well as motivational and meaning-based regulation and meaning sphere of personality (A.G. Asmolov, B.S. Bratus, F.E. Vasilyuk, D.A. Leontiev, E.E. Nasinovskaya, V.V. Stolin, E.V. Subbotsky), studies in the field of engineering psychology (M.A. Kotik). Over the past time the importance of this problematic is not decreasing, on the contrary, it is growing. Models of regulation and self-regulation in the context of cognitive processes (T.V. Kornilova), personality in the broadest sense of the word (V.A. Petrovsky), clinical problems (J.M. Glozman, E.T. Sokolova, A.S. Tkhostov, E.I. Rasskazova), developmental psychology (E.O. Smirnova, K.N. Polivanova, etc.) are being developed.

The aim of this paper is to propose, based on the methodological framework of the functional paradigm and the explanatory concepts of regulation and autoregulation, a working scheme of autoregulation of activity and its distortions, which would help to identify specific targets that allow us to set the task of complex assess-

[1] We consider the concept of Cultural-Historical Activity Theory, CHAT, which has taken root in foreign works over the last two or three decades, to be appropriate and adequate.

ment of the preservation and balance of the functioning of autoregulatory processes, described by us in terms of personality potential [7].

The meaning of autoregulation. Functional paradigm

Let us briefly summarize the key aspects of understanding the autoregulation of activity that make this concept so important for CHAT (for more details see [7]; [8]; [21]; [22]).

The concepts of regulation and autoregulation have occupied a key place in cybernetics since the 1940s; the first attempt of their application in psychology was the neo-behaviorist T-O-T-E model of J. Miller, E. Galanter, and K. Pribram [15]. In our country, these ideas had been approached even earlier by N.A. Bernstein and P.K. Anokhin, whose works gave impetus to the corresponding approaches in psychology [see 9].

The concept of **regulation** means a scheme of process control in which at least five obligatory elements are distinguished. 1. The process itself, which is regulated. 2. The target criteria of regulation (to which the process parameters must conform). 3. Feedback mechanism — obtaining real-time information about the state and dynamics of the process. 4. Comparison unit, which compares the received feedback with the specified criterion. 5. Corrective action, which is applied to the process in order to bring it closer to the desired state.

We speak about regulation when the mechanisms of comparison and control action are outside the controlled process itself, for example, carried out by the operator. If we introduce into this process a program that will automatically carry out the control action at certain deviations of the controlled process from the target criteria, then it is correct to speak about autoregulation. Human activity as an object of control combines mechanisms of both external regulation and autoregulation, and ontogenetic development implies a gradual transition from the former to the latter. While we are small, other people exert a controlling influence on us. As we grow up, we gradually acquire the ability to autoregulate our behavior according to criteria we deem meaningful (although many people do not become autoregulated until old age). Phylogenetic development also shows similar patterns with respect to individual body systems: as evolution proceeds, autonomy and autoregulation of individual subsystems increases, including specialized subsystems of the brain [2]. In social evolution, similar tendencies of growth of autonomy and autoregulation of separate social subsystems and decentralisation of management are also observed. Civil society is an autoregulating society, which develops autoregulation mechanisms even at the level of a separate neighbourhood, local community of neighbours or professional association and implements control actions itself, rather than waiting for them from another level of social hierarchy.

The ideas of autoregulation are key ones to the system of views that can be called the functional paradigm in the life sciences. This paradigm assumes that an individual's interaction with the world is primary in relation to stable regulatory structures that are formed precisely in this interaction, rather than preceding it. The functional paradigm opposes views of behavior as being determined by traits, drives or external stimuli. It was developed in the middle of the last century in such view systems as (a) systemic-cybernetic models of self-regulation and self-organisation, including the physiology of activity, (b) existential philosophy and psychology, and (c) cultural-historical activity theory in psychology. The most succinct formulations of the functional paradigm are the formulas: "Existence precedes essence" (J.-P. Sartre), "A task gives birth to an organ" (N.A. Bernschtein), "Activity produces consciousness" (A.N. Leontiev). One can talk about the merging of these approaches into a holistic paradigm already in our century.

In the context of psychological science, we consider an integral human activity a regulated or autoregulated process Activity is ideal and/or practical interaction of an individual with the world, mediated by elements of sociocultural experience of generations, fixed in sign-symbolic, instrumental and imagery forms. Some links of this process can be delegated to other people or artificial devices.

The functional structure of self-regulation of activity and its distortions in everyday life: towards the structure of personality potential

Autoregulation is a complex mechanism, and, like all complex mechanisms, it can "break down" in different links. R. Baumeister et al. identified two most common types of self-regulation disorders [19]. Underregulation occurs when some mechanisms do not work, and misregulation occurs when control over actions is based on false assumptions about what is good and what is bad.

Let's consider what distortions are possible in different links of autoregulation, and in what symptoms they manifest themselves. Let us recall the main links: 1. Goal (in the broad sense), or target criterion of the desired; 2. Effector — the mechanism of transition from goal to action; 3. Feedback receptor; 4. Comparison mechanism; 5. Mechanism of action correction.

A goal in the broadest sense is an ideal to which a system should aspire. Goals provide direction, perspective and can change. At the same time, goals can and should be flexible enough. It is dangerous to have and dangerous to realize rigid unambiguous goals. Psychology describes

the "Martin Eden syndrome" [16], named after the hero of Jack London's novel of the same name. Martin Eden was a sailor who descended to land and began to write. He dreamed of becoming a famous writer, dreamed of getting rich, becoming successful, winning a stunning woman. And he achieved it all. The novel ends in suicide. Why live on if his whole life was guided by rigid goals, and when all of them are achieved, what now? Martin Eden syndrome warns against too rigid goals.

An oriental wisdom says: "If you want something very badly, you will get it. And nothing else". Goals focus us on what we want, and all our activity is directed towards achieving that goal if we have enough resources. But being focused on moving towards the goal, we don't see anything away from it. We reach our goal, but who knows what we missed on the way to it. It's important to have not so much specific goals, but a flexible goal-setting ability — the ability to set goals and change and abandon goals when necessary. The inability to abandon goals makes us subject to circumstances. We must own our goals, not belong to them. Nevertheless, a person with a goal is much less susceptible to any suggestion or manipulation than a person who does not know or understand what he wants and who is easily indoctrinated by someone else's goal. A person who has his own goal also has criteria for determining what is true and what is not, while a person who has no goals does not have these criteria. He is easily deceived.

Goal setting should be flexible and responsible. We must take responsibility for our goals, including goals that come down from somewhere else and we simply accept them. However, we must be able to abandon goals and replace them with others when necessary, while remaining selective about them.

Hence the potential options for impaired autoregulation in this link:

1A: Lack of one's own target criteria of what is desirable and the consequent inability to distinguish between "right" and "wrong" actions. A particular case of this is the lack of selectivity towards externally proposed goals and other criteria, the readiness to accept any goal or other criterion of what is desirable, which in this case will be unstable and will be easily replaced by another.

1B: Excessive rigidity of goals or other target criteria of what is desired, inability to abandon or change goals.

1. The second part of the self-regulatory process is goal-directed actions, what in physiological models are called effector, executive actions. These actions can be further evaluated by whether they lead to the goal. It is important to understand: only a moving system, only a moving being can understand whether it is moving in the right or wrong direction.

Possible impairments of self-regulation in this link:

2A — inactivity, inability to "cross the Rubicon" and start implementing endlessly revised goals and intentions, partly related to lack of motivation (we have elsewhere labeled this dynamic feature of behavior "Hamlet's syndrome"[7]);

2B — uncontrollable action. Here we deal rather with excessive motivation, which reduces the controllability and correctability of the action. The Yerkes-Dodson law, discovered more than a hundred years ago [see 18], says that in some cases excessive motivation is as bad as insufficient motivation. Here, as in everything else, balance is important. Too strong motivation sometimes makes our actions unmanageable.

2. The third link in the self-regulatory process is the receptor, the perception of feedback. What is actually happening? Where am I? Most importantly, am I moving in the right direction or in another direction, am I approaching or moving away from what I want? In his time, S. Freud introduced the distinction of two main principles that govern our behavior: the reality principle and the pleasure principle [17]. The pleasure principle governs our actions, regardless of their outcome. I want and that's it, my desires come first. The pleasure principle is a voluntarist principle of infantile consciousness. But in an adult, a second, alternative regulatory principle — the reality principle — is gradually formed. The reality principle says that the satisfaction of our desires must be considered in relation to the extent to which circumstances, reality in general, are favorable to the fulfilment of our desires. In some cases it is better to give up our desires.

In today's world, there are a myriad of feedback mechanisms that keep us from wallowing in our own voluntarism. The question is how sensitive we are to these feedback signals, how much we reckon with them. The simplest case is technical devices. When we park, we switch on the parktronic and see how many centimeters are left before we hit a kerb or a nearby car. And we have the ability to react to these feedback signals so that we don't make a mistake. Parktronic shows us what is really there, the distance between what we want and what we actually have. We may think we are parking very well and correctly, but the device says: no, what you think is your own business and the reality looks different. The question is how sensitive we are to these signals.

In relations between people, the highest form is dialogue (see [1]; [11]). To some extent, dialogue is what limits our voluntarism. The success of achieving our goals depends in no small measure on the extent to which we are able and willing to take into account the feedback signals that other people give us. If after a lecture one of the listeners says to a lecturer that the lecture is a load of rubbish and argues it in detail, the lecturer does not necessarily have to abandon all his ideas, but it is useful to reflect on the fact that perhaps he did not formulate them accurately, since he was misunderstood. It is necessary to rephrase them so that they are understood correctly. Feedback, even based on a false (mis)under-

standing, helps to improve further actions and get closer to what is desired. It allows, in other words, to develop and to improve. There is nothing more valuable and positive than negative feedback that gives us signals that something is wrong. Something can only be learnt from negative feedback, from working on mistakes. Positive emotional support is also important, especially in the upbringing and development of children, but it does not promote, only strengthens, helping the child to learn to trust himself and develop his own criteria, what is good and what is bad, and to develop motivation for action. The relationship between these two sides, cognition and well-being, is well reflected in the biblical story of the expulsion from paradise.

Adam and Eve had their eyes opened when they ate the forbidden apple from the tree of knowledge. "You will be like gods", the serpent told them, "knowing good and evil". Before that they did not know good and evil, they had no criteria of what is good and what is bad, and are they needed in paradise? In paradise, everything is invariably good and there are no goals to achieve. Paradise is an infantile situation by definition, there is nothing for an adult to do in paradise. Having eaten the forbidden fruit and learnt what is good and what is bad, Adam and Eve were doomed to plan their actions on the basis of this understanding.

Distortions in this link of feedback sensitivity:

3А. Insensitivity to feedback. A person may have some ideas and act by ignoring reality, or trying to rearrange it to fit his ideas. A clinical case of this gives a picture of paranoia. The person cannot doubt the adequacy of his ideas, he does not check them with reality, or the checking of ideas with reality is constructed in such a way that all signals of reality are interpreted as confirming delusions. But in life there are enough non-clinical, milder variants of the same syndrome. To measure this important characteristic of personality, we developed a technique for diagnosing sensitivity to feedback [13].

3Б. *Hypersensitivity to feedback*. Anxious worry about what others will say, trying to satisfy everyone, responding to everything. Unfortunately, it is impossible to please everyone. Recall the wonderful artistic image of the Martian in R. Bradbury's The Martian. This is a creature that took the form of all those whom the people around him wanted to see in him. Someone saw in him an old acquaintance, someone saw a dead child, someone saw a departed beloved, and he was endlessly transformed from one image to another, and when he appeared on the square, where all these people gathered together, he died, being unable to correspond simultaneously to all representations and all projections. This is an image of hypersensitivity to feedback, to what others see. So, sensitivity to feedback is a constructive property, but up to a certain point.

Enuresis, urinary incontinence, is one good illustration of the role of feedback and its disruption. The regulation of urination is a completely self-regulating process: a certain sensory stimulation, filling of the bladder leads to the need to empty it. In humans, it is more complicated. We learn control over these processes during our early development. We have to perform a more complex chain of actions in order to perform a necessary action — to get up, go to a special place and perform special actions in it. The nature of the process itself does not change fundamentally in an adult educated person. Only some ability to postpone, to control impulses appears. And immediate reactions turn into delayed, stretched in time.

A colleague of mine, Grigory Shapirstein, who once worked in a regional psychiatric hospital, developed a very effective and simple technique for treating bedwetting (personal communication, 1988). He relied on A.N. Leontiev's classic experiments on the genesis of sensitivity [6], in which sensitivity to light on the fingers of the hand was experimentally formed, to illustrate the hypothesis of the origin of sensitivity in the process of evolution. Shapirstein suggested that the problem of enuresis was that the natural sensitivity of the urethral sphincter to its condition was absent or impaired. He constructed a method of restoring sensitivity to the state of the sphincter according to the same scheme by which A.N. Leontiev formed sensitivity to light on the fingers of his hand. This technique proved to be very effective. People suffering from enuresis quickly got rid of their annoying symptoms, because they formed the sensitivity that was disturbed. Here, initially, just that link of self-regulation, which is connected with receiving feedback on the current state of the process, was disturbed.

4. A mechanism for comparing feedback with criteria of what we want. We have to determine how the reality we perceive corresponds to what we want, how the intended and the actual relate to each other. It is in this link that we learn about our mistakes. Only through mistakes and through working on mistakes can we learn something, come to something. In a sense, all of life is a work on mistakes. Human being is imperfect. But we are able to move towards narrowing the gap between what we get and what we want. This movement is endless. The most important thing is whether we are moving toward decreasing that gap, or increasing it. We cannot determine whether we are far away from the goal, we can only determine the vector, whether we are moving in the right direction or not. In his time S. Kierkegaard [5] formulated the idea that health is not always good, and illness is not always bad. Everything depends on what trajectory we are on. Kierkegaard said that there is health to life and health to death, and there is sickness to

life and sickness to death. In other words, there is illness whose trajectory leads to recovery, and there is health whose trajectory leads to death. This condition in itself sets the stage for its own negation. Sickness to life is much better than health to death. Examples of sickness to life are high fever, which doctors do not recommend to bring down, because it is important for recovery. Another similar example is stress, the mobilization of the whole organism when it is faced with challenges that it cannot simply cope with.

In order to reduce the discrepancy between what we want and what we achieve, sometimes we need to change the goal, disengaging from the original one. If we see that we have done everything right, but the goal is not getting closer, in some cases the most appropriate thing to do is to disengage from the goal or "rearrange the route".

The main distortion in this link is *blindness to mistakes, or, more precisely, unwillingness to recognize them and desire to hide them* (4A). Failure to recognize mistakes leads to their accumulation. A person does not want to recognize his/her mistakes, believing that he/she did everything right, because he/she cannot be wrong. In order to hide the mistakes already made, it is necessary to take new actions, which will lead to the buildup of problems. An illustration of this is a short story by G.K.Chesterton from the series of stories about Father Brown. The plot of this novella is about solving a crime that took place many years ago. A high-ranking officer killed his wife's lover, and to cover up the crime, the next morning he sent a regiment into a hopeless attack and laid down an entire regiment so that the corpse of the lover would end up buried among the corpses of other officers. If you want to hide a leaf, says Chesterton's character, where do you hide it? In the woods. And if you must hide a dead leaf, you must hide it in a dead forest. And a dead body among dead bodies. This is the trajectory that leads to an increase in the gravity of error and an increase in the distance between the ought and the real.

The same plot is revealed in A. Popogrebsky's award-winning movie "How I Spent This Summer". It shows a somewhat similar situation. The film is about the failure of normal autoregulation, departure from the normal trajectory and then restoration of this trajectory. One of the characters, who is supposed to be taking instrument readings at a polar weather station, oversleeps, makes a mistake. He is uncomfortable and tries to cover up this mistake. It starts with falsifying instrument readings, sucked out of his finger, ends with an attempted murder of his partner, so that the original mistakes would not surface. But at some point this trajectory reverses and the character is back on a normal trajectory.

Another possible violation of auto: *lack of correlation of feedback with target criteria* (4B). In this case, a person's actions are random, impulsive, they cannot be evaluated as right or wrong even from the point of view of the person him/herself. A chaotic, Brownian movement arises. I know what I am doing, but I do not know about any action whether it is good or bad. An illustration of this is the tendency in American culture that emerged at one time (largely with Dr Spock's easy hand) towards a permissive type of child-rearing, a pedagogy of permissiveness — children should be allowed everything, children should only be loved, etc. Evaluations and criticism are considered inadmissible. But any evaluation and criticism, for example, school and university marks, have two functions, two sides — the motivational, regulating side and the informational side. The statement about the harmfulness of marks is half the truth. As an external motivation they are indeed harmful, they replace, undermine the internal motivation [24]. But they are not only a motivation, but at the same time they have a feedback function. And if they are removed, a person ceases to orientate himself, whether what they have done is good or bad, whether it brings them closer to the goal or not. In the absence of such feedback they will not be able to improve, develop their actions, because feedback is a necessary prerequisite for development. That is why the model of permissiveness pedagogy failed and led to discouraging consequences, because, on the one hand, children brought up in such an atmosphere felt good, were satisfied with life and happy, but on the other hand, they grew up completely helpless in an unstructured environment. As a result, a person loses his/her bearings in the world, cannot move from the worst to the best. He loses the distinction of good and evil, as it was originally in the Garden of Eden. If we create a paradise for a mortal human being, they will not be responsible for their own life and will not recognize good and evil, distinguish one from the other.

5. The last link is the transformation of perceptions of this deviation into corrective impulses. Can one correct one's actions, rearrange one's route, if one sees that the route does not lead one to the goal, that something goes wrong. We can speak about two most typical and characteristic variants of reactions. Either one makes changes and triess to move towards the goal again, taking a different route, or one falls into despair and passivity, convinced that everything is bad. In the latter case, the inflow of information is normal, but at the same time the organism is unable to implement the appropriate controlling influence and change what needs to be changed, to correct the course of the process in accordance with Karl Marx's famous thesis that the heart of the matter is not to explain the world, but rather to change it.

A very interesting problem concerning various aspects of autoregulation is the way people respond to failure. There is no great variation in our attitude to successes, but the attitude to failures reveals the widest range of possible reactions, from complete self-deprecation, despair to a fairly calm, normal attitude. Failures are a valuable resource for development, just like problems [12], provided that the image of the self and self-esteem are not rigidly tied to the fact of successes and failures. If a child is brought up in the consciousness that he/she is obliged to do everything perfectly, best of all, and any failure is a tragedy, a fault, or a sin and deserves punishment, — this is an extremely unhealthy situation. In the outline of the existential theory of personality of S. Kobasa and S. Maddi make a separate point of the proposition that the experience of failure stimulates self-determined development. This, however, applies only to those people who have managed to acquire in their early development a sense of their own value and consider themselves capable of setting goals and achieving them. For people with a less successful early start, the experience of failure may have a less favorable effect [20, p. 257].

Two polar variations in attitudes towards mistakes and failures.

5*А. Self-aggrandisement, denial of the very possibility of mistakes: "I never make mistakes".*

5Б. *Self-deprecation as a consequence of any mistake made. "I made a mistake, so I am a hopeless loser and will never achieve anything".* The last type of autoregulation disorders is best illustrated in psychology by the phenomenon of "learned helplessness" discovered in the 1970s by Martin Seligman and confirmed in animals and humans. Learned helplessness is a distortion of the executive link, the last link of autoregulation, although there are no abnormalities in the evaluation of the situation, what happens is evaluated and perceived quite adequately.

Both of these deviant variants are based on one common premise, namely that an error is a defect of the system, a symptom of inferiority, so there should be no errors. This is a false premise. There is no life without errors, all life is work on errors. All development is carried out only through mistakes and their correction, and only through this we move towards some positive results. It is enough to turn to the biography of any outstanding scientist, inventor, writer, artist. Each of them had a lot of rejected, dead-end options before they came to the right solutions. That is how life works.

A normal and healthy attitude to failures and mistakes can have a person who was loved in childhood, not for the successes achieved, but just for themselves, and who has developed a positive self-esteem, a positive perception of themselves, regardless of the specific results of actions, an inner point of support. This is an important prerequisite for a calm, constructive, healthy attitude to mistakes and the ability to turn mistakes into developmental resources.

Conclusion

This article aimed to reveal the general explanatory principle of autroregulation of activity in the context of the "functional paradigm" at the level of specific executive mechanisms that implement the principle of autoregulation of activity in various links of this holistic process. The proposed model reveals the explanatory possibilities of cultural-historical activity psychology in the light of modern challenges facing a changing personality in the changing world (A.G. Asmolov). Special attention is paid to distortions in different links of aurtoregulation, their systematization, which allows us to approach the targets of psychological assessment of both successful and disturbed self-regulation and thereby fulfill the task of developing a methodology of complex assessment of personality potential.

In other words, the above general scheme reveals specific mechanisms of how we can live well and how we can live badly. Successful autoregulation allows maximizing the use of available and building up missing resources of the personality for successful achievement of goals and preservation of personality stability in different domains of life activity. Disturbed self-regulation leads to problems in preserving stability and achieving goals even with enough resources. Our life by and large is what we want, what we strive for. A person does not always choose what they want, but they always do what they choose [14]. We make our own choices. Some of them are more controlled by ourselves, some less controlled for various reasons. If we come to results that do not satisfy us, then perhaps we should take more control over the choices we make.

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CONCEPTUAL FRAMEWORK
ОСНОВНЫЕ ПОНЯТИЯ

The Concept of Ingrowing in the Theory of Development of Higher Psychological Functions

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The author examines the concept of ingrowing in Lev Vygotsky's cultural-historical psychology. The theoretical significance of his metaphors of ingrowing and gardening, and the connection between the terms "ingrowing" and "interiorisation" are revealed. The plain criterion for evaluating the success of ingrowing higher psychological functions is found in the development of verbal thinking. By analysing the concepts of interpsychic and intrapsychic function, the author shows how Vygotsky understands the process of transformation of one function into another: (i) types of ingrowing and (ii) the nature of changes in the structure of higher psychological functions during the transition of interpsychic forms of behaviour into the child's consciousness. The controversy between Vygotsky and Aleksei Leontiev on the ingrowing of word meanings is discussed. Special attention is paid to the ingrowing scientific concepts at school age. The epilogue briefly outlines the fate of the concepts of ingrowing and interiorisation in Russian cultural-historical psychology.

Keywords: ingrowing, interiorisation, higher psychological function, sign and meaning, verbal thinking, scientific concept, spontaneous concept, learning and development.

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Понятие вращивания в теории развития высших психологических функций

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В статье обсуждается понятие вращивания в культурно-исторической психологии Л.С. Выготского. Выясняется теоретический смысл метафор вращивания и сада, связь терминов «вращивание» и «интериоризация». Ближайший критерий оценки успешности вращивания высших психологических функций усматривается в развитии речевого мышления. Анализируя понятия интерпсихической и интрапсихической функции, автор показывает, как у Л.С. Выготского понимается процесс трансформации одних функций в другие: типы вращивания и характер изменения структуры высших психологических функций при переходе интерпсихических форм поведения внутрь сознания ребенка. Обсуждается полемика Л.С. Выготского и А.Н. Леонтьева о «внутреннем вращивании» значений слов. Особое внимание в статье уделяется вращиванию научных понятий в школьном возрасте. В эпилоге кратко обрисовывается судьба понятий вращивания и интериоризации в отечественной психологии.

Ключевые слова: вращивание, интериоризация, высшая психологическая функция, знак и значение, речевое мышление, научное понятие, спонтанное понятие, обучение и развитие.

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I

The term "ingrowing" (*vrashchivanie*) appeared in Vygotsky's article "The Problem of Cultural Development of the Child" (1928), when he first presented his theory of the development of higher psychological functions. "Ingrowing" refers to the last of the four stages or phases of the cultural development of each of these functions and to the "psychogenesis of cultural forms of behaviour" in general. At this stage, the methods of the child's external activity "as if ingrow and become internal" [10, p. 70].

For example, children, like the monkeys in Wolfgang K hler's experiments, initially perform operations using tools in a natural "visual field". Very soon they learn to solve them "interpsychically", by social means — with the help of gestures and speech, in cooperation with adults. And finally, ingrowing allows them to perform instrumental (and any sign) operations independently, in the internal "semantic field" of consciousness.

In the process of the child's cultural development, ingrowing is preceded by the stages of (i) "primitive psychology", (ii) "naive psychology", and (iii) "external cultural method". For our purposes it is not necessary to consider the whole cycle of psychogenesis. Suffice it to note that for Vygotsky ingrowing is the final phase of the cultural development of the child's psyche, as well as of any psychological function considered in itself.

In the course of his experiments, Vygotsky discovers several types of ingrowing, among which he identifies three "principal" types.

The first type, *"ingrowth of the entire stimulus"*, is illustrated by remembering a picture associated with its verbal name. The memory image then replaces the physical picture. This method is commonly used by young children to learn the alphabet, and it also works successfully for adults learning foreign languages.

In the second method, called *"ingrowing of the seam type"*, the external stimulus, on the contrary, is removed from the operation once it has completed its transition inward. The operation is then performed automatically, without the aid of auxiliary signs. An illustration of this is the "complex choice reaction" as described by Alfred Lehmann (the author of the three-volume *Psychodynamics*). The transition from counting on the fingers to counting in the mind, when the child no longer needs the fingers, can serve as another example. It looks like a return to the initial, natural stage: in appearance the operation becomes immediate again.

The third and most valuable type is the *assimilation of the very structure* of an external operation [10, p. 71]. In this case, an "internal scheme" is formed, in which various memory images, representations and knowledge take the place of the external stimulus, making it possible not only to act according to the same scheme in all situations of the similar type, but also to *develop the operation itself* by improving the internal "stimuli-means".

In this way, the experimental study of ingrowing memory functions led Vygotsky to conclude that "the ingrowing of the structural type occurs at this point when the method itself, the operation itself, is developing, and the prolifically developed internal experience constitutes a ready and varied system of so-called representations, or trace stimuli, that may be used as signs" [3, p. 250].

The three types of ingrowing are discussed in more detail in Chapter Five of *The History of the Development of Higher Mental Functions*. Around the same time, Vygotsky begins to study the formation of internal speech, which is addressed to oneself, silent and abbreviated. It is formed by ingrowing external, social speech, or "speech for others". The paths of thought and speech crossed in the previous, third stage of cultural development, but it is only in the course of ingrowing that *synthesis* takes place and a new higher psychological function — verbal thinking — emerges. The process of the ingrowth of thinking through the word in the child's consciousness is traced by Vygotsky in his studies of egocentric speech. It is on the basis of inner speech that an individual inner world is formed in adolescence.

II

There can be no doubt that when Vygotsky spoke of "ingrowing", he had "interiorisation" in mind. He himself links the two terms directly: "We call this withdrawal of the operation inwards, this interiorisation of higher mental functions, connected with new changes in their structure, the processes of ingrowing" [8, p. 71].

Ingrowing, then, is a *specific kind* of interiorisation. It is characterised by a *change in the structure* of higher psychological functions due to their withdrawal inwards: from the field of joint activity, collaboration — to the field of individual consciousness. The methods and sign

means of the child's "social collective activity" grow into his psyche, and the "interpsychic" functions turn into "intrapsychic" ones, as required by the "general genetic law of cultural development".

The interpsychic function is externally divided between two or more subjects and is carried out by them jointly, in cooperation.

The intrapsychic function is performed by only one subject, in the field of his individual consciousness, but the subject himself is bifurcated: he enters into a silent dialogue with the "other(s)" within himself or commands himself on behalf of the "other" (will).

The nature of both functions is social, but if in the first case the social character of the function is out in the open, in the second case it is hidden inside consciousness: the collective appears here in the form of its opposite — the individual. It is the *individualisation* of higher psychological functions that is "the main road of child development", as Vygotsky argues in his polemic with Jean Piaget [7, p. 282]. A similar process of individualisation of the higher psyche, on the basis of "inner sociality", takes place in phylogenesis.

The most obvious indicator of psychological development is the degree of individualisation of verbal thought, especially written speech[1]. It shows how deeply thinking and speaking have *grown inside* human consciousness, how freely a person has managed to master these functions, to subordinate them to his or her own will. For the gardener of children's souls, the teacher, this is the closest criterion for judging the *success of ingrowing* psychological functions.

It should be added that in the infant individual psychic activity (with all its perceptual actions and sensorimotor schemes) is always one of the sides of interpsychic activity. Vygotsky described the consciousness of the infant with the German term *Ur-wir*, "primal we". Along with affective impulses and external stimuli, the consciousness and will of the *people around* the infant plus various *cultural objects* invisibly participate in the actions of infant consciousness.

Interpsychic sociality is often overlooked, even by eminent researchers such as Piaget. Scientists project the 'autism' of *their theories* onto children's mind. Cutting a child's thinking out of the social fabric can only be done artificially, with the razor of abstraction. As a result, the possibility of understanding the *course of psychological development* is lost — for the simple reason that its course (including perceptual and sensorimotor development) in the infant is organised and corrected at every turn by other people with their higher psychological functions.

How exactly the structure of higher psychological functions changes during the transition of interpsychic forms of behaviour inwards is described in the work *Tool and Sign* (written not earlier than 1930). Experimentally, Vygotsky discovers three typological moments of transformation of children's psyche: "1) the substitution of functions, 2) the alteration of natural functions (or of the elementary processes forming a basis for the higher function and constituting a part of it) and 3) the appearance of new psychological functional systems (or systemic functions), which assume the role in the general structure of behaviour that was previously performed by particular functions" [8, p. 15].

These three points are illustrated by examples of the changes that occur with ingrowing higher (mediated by cultural signs) memory functions. Referring to Aleksei Leontiev's experiments and the "parallelogram of the development", Vygotsky shows the mechanics and dynamics of the formation of "a new intrapsychological layer, of the birth of a new psychological system, incomparably higher in composition and cultural-psychological in genesis" [8, p. 73].

There is a simplification, a sharp decrease in the level of social forms of behaviour at the beginning of their ingrowing and transformation into intrapsychic operations. This is not surprising, since direct cooperation with the adult has ceased, and the adult's internal 'double' has not yet had time to develop. Moreover, the psychological system into which the new functions are incorporated is still quite primitive; its structure and operating principles are much simpler than those of the cultural environment from which these higher functions came. This is why, for example, the child's egocentric speech is poorer and lower in comparison with his social speech (but *thinking*, supported by egocentric speech, rises to a new level).

Many interpsychic functions never go completely inward, they get stuck halfway through their development, remaining in the captivity of visual perception and external action. The decisive role in freeing them from this captivity and in the "emancipation of the individual sphere" belongs to the *word*, Vygotsky argues. Speech is inherently analytical, perception holistic. When the word enters the visual field, it destroys the immediate integrity of the structures of perception and action and "deforms impressions" [8, p. 17]. In aphasics, full-fledged ingrowing of higher functions is impossible..

III

"Ingrowing" is a metaphor based on the analogy between the development of cultivated plants and higher psychological functions. The Russian word *vrashchivanie* implies an *artificial, purposeful* human influence

[1] "Written speech is the *algebra* of speech and the most difficult form of complex volitional activity" [2017, p. 357].

on plant organics and natural growth processes. It is not an evolutionary metamorphosis of flowers or trees, but a grafting of cultural means and activity patterns (scion) onto the natural psyche of the child (stock), just as a gardener or scientist-breeder does.

A special study of the 'plant' analogy is made in a recent article by Michael Cole and Natalia Gajdamaschko, "Re-visiting Vygotsky's concept of *vrashchivanie* (ingrowing): A focus on metaphors" [21]. Drawing on "the millennia's-old practice of thinking of development in terms of gardens", the authors comment wittily on Vygotsky's famous arguments about the role of the gardener and teacher in a "true developmental diagnosis".

Vygotsky liked to explain his concept of *zone of proximal development* using the example of a gardener's work. When diagnosing the state of a garden, it is necessary to determine the prospects for its development, taking into account not only the mature trees but also those that have just begun to grow. In the same way, the psychologist should act in the kindergarten and the school, where he first ingrows and then cultivates 'seedlings' of higher psychological functions.

As we can see, garden metaphors accompany the key concepts of Vygotsky's theory. Following his line of thought, Cole and Gajdamaschko reflect on the social determinants (as "equivalents of fertilizer") of a child's development. They interpret this development as a "historically conditioned biological process", in Vygotsky's terms.

It should be clarified, however, that the passage quoted by the authors refers to *organic development* and not to the development of higher psychological functions: "Since organic development takes place in a cultural environment, so it becomes a historically conditioned biological process" [3, p. 22]. Vygotsky never said anything similar about the *development of the higher psyche*. This is one hundred per cent historical and specifically cultural process, not in any way organic. The lower — biological, chemical and physical — processes form its material preconditions, nothing more. Some of these preconditions are absolutely necessary (for example, the normal functioning of the nervous system, speech and thinking in their "natural forms"), others contribute to the development of certain higher functions, others more often interfere with them, and others are indifferent.

This is all the more true of the highest stage of psychological development, the ingrowing process. "The fourth stage is the environment in us, *culture that has been absorbed*, language that has become thinking, *history within psychology*." [2, p. 157; italics ours]. Ingrowing is a purely cultural, socio-historical process of individual mastery of the means and techniques of "social collective activity". Although, of course, such absorption of culture is impossible without a whole series of natural conditions that develop as the body's organics (brain, musculoskeletal apparatus and all the rest) mature.

The dialectic of "the fusion of two developmental plans — natural and cultural", which Vygotsky writes about, characterises, in his own words, "the ingrowth of a normal child into civilisation" [3, pp. 32—32]. This raises the question of how do these two processes — the ingrowing (*vrashchivanie*) of cultural forms of activity and the ingrowth (*vrastanie*) of the child himself into the social environment — are related.

The formation of higher psychological functions (including the ingrowing phase) is a *cultural-historical component* of the process of the "ingrowth into civilisation". This very component — just one, but the *highest* plan of development — becomes the subject of study in Vygotsky's cultural-historical psychology. In those days, "organic development in a cultural environment" was the subject of another science, pedology (in which Vygotsky also did a great deal of work).

While stating the indisputable fact of merging, of the "convergence of natural and cultural lines in the development of a normal child", in no case should we forget about their *genetic difference*. We have before us not equal lines, but *lower and higher* "developmental plans". This difference determines the nature of the fusion processes, and Vygotsky sees it as the cornerstone of cultural-historical *pedagogy*.

"Differentiating the two plans of development in behaviour — the natural and the cultural — is the point of departure for the new theory of upbringing. The second point is even more important, more essential. It introduces the dialectical approach to child development into the problem of upbringing" [3, p. 294].

The second point is even more important and essential already because the modes of behaviour and psychological functions historically developed by human beings are higher, while all those given to us by nature are lower. If we forget for even a moment about the genetic difference between lower and higher functions or regard them as equal sides of development, the *dialectic* of the cultural and the organic immediately turns into a banal 'biosocial' *dualism*. And no correct phrases about the mutual penetration and dialectical interrelation of culture and nature can save us from this dualism...

What exactly is the "dialectical approach to development" that Vygotsky writes about? In dialectics, development from the lowest to the highest is characterised by the category of "sublation" (*Aufhebung*). Understood dialectically, not dualistically, the fusion of the natural and the cultural is precisely the sublation of the former by the latter. And the ingrowing of cultural forms of behaviour into the organics and 'elementary' psyche of the child is nothing other than the *sublation of the natural into the cultural*. The same happens, incidentally, in the process of breeding garden varieties of plants.

Vygotsky explains the meaning of the German verb *aufheben* (to preserve / to bury) in relation to the development of a mentally retarded child. "When it is said

'to bury' about an organic regularity, it does not mean that it has ceased to exist, but has the meaning that it is somewhere preserved, that it exists somewhere in the background..." [5, p. 118]. For Vygotsky, *cultural* regularity is always and everywhere in the foreground.

IV

Over the years, the term "ingrowing" appears less and less frequently in Vygotsky's works and notebooks. In the transcripts of the Leningrad lectures on psychology (1932) and pedology (1933—1934), the term is completely absent. In *Thinking and Speech* (1934) it appears only once in Chapter IV, "Genetic Roots of Thinking and Speech", which is an abridged version of his 1929 article [1].

However, it would be premature to draw far-reaching conclusions from this fact. In Chapter XI of *Pedology of the Adolescent* (1931) we find a new study of ingrowing, with a discussion of Leontiev's experiments on "the development of mediated attention at different ages" (including adults). Vygotsky first spoke here of the *law of ingrowing*[2].

"The initial stage in the development of any higher function is the stage of external operation accomplished through external means. Then, gradually, this operation is so mastered by the child, so firmly incorporated into the circle of the basic operations of his behaviour, so grown into the general structure of his thought, that it necessarily loses its external character, passes from the outside to the inside, and begins to be carried out chiefly by internal means. This process of transition of the operation from outside inward we call the law of ingrowing" [9, p. 375].

In an even later note on the back of a typographical card[3], Vygotsky distinguishes between *external and internal ingrowing* — of sign and meaning, respectively. Since there is no sign without meaning, we must assume that he is talking about *two phases* of ingrowing of the sign operation. Vygotsky may have reinterpreted his earlier typology in this way: ingrowth of the entire sign undoubtedly belongs to the external phase of the process, while the ingrowing of the seam type and the assimilation of the structure of an operation open the internal phase, since in both cases the meaning loses its direct dependence on the 'native' sign and begins an autonomous life.

The distinction between internal and external ingrowing is made by Vygotsky when discussing the topic of "the development of scientific and spontaneous concepts". The last part of his report of 12 October 1933 [see 19, p. 25], Chapter VI of *Thinking and Speech* and the experimental study of Josephina Shif [20], began in 1932 under Vygotsky's direction, are devoted to the same subject. The genesis of children's concepts was also studied by Aleksei Leontiev.

"*AN* [Leontiev]. The concepts mastered at school have their destiny... *The run inward*. The strength and weakness of the spontaneous and scientific concepts are *different*. Once the scientific concepts run their path downward, they become *spontaneous*[4]. *The problem* of internal ingrowing (of the *meaning*) analogous with the external ingrowing (of the *sign*)" [2, p. 414].

Vygotsky tries to convince Leontiev that it is time to move from the study of the ingrowing of *signs* into consciousness to a new, more complex problem — the metamorphosis of word *meanings* within consciousness (internal ingrowing). Leontiev, for his part, regards such a turn as "word-centrism of the system", fraught with the loss of "the actual relations of man to the world". He calls for "finding *in the way of life of a person* the key to his consciousness in order to connect life with consciousness" [19, p. 23—25, 38].

Vygotsky recognises the importance of this task, but it seems to him to be only the ground floor of the theory of consciousness. The connection between life and consciousness is two-sided: consciousness not only reflects and expresses life, but also *changes* it. The vital task of consciousness is to *transform the life* from which it is born: "The direct movement (from life to consciousness) is only important to the extent that it allows us to understand the *reverse movement* from consciousness to life (consciousness changes life), the dependency of life from consciousness" [2, p. 413—414].

Both the direct and reverse connection of life with consciousness are mediated by *cultural meanings* of things, actions, words. "Meaning changes consciousness, consciousness changes life. *The reverse movement from consciousness to life*. Spinoza" [2, p. 413]. The doctrine of how exactly consciousness changes life, Vygotsky called "height psychology".

What is life from the point of view of scientific psychology? Vygotsky found the answer to this question in Spinoza: to live is to act for the sake of self-preservation,

[2] Vygotsky liked to give students key theoretical statements (including those taken from other authors) in the form of "laws", and the laws varied from lecture to lecture. In the sixth chapter of Thinking and Speech we find the "law of the zone of proximal development", which was not mentioned in the lectures. In conjunction with a couple of other laws, Vygotsky contrasts it with the "law of shift, or displacement" in child development, which "Piaget had recently updated and thrown into the game as his last card" [1934, p. 335].

[3] This note was written at the earliest in 1933, most probably in October, after a fierce intellectual battle with Leontiev (Moscow, 12.10.1933).

[4] It is suggested to introduce a child into the world of science before school — through play: "Play is an irreplaceable way to cover the preschool part of speech and scientific development (to descend via play)" [2017, c. 529]. In play, scientific concepts are converted into the lower, everyday concepts. Such "descending" greatly facilitates the ingrowing of terms and methods of scientific thinking and, more importantly, creates a zone of proximal development for preschool thinking.

and psychic life is a *stream of affects* that arise in the process of such action and that in turn affect the body's capacity to act (*agendi potentia*). Man, the "thinking thing", is capable of consciously changing his life by controlling the stream of affects with the help of the concepts of intellect[5]. In short, this is "the power of the intellect or human freedom" (the title of the last, fifth part of the *Ethics*).

The ingrowing of higher forms of thinking — scientific methods and concepts — usually begins at school age. By studying science, the child acquires the tools to change life through consciousness. Moreover, the very process of ingrowing scientific concepts changes the interrelationship of psychological functions, the "order and connection of affects"[6] and his entire mindset. Hence the late Vygotsky's interest in the "destiny of concepts" in the development of verbal thinking and the child's psyche in general.

Scientific concepts usually ingrow not through object-oriented practical activity, in which "*things* process the child's mind" (Vygotsky), but through the *verbal* processing of the mind[7]. It begins with the assimilation of the *meaning* of a term. Vygotsky expects to solve the problem of the "internal ingrowing" of meanings by the method of "semic analysis", which he sees as "an analogue of the method of double stimulation" of the external ingrowing (of the sign).

The previous understanding of the ingrowing process is severely (self-)criticised. "We were engaged in the external analysis of the sign operation. We must take up the internal analysis of this function. The semic analysis is this internal analysis of sign use... Now we are interested in going inward, [into] the intra-atomic structure of the word, because *ingrowing cannot be understood from repetition* but *from* internal mediation. How did we understand it? As a representation of the word. This is wrong. In the psychological sense, meaning is the internal structure of the sign operation. The sign mediates through meaning. We have studied it in terms of behaviour, [now] it is necessary to study it in terms of consciousness" [2, p. 306].

Internal mediation as a "path from thought to word" (through meaning) is described in the seventh chapter of *Thinking and Speech*. In parallel, Vygotsky comprehends the reverse path — from word to thought (namely, scientific concept) — that school-age children take. The problem of internal ingrowing is intertwined here with the problem of the influence of teaching on development.

School education introduces the child into the world of scientific concepts through the meanings of words, terms, through the language of science. The ingrowing of meanings, "the run inward", opens up the possibility of developing scientific thinking, i.e. real mastery of scientific concepts. "When teaching according to the programme had ended, development began. When the child had mastered the meaning of the word at school, development just began" [2, p. 414].

By learning new meanings of words, scientific terminology, the way to mastering scientific concepts begins for the child. Semantic neoformations from the field of science not only enrich his language, but also change the whole structure of consciousness. The immersion of the child's thinking in scientific terminology, the ingrowing of its sophisticated and unfamiliar meanings into consciousness, requires considerable effort and triggers psychological functions and processes of a different order from those that take place in the world of everyday or spontaneous concepts. *Awareness* of one's own thinking arises and *mastery* of concepts begins through understanding the system of their logical connections.

"Scientific concepts with their completely different relation to the object, mediated through other concepts with their internal hierarchical system of relations among themselves, are the area in which the awareness of concepts, i.e. their generalisation and mastery of them, apparently arise first of all" [7, p. 194].

Thus, school education, by *teaching* the child to think in the system of scientific concepts, stimulates the *development* of thinking at its highest cultural level. The decisive role in this process is played by collaboration with the teacher — the imitation of the thinking operations that the latter has demonstrated in the process of "teaching according to the programme". The end of *teaching* turns into the beginning of *development* when the child starts to solve a problem *on his own* according to the pattern learned during teaching. In this case, the "moment of co-operation" with the teacher does not disappear, but only goes inside, grows in together with the concept, and is "invisibly present" in all subsequent operations of this type [7, p. 227].

Epilogue

Finally, let us say a few words about the fate of the concept of ingrowing after Vygotsky. As is generally believed, this concept was further developed in the 'activity' branch of cultural-historical psychology — only the term was changed: for some reason, the Russian *vrashchivanie* did not take root and was replaced by the foreign *interiorisation*.

Among Vygotsky's students, only Aleksei Leontiev seems to have used the term "ingrowing", and he soon

[5] The theatre teaches us how to do this. The director and actors consciously and purposefully play with the affects, their own and the audience's, artificially inducing the desired emotions. Vygotsky was, as is well known, a fervent theatre-goer.

[6] "To study the order and connection of affects is the principal task of scientific psychology", Vygotsky declares in his last theatre article [1936, c. 211].

[7] Hence the "verbalism" of scientific concepts, in which Vygotsky sees their weakness in comparison with spontaneous concepts.

parted with it, warning in his scientific autobiography that "ingrowing in *The Development of Memory* is interiorisation" [16, p. 38]. At the same time Leontiev accepts Piaget's definition: interiorisation is "a transition 'leading from the sensorimotor plan to thought'" [17, p. 75].

Compare this with Leontiev's interpretation of ingrowing from the time of his work with Vygotsky: "There occurs what we conventionally designate as the process of 'ingrowing' of an external means: an external sign turns into an internal sign. This is how the highest forms of human behaviour develop — mediated, *sign-based* behaviour" [18, p. 176]. Not much in common with Piaget's definition of interiorisation, is it?

Almost all psychologists, including critics of the concept of interiorisation such as Sergei Rubinstein, equate ingrowing and interiorisation.

With Vygotsky's departure, not only the term "ingrowing" but also the whole theory of "psychogenesis of cultural forms of behaviour" became history. Since then, only historians of science have remembered the typology of ingrowing and the three phases preceding it. There is nothing to say about fruitful research work in this system of coordinates. Activity psychology took into its arsenal the principle of "transition of higher psychological functions inward" (renaming the functions as "mental"), but almost all the specific content of the concept of ingrowing, obtained by Vygotsky's efforts, evaporated.

The work has not stopped, though. Activity theory of interiorisation has advanced beyond Vygotsky in at least two key points.

1. Piotr Galperin clarified the route along which *scientific concepts* make their "run inward" and developed a methodology for the formation of "mental actions with pre-established properties". (The further fate of concepts in children's consciousness and the development of the relationship between concepts and affects was not investigated by Galperin or anyone else. Semic processes — metamorphosis of verbal meanings in consciousness, internal ingrowing — also remained terra incognita.)

2. In the Zagorsk experiment with deaf-blind children, Aleksander Meshcheryakov and Evald Ilyenkov showed how *everyday concepts* and primary forms of cultural behaviour are internalised in the process of joint/shared object-oriented activity *(sovmestno-razdelennaya predmetnaya deyatel'nost')*. Vygotsky did not study this basic stage of cultural genesis (although he was familiar with the method of "initial humanisation" of deaf-blind children developed by Ivan Sokoliansky).

The main line of evolution of the concept of interiorisation was its expansion into the field of the lower psyche and sensorimotor actions. In Galperin, interiorisation is "the transformation of a non-psychic phenomenon into a psychic one", which also occurs in "wordless creatures" [12, p. 248]. Aleksander Zaporozhets extended the concept of interiorisation to perceptual processes that are not mediated by signs and proclaimed the "refusal to oppose natural and cultural functions" [13, p. 16].

Later, the very metamorphosis occurred with interiorisation, which Vygotsky caustically characterised: "When God created the world he said: let there be Gestalt — and there was Gestalt everywhere" [4, p. 307—308]. Similarly, the concept of interiorisation "dried up into a logical formula" and "turned into a metaphysical principle". Vygotsky's term "ingrowing" described only one, the final stage of development of higher psychological functions; "interiorisation" now describes almost any transformation of the external into the internal, of the objective into the mental.

Such a radical expansion of the scope of the concept of interiorisation brings it closer to the philosophical category of deobjectification (a calque of the German *Entgegenst ndlichung*). "It is the beautiful term — why [do we need] interiorisation?" asked Ilyenkov rhetorically [15, p. 259]. Indeed, there is no need for it, if the term has lost its concrete-scientific meaning.

At the end of the century, Vladimir Zinchenko shared the hope that with a correct understanding of objective-oriented activity, "the concept of interiorisation will become redundant in theoretical psychology" [14, p. 13].

For Vygotsky, ingrowing is not just the interiorisation of means and methods of collective activity, but it is also the subordination of natural impulses and affects to the *higher, cultural, rational* goals of social life, and the *technology of mastering oneself*, one's own psychological functions of perception and memory, thinking and speech. Perhaps this is why Vygotsky invented the garden metaphor of "ingrowing" to replace the impersonal abstraction "interiorisation"? Cultural-historical psychology is the science of man's transformation of the natural wilds of his psyche into a *garden* of higher psychological functions. Each of these functions people have to grow into themselves and cultivate.

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Zone of Proximal Development: Evolution of the Concept

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The main idea of the article is to trace the development and use of the concept of zone of proximal development (ZPD) in the works of Russian psychologists since its introduction into the conceptual apparatus of cultural-historical psychology by L.S. Vygotsky. The article consists of three parts. The first is devoted to the definition of the concept of ZPD, in which the contradictions between the ideas of the author of the concept and the interpretations of it by other authors are analyzed. The "classical definition" of ZPD is supplemented by the ideas of L.S. Vygotsky, expressed by him in other works. The other two parts of the article are devoted to changes in the methodological functions of the concept at different stages of its development: from an explanatory principle to the subject of research, and from the subject of research to a methodological means for the construction of new research subjects and new practice-oriented technologies. The general trend is to expand the areas of application of the ZPD concept, to go beyond the initial tasks of explaining and theoretically justifying the special connection between learning and development, and beyond the problems of interaction between a child and an adult. Particular attention is paid to the helping activity of an adult (teacher, psychologist, parent, etc.): the main question is how to help in order to contribute to the development. It is shown that the concept of ZPD is now used in psychotherapy and practice of working with adults with developmental disorders, i.e. it becomes the link between education (learning), development and mental health.

Keywords: zone of proximal development (ZPD), L.S. Vygotsky, explanatory principle, subject of research, methodological tool, multi-vector model of ZPD, developmental learning, reflective-activity approach, education, development, mental health.

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Зона ближайшего развития: эволюция понятия

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Основной замысел статьи — проследить траекторию развития и использования понятия «зона ближайшего развития» (ЗБР) со времени его введения в концептуальный аппарат культурно-исторической психологии Л.С. Выготским по материалам работ отечественных психологов. Статья включает три раздела. Первый посвящен проблеме определения понятия ЗБР, в котором анализируются противоречия в представлениях самого автора понятия и трактовках понятия другими авторами. «Классическое определение» ЗБР дополняется идеями Л.С. Выготского, высказанными им в других работах. Два других раздела статьи посвящены изменениям методологических функций понятия на разных этапах его развития — от объяснительного принципа к предмету исследования и от предмета исследования к методологическому средству построения новых исследовательских предметов и новых практико-ориентированных технологий. Общая тенденция заключается в расширении областей применения понятия ЗБР, выходе использования понятия за рамки исходных задач объяснения и теоретического обоснования особой связи обучения и развития, за рамки проблем взаимодействия ребенка и взрослого. Особое внимание уделяется помогающей деятельности взрослого (учителя, психолога, родителя и др.): главный вопрос, как

помогать, чтобы помощь способствовала развитию. Показано, что понятие ЗБР начинает использоваться в психотерапии и практике работы со взрослыми людьми с нарушениями развития, т. е. оно становится связующим звеном между образованием (обучение), развитием и психическим здоровьем.

Ключевые слова: зона ближайшего развития (ЗБР), Л.С. Выготский, объяснительный принцип, предмет исследования, методологическое средство, многовекторная модель ЗБР, развивающее обучение, рефлексивно-деятельностный подход, образование, развитие, психическое здоровье.

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Introduction

In 2024, the centenary of cultural-historical psychology is commemorated. In 1924, Lev Vygotsky began his work in psychology, in 1934 he finished it, entering history as the founder of cultural-historical psychology, which is becoming more and more in demand year after year, and L. Vygotsky himself became one of the most cited psychologists in the world.

Among the ideas that form the backbone of cultural-historical psychology, the concept of the "zone of proximal development" (ZPD) occupies a special place. It is a link between the basic genetic law and the new understanding of development, in which learning plays a leading role. The ZPD concept is a bridge from theory to practice, in which L. Vygotsky saw the future of psychology. The problem of interaction between a child and an adult arises from the ZPD concept: how to build a cooperative relationship with a child and how to help a child in what he cannot do himself, so that this help contributes to his development.

It is now difficult to imagine how one can study a child's development and create conditions for it without the ZPD concept. However, the evolution of this concept is an amazing trajectory, and the most impressive thing is that the heuristic potential of the ZPD concept has begun to be revealed quite recently, and this is reflected in the rapid growth of the array of publications in which the ZPD concept is present as one of the key concepts in one way or another [26]. At the same time, the definition of the ZPD concept itself remains controversial, which was facilitated not only by L. Vygotsky himself, highlighting different semantic shades of the concept in different texts [17], but also by collisions of translations of his works into English, which somewhat distort the original meaning of the concept, which gives grounds, in particular, to N. Veresov to conclude that ZBR *(zona blizhayshego razvitiya)* and ZPD are not the same thing [3].

The idea of this article is to trace the evolution of the ZPD concept over ninety years (according to the works of Russian psychologists) from the moment of its appearance in the conceptual system of cultural-historical psychology, starting with the problem of defining the concept, followed by its acquisition of new methodological functions and the further gradual disclosure of its heuristic potential.

ZPD: the problem of defining the concept

In 1935, i.e. a year after L. Vygotsky's death, his associates published a collection of his publications for teachers [5]. The chapters on ZPD were prepared based on the transcript of L. Vygotsky's report at a meeting of the Department of Defectology of the Bubnov Pedagogical Institute on 23 December 1933, and the transcript of the report at a meeting of the Scientific and Methodological Council of the Leningrad Pedagogical Institute on 20 May 1933.

The publication defines the ZPD concept as the interval "between the level of the child's actual development, determined by the tasks solved by the child independently, and the level of the child's possible development, determined by the tasks solved by the child under the guidance of adults and in cooperation with his smarter comrades...." [5, p. 42]. This definition is usually considered "classical", i.e. expressing the main essence of the concept, its most important comprehension. In other, both earlier and later publications and reports of L. Vygotsky, there are indications that the ZPD concept allows for other, more complex interpretations.

L. Vygotsky himself considers this definition to be "conditional" [5]. In it, ZPD is associated, first, with the cognitive development of the child, i.e. with the development of his higher mental functions, speech, and the formation of scientific concepts. Because of the translation into English and the publication of this brochure (with significant abbreviations) in the most popular edition of Vygotsky's works in the western countries, "Mind and Society" (1978) [41], it was this definition that was taken as the basis by foreign psychologists. N. Veresov, conducting an analysis of the translation of Vygotsky's texts into English, criticizes them, pointing out that the translations, especially the first versions, omit important semantic nuances, which in fact distort the ZPD concept [3]. Thus, according to N. Veresov, due to inaccuracies in translation, the most important thing in the ZPD concept disappears — its connection with the basic genetic law and the idea of learning as a source of development.

Indeed, in this definition it is not so easy to grasp the line between learning and development. A child cannot do something independently but can do it with the help of an adult. During interaction with an adult, a child appropriates (internalizes) a shared experience, turns it into his own acquirement, increases his level of actual development, pushing the boundaries of ZPD even further. There is a question: where is the development here? If a child could not count, but learned to count, this is the acquisition of mathematical knowledge, skills, and abilities. This is an unconditional step in learning. But where is the development here? The vagueness of the distinction between "steps in learning" and "steps in development" in L. Vygotsky's works gives grounds for B. Meshcheryakov, who analyzed the relationship between the main concepts of cultural-historical psychology, to be critical of the various interpretations of ZPD. Analyzing the points of view on ZPD, he notes the tendency to reduce ZPD to a pedagogical meaning, i.e. interpret it as a "zone of proximal acquisition of knowledge," which "does not diminish its significance for the theory of development" [29].

In the article devoted to the analysis of the current state of cultural-historical psychology, it is noted that the "classical" definition of ZPD should be considered as a "working structure" created to convey to teachers and psychologists the importance of taking into account not only the level of the student's actual development, but also the level (zone) of his potential development [31]. It is precisely because the work is addressed to teachers (considering their own "zone of proximal development") that some simplification of the ZPD concept is possibly associated, focusing their attention only on the importance of what the child can do together with an adult, and "measuring the interval" between two levels of development in years. Such logic makes the importance of the ability to define and consider ZPD in their work clear and convincing for a teacher who is not very concerned with the problems of child development. However, this definition lacks at least four important semantic components of the concept that are present in the descriptions of the concept's comprehension given in other texts by L. Vygotsky himself, including in his speech on 23 March 1933, when he first formulated the ZPD concept [9][1].

The first element is that he points out that *the ZPD concept can be extended to the development of the whole personality*. This means that any aspect (vector) of cognitive and personal development can be considered through the ZPD concept. The second is that *the child's development occurs in cooperation (joint activity) with an adult* and depends on the help that the adult provides to the child. The third is that *ZPD has not one, but at least two boundaries*: one is between the ZPD and the area of actual development (what the child can do himself), the other is between the ZPD and the area in which the child cannot consciously (L. Vygotsky writes "intelligently", i.e. not simply "imitating") interact with an adult (what we later called the "zone of unattainable challenge" [15]). The fourth point is the famous statement by L. Vygotsky, which he cites in the book "Thinking and Speech", published in Russian in 1956 and translated into English in 1962, that learning not only leads to development, but under certain conditions "one step in learning can mean a hundred steps in development" [8, p.230], *i.e. development in the learning process can occur simultaneously in different directions*. This idea is literally thrown in passing in the book "Thinking and Speech". Notwithstanding L. Vygotsky emphasizes that this is the most valuable thing in the new theory of the connection between learning and development, up until the beginning of the XXI century, neither domestic nor foreign researchers paid any attention to it [16]. None of these ideas were developed by L. Vygotsky himself, which is not surprising, since all of them appeared only in the last year of his life. The ZPD concept turns out to be organically connected with such already developed concepts as the concept of sign, genetic law, interiorization (ingrowth), and with the ideas that for a long time remained only outlined by L. Vygotsky, but they were not given due attention [16].

An attempt to work through the above ideas in the logic of L. Vygotsky himself led to the idea of a multivector model of ZPD [14], which began to be considered as a logical continuation of the concept's evolution, since it integrates various provisions of L. Vygotsky, expressed by him in reports and texts of the last year of his life (in 1933—1934). We will dwell on the description of the multi-vector model of ZPD in more detail below.

We have considered the problems of defining the ZPD concept, which remains a subject of discussion, and we will then try to outline the contours of the concept's evolution, which is described by the methodological functions acquired by the ZPD concept at various stages of the development of cultural-historical psychology and related areas of psychological science and practice. For this, we will use the idea of the methodological functions of scientific concepts, most clearly formulated by E. Yudin: explanatory principle, subject of research, methodological means of constructing new research subjects and tools for practice [38].

Zone of proximal development: from the explanatory principle to the subject of research

The ZPD concept appears in the context of at least three ideas of L. Vygotsky that are important for the theory of development. Historically, the first is the idea

[1] The exact date of L. Vygotsky's speech is given in the book "Lev Semenovich Vygotsky" [4].

of psychology as a practice of promoting development, which he arrives at while discussing the future of psychology in his work "The Historical Meaning of the Psychological Crisis" [1927] [6]. The next is the idea of the basic genetic law: "every function in cultural development appears on the stage twice, on two levels, first social, then psychological, first between people, as an interpsychic category, then within the child, as an intrapsychic category" [8, p. 145]. The ZPD concept becomes an explanatory principle that sets this law in motion: only that which is in the zone of his proximal development (functions that are in the maturation stage and become "fruits" in cooperation with an adult) can become the acquirement of the child. The third idea is a new interpretation of the connection between learning and development: it is not development that comes before learning and makes it possible for a child to master educational material, as J. Piaget believed; it is not the identity of learning and development, as behaviorists believed; it is not simply the interrelationship between learning and development, as F. Koffka believed; but learning as a source of development, learning comes before and precedes development. A. Leontiev in the preface to the six-volume collected works of L. Vygotsky, discussing the role of the concept of the zone of proximal development, calls this view of development "revolutionary" for that time [25]. The ZPD concept, therefore, contains the idea that learning can and should contribute to development, that not all learning contributes to development (but only that in which there is interaction between the child and the adult in ZPD), and implicitly there is the question of how developmental learning is possible.

Discussing the ZPD concept, Vygotsky's associates and followers, P. Galperin and D. Elkonin [10] emphasize that the existence of ZPD is a fact. However, it is a fact that allows for different interpretations of the connection between learning and development. "L. Vygotsky gives one interpretation, J. Piaget — another one." The "method of assessments" criticized by the authors cannot answer this question, since it can only record that the child's capabilities increase with age. But what plays a leading role here: development, which makes the child capable of learning as he matures, or learning, which leads to development? The authors conclude that such a formulation of the problem justifies the need to introduce a formative method into the study of thinking, i.e. a method that would show how exactly learning leads to development. The article questions the sufficiency of the theoretical justification of ZPD and poses the problem of its experimental justification by proving the possibility of forming mental actions and concepts with predetermined properties. Thus, ZPD is considered as a tool for justifying the possibility of proving that learning leads to development by developing a methodology for a formative experiment.

Perhaps the most convincing evidence that learning leads to development if the interaction between a child and an adult is built in ZPD are the experiments on the formation of initial mathematical concepts, conducted under the supervision of P. Galperin in the early 1960s. They showed that the so-called Piaget phenomena, which in his experiments took place in children even 7—8 years old, and for preschoolers were one of the most striking characteristics of thinking, these phenomena disappeared even in children aged 5, if the children mastered the initial mathematical concepts of "measures", "units" and "numbers". But if in learning they took "one step", i.e. were taught to count using these concepts, then, as noted by P. Galperin and L. Obukhova (a direct participant in these experiments), in addition to the disappearance of Piaget's phenomena, the children's operational thinking patterns about objects changed: each object was presented as a set of parameters relatively independent of each other, each of which was measured in its own units. Thus, 5-year-old children, if they are shown two bottles with the same level of water in them, say that they contain equal amounts of water. But if one of the bottles is turned over and placed on its neck, the water level in it will become higher, because of which the child will say that there is more water in this bottle. A child of the same age, with formed scientific mathematical concepts, will say differently: "It seems that there is more in this one, but we did not pour out or add anything, which means that there are equal amounts of water in them." The formation of mathematical concepts is preceded by the child's immersion in the activity of measuring different parameters, various objects, which allows the child to consciously interact with an adult, measuring the parameters of different objects. According to P. Galperin, awareness is one of the most important parameters of developing mental action. Later, one of Galperin's students, V. Davydov, and D. Elkonin created a theory and laid the foundations for the practice of developmental learning, in which ZPD is one of the key concepts [12], giving another convincing and — importantly — practical answer to the question of how exactly learning can contribute to development.

If we consider that the theory and method of the step-by-step formation of mental actions and concepts began to be developed by P. Galperin and his students in the 1950s, and the system of developmental learning began to be created in the 1970s, then we can conclude that the ZPD concept for 20-40 years remains in the status of an explanatory principle of development, as a process derived from learning, and only many years later does it receive first experimental and then practical confirmation of the mechanism of the connection between learning and development, which it is intended to explain.

At the next stage of the concept's evolution, ZPD itself becomes the subject of research. In the natural science approach, the question could be put this way: "What is ZPD or how is it structured?" In the constructivist approach, the question sounds differently: "How can ZPD be conceived so that it can be used

in practice?" Or even differently: "In what direction can L. Vygotsky's thought be continued?", which is especially relevant because L. Vygotsky himself had neither the time nor the opportunity to complete work on his conceptual system [25], one of the most important of which (if not its cornerstone) was the ZPD concept.

One of the first attempts to make ZPD a subject of research is the work of N. Belopolskaya, devoted to the assessment of cognitive and emotional components of ZPD in children with mental retardation [1]. The author, defining the content of ZPD, refers to the ideas of L. Vygotsky, supplementing the "classical definition", such as the possibility of extending the ZPD concept to the development of the whole personality, and indicates that ZPD "reflects the mental potential of the personality development". Another basis for introducing the "emotional dimension" into the ZPD concept is the principle of the unity of affect and intellect. ZPD is considered in the cognitive and emotional-semantic dimension, and, importantly, in the help of an adult, the intellectual and emotional-semantic "dimension" is also distinguished.

E. Kravtsova [23] also takes as a starting point the idea of considering the ZPD concept in relation to different aspects of personal development and the principle of the unity of affect and intellect in her interpretation of the ZPD concept. The author (a granddaughter of L. Vygotsky) initiates the development of new educational programs for preschoolers and adolescents, in which conditions are created and prerequisites for the emergence and development of the next age period are organized. It is important to note that in the interaction of a child and an adult in ZPD, the child is considered as a subject of leading activity, as a subject of new formations.

In the work of L. Obukhova and I. Korepanova the task is set to develop a dimension and time model of the ZPD [30]. The classical concept of ZPD is supplemented by the idea of a semantic dimension, which becomes the subject of the study. The authors pose the problem of the structure of ZPD and the content of the processes occurring in it, including cooperation between a child and an adult. The original design of the experiment, when an adult acts in different positions (an adult helping to master a new action, and an adult being "incompetent", in relation to whom the child acts as a teacher), makes it possible to trace the dynamics of the child's mastering of the action and the process of understanding the method of its implementation. The complex and original design of the study gives the authors the opportunity to "see" the structure of ZPD from different sides. Thus, ZPD is considered as the relationship between the operational-technical and motivational-semantic components. Making the structure of ZPD the subject of the study, the authors demonstrate the possibility of various approaches to its "construction", the possibility of a "multidimensional" understanding of ZPD, its dependence on the position of an adult and the dependence of the child's activity on the adult.

G. Zuckerman, relying on the definition of Vygotsky and several other ideas about ZPD, poses fundamental questions to which the author of the concept does not have a clear answer. Discussing these questions, Zuckerman comes to the following conclusions. ZPD is not a naturally existing phenomenon that arises by itself whenever an adult helps a child achieve greater independence. This is a special form of interaction in which the adult's action is aimed at generating and supporting the child's initiative. The relationship between the skilled and the unskilled, the knowledgeable and the ignorant is a reduced form of joint action capable of creating ZPD [37].

G. Zuckerman departs from the "classical" concept of ZPD, asking three questions and justifying the answers to them in the logic of the relationship between learning and development: 1) what develops in ZPD? 2) where does learning lead to development? 3) what develops in developmental learning? The key to answering these questions is the author's vision of the value of the child's initiative and its support by adults. ZPD is understood as a set of types of assistance from an adult to a child, as an area where the interpsychic arises, as a multidimensional space of potential development opportunities supported or not supported by educational interaction. The role and significance of ZPD concept for understanding the development of a child as a bearer of his own initiative, the support of which is carried out by an adult, is revealed. The child develops as the author of the initiative, and the adult, as a person for the first time supporting the initiative of this child. Thus, their alliance is developed in ZPD. The development of mental functions is only a special case of the development processes occurring in this multidimensional space. The modified concept of ZPD, compared to the classical one, becomes an explanatory principle of why learning can be "non-developmental" and how it can become "developmental". The author illustrates these ideas with a "thought experiment" in which the trajectories of a child's development are modeled under different conditions, with different types of assistance, with an adult's orientation toward supporting or suppressing the child's initiative.

In 2006, the various approaches of the above-mentioned authors to the search for new dimensions of ZPD were summarized in a multi-vector model of ZPD, which attempted to integrate the outlined but not developed ideas of L. Vygotsky. The article was called "The Zone of Proximal Development: What L.Vygotsky Did Not Have Time to Write About" [15]. The reason for it was a note to "Problems of Age" in the fourth volume of selected works of L. Vygotsky to his phrase, which follows his detailed analysis of the diagnostic meaning of the ZPD concept: "The pedagogical significance of ZPD will be considered in one of the following chapters." The note says simply and briefly: "These chapters were not

written by L. Vygotsky." Thus, the question arose about "what else L. Vygotsky had no time to write." What kind of psychology did he see, to which he led people, comparing himself with Moses (see "Notebooks of L. Vygotsky" [14]), but which he himself was not destined to enter (this is one of his last notes)? The multi-vector model of ZPD is one of the attempts to answer this question.

The multi-vector model of ZPD first appeared as an explanatory principle for phenomena observed in the practice of helping children to overcome learning difficulties using the reflection-activity approach [16]. It is a variant of the implementation of Vygotsky's ideas that the ZPD concept can be extended to various aspects of personal development, that the interaction of a child and an adult is carried out in the form of cooperation, that ZPD has not only a "lower" boundary (beyond which is the zone of actual development), but also an "upper" boundary (beyond which is the zone of unattainable challenge), as well as the idea of such a relationship between learning and development, in which one step in learning can lead to many steps in development.

The diagram (see Fig. 1) shows a child and an adult (teacher, educational psychologist, consultant, parent, etc.), who are the subjects of joint educational activity aimed at overcoming a difficulty (see the lower plane). "Above the child" are various abilities, qualities, and personality traits of the child that are related to the educational activity being carried out. They are designated as potential development vectors, in the sense that their state can change in the process of overcoming an educational difficulty.

It is assumed that steps in learning are changes in the boundaries of the zone of actual development (ZAD) and ZPD in the educational plane (the vector of educational activity), and steps in development are qualitative changes in any of the vectors or in several vectors simultaneously. Thus, the formula of L. Vygotsky "one step in learning can make a hundred steps in development" within the framework of this model acquires a very specific meaning: one step along the vector of educational activity can be accompanied by qualitative changes in many vectors simultaneously if an adult helps a child in the problem epicenter, i.e. some main difficulty that attracts a variety of vectors and restrains the dynamics in them. The most striking problem epicenter that not only teachers but also psychotherapists encounter in practice is learned helplessness. But if it can be overcome, then cases of "explosive dynamics" are often observed [19].

From the thesis of L. Vygotsky that what is in the ZPD today, tomorrow the child can do on his own (i.e. his actual capabilities increase), it follows that the boundaries of the ZPD also expand, since part of what was in the zone of unattainable challenge, moves into the zone of proximal development. There seems to be nothing su-

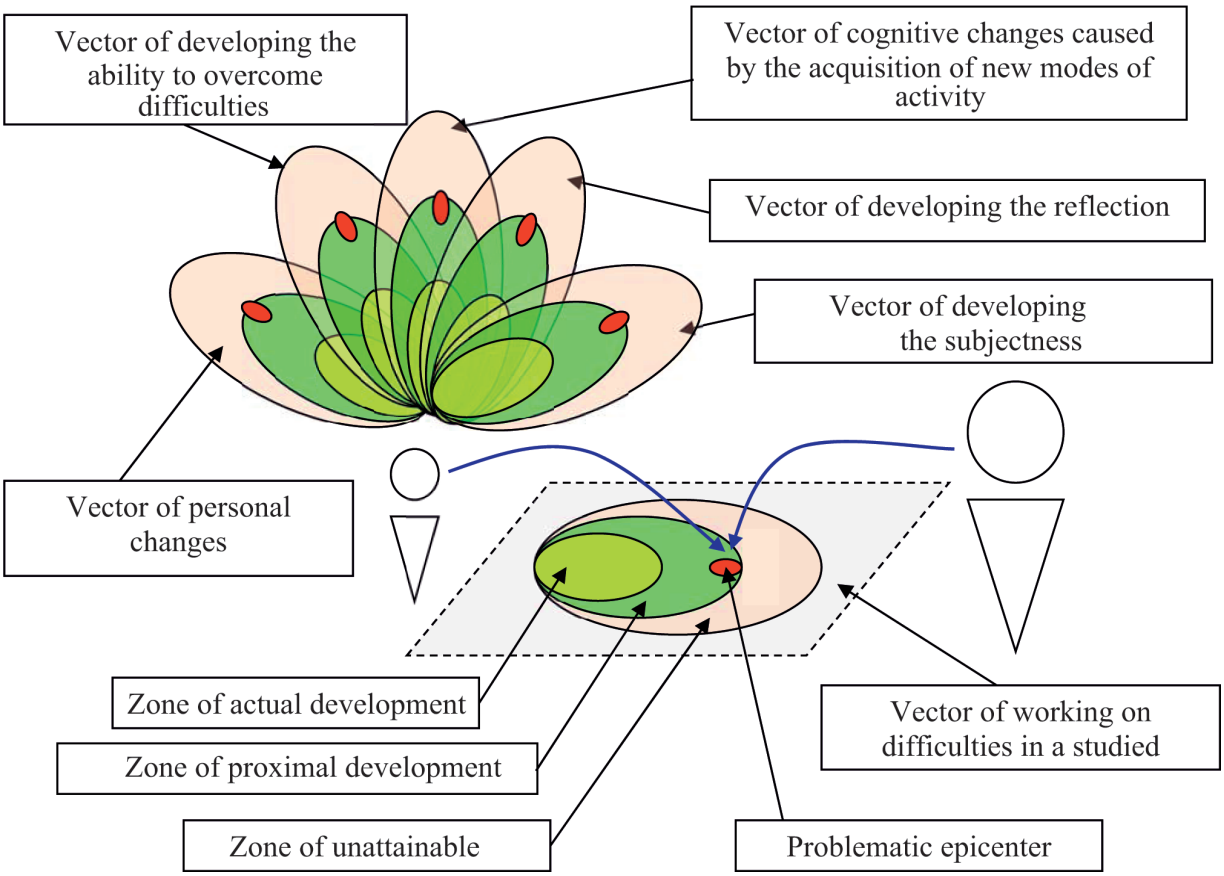

Fig. 1. Diagram of the zone of proximal development as a set of vectors along which "steps" in development are possible in the learning process [15; 17]

pernatural in this idea, since any teacher has a rough idea of what is attainable to his students today and what is not, and what their capabilities will expand "tomorrow". But the problem is that in practice this does not always happen. In practice, children often encounter difficulties that cannot be overcome by any effort. Especially when it comes to pathology, children or adults with mental disorders. If we trust practice, then we should admit that there are "learning-disabled", at least in the sense that they cannot be helped to overcome their difficulties. If we proceed from the theory, then, for example, Vladimir Zinchenko, discussing the ZPD concept in his essay, makes a different conclusion: "If the teacher is sensitive to the zone of proximal development, then it will turn into an infinite perspective" [21]. But what does "sensitive" mean? — Maybe it means that the teacher understands its boundaries, accurately determines where the epicenter is, and can provide adequate assistance to the child in overcoming his difficulty. And then the "teaching" he carries out (or rather assistance in overcoming the child's difficulty) can have a developmental effect in all cases without exception. But this is in theory...

In reality, the understanding that ZPD is a derivative of how an adult acts and helps a child has led to the construction of new research subjects and practical developments related specifically to the activity of an adult. How to help so that assistance in ZPD contributes to the child's development? Or more precisely: how to help so that the difficulty the child has encountered becomes a resource for his intellectual and personal development? The search for answers to these questions leads researchers and practitioners to two extensive areas of research, in which the ZPD concept is used as a methodological means of constructing new research subjects and tools of practical activity.

ZPD: from the research subject to the methodological tool for constructing new research subjects and psychological and pedagogical technologies

To somewhat roughen the complex picture of the multifaceted use of the ZPD concept in the function of a methodological tool, we can say that new subjects that are built on its basis form two large groups: the first — various functions, abilities, qualities, the development of which is considered through the prism of the ZPD concept; the second — all questions related to the activity of an adult, the central one of which is "how to help a child in what he cannot do himself, so that this help contributes to development?"

By the time when the professional consciousness of domestic specialists focused on cultural-historical psychology and the use of ZPD concept in their research and practical developments, the concept of "scaffolding" appeared in the western countries, based on which its authors proposed principles of activity of a teaching adult. Several works by domestic authors analyze and compare the ZPD concept and the concept of "scaffolding" ("building scaffolding"), which was introduced by J. Brunner, D. Wood and G. Ross based on the works of L. Vygotsky and then began to be considered as an American analogue of ZPD concept [42]. The metaphor of building scaffolding suggests that in the process of interaction between a child and an adult, the amount of help from an adult gradually decreases, and the number of independent actions of the child gradually increases until the child begins to do without the help of an adult and act completely independently. At first glance, the concept of scaffolding seems to quite adequately reflect the process of internalization, and the scaffolding technology is gaining wide popularity [24, 26, etc.]. The positive aspect of introducing this concept is the very fact of posing the problem of assistance [24]. At the same time, it is noted that ZPD and scaffolding are not identical concepts, that the first relates more to development, and the second to learning [26].

If we look more closely at the concept of "scaffolding", we can pay attention to some of its features, due to which this concept should be used with caution. For example, B. Meshcheryakov [29], analyzing the metaphor of scaffolding, emphasizes the mechanical nature of the process: scaffolding is made to construct a building. The building remains, and the scaffolding is removed. Is this image adequate to Vygotsky's idea of internalization? — No. Vygotsky himself used the term "ingrowth", i.e. he saw this process as "organic", and not "mechanical". Secondly, and this is perhaps the most important argument for a critical attitude to the concept, "scaffolding", i.e. the help of an adult, according to L. Vygotsky does not "fall away", but becomes the acquirement of the child, is ingrown, is interiorized. The point is not that the amount of help gradually decreases, but that what the adult does, helping the child, becomes "elements of the structure" of the new action of the child himself. The "scaffolding" does not fall away, but becomes a part of the structure being built, i.e. what is developing in the child with the help of the adult (mental action, ability, some new quality, etc.). Thus, the metaphor of "scaffolding", beautiful and effective, distorts the essence of L. Vygotsky's idea and turns out to be in contradiction with the basic genetic law. Because in it, it is not "inter" that becomes "intra", but the child acquires the ability to do without "inter", i.e. without the help of an adult. For example, if a child, having difficulty solving a problem, turns to an adult with the question "How can this be done differently?", and the adult, instead of answering, suggests that the child ask himself this question, then the processes of reflection of his own action and creative search are launched. And, perhaps, the child himself will find the answer to the question that he asked the adult, but did not ask himself. And if next time he asks himself this question, it will mean that he is not just doing

without the help of an adult, but he has appropriated this experience and the question that the adult asked him, he now asks himself. That is, the joint action has become the acquirement of the child, and not just this question of the adult has fallen away, like "scaffolding" that has become unnecessary...

And finally, we will add that hypothetically the concept of "scaffolding" allows for the possibility of assimilating the ZPD concept in the behavioral tradition, i.e. interpreting the help of an adult as positive reinforcement of correct and inhibition (negative reinforcement) of incorrect actions of the child. Thus, the process of "development" turns out to be completely reducible to learning, the role of the adult — to positive and negative reinforcement of the child's actions, and the process of their interaction in this case is not at all like the cooperation of a child and an adult, which L. Vygotsky himself emphasized.

Cooperation presupposes the participation of the child as a subject in his interaction with an adult. The vision of the child as a subject of joint activity, in which he, together with an adult, learns to do what he cannot do himself, overcomes his difficulties, appropriates the experience of joint activity, leads to the fact that the child should be considered as a subject of self-development, a subject of activity and its reflection. L. Vygotsky almost never used the term "reflection" but attached great importance to awareness. In his logic, only that which is done by the child "intelligently", with an understanding of what and how the adult helps, can be appropriated; through awareness, arbitrariness is achieved, i.e. mastery of one's mental processes occurs. Natural functions turn into higher functions.

It is of interest to note that the first research subjects in Russian psychology, for the construction of which the ZPD concept was used, was precisely the ability to reflect. As early as 1981, A. Zak conducted a study of the zone of proximal development in the diagnostics of reflection in primary school students [13]. The significance of the ZPD concept for the development of reflection as an activity of self-knowledge aimed at one's own methods of action is revealed. In this case, the author relies on the idea of L. Vygotsky that "abstraction and generalization of one's thought are fundamentally different from abstraction and generalization of things."

A. Zak developed a method for studying reflection, including two types of tasks. The first part proposed solving problems of different types, and the second offered grouping the problems by a common solution method. If the problems were grouped by content, then it was considered that the reflexive action was performed. If the grouping was carried out not by the method, but by some external similarity, then it was considered that reflection was absent. An important indicator of the development of reflection is the amount and nature of the adult's help that the child requires if he cannot cope with the task himself.

In the work [3] the ZPD concept is used as a tool for explaining the process of formation of motivational and operational-technical components of an action in the experimental conditions. The ZPD concept makes it possible to explain the cases of successful and unsuccessful assistance, because of which the child stops acting together with the adult if he does not pay due attention to the motivational component or acts contrary to the child's plan. Thus, in the work not only a new subject is introduced (the motivational component of the action), but also a dual subject is constructed: the development of one or another component of the action and the nature of the adult's assistance. It is clearly shown that the content and meaning of the action should be worked with differently.

In the study by E. Bozhovich, which provides a thorough analysis of the ZPD concept, the problem of how ZPD depends on the nature of cooperation and the quality of assistance is also raised. This dependence is illustrated by analyzing the data from the experimental study of solving tasks on language competence in the context of "indirect cooperation" [2].

"Double subject", i.e. the connection between "ZPD and help from another person" is also formed in several other studies, for example: ZPD and the organization of students' activities [27], working on ZPD of the planning function of the thinking process in schoolchildren [28], learning ability in children with intellectual disabilities [11], preschool play as a developmental practice [22], etc. In the work [32], using the example of the practice of developmental education, it is shown how the ZPD concept allows revealing the potential of educational activities for the development of various reflective and communicative abilities of a child. Experimental studies of joint activities as the zone of proximal development of reflexive and communicative abilities of younger schoolchildren revealed three types of interactions in the process of searching for and identifying a common method of action in a situation: pre-organizational, organizational, reflexive analytical. Each of these types of interactions is characterized by a qualitatively specific way of implementing communicative and reflexive actions. Each type of interaction in joint activities corresponds to a certain commonness of its participants.

The ZPD concept has become one of the basic concepts for developing the practice of a reflection-activity approach to helping students overcome learning difficulties. Reflection on the experience of helping children of various categories contributed to the development of the above-described multi-vector model of ZPD [15], to distinguish between the types of help an adult provides to a child in a difficult situation that contribute and those that do not contribute to his or her development [18], to develop a method of situational-vector analysis of transcripts of educational sessions, which makes it possible to reconstruct the dynamics of the development of various mental functions, abilities and personal

qualities that takes place when a child takes "steps in learning" in cooperation with an adult [19]. Based on the transcripts of educational sessions, which are based on audio or video recordings, it is possible to identify situations in which a child encountered a difficulty and failed to complete a task; situations of assistance provided by an adult, i.e. cooperation between a child and an adult in ZPD; situations when a child begins to cope with a similar educational task on his or her own. The analysis of speech recorded in the transcript allows us to reconstruct the dynamics along various vectors that accompany the implementation of a "step" along the vector of educational activity. When providing assistance by means of the reflection-activity approach, as a rule, the dynamics are observed along the vector of the child's subjective position (i.e. the adult consciously builds cooperation with him), along the vector of self-efficacy (since the child gains experience in successfully overcoming difficulties and understands that any difficulty is temporary and, by making due efforts, he will cope with it sooner or later), along the vector of reflection (since the adult's assistance is aimed, first of all, at initiating and supporting the child's awareness of his ways of action, establishing relationships between the shortcomings of these ways and the mistakes made, as well as getting rid of these shortcomings and developing new ways). Positive dynamics can also occur along other vectors that are associated with substantive work on the educational difficulty (attitude to the difficulty, relationships between the child and the adult, the ability of self-regulation, etc.). With adequate assistance from an adult and work within the boundaries of ZPD, Vygotsky's idea that one step in learning can lead to many steps in development becomes a reality [16], and the mechanism of this connection is described by the multi-vector model of the ZPD.

Initially, the ZPD concept was actively promoted within the framework of developmental psychology, educational psychology, and pedagogy. Age ranges were expanded, work was carried out with various categories of children with special needs, new subjects were created within the framework of the connection "learning and development". But in the XXI century, it turned out that the ZPD concept and the concepts associated with it (thinking, reflection, subjectness, cooperation, self-regulation, mediation, etc.) make it possible to see the psychotherapeutic process differently, as work with the development of the client (child) [36]. Firstly, it turned out that L. Vygotsky has followers among psychotherapists abroad. Thus, an English psychotherapist Stiles puts forward the principle of "acting within the boundaries of ZPD" as the main requirement for the work of a psychotherapist, and he declares going beyond the boundaries of ZPD to be the main mistake of a psychotherapist [40]. Upon that, Stiles refers to the works of L. Vygotsky. Independently of him, a Swiss researcher of the effectiveness of "extracurricular" factors of psychotherapy K. Grawe formulates the rule "not to actualize problems for which the client does not have the resources." Accordingly, sensitivity to the client's resources is the most important condition for effective psychotherapy [39]. It is easy to notice here a direct analogy with the ZPD concept, although K. Grawe himself did not refer to L. Vygotsky and, perhaps, would not expect the possibility of such an interpretation of his ideas.

An attempt to comprehend the consequences of "implementing" the ZPD concept in the field of mental health and psychotherapy led to the idea of the possible development of a new subject (or rather a system of subjects): the connections between "education, development and health" [20]. The ZPD concept and the concepts associated with it (thinking, reflection, subjectivity, self-regulation, etc.) enable different helping professionals to see their input as part of a holistic development process. The ZPD concept unites different types of helping activities: learning can not only promote development, but also have a psychotherapeutic effect; psychotherapy can be viewed not only as containing an educational component (this is present in all types of psychotherapy), but also as bringing development to the norm; development can be viewed as a mental norm ("developing is normal"). The ZPD concept enables different professionals to find a common language in which they can conduct professional dialogue [20].

As an example of practices that attempt to establish the connections between education, development, and health within a single subject, based on the ZPD concept, we can cite the experience of conducting chess lessons with adults with mental disabilities, which help restore their legal capacity [33], and the experience of conducting an integrated motivational training program for patients with schizophrenia, living in psychoneurological residential facilities [35]. One of the rules for conducting the program is to work "strictly in the zone of proximal development." Both areas of work are being carried out within the framework of reforming the system of psychoneurological residential facilities.

This interpretation of ZPD as a concept potentially applicable to the most diverse aspects of normal and abnormal development leads to a natural expansion of the areas of application of this concept, so that the real prospect is the implementation of the ZPD concept into a wide variety of helping activities.

Conclusion

In his work "The Historical Meaning of the Psychological Crisis" [6], L. Vygotsky describes a typical trajectory that "explanatory ideas" trace in their evolution. At first, when an idea appears, it exists within the framework of a "primary abstraction" (e.g., the psyche, the unconscious, the behavior), and is fully consistent with the reality for which it was created to designate and ex-

plain the facts. Then it begins to be applied more widely, gradually "stretches to cover more extensive material than that which it covers" [6, p.303], "separates from the facts that gave rise to it," and as an explanatory principle begins to take over an entire discipline, as L. Vygotsky writes, partially adapting to itself the basic concept underlying the discipline. At the fourth stage, the idea goes beyond its own limits, "inflating to a worldview." And then comes the most dangerous fifth stage, at which it "bursts like a soap bubble" and returns to the boundaries of the area from which it came from, "it is forced to reverse its development; it is recognized as a particular discovery, but rejected as a worldview; and now new ways of comprehending it as a particular discovery and the facts associated with it are put forward" [6, p. 304]. Thus, the idea gradually narrows, tests its area of applicability and then remains in the boundaries within which it can be used adequately. Having introduced such a schematic representation of the explanatory principle, L. Vygotsky describes the trajectories of four basic ideas — the ideas of psychoanalysis, reflexology, gestalt psychology and personalism...

As can be seen from the analysis of the evolution of the ZPD concept, its trajectory is quite atypical. At first, for several decades, the ZPD concept was almost ignored. Then it gradually began to be used to explain the processes of development and learning and their interrelation. At the same time, the concept itself, seemingly simple in content, became the subject of discussions as soon as it was made the subject of research. The consequence of approaches to the study of ZPD, being a certain fact of the reality of development, is a multitude of different ideas about ZPD and approaches to its technological application in the practice of teaching and promoting development. Then, during research into ZPD and its application as a methodological tool for constructing new subjects and practice-oriented technologies, its heuristic potential began to gradually unfold. L. Vygotsky writes about this stage that during this period the concept "inflates". But then, instead of the expected return to the boundaries of an "adequate application", for some reason a new round of "escalation" of the concept has occurred, capturing new areas of psychological science and practice. And so far, no reverse dynamics are expected. On the contrary, there is a feeling that this is only the beginning of a real understanding of the unlimited heuristic potential of the "zone of proximal development" concept. And this is related, in our opinion, to the tendency to expand psychological practice, the rapid development of practical psychology, its implementation into various areas of human life and activity, such as pedagogy, developmental education, practices of correcting interventions and assistance to development, clinical psychology, neuropsychology, psychotherapy (various schools), psychological counseling, coaching, organizational psychology. And, apparently, this list will only expand. Why so? — L. Vygotsky has a very precise term that helps to substantiate this thesis. Speaking about the patterns of change and development of ideas, the death of some and the emergence of others, he writes that all this can be explained by the connections of the science "with the general socio-cultural subsoil of the era" [6, p. 302]. It seems that in our time such a "subsoil", "the general context of the era" is that the man and the world are in the process of constant change and development, and psychology claims to accompany these processes. And in this process the ZPD concept can theoretically be applied to any developing subject of activity, being a child, an adult, a family, a group, a community. So it is possible to put forward a hypothesis that the ZPD concept, having managed to overcome the phase of the explanatory principle, having served as the tool for development of many research subjects and technologies, having entered the phase of expanding the spheres of use, continues to maintain its relation with the original context, but becomes appropriate and heuristic wherever the studied (accompanied processes) can be thought of as development processes.

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Development of the Concept "Sign" in Cultural-Historical Psychology of L.S. Vygotsky: The Origins and Promising Areas of Research. Part 1

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The year 2024 marks the 100th anniversary of cultural and historical psychology. Taking in consideration the growing demand for the ideas and positions of cultural-historical psychology in the world professional community started in 1978 and continues to this day, we have to highlight a number of emerging problems. Without the analysis of these problems it is impossible to further develop the theory itself. Firstly, it is the variety of interpretations and readings of the theoretical foundations of cultural-historical psychology that have emerged over the past decades. Secondly, it is the transformation of the conceptual apparatus of cultural-historical psychology into a "screen" for eclectic and purely empirical constructions of modern research aimed at studying the problems of the development and structure of consciousness and higher psychological functions. At the same time, it is possible to truly understand Vygotsky's concept only on the basis of an analysis of the genesis, content and interrelation of those concepts that make up the methodology of cultural-historical psychology. This article examines the concept of "sign", which is one of the key concepts in the cultural-historical concept of L.S. Vygotsky. The aim is to reconstruct the path that the author of cultural-historical psychology himself took in determining the place and role of this concept in the holistic theoretical and methodological structure of the concept he developed.

Keywords: cultural-historical psychology, instrumental method, sociogenesis, development, tool, sign.

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Развитие понятия «знак» в культурно-исторической психологии Л.С. Выготского: истоки и перспективные направления исследований. Часть 1

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В 2024 году культурно-исторической психологии исполняется 100 лет. Отмечая сегодня рост востребованности идей и положений культурно-исторической психологии в мировом профессиональном сообществе, начавшийся в 1978 году и продолжающийся по сей день, следует указать на ряд проявившихся проблем, без анализа которых невозможно дальнейшее развитие самой теории. Во-первых, это многообразие интерпретаций и прочтений теоретических основ культурно-исторической психологии, возникших за последние десятилетия. Во-вторых, это трансформация понятийного аппарата культурно-исторической психологии в «ширму» для эклектических и чисто эмпирических конструкций современных исследований, направленных на изучение проблем развития и строения сознания и высших психо-

логических функций. При этом по-настоящему понять концепцию Выготского можно только исходя из анализа генеза, содержания и взаимосвязи тех понятий, которые и составляют методологию культурно-исторической психологии. В данной статье рассматривается понятие «знак», являющееся одним из ключевых в культурно-исторической концепции Л.С. Выготского. Ставится цель реконструировать тот путь, который прошел сам автор культурно-исторической психологии в определении места и роли данного понятия в целостной теоретико-методологической конструкции разработанной им концепции.

Ключевые слова: культурно-историческая психология, инструментальный метод, социогенез, развитие, орудие, знак.

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Introduction

...Without knowing the past, it is impossible
to understand the true meaning of the present
and the goals of the future.
M. Gorky, About the Poet's Library

Cultural-historical psychology, which emerged in the late 1920s and early 1930s, is today one of the most influential and dynamically developing *paradigms* (in the sense of T. Kuhn [19]), shaping the development of modern scientific psychological (and more broadly—humanitarian) knowledge. Vygotsky's ideas on the origins, structure, and development of the psyche and consciousness, which were practically excluded from open scientific discourse in 1936[1], were revived 20 years later (in the USSR) with the publication of the first volume of Selected Psychological Research. Outside of the USSR, the "first acquaintance" with Vygotsky's works would occur six years later in 1962, with the publication of the English translation of *Thought and Language,* introduced by J. Bruner [22]. Nevertheless, even during the period of official prohibition, Vygotsky's theoretical positions positions were further developed by his students and followers in "*removal form*". The significant split between Vygotsky and some representatives of the "Kharkov group" (primarily its leader, A.N. Leontiev), which arose from discussions on the subject, sources, and driving forces of the development of the psyche and consciousness, did not completely sever these ties.

The greatest surge of interest and attention towards Vygotsky's work came in 1978 when the collection *Mind and Society: The Development of Higher Psychological Processes* by Michael Cole was published. It remains the most cited source on the subject of cultural-historical psychology in English-language literature. [25]. The interest continues to grow even today. Scientometric studies show a "positive trend in the number of publications containing key terms and figures from cultural-historical psychology in both Russian and English languages" [25], including such concepts as "tool", "sign", "zone of proximal development", "higher mental functions", "social situation of development", "collaboration," and others. Especially noteworthy are materials from L.S. Vygotsky's personal archives, published by E.Yu. Zavershneva and R. Van der Veer [2, 15, 16]. According to M. Dafermos, these materials sparked a true "archival revolution" and opened "new opportunities for the study and understanding of this scholar's legacy" [14].

However, while noting the increasing demand for cultural-historical psychology in the global professional community, it is essential to highlight several problems that are becoming more prominent. *Firstly*, there is the wide range of interpretations and readings of the theoretical foundations of cultural-historical psychology that have emerged in recent decades. In this regard, M. Dafermos poses the question: "What should be the criteria of choice between different readings and versions of Vygotskian theory", considering that "radically opposite readings of Vygotsky's texts and different interpretations of Vygotsky's legacy have emerged" [14]. The emergence of different readings and interpretations of any theory is inevitable. Such tendencies provide the foundation for substantive discussions that define the development of the theory itself. The formation of various scientific schools within it, whose experimental research aimed at testing the hypotheses put forward by their authors, allows us to fill gaps and answer the questions left unanswered in the "parent" theory (for example, the scientific schools of L.I. Bozhovich, A.V. Zaporozhets, D.B. Elkonin, V.V. Davydov, and other disciples, associates and followers of L.S. Vygotsky). Nevertheless, the opposite end of these processes creates the risk of the "degeneration" of the theory, its superficial perception

[1] The result of the introduction of the resolution of the Central Committee of the The Central Committee of the ACP(B) of July 4, 1936 "On pedological perversions in the system of People's Commissars"

and fragmentation. This brings us to the *second* problem, which is related to the transformation of Vygotsky's theory into "chewing gum, suitable for everyone and under any conditions"[2] [14]. The conceptual apparatus of cultural-historical psychology is often used as a facade, covering up fragile, eclectic, and purely empirical constructions. F.T. Mikhailov notes: "Cultural-historical psychology has turned into a myth. Many psychologists use Vygotsky's terminology merely for its effect, formulating personal scientific problems within the logic of overt empiricism" [21]. Thus, a methodology that defines ways of formulating and solving both fundamental and practical problems in various fields of social life is reduced to a simple cliché. Vygotsky himself was a staunch opponent of eclecticism in science and practice. "I do not want to stitch together a few quotes and claim to know what the psyche is; I want to learn from the Marxist method how to build a science, how to approach the study of the psyche. ... We don't need random remarks; what we need is a method!" [5]. And Vygotsky developed such a method, *an experimental-genetic method*, — based on a system (a synthesis) of the theoretical positions and concepts of his cultural-historical psychology. Thus, to understand Vygotsky's theory, it is essential to analyze the *content and genesis*[3] *of the concepts that form the methodology of cultural-historical psychology*.

This article examines the concept of the "sign" or "psychological tool", which is one of the key concepts in Vygotsky's cultural-historical theory. Vygotsky specifically emphasized that the fundamental principle of the new psychological theory should be "the tool-like nature of human activity in general, and the psyche in particular" [22]. However, the goal here is not to provide a new understanding or interpretation of this concept; such a task cannot be accomplished within the framework of a single article. Ut is crucial today to reconstruct the path Vygotsky himself took in determining the place and role of this concept within the comprehensive theoretical and methodological structure of the theory he developed.

"Mediation" and the Concept of Sign in the Early Works of L.S. Vygotsky (1923—1926)

The idea of mediation reflects the "whole approach" of Vygotsky's solution to the problem of cultural ("higher") development of the psyche. This concept runs like a red thread through all his works, even in the earliest scientific reports and publications, it was expressed in a rather general and not fully conscious form. In January 1924, in Petrograd, where the 2nd All-Russian Congress on Psychoneurology took place, Vygotsky delivered three reports, one of which was The Methodology of Reflexological Research Applied to the Study of the Psyche [15]. This report, with subsequent additions and edits, was later, in 1926, published as the article Methodology of Reflexological and Psychological Research. In this article, Vygotsky emphasized the importance of a new method for studying consciousness, the "psycho-reflexological method". He contrasts it with the *introspective method* (or *experimental self-observation method*), well-known in the W rzburg School, and with the classical reflexological method. While *classical reflexology* focuses on the study of "the entire behavior of a person" in its diverse and complex interactions with the environment (including the social environment), it still relied on the "classical experiment of forming a conditioned reflex (both secretory and motor)". This method excluded from its scope the hidden processes that are not directly observable but are crucial in organizing behavior, such as thinking. "Reflexology must take into account thoughts and the entire psyche, , if it wants to understand behavior. The psyche is merely inhibited movement, and objectively, it includes not only what can be touched or seen by everyone" [7]. In accordance with this position, Vygotsky proposed an *indirect (mediated) method* for studying "unmanifested (delayed) reflexes" (*thoughts*) through the system of reflexes in which they are reflected — "speech reflexes" that are "evoked" by a specially structured inquiry, that is, through a system of stimuli with precise consideration of every sound and strict selection of only those reflected systems of reflexes that can be scientifically and objectively significant in the given experiment" [7].

Justifying the method of "indirect research of the psyche", Vygotsky described an experiment he conducted to study "logical memory". What interests us first and foremost is the experimental design and Vygotsky's approach to interpreting the data. The participants (students at a pedagogical technical school) were presented with a series of 50-100 words serving as objects for memorization (e.g., "mechanics", "lamp", "Ural", etc.). Along with these series of "object-words",

[2] M. Dafermos points out that this situation is characteristic of the English-speaking regions of the Western world, but the same tendencies are also manifested in Russian scientific circles.

[3] The problem of understanding the genesis of the key concepts of cultural-historical psychology is very important, because, as follows from Vygotsky's diaries with comments by E. Yu. Zakvershneva, he was always very critical not only towards the ideas of his opponents, colleagues, and disciples, but also towards his own previously expressed theses. It means, that even during Vygotsky's short life, cultural-historical psychology was not just a system of concepts "cast in a monolith", but a system of developing concepts, and their structural and content relations were constantly revised.

they were presented with a series consisting of the names of well-known Russian writers ("Kantemir", "Trediakovsky", "Lomonosov", etc.), arranged chronologically. The participants were instructed to silently recall one of the names from the second series in a predetermined order immediately after hearing a word from the first series. For example, when the experimenter said "mechanics", participants had to recall the name "Kantemir". Furthermore, the participants had to mentally answer a question regarding the connection between the first and second words. At the end of the main stage of the experiment, during which participants were asked to recall all the "object-words" both in the original and reverse order, the experimenter conducted an inquiry into "the processes of memorization, association, and recall". Vygotsky notes that only those "statements" of the participants that had an *objective nature*, specifically the silent speech they articulated to themselves, were recorded. [12].

In analyzing this research, Vygotsky is primarily focused on the possibilities provided by the psycho-reflexological method, which allowed for the objective registration of "unmanifested reflexes" occurring in the form of "silent speech", thereby turning this method into a tool for studying consciousness. For Vygotsky, the most important outcome of this experiment was not the simple recording of the participants' verbal responses but the experimental validation of a new method. This method made it possible, in Vygotsky's view, to move beyond a simplistic associative interpretation of the structure of consciousness, suggesting that "the reflex is a social animal, like the person, and it is necessary to study the sociology of reflexes—the laws of their communal existence and their arrangement into groups and chains" [12].

As E.Yu. Zavershneva points out, "The experiment involved methods of voluntary mediated memorization, i.e., active construction of logical connections in memory, where thinking was engaged in the process of memorization <...> However, neither these methods nor the mechanisms governing memory were fully studied in this experiment" [15]. This was partly due to the specific aims of the study and partly because the conceptual and terminological apparatus to explain the observed phenomena within the framework of reflexology had not yet been developed. Moreover, no clear research agenda had been formulated based on a methodology that could overcome the limitations of contemporary reflexology. Nevertheless, some "hints" of the key ideas and principles of Vygotsky's future cultural-historical psychology can already be identified in this early work. For example, a) the thesis about the association of reflexes into specific systems of complexes will later emerge in the theory of the systemic structure of consciousness and higher psychological functions, and b) the thesis about the need to study the "sociology of reflexes", concerning the mechanisms of self-awareness and the understanding that "speech is a system of reflexes of social contact", will later be transformed into the principle that consciousness arises from "forms of collective-social activity" and the recognition of the role of the *sign* (*a cultural tool*) in the development of higher forms of consciousness and behavior.

Based on an analysis of the article "Consciousness as a Problem of the Psychology of Behavior" (1925), we can speak of a new stage in Vygotsky's work and his search for an entirely new approach to solving the problems of the origin and development of consciousness — an approach distinct from both "objective" (behaviorism, reflexology, reactology) and subjective-empirical theories. Here, Vygotsky introduced the concept of "historical experience" for the first time, understood as the use of the experience of previous generations in behavior, labor, and, broadly, in our entire life, , which cannot be transmitted through biological mechanisms. He formulated the specific relationships between the "historical", "social", and "personal" experience of a person during his development. "Historical and social experience clearly do not represent anything psychologically distinct because they cannot be separated and are always given together. Let's connect them with a plus sign" [10]. Vygotsky sees "consciousness" as a particular case of social experience, emphasizing that "the individual element is constructed as derivative and secondary, based on the social element and in its exact likeness" [10]. At this stage, Vygotsky only vaguely indicates the connection between "historical", "social", and "individual" in the development of consciousness. However, he does not yet identify the element that would embody all these components and act as the "mediating" link in the process of cultural (i.e., socio-historical) development. This next step is outlined by Vygotsky in 1927, in his work "The Historical Meaning of the Psychological Crisis", where he points to "the necessity of developing concepts that could not only explain and describe the psyche but also facilitate mastery over it" [17].

Instrumental Psychology: A New Stage in Vygotsky's Work and a New Research Program

By 1928, Vygotsky published several works with titles referencing "cultural development": "Anomalies in the Cultural Development of a Child", "The Genesis of Cultural Forms of Behavior", and "The Problem of Cultural Devel-

opment of a Child". These works mark a new stage in the scholar's work—one associated with the development and justification of the *instrumental method*, which, according to Vygotsky himself, not only "provides the principle and method for the psychological study of the child" but also serves as a key to practical mastery in education and school teaching of higher (purely human) forms of behavior. [10]. At the core of this method is the idea of the mechanism of *cultural development* as a process in which the child masters "*cultural tools*" — language, writing, various counting systems — "which humanity created in the course of its historical development". Functionally, the instrumental method is based on the *double-stimulation method*, in which the child's activity (behavior) is organized simultaneously by two sets of stimuli. One set acts as an auxiliary tool (*a stimulus-tool*) for carrying out a psychological operation directed at the second set of stimuli (*stimulus-objects*). Drawing from Marxist classics, Vygotsky makes an analogy with tools, noting that just as technical tools "restructure the entire organization of the labor operation", so "*psychological tools*" (*cultural means, signs*) "restructure the entire organization of the psychological operation" [9]. However, Vygotsky later emphasizes the distinction between technical tools and psychological tools, going so far as to contrast them. [23]. In his work "The Instrumental Method in Psychology" (1930) he pointed out that although it is possible to draw an analogy between them to a certain extent, "the essential difference between a psychological tool and a technical tool is in the direction of their action: the psychological tool is aimed at the psyche and behavior, while the technical tool, although also inserted as an intermediary between human activity and an external object, is intended to bring about changes in the object itself; *the psychological tool does not change the object; it is a means of influencing oneself (or another)* — on the psyche, on behavior, rather than a means of affecting an object. In the instrumental act, therefore, the activity is directed towards oneself, not towards the object" [10].

To truly understand the role and the meaning of *signification* (the creation and use of signs, artificial signals) in the development of higher forms of behavior, it is essential to emphasize Vygotsky's idea that the *sign* is a *means of influencing another, a means of social connection*, as he noted in his work "Concrete Human Psychology" (1929) [6]. As an example, consider an experimental study on the mastery of attention.

In this experiment, two identical bowls were placed in front of a child. A nut was secretly hidden by the adult in one of the bowls, while the other bowl remained empty. Both bowls were covered with identical white cardboard lids. A dark-gray mark was placed on the lid covering the bowl with the nut, while a light-gray mark was placed on the other lid (Fig. 1). According to the rules of the game, the child had to choose and point to the bowl containing the nut. If successful, the child got to keep the nut; if not, they had to give one of their own nuts to the experimenter.

Initially, the children solved this task through trial and error, winning and losing about equally. In these "natural conditions" (i.e., without the adult's assistance), the "*sign*" present in the situation (the color of the lids) was not distinguished by the children as a spe-

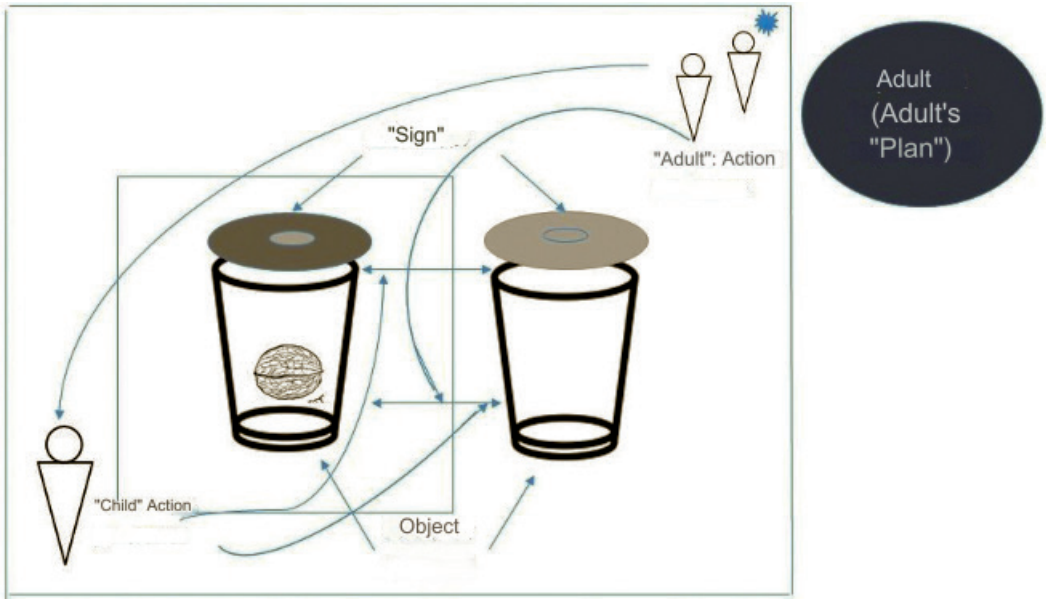

Fig. 1. An experimental scheme in experiments on mastering attention[4]

[4] The scheme is based V.V. Rubtsov work "Development and Learning in the Context of Social Interactions: L. Vygotsky vs J. Piaget" [24].

cific means to organize their behavior. Thus, it did not become a *sign* in the true sense, as it did not acquire its corresponding function. Vygotsky noted that even after a substantial number of trials, when it seemed that the child was developing a positive reaction to the dark-gray mark, this reaction was not confirmed in critical trials or when returning to the original situation [11].

The experiment was then altered. The adult now placed the nut in the bowl in the child's presence and *pointed* to the dark-gray mark with their finger. Following this, the situation changed dramatically. The child began winning without making mistakes and successfully transferred this problem-solving method to control trials where the marks were of a different color. Furthermore, the solution remained effective even after several days.

For Vygotsky, the most crucial moment in the experiment was the *pointing gesture*. Through this gesture (*which could be replaced by a word with the same function*), *the adult initially directed the child's attention*, highlighting specific characteristics and properties of the environment that the child needed to connect with their response. In this case, the property was the correspondence between the location of the object (the nut) and the color of the mark. As V.V. Rubtsov noted, the gesture expressed the "attention of the adult", which the child needed to master [24].

Through the pointing gesture, the adult set up the child's focus on the property, catalyzing the processes through which the child began to identify the color mark as a possible tool for organizing their own behavior [18]. When the child started to "operate" with the external tool in solving the task (i.e., establishing the connection between the color mark and the nut's location), this tool began to serve the same function as the adult's pointing gesture. The only difference was that, earlier, the *child had been directed by the adult through the gesture*, which was the *adult's tool for influencing the child's behavior*. the child directed their own attention using the tool discovered in the situation of collaboration with the adult. Now, when a child establishes (*discovers for himself*) *the designated connection of "objective" and "symbolic" structures, he directs his own attention through a means discovered (and acquired) in a situation of cooperation, "embodying"* the previously existing method of interaction between a child and an adult. Mastery of such tools fundamentally transforms the structure and mechanisms of natural psychological functions, making them *voluntary* (i.e., under the child's control).

In 1930, in the joint work "Studies on the History of Behavior", L.S. Vygotsky and A.R. Luria wrote: "The first functional relation to an object is the first step toward the development of cultural forms of behavior — it is the first step toward establishing an active, not merely mechanical, connection between the child and the external world" [13]. The emergence of such *functional relations* to an object becomes possible because the external tool becomes, in the truest sense, a *sign* — a way of social interaction that becomes a tool for individual self-regulation [1]. Voluntary attention (like any other higher psychological function) is thus "the social within me". Hence, Vygotsky's famous proposition that "the sequence of cultural development in a child is as follows: first, others act in relation to the child; then the child interacts with the surrounding environment; finally, the child begins to act on others, and only in the end does the child begin to act on themselves" [11]. This conclusion, drawn from experimental data, encapsulates a key idea that Vygotsky outlined back in 1924: "The mechanism of self-awareness and the recognition of others is the same; we are aware of ourselves because we are aware of others, and by the same means that we are aware of others because we, in relation to ourselves, are the same as others are in relation to us" [7]. D.B. Elkonin also addressed this problem in his diaries in 1981, asking how it becomes possible to *organize behavior through a sign*. His answer was: "...a sign introduced by another person is a novelty in the organization of the first individual's behavior. This is the meaning of any sign operation; the significance of a sign lies in the function of the other person through which it is introduced into the organization of behavior (decisive, controller, generally helpful, reminding of someone)). A sign, in this sense, is like a gift — reminding one of the giver. Thus, the sign is inherently social and, for this reason, organizes behavior" [28]. It follows directly from this that a *sign operation*, or a *mediated form of behavior*, is "the trace of the active presence of another in behavior" [29], — the Other present within us through the function the sign plays in our behavior.

In the experimental example described, we see the principle that for any external tool to become a *sign* — a *psychological tool* — it must first serve as a means of social communication between subjects.

In Figure 2, the schematic representation illustrates the principle according to which "...an instrumental operation is always a social influence on oneself" [6]; the sign mediates the relationship with oneself as if one was another person. Initially, the sign functions as a specific means of communication between two subjects, and then it "inserts itself... between the person and their brain. It supports the operation directed toward the object, but its real object is the operation itself, the neural process" [11]. The thesis that the sign "inserts itself"[5], in

[5] The term "pushed in" can most likely be understood as a purposeful act of applying a "communicative tool" to transform an individual psychological operation directed at the object of action (memorization, comprehension, etc.).

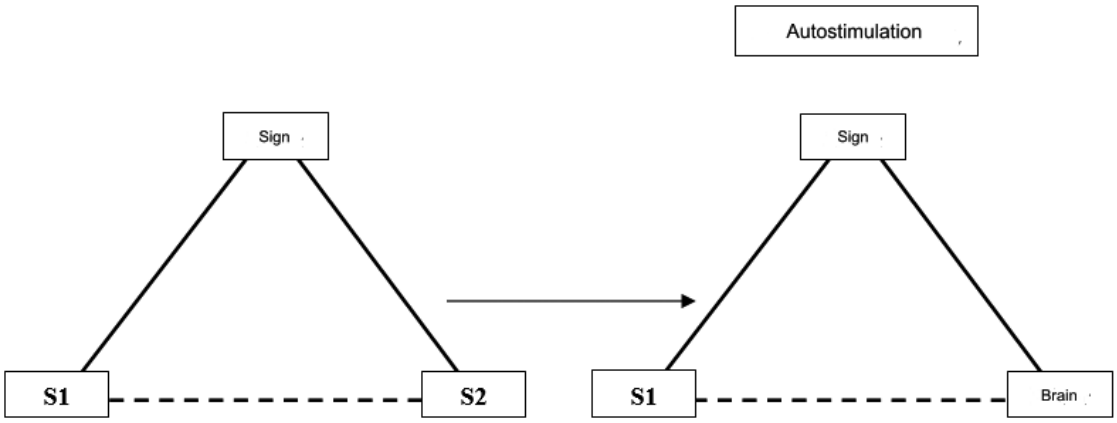

Fig. 2. A diagram showing the social nature of the "sign"[6]

the end, between "the person and the brain" is essential for understanding the structure and mechanisms of the formation of higher psychological functions. The ability to "control the brain" by regulating the flow of neural processes, altering the structure of natural (innate) psychological functions, is based on two significant foundations of human activity. **The first foundation** lies in the regularities of natural development, which are rooted in the mechanism of conditioned reflex formation. "When we... deliberately intervene in the processes of our behavior, this is done only according to the same laws to which these processes are subject in their natural course, just as we can modify and subordinate external nature to our goals only according to its laws" [9]. Vygotsky demonstrated this thesis in the context of studying mnemonic techniques. He showed that a new way of memorizing can be broken down into its conditioned-reflex components, just like the formation of associative connections in natural memory. The inclusion of a sign as an intermediate element in the natural process of forming a conditioned reflex "gives a new direction" to these processes, forming a new construction, a "combination of neural connections", which can no longer be decomposed further and becomes "the minimal unit of analysis that retains all the properties of the psychological function" [10]. This idea was further developed in A.N. Leontiev's work "Development of Memory: An Investigation of Higher Psychological Functions", carried out under Vygotsky's supervision in 1931: "...Mediation of the act of memorization does not change the biological laws of this function; it only changes the structure of the operation as a whole. By organizing the appropriate "stimulus-tool", which ensures the reproduction of the impression received, we master our memory by mastering its stimulation, i.e., we control it based on the subjugation of its own natural laws" [20].

Leontiev rightly notes that it is not enough to point out that the higher forms of memory are governed by the same general neurophysiological laws as natural memory. Hence, the **second foundation** is the very fact of human social life, which imposes new tasks and specific demands, primarily the need to organize joint (collective) activity, whose regulation requires the development of means to manage one's own behavior and that of group members. Initially, these are primitive means, such as the "message sticks" of Australian tribes, "knots for memory", "knot writing", and so on. Eventually, these means were refined and led to the emergence of uniquely human, symbolic behaviors like speech, counting, and writing. It is the development of such mediated behavior that sets the condition for the transition from a biological to a *historical type* of development: "...The use of means that organize a person's behavior stops the development of psychological functions through direct changes in their biological basis and opens the era of their historical, social development" [20]. This is the key difference and profound connection between natural (innate) and higher (cultural) psychological functions — with the onset of the "era" of cultural-historical development, it is not the "brain substrate" as the natural basis of the psyche that transforms, but the methods of regulating (managing) the natural processes and mechanisms of psychological activity. Such regulation is based on the functional (instrumental) use of sign-symbolic systems historically developed by humanity, which are acquired by the individual during ontogenetic development "under the influence of the social environment", i.e., in the context of joint (collective) human activity.

[6] The term "pushed in" can most likely be understood as a purposeful act of applying a "communicative tool" to transform an individual psychological operation directed at the object of action (memorization, comprehension, etc.).

This "acquisition" does not occur instantaneously, like an "insight". Vygotsky showed that the development of sign operations in a child (significative function), and consequently of all higher forms of behavior, has its own history and progresses through several stages. The first is the *stage of "primitive psychology"*, where the use of signs or external means is absent, and the child relies only on the possibilities and resources of natural functions. Nevertheless, this stage is significant, as it is where the child first encounters difficulty, i.e., the inability to solve a task solely by natural means. The second stage is that of *syncretism or naive psychology*, i.e., an undifferentiated unity of two sets of stimuli (stimuli-objects and stimuli-tools). At this stage, the sign does not yet perform its functional role, i.e., it does not serve as a means to transform the operation directed at the object. As Vygotsky notes, at this stage, "the child takes the connection between things for a connection between thoughts" [9]. In the next, third stage, of the *external cultural sign*, the child discovers (either independently or with the help of an adult) a new way of forming connections, and as a result, the solution to the "internal" task (for example, memorization) is transformed into a rather complex and multifaceted external activity. The third stage passes relatively quickly, and the child transitions to the fourth stage — the stage of internally mediated sign operations, where "the external technique becomes internal". Vygotsky identifies three types of this transition of an external tool into an internal one: "complete incorporation", "incorporation through stitching", and "mastery of the structure of the external technique". The last of these types — mastery of the structure — can be reasonably considered the emergence of the child's *significative function*, i.e., the sign operation as a way of acting in situations where solving the task by "direct" (natural) means is impossible. Thus, Vygotsky demonstrated that the formation of sign operations, like all psychological functions, occurs in the process of their development, i.e., their qualitative transformation from "lower" (natural, primitive) forms to "higher" (cultural, voluntary, systemic) ones. The gradual development of sign operations is also confirmed in the work of L.S. Sakharov, conducted under Vygotsky's supervision, which investigated the process of concept formation as the acquisition of meaning by a meaningless word. Sakharov identified three stages through which a word passes in acquiring its significative function: 1) the word as an individual sign, a proper name for a thing; 2) the word as a family sign, uniting a group of things by an associative feature; 3) the word as an abstract concept [26].

Returning once again to the problem of the interrelation between the "historical", "social", and "individual", which Vygotsky raised back in 1925 and resolved through the sign +, we can conclude that in The History of the Development of Higher Psychological Functions, which "closes" the "instrumental period" of the scholar's work, this problem is approached from a new perspective. "The integration of a normal child into civilization generally represents a unified blend with the processes of their organic maturation. Both developmental plans — natural and cultural — coincide and merge with one another. Both series of changes interpenetrate and form a single sequence of social-biological formation of the child's personality. Since organic development occurs in a cultural environment, it becomes a biologically conditioned historical process" [11].

Conclusion

The "instrumental period" of Vygotsky's work conventionally ends in 1931. In 1932, Vygotsky began formulating a new research program, where the concept of "meaning" emerged as the key, "central" element. In the theses for A.R. Luria's report (1932), based on the materials from the expedition to Uzbekistan, Vygotsky noted: "A sign operation without the analysis of meaning tells us nothing. Memorization with the help of a knot can be genetically the lowest or the highest: a symbol of a higher order" [16]. This was followed by an even clearer indication of a change in approach to the central problem of the new program: "Previously, we were interested in the effect of memorization, external progress being brought to the surface. Now we are interested in going inside, the inner atomic structure of the word, because incorporation cannot be understood from repetition but from internal mediation. How did we understand it? As the representation of the word. This is incorrect. Meaning, in the psychological sense, is the internal structure of a sign operation. A sign mediates through meaning" [16]. This period of Vygotsky's work warrants special attention (as we will do in subsequent publications of this cycle of articles), as despite its relatively short duration, it is one of the most productive and intellectually dense periods. It was during this time (1932 to 1934) that a rather intense debate unfolded, marked by active criticism and self-criticism between Vygotsky and several of his colleagues (e.g., A.N. Leontiev, A.R. Luria, and others) regarding the subject matter of past and future research. This period saw a rethinking of many central issues in cultural-historical psychology, including the method of investigation, the structure of consciousness, and the mechanisms of its functioning. It was also when

the new concept of the "zone of proximal development" was introduced[7].

Vygotsky's ideas about the mediating role of signs in development and the relationship between "sign" and "meaning" were later developed in the works of V.V. Davydov, G.A. Zuckerman, B.D. Elkonin, L.I. Elkoninova, Yu.V. Gromyko, E.A. Bugrimenko, and others. V.V. Rubtsov's work developed and experimentally substantiated the socio-genetic method for studying development in learning, in which the relationship between the content of the studied object, the structures of joint activity, and sign-symbolic structures in the process of concept formation is specifically examined. This method is implemented in a series of studies by Yu.V. Gromyko, A.Yu. Korostelyov, A.G. Kritsky, O.B. Konstantinova, and A.V. Konokotin, where the role of signs (sign-symbolic means) in the process of concept formation in conditions of co-distributed learning activities is specifically considered. In addition, the development of the ideas of cultural-historical psychology has gained significant importance in the works of O.V. Rubtsova, who developed the Multimedia-Theater activity technology — a system of role experimentation in which students (adolescents) assimilate "new cultural signs" presented through various "experienced" and "lived" social roles and realized in the patterns of role behavior within joint activities. These studies, their results, and their connection to the fundamental principles of L.S. Vygotsky's theory will be discussed in subsequent articles.

In conclusion, it should be emphasized that cultural-historical psychology is a thoroughly developed and dynamically evolving system of concepts and corresponding terms. The question of understanding the content and genesis of the conceptual and terminological apparatus is not a "frivolous" or secondary aspect of scientific work, but one related to understanding the reality that is the subject of study. Vygotsky wrote: "Language, and scientific language in particular, is a tool of thought, an instrument of analysis..." [5]. Therefore, the use of scientific terms and concepts (including "sign", "tool", "sign operation", "signification", "mediation", etc.) as simple "labels" without understanding their origin and content, established within the framework of a particular scientific concept, leads to a significant distortion of both the concept itself and the work conducted using its methodology.

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[7] V.K. Zaretsky notes that with the advent of this concept, "the conceptual framework of cultural-historical theory can be considered complete, since it contains a concept linking together a number of breakthrough ideas of L.S. Vygotsky about the specifics of human development, about his consciousness, about the role of culture and the interaction of a child with other people" [17].

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A STUDY OF THE DEVELOPMENT IN THE SYSTEM OF CONCEPTS OF CULTURAL-HISTORICAL PSYCHOLOGY

ИССЛЕДОВАНИЕ РАЗВИТИЯ В СИСТЕМЕ ПОНЯТИЙ КУЛЬТУРНО-ИСТОРИЧЕСКОЙ ПСИХОЛОГИИ

Means Problem in Cultural-Historical Theory

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The article presents a dialectical analysis of psychological means as one of the problems within cultural-historical psychology. The author raises the question of what properties psychological means must have in order to serve as a tool for influencing the actor's behavior. As means are considered those presented in L. Vygotsky's works: sign, symbol, visual diagram, concept of opposition. This study offers a solution to a number of theoretical problems: it gives a description of the primary and ideal forms' structure as well as explains the possibility of their interaction (including in the process of mediation). The key properties of symbolic means are determined: the presence of material and ideal components, as well as experiences that presuppose the unity of affect and intellect. These qualities allow the sign to mediate the interaction of the primary and ideal form. The product of sign mediation is the formation of higher psychological functions in the child. The hypothesis is substantiated that it is advisable to consider relations of opposition as cultural means, and their mastering is necessary for the dialectical thinking formation as the highest psychological function. The study shows that one of the fundamental properties of opposite relations is their two-level nature. This property is demonstrated in the use of opposites in cycles as it involves a transition from content analysis to structure analysis and back. The theoretical research carried out is aimed at developing the cultural-historical concept, including the problem of psychological means. The work done has practical significance, because it provides a detailed description of the means' transformations that arise in the process of social interaction between an adult and a child.

Keywords: cultural-historical psychology, sign, symbol, visual diagram, concept of opposition, education, perezhivanie, environment.

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Проблема средств в культурно-исторической теории

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В статье представлен диалектический анализ психологических средств как одной из проблем культурно-исторической психологии. Автор ставит вопрос о том, какими свойствами должны обладать психологические средства, чтобы выполнять функцию орудия воздействия на поведение субъекта. В качестве средств рассматриваются те из них, которые представлены в трудах Л.С. Выготского (знак, символ, наглядная схема, понятие противоположности). Решается ряд теоретических задач: дается описание структуры первичной и идеальной формы и приводится объяснение возмож-

ности их взаимодействия, в том числе в процессе опосредствования. Определяются ключевые свойства знаковых средств: наличие материальной и идеальной составляющих, а также переживаний, предполагающих единство аффекта и интеллекта. Эти качества позволяют знаку опосредствовать взаимодействие первичной и идеальной формы. Продуктом знакового опосредствования является формирование у ребенка высших психологических функций. Обосновывается гипотеза о том, что отношения противоположности целесообразно рассматривать в качестве культурных средств, освоение которых является необходимым условием формирования диалектического мышления как высшей психологической функции. В статье показано, что одним из фундаментальных свойств отношений противоположности выступает их двухуровневость. Она выражается в том, что применение противоположностей носит циклический характер и предполагает переход от анализа содержания к анализу структуры и обратно. Выполненное теоретическое исследование направлено на развитие культурно-исторической концепции, включая проблему психологических средств. Проделанная работа имеет и практическое значение, так как в ней приводится развернутое описание трансформаций средств, возникающих в процессе социального взаимодействия взрослого и ребенка.

Ключевые слова: культурно-историческая психология развития, психологические средства, знак, символ, наглядная схема, отношения противоположности, обучение, переживание, среда.

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Introduction: the focus of psychological means

The problem of psychological means was raised within the framework of cultural-historical psychology by L.Vygotsky and continues to remain relevant up to the present time. This problem has a number of contexts in which it is analyzed. One of such contexts is the orientation of psychological means. L.Vygotsky wrote: “The essential difference between a sign and a tool... is the different orientation of one or the other” [10, p. 90]. Some affect objects, others control human behavior. The latter are cultural means.

The question that arises in connection with orientation is the following: what properties should a psychological tool have in order to influence the human psyche? Answering this question, L.Vygotsky turned to the principle of signification. The principle is that a person himself creates artificial stimuli with the help of which he influences his own psyche [10, p. 85].

L.Vygotsky emphasized that a psychological tool performs mediating activity [10, p. 89]. It is useful to understand what is mediated. L.Vygotsky considered various signs. Since the sign is brought outward, one side of the sign must be material. But the effect is directed to the human psyche. Consequently, the means must also have an ideal side. Without this it cannot correspond to the general genetic law of cultural development: “Any function in the cultural development of the child appears on the stage twice, in two plans, first, at thesocial, then at the psychological, first between people, as an interpsychic category, then inside the child, as an intrapsychic category” [10, p. 145].

It becomes clear that psychological means is aimed not only at managing human behavior, but also at transforming the social plan into a psychological one. It mediates the process of transformation. Let us make one addition. Let us turn to a road sign as an example. It is clear that a road sign has two sides: material and ideal. The material side characterizes the possibility of the subject’s perception of the sign situation, and the invisible ideal side corresponds to the meaning of the sign. In addition to the meaning of the sign and its appearance, there is another component of the structure of the sign, which is expressed in the experience of danger associated with the sign situation. There is every reason to include in the structure of psychological means also the experience connected with the sign situation, characterized by the unity of affect and intellect and reproduced in the imaginary, i.e. in the ideal plan.

Considering the ideal plan, E. Ilyenkov wrote: “the object is idealized only where the ability to actively recreate this object, relying on the language of words and drawings, where the ability to turn “word into deed” and through the deed into a thing is created” [16]. In fact, E. Ilyenkov spoke about two types of means: “words and drawings”, with the help of which an ideal image can be transformed into a real thing.

The preliminary conclusion is as follows: the means (sign) acts as an artifact, which implies a system of actions characterizing the cultural ways of operating this artifact. The sign is aimed both at controlling the subject’s behavior and at the process of transforming the social plan into a psychological one. It is also associated with the experience of the situation in which it is applied, influencing the child’s behavior.

Analyzing the environment in the cultural-historical theory of development

It is reasonable that the problem of cultural means in L.Vygotsky's theory includes the analysis of the environment. Such a statement is a direct consequence of the general genetic law of cultural development, according to which the highest psychological function initially exists in the external plane. But if this is true, the question arises as to how the realization of psychological operations occurs precisely in the external plan. The answer to it is partially contained in the description of the stages of development of psychological formations, in particular, in the characterization of the stage of external sign [11, p. 109]. As examples, L. Vygotsky cited the stage of "counting on fingers", the stage of "external mnemotechnical signs", egocentric "child's speech" [11, p. 109].

The adult controls the child's behavior, using words, indicating how to act in this or that situation [23]. The child, with the help of the adult, transforms his/her behavior in accordance with verbal instructions, assimilates these instructions, and, finding himself/herself in a similar situation, reproduces them aloud, independently instructing himself/herself, and then acts in accordance with the spoken instructions.

Thus, the environment includes a number of components. According to L. Vygotsky, the environment is the source of development. However, L. Vygotsky did not limit his characterization of the environment to the inclusion of cultural artifacts (signs) and participants of social interaction (subjects) in its analysis. He noted that the analysis of the environment should be based on the understanding of the relationship that is established "between the child and the environment at a given stage of development" [7, p. 75]. He emphasized that the influence of the environment on the child's psychological development is manifested in experiences [7, p. 76]. Experiences can be both positive and negative. L. Vygotsky gave an example with three children whose mother drinks and suffers from nervous and mental disorder: "Each of these children experienced this situation differently" [7, pp. 78—79].

Experiences allow the child to realize the relationship with the environment [20]. Experience, according to L.Vygotsky, is a multidimensional formation. First, experience is a unit of analysis that preserves all the properties of the whole, as which a person in a situation is considered. Secondly, the experience represents "all features of the individual and all features of the environment" [7, p. 80]. Thirdly, both the features of the environment and the features of personality are selected with the help of experience and constitute the situation in which the development of higher psychological formations takes place [7, p. 80]. Fourthly, experience being one of the forms of manifestation of the unity of affect and intellect, allows the subject to pass from the emotional state to cognitive analysis, that is, to realize the relations with the environment. Thus, experiencing determines the social situation of development, i.e. the composition of those higher psychological functions that are in the process of development at a given age stage. But in the process of experiencing, the sign situation is also reproduced, as we tried to show.

The understanding of the ideal made by E. Ilyenkov is of undoubted interest: "The ideal exists where there is the ability to recreate an object in space, relying on the word, on language, in combination with the need for this object, plus the material support of this act". [16, p. 219]. The quoted fragment clearly demonstrates the idea that the word (or sign), i.e. cultural means, mediates the transformation of an ideal image into a real object. But exactly the reverse transformation also takes place: "These two counter series of metamorphoses are actually closed in a cycle: Thing — thing — word — word — thing — thing. In this constantly renewing cyclic movement only the ideal, the ideal image of the thing exists" [16, p. 220]. So, we can say that the highest form is represented in the social situation of development, i.e. in the environment that arose due to experience, and that it interacts with the primary form and is involved in the emergence of higher psychological functions.

Speaking about the role of the environment in child development, it is important to note another type of situations that L.Vygotsky distinguished when analyzing learning [21]. These are situations that lead to development, in which the zone of nearest development is created. Learning involves mastering cultural norms. However, the need to master cultural norms contains certain limitations related to the child's personal development.

Thus, E. Ilyenkov emphasized that culture appears as "the power of the social whole over the individual" [16, p. 221].

At the same time, S. Rubinstein pointed out the importance of the personal aspect of child development: "...all human psychology ... is the psychology of personality. ... All mental processes constitute ... mental content of the life of the individual" [19, p. 515]. Adhering to the definition of personality given by A. Losev in his work *Thing and Name* as "self-asserted individuality" [18], we note that the space of self-affirmation can be creative activity.

Speaking about the emergence of a creative idea, L.Vygotsky emphasized its important feature: "This feature is the aspiration of imagination to embodiment, this is the true basis and driving force of creativity. Any construction of imagination, proceeding from reality, strives to describe a full circle and to be embodied in reality" [6, p. 36]. He connected the significance of obtaining a

creative product not only for the creator himself, but also for other people: "Creative imagination in its full form seeks to externally confirm itself with such a cause, which exists not only for the creator himself, but also for all others" [6, pp. 36—33].

As follows from the quoted fragment, in L.Vygotsky's reasoning, the necessity of embodiment of a creative idea through the creation of a creative product and its subsequent presentation with recognition of its social significance is noted. Thus, we have all the grounds for singling out, within the framework of the cultural-historical concept of the development of higher psychological functions, another type of situations related to the possibility of supporting children's personality in creativity. We called this situation the space of children's realization [4]. By its structure it complements the situation including the zone of the nearest development due to the possibility of realization of children's individuality through the embodiment of children's ideas. The child here acts as the author of the idea, and the adult acts as a child's helper.

The problem of natural and cultural

L.Vygotsky did not limit the role of the environment to these features. He pointed out one more essential circumstance, which is connected with the analysis of interaction between the primary and the higher or ideal form: "The final form, the one that should appear at the end of development, not only exists in the environment and is in contact with the child from the very beginning, but it really interacts, really influences the primary form" [7, p. 88].

Since L.Vygotsky introduced the concept of primary form, which can probably be interpreted as a psychological formation preceding the child's mastering of the ideal form, it is difficult to call it a psychological tool or means. Due to the above-mentioned circumstances, we can assume that the primary form represents some initial level of development of the corresponding psychological function, i.e. its natural form. Then the ideal form can be regarded as the highest psychological function or cultural form.

In connection with the above, the following explanation should be made. First of all, it is necessary to understand whether or not the interaction of the primary and higher form corresponds to the basic genetic law. L. Vygotsky spoke about the paradox of development, which consists in the fact that the highest psychological function appears from the very beginning of the process of its formation. He saw the resolution of the paradox in the fact that initially the highest psychological function, although it exists in the social situation of development, but it is represented by an adult, not a child. Thus, it turns out that the transition to the inner plan is carried out under the constant influence of this higher psychological function on the child.

Note that, strictly speaking, higher psychological functions are not single cultural means. Then it becomes unclear how the formation of a higher psychological function in a child takes place in the sense that the stages of its development must be represented in an external social plan. This is where the difficulty lies, because it is necessary to explain how and at the expense of what this external representation is achieved.

Taking into account what has been said, it makes sense to try to solve several tasks: 1) to describe the structure of the primary form; 2) to understand the structure of the ideal form; 3) to explain the possibility of interaction between the primary and ideal form. The solution of these tasks is partly presented in the characteristics of the main stages of development of mental operations [11, pp. 108—109]. Taking into account the characteristic of the first stage, we can say that the structure of a primitive operation includes the observed material side, and an unreflexive, natural way of action. The fourth stage, on the contrary, "is characterized primarily by the fact that the external operation goes inside, becomes an internal operation" [11, p. 109]. In other words, the fourth stage is characterized by the fact that the operation stops to be visible. It is transformed into an invisible ideal operation, which is eventually mastered by the child. This point should be considered in more detail. First, it must be borne in mind that the highest form belongs to the adult. Moreover, it is ideal, i.e. invisible. The fact that the primary form has material characteristics and belongs to a child is also of interest. Given the properties of both forms: the materiality and unreflexivity of one and the ideality and reflexivity of the other, it is appropriate to ask how they can interact with each other and where the result of this interaction is located.

Most likely, we should assume the possibility of using the sign as a means, the use of which allows the interaction of primary and higher forms. We can describe this interaction as follows: the primary form interacts with the ideal form through mediation by means of a sign. The result of this mediation is the first step in the formation of the higher psychological function, which is formed in the external plan of social interaction. The second step will consist in the fact that the product of the first step, the primary form transformed by mediation, is included in the interaction again with the higher form and is again mediated by the sign, etc. The primary form changes with each step, developing and approaching the ideal form. The changes occur because the newly achieved result is constantly correlated with the higher form.

The question remains as to how the process of mediation is accomplished, and what happens to the natu-

ral function or primary form? Apparently, one of the processes of sign mediation is learning. L.Vygotsky noticed that "learning and development do not first meet at school age, they are actually connected with each other from the first day of a child's life" [9, p. 383]. They unfold in the social situation of development, and their results are steps in the development of higher psychological functions.

We have not considered the question concerning the fate of the natural in the process of interaction of the primary and higher form. In this case, we are inclined to understand under the natural function those primary processes that A. Leontiev called "sensual tissue" [17, p. 133].

We find confirmation of the naturalness of the first levels of building the representation of reality in the child's perception in L.Wenger. Discussing the first steps of perceptual development, he wrote: "Uup to a certain point there is a control of reactions at the "analyzer" rather than at the "subjective" level. When directly observing the processes of tracking and fixation in children of the first-second month of life, a peculiar, as if "mechanical" character of eye movements draws attention. These movements, as many authors note, are clearly passive: it is not the child who looks at the object, but the object under certain conditions "fixes" and leads the child's eye ..." [2, p. 220].

Thus, the following are involved in the formation of a higher psychological function: Primary form, ideal form, and sign. The adult operates with the sign and the secondary form. The child operates with the primary form and partially with the sign. The operation of the sign is limited to the child's interpretation of its meaning. The mediation of the sign can look like a process of discussion of children's behavior by an adult or as instruction of the child. In this case, the result is, on the one hand, the result of understanding of that part of the higher form, which was available to the child in the process of imitation, and, on the other hand, the result is, again with the help of a sign. It would be desirable to note that in spite of the primary form's disfigurement, the natural psyche is preserved, because the experience based on it is the material for the construction of the result in the form of the next step in the formation of the higher psychological function in the external plan.

Types of means considered in the context of cultural-historical theory

First of all, let us note a few more points related to the understanding of means in the cultural-historical theory of development. Firstly, L.Vygotsky considered signs "as auxiliary means in solving any psychological task facing a person (to remember, to compare something, to inform, to choose, etc.)" [10, p. 87]. Secondly, the solution of a psychological task can rely on an internal or external sign: "higher mental functions are built initially as external forms of behavior and rely on an external sign" [8, p. 71]. Characterizing the sign, L.Vygotsky wrote: "Any artificially created conditional stimulus, which is a means of mastering behavior — other's or own — is a sign" [10, p. 78]. L.Vygotsky considered language, writing, counting, drawing, etc. as external means or signs. [10, p. 25].

L.Vygotsky gave a special place in the developmental process to story-role play. In the game he singled out the role, which, in our opinion, acts as a symbolic cultural means, the result of mediation of which is arbitrary behavior, i.e. behavior independent of the visible field.

The general trend in the understanding of means within the framework of cultural-historical theory, defined by the followers of L.Vygotsky, includes consideration not only of sign systems, but also of concepts and images. Thus, as a result of the work carried out under the guidance of A. Zaporozhets, sensory standards were considered as means of perception [15, p. 109]. The subtlety of A. Zaporozhets' understanding of sensory standards is that he connected their mastering with words. In this case, sensory standarts acted as certain achievements of culture. The inclusion of the word allowed A. Zaporozhets to consider sensory standards as interiorizable sign means, mastering of which turns perception into a higher psychological function.

In the course of research on perceptual means, perceptual operational units have been identified: "Concretely, perceptual operational units act as the content allocated by the subject when performing this or that perceptual task. The development of perception is associated with the change of operational units of perception" [1, pp. 26—27].

Operative units of perception are fundamentally different in their structure from signs as psychological means. The point is that L.Vygotsky considered psychological means, as has already been shown, first of all as material instruments used to influence the human psyche. The means included all kinds of signs, schemes, images, etc., which are artifacts of culture. The inclusion of operational units of perception in the composition of psychological means made it possible to consider the content of the human psyche itself as a source of development.

Thus, two lines in the development of psychological means began to take shape: culturally conditioned and individual. The presence of these two lines is clearly presented in the works of P. Galperin: "In the true relation between the subject and the instrument, the following question comes to the fore: What is this thing,

a means for the one who approaches it, who takes it? If for him it is a thing in which the way of its action (in the direction of a known goal) is not fixed, then it is natural that the thing receives the logic of such action from the subject himself. If, on the contrary, it is a thing made for a certain purpose, requiring special ways of use, then, obviously, the subject, to whom it appears in this way and who for the sake of these instruments turns to it, will submit to these objective requirements, to this system of operations fixed behind the instrument" [13, p. 50].

This fragment shows that there are two ways of interacting with a thing: the first one is based on cultural, i.e. the generally accepted way of using it, taking into account prescribed forms of activity, and the second one, which actually ignores cultural actions and focuses on subjective and individual variants. Another conclusion that follows from this example is the following. A psychological tool can be presented to a child, but presentation does not guarantee its adequate use. It is necessary to create special conditions.

L.Wenger, based on the cultural-historical theory of development of higher psychological functions, began to consider visual models as effective means of mental development in preschool children. In order for visual models to become an effective means of cognitive development, it was important to teach children to build and apply visual models as psychological means of solving various cognitive problems. L.Wenger and his collaborators developed an appropriate educational system that allowed to effectively influence children's mental development through mastering the skills of building and applying visual models in their activities [2].

We distinguish between sign and symbolic means. The main difference between a sign and a symbol is that a sign has a rather clear, definite meaning. The external side of the sign is relatively unimportant from the point of view of this meaning. The main role of the external side of the sign is to steadily hold its meaning. The sign immediately orientates the consciousness of the subject to the perception of the meaning.

The difference between a symbol and a sign is that the meaning of a symbol is less certain. In addition, the external side of the symbol, i.e. its shell, has a clearly expressed own visual content. Accordingly, two types of meanings can be distinguished in the symbol: external, associated with the shell of the symbol, and internal, characterized by its hidden meaning. Thus, the symbol is a sign that has a dual subjectivity. In fact, L.Vygotsky showed that symbolic means are characteristic of play activity [12]. He noted that the preschooler's play is characterized by a double perspective, i.e., on the one hand, the child can see the real object-substitute, and, on the other hand, simultaneously hold in consciousness the imaginary object that is substituted with its help. This peculiarity of the imaginary situation arising in play activity indicates the accessibility of the symbolic form of reflection for preschool children [4; 5; 22]. The structural features of the symbol allow us to consider it as a means of solving the tasks faced by the subject in a situation of uncertainty.

In the works of V. Davydov showed the existence of two types of thinking means, to which empirical and theoretical concepts were attributed: "The formation of a theoretical concept occurs in the transition from the general to the particular (from the abstract to the concrete)" [14, p. 380].

When the transition from the general to the particular or from the particular to the general does not occur, empirical generalizations are formed. If we compare scientific concepts and empirical generalizations, the former can be considered in the context of cultural means because of their universality, while the latter, i.e. empirical generalizations, are the result of individual experience. They do not imply a systematic analysis of the content in the context of the part-to-part relationship, and the generalization itself is partial, accidental.

To summarize the consideration of types of means in the context of the cultural-historical theory of development of higher mental functions, we can note the following. In fact, L.Vygotsky singled out and named the main psychological means that are currently used in developmental psychology: verbal signs, visual models, symbols and concepts.

In the course of the analysis it was shown that along with cultural means there are individual subjective formations (operational units) that are used to solve psychological problems. They arise individually, but their application can be highly productive.

In the search for psychological means, there is one more possibility left to discuss: to consider the relations of opposites as cultural means aimed at the development of children's psyche. First of all, we should note that L.Vygotsky himself emphasized the relations of opposites as units of analysis. In particular, he pointed them out by contrasting the method of analysis by units with the method of decomposition into elements. L. Vygotsky emphasized that psychology "must find these ... units in which these properties are represented in the opposite form" [11, p. 16].

In order for opposites to act as psychological means, it is necessary to point to such a higher psychological function, the formation of which is impossible without these means. Since this function has not been sufficiently studied, it is not fully represented in modern psychological research. We believe that dialectical thinking acts as such a function. In this regard, opposites can be considered as means corresponding to this function. It is im-

portant to take into account that the dialectical thinking process is carried out at two levels: at the level of form and at the level of content, where the movement of thoughts is characterized by the transition from one level to another.

Conclusion

The problem of means of mental activity was posed within the framework of cultural-historical psychology of development by L.Vygotsky. Up to the present time it has not lost its relevance. Cultural means are characterized by their orientation. In this article, the task of determining the properties of sign means used to solve various psychological tasks was carried. As the analysis has shown, sign psychological means are characterized by the presence of a material component (shell), an ideal component (meanings and ways of action), as well as experiences that imply the unity of affect and intellect. These qualities allow the sign to mediate the interaction of primary and ideal form. The product of sign mediation is the formation of higher psychological functions in the child.

It should be noted that L. Vygotsky described many of those psychological means that are used in modern early childhood education. He identified cultural or sign means. His followers identified means characteristic of individual types of activity (operator standards).

The article also provides a description of the two-level thinking tools considered in the context of dialectical thinking and the symbolic tools used in the process of imagination.

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The Problem of Data Analysis in Cultural- Historical Research

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The article discusses the main ideas of the cultural-historical theory of social environment as a source of development from the point of view of the possibility of "refocusing research on development" and the transition from descriptive (empirical) ways of analysing experimental data to explanatory ones. In this article, based on Vygotsky's works, it is shown: 1) how the general idea of social environment as a source of development can be further conceptualised with the concepts of "social situation", "social situation of development" and *"perezhivanie"* and 2) how the analytical model created on this basis can become a concrete tool for analysing the experimental data. The cultural-historical genetic-analytical model developed by the author and experimentally validated is presented as a general framework for analysing experimental data in accordance with the general requirements of the experimental-genetic method. The second part of the paper presents a cultural-historical analytical matrix based on the model, which allows the data to be analysed in terms of revealing internal processes of development. The genetic-analytical model allows the analysis to capture the aspect of universality. A matrix based on this model (and therefore retaining the aspect of universality) can be used to analyse a particular social situation in terms of the specific conditions in which this universality manifests itself.

Keywords: cultural-historical methodology, development, genetic-analytical model, the matrix of the cultural-historical analysis of data.

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Проблема анализа данных в культурно-историческом исследовании

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В статье рассматриваются основные положения культурно-исторической теории о социальной среде как источнике развития с точки зрения возможности «перефокусирования исследования на развитие» и перехода от описательных (эмпирических) способов анализа экспериментальных данных к объяснительным. В этой статье, опираясь на работы Выготского показано: 1) каким образом общая идея о социальной среде как источнике развития может быть концептуализирована в понятиях «социальная ситуация» «социальная ситуация развития» и «переживание» и 2) как созданная на этой основе аналитическая модель может стать конкретным инструментом анализа экспериментальных данных. Представлена разработанная автором и экспериментально подтвержденная культурно-историческая генетическая модель (cultural-historical genetic-analytical model) как общая рамка для анализа экспериментальных данных в соответствии с общими требованиями экспериментально-генетического метода. Во второй части статьи представлена матрица культурно-исторического анализа, построенная на основе модели и позволяющая анализировать данные с точки зрения выявления внутренних процессов развития. Генетико-аналитическая модель позволяет в анализе уловить аспект всеобщности. Матрица, построенная на основе этой модели (и, следовательно, сохраняющая аспект всеобщности), может быть использована для анализа конкретной социальной ситуации с точки зрения конкретных условий, в которых эта всеобщность проявляется.

Ключевые слова: культурно-историческая методология, социальная ситуация развития, переживание, генетико-аналитическая модель, матрица культурно-исторического анализа.

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What is this article about?

This article is, in a sense, a continuation of the conversation that I started on the pages of this journal exactly 10 years ago [1; 2] talking about the method of cultural-historical research known as the experimental-genetic method. The discussion point was how to solve the problem that researchers face, which can be formulated as follows: "How to build an experimental design according to Vygotsky?" or "How to conduct the experimental study so that one can be sure that it is built on the basis of the general principles of the experimental-genetic method?". I proposed five principles for organising and constructing research — what in the Western tradition is called "requirements for the research design".

In this paper, I will try to take the next step and answer the question, which, by the way, I quite often have to hear — "I have conducted research and here are my data, but how to analyse it from the point of view of cultural-historical approach?". Or, in professional terms — "Here is my data...But what exactly to look at? What should I choose to analyse in detail, and how should I analyse it?". This is not an idle question at all. It is surprising that there is still no general approach, no system of requirements (or even just recommendations) on how to analyse experimental data. This leads to some misunderstanding and even confusion since each researcher analyses data as he or she sees fit. And since this is the case, it opens up wide possibilities for subjective and arbitrary interpretations. This is one of the reasons why mainstream psychology is so sceptical of our research. It is really difficult to treat it otherwise, when in cultural-historical research everyone can design the experiment almost as he or she likes, and to analyse the obtained data as well. In this case, there is nothing to say about comparability, if the results of analyses of the obtained data depend not on the data, but on the subjectivity of the researcher and sometimes not only do not correspond to each other but are in direct contradiction.

I, of course, exaggerate the problem on purpose, though not too much. We, scholars of my generation, who grew up on this tradition, know how to design experimental conditions and how to analyse, because we did it together with our teachers, and they knew the experimental-genetic method perfectly well. But what about those young colleagues of ours, especially foreign colleagues, who are only making their first steps? What should they be guided by, how to protect themselves from mistakes and not to slip into superficial interpretation instead of serious and deep analysis, especially since there are plenty of examples of such interpretations. In short, we need some clear tools — working models, frameworks, instructions, matrices — call them what you like, which could help not only to organise the research process correctly, but also to analyse the data obtained. This is what my article is about.

The social environment is the source of development: what's next and how to work with it?

In cultural-historical theory, the social environment is considered not as a factor, but as a source of development of all higher psychological functions[1]. This idea, which emerged at the early stages of the development of the theory, appearing first in Psychology of Art [3] and in several defectological works from 1925, acquired more and more complete content at different stages of the development of the theory, but generally remained unchangeable.

However, it is one thing to accept this idea as a certain general and even fundamental position, as a certain axiom or a postulate, and another thing to accept it as an idea that leads to the selection of analytical tools, as something that allows us to properly build an experimental study of the developmental process and, what is even more important, gives the researcher the means to analyse the obtained data.

It is impossible to build a specific experimental study on any, even the most brilliant general idea. This requires more specific concepts, which allow to correctly build experimental conditions in a particular study, and which, at the same time, can act as a means of analysis, capable of capturing not only the dynamics of change, but also the essential side of the development process.

In one of my articles [4] I wrote that we need theoretical means of analysis that allow us to "refocus the researcher's lens on development". To "grasp" the very process of development, its dynamics and psychological content, to explain the changes that occur or do not occur, to move from descriptive to explanatory modes of analysis, that is, to uncover through analysis the inner essence of the phenomenon — this requirement for the scientific method was essential for Vygotsky and he repeatedly returned to this theme. It is not surprising that in Vygotsky's works we can see how this general idea was gradually filled with concrete content, how on this basis he and his collaborators gradually built up a system

[1] I prefer "psychological", not "mental" as it was translated in the English Collected Works.

of concrete psychological concepts as tools for analysing the process of development.

In this article, based on Vygotsky's work, I want to show: 1) how the general idea of social environment as a source of development can be conceptualised in two concepts — the concept of "social situation" and the concept of "social situation of development" and 2) how an analytical model created on this basis can become a concrete tool for analysing the experimental data.

Social environment, social situation and social situation of development — a cultural-historical analytical model

The concept of social situation of development and the related concept of perezhivanie appeared in a series of works related to the last period of Vygotsky's work — these are on pedology from 1930-1933 as well as the book The Problem of Age [5; 6], which remained unpublished in its entirety.

Let us begin with the social situation of development. This concept was precisely and definitely developed in connection with the problem of age development as a criterion for determining the psychological age. Following dialectical logic, Vygotsky, distinguishing two phases in each psychological age — critical (crisis) and lytic (calm), and attributes the critical phase to the beginning of psychological age. It is here the concept of social situation of development is first formulated [6, p.25].

Revealing the content of this concept, Vygotsky emphasises the following essential aspects.

First, the social situation of development is "completely original, exclusive, unique, and unrepeatable relationship between the child and the environment" [6, p. 43]. Let us note that it is not seen as "the relation of the child to social reality", but **between** the child and social reality. Here we do not deal with a mere figure of speech or carelessness — the "relation between" implies, by definition, both the relation of the child to the social environment and the relation of the environment to the child. Here the child is not opposed to the environment, but "embedded" into it.

Second, the social situation of development is " is the starting point for all of the dynamic changes occurring in development during a given period" [6, p. 43]. That is, in other words, it is the initial moment of all changes in the course of development throughout the entire psychological age, not just the phase of crisis.

Thirdly, " It determines wholly and entirely the forms and the path by following which the child acquires newer and newer properties of his personality, drawing them from the environment as the main source of his own development, the path by which the social becomes the individual" [6, p. 43]. Here we see a clear reference to the fundamental idea of social environment as a source of development.

But not only this! The child acquires new properties, the child develops, but it does so scooping (черпает in Russian) its new features from social reality. It seems that this is not an accidental beautiful expression, but an important clarification of the very concept of social environment as a source. Until a child starts "scooping" from this social environment, from social reality, it remains only a potential source of development. It can be compared to a source of water — a well, a river or a lake, or just water in the tap, remain only potential sources, but they become real, real (oh, it is not for nothing that Lev Semyonovich says not about social environment, but about social reality!) sources only when someone starts to use them as a source — with the help of a scoop, bucket, glass, etc.

Fourthly, the social situation of development is a concept that relates not to the structural but to the dynamic aspects of psychological age, that is, it is an analytical tool that allows explaining the dynamic changes in the process of age development and therefore, it goes together with the requirement for analysis — " In this way, the first question which we must address in studying the dynamics of any age consists of clarifying the social situation of development" [6, p. 43]. Having arisen at the beginning of the age period, in the first phase, in the phase of crisis, it persists throughout the age, but due to the fact that the child develops, "it with an inner necessity determines the annihilation of the social situation of development, the end of an epoch of development and a transition to the subsequent, or higher, age stage" [6, pp. 44—45].

Thus, the emergence of psychological neoformations in the child, the gradual disintegration of the former social situation of development and the gradual formation of a new unique system of relations between the child and social reality — this is what is called the dynamics of age development. In other words, for a full-fledged study of the child's development, it is not enough only to find out (and describe) the initial social situation of development at the initial stage of age and to investigate the process of the emergence of neoformations, the analysis should include the related processes of the disintegration of the old social situation of development and the gradual emergence of a new one during the whole psychological age.

Let us focus our attention at three points that are important for the further presentation. The concept of "social situation of development" introduced by Vygotsky at the last stage of his work is a concretisation of the general idea of social environment as a source of development. This concept can be used as a tool of analysis, i.e. with the help of this concept it is possible in a concrete experimental study to precisely define the subject of research — to describe the initial social situation of development, to study by experimental means the processes of gradual disintegration of the existing situation and gradual emergence of a new one in connection with the emergence of psychological neoformations in the child.

At the same time, the concept of "social situation of development" is strongly "tied" to the concepts of psychological age and the critical period of age, for it appears "at the beginning of each given age period" [6,

p. 43]. Finally, the social situation of development is the relationship between the child and social reality (not the child's relation to the social environment), where he or she acts as a participant, an active side, with his or her active attitude and participation in it. In other words, it is not in itself, not by the very fact of its presence, but by being embodied in specific social situations of development that the social environment begins to play its role as a actual source of development, turning from a potential source into an **real one**, it only then begins to act in this role, becoming what Vygotsky accurately called "the **social reality**".

But this was not enough! For even then, the general framework of the case study, the theoretical framework remains very general and therefore vague. It seems to me that this is why, in Lectures on Pedology [5], delivered a few months before his death, Vygotsky revisits the concept of social situation of development. He makes the next step in concretising the general idea of social environment as a source of development. The basis for this was experimental data and clinical observations. In his lecture "The Problem of Environment in Pedology" he gives several examples of such clinical observations and, which is important for the topic I discuss in this paper, gives examples of analyses of some of these clinical cases.

The example of three children with an aggressive alcoholic mother [5, pp. 70—71] has already become a classic and has been reproduced many times in the literature, so in order to save space I will not dwell on it in detail. But it is necessary to dwell on how Vygotsky analyses this situation and what concepts he uses here as analytical tools to make the analysis not descriptive but explanatory.

So, a drinking and aggressive mother and three children showing three different "pictures of developmental" in this situation, to use Vygotsky's own words. Here we find not so much a description of the situation itself (it is given in a concise, lapidary form), but an analysis of it from the point of view of the influence of the environment on the development of children. This analysis begins with the question: "What determines the fact that the same environmental conditions have three different effects on three different children?" [5, p. 71]. And the answer is: "This is due to the fact that the attitude of each of these children to an event is different. Or, as we might say, each of these children has undergone the experience of this situation differently" [5, p. 71]. The word "experience" (переживать in Russian), should not confuse the reader as the following sentence explains the point: "And so, depending on the three different *perezhivaniya* of one and the same situation, the impact that the situation has upon their development turns out to be different" [5, p. 71]

Let us pause for a moment and note that here Vygotsky not only introduces a new concept of *perezhivanie* into the explanation but says that perezhivanie (and *perezhivaniya* as plural form) is an attitude to certain event. This has direct relevance to another work — namely the chapter "The Crisis of 7 Years" in the book The Problem of Age, on which Vygotsky was then working at that time. In that chapter he says that "*perezhivanie* must be understood as the child's inner attitude as a human being to this or that moment of reality" [7, p. 382]. Sadly, an unfortunate error in the English translation, where "internal attitude" was translated as "external relation" [8, p. 294] makes the understanding almost unattainable for the English-speaking reader[2].

Here the sophisticated reader may ask a question — did not this concept appear earlier in the Problem of Age, when Vygotsky discusses the critical periods of psychological age, and did not he say in this work that "A meticulous study of the critical age demonstrates that in them there occurs a basic alteration in the perezhivanie of the child"[3] [7, p. 383]? However, we note that in this Volume of the Collected Works the word "perezhivanie" is used 169 times and in very broad and different contexts, but this does not give us reason to believe that it was in this work that the concept of *"perezhivanie"* itself was introduced without being rigidly tied to age crises.

This is why the lectures on paedology are of interest to us, because here the concept of perezhivanie is given precisely without such a rigid link. He says that the impact of the situation on the course of development of each child depended on the fact the three children had three different perezhivanie of the same situation**.**

Let us note; firstly, in this analysis Vygotsky is saying that these three children are in the same (literally "one and the same") situation and, secondly, that the effect it had on their development (not on the children, but on their development!) depended on the fact that three different *perezhivaniya* arose in this situation.

In other words, Vygotsky is not talking about a "social situation of development" as a synonym to the social situation. His analysis goes deeper, he says that **in some social situation**, due to the fact that it refracted through each child's individual *perezhivanie*, **three different social situations of development** arose, which led to three different pictures of development. That is, between the social environment (as a source of development) and the social situation of development there appears another important concept — "social situation", i.e. an event in which the child is involved not only emotionally, and to which he or she has a specific internal attitude. The social situation, refracted through the prism of *perezhivanie* as

[2] In our translation [6] we have corrected this unfortunate error (as well as many others). And in general, this translation of The Problem of Age is the only and most complete translation to date, because only separate chapters have been published in Russian and in different sources. As translators and commentators, we have taken the liberty of combining all the chapters under one cover, although we made it clear in the preface and introductory chapter.

[3] The English translation says: "Careful study of the critical age levels shows that changes in the child's basic experiences occur in them" [8, p. 295]. In our translation [6, p.239] we have corrected this oversight.

an internal attitude, may or may not lead to the emergence of a social situation of development.

Hence it becomes clear that the social environment always appears in the form of some specific social situation as a "part of the environment" [5, p. 69] and only its refraction through the prism of the child's individual perezhivanie leads to the emergence of a "social situation of development", i.e. exactly what Vygotsky defined as "a completely original, exclusive, unique, and unrepeatable relationship between the child and the environment" [6, p. 43). There is no doubt that "perezhivanie is determinative in terms of how a particular moment in the environment affects a child's development" and that "the environment determines the child's development through the perezhivanie of the environment" [7, p. 383].

But in the Lectures on Pedology this position is concretised and developed — the social environment becomes (or does not become) a valid, real source of development (the social reality) only when: 1) there is a certain concrete social situation and 2) this situation is refracted through the prism of *perezhivanie*, which leads (or does not lead) to the emergence of a social situation of development. And it is here, in this text, that Vygotsky actually substantiates the perezhivanie as a concept — "... *perezhivanie* is a concept that allows us to study the role and in uence of the environment upon the psychological development of the child in the analysis of the laws of the development" [6, p. 72]. In other words, *perezhivanie* is a concept, i.e. a theoretical tool for analysing the role and influence of the social environment not on the child, but precisely on his/her psychological development.

Elsewhere [9; 10;11] I have given a detailed description analysis of the concept of *perezhivanie* and social situation of development, so I will not repeat myself and return to the topic of the article. Is it possible to design, based on these ideas of Vygotsky, a tool that would allow the researcher to analyse the data obtained? Is it possible to build a general analytical model that will allow not only to describe, but also to analyse and explain the observed changes in the child's development in the data? It seems to be quite possible. This model (cultural-historical genetic-analytical model) was first presented in my paper [11] and is already used to build research programmes and analyse experimental data [12], so here I will only give a general and brief description.

Cultural-historical genetic-analytical model **(Figure 1)** is based on the example of the analysis from Vygotsky's work I presented above and includes the social environment (the big white sphere), the social situation (the green sphere), three refracting prisms (blue triangles), three social situations of development (the spheres outlined in red — SSD1, SSD2, SSD3) and three "developmental pictures" (Vygotsky's words), i.e. those changes that took place in the child's development (developmental outcomes 1, 2 and 3).

Social environment in the broad sense is a set of objectively existing socio-cultural conditions and contexts in which a child develops — family, educational, play, etc., and which influence his/her development, but only potentially.

A social situation is "a part of the social environment" (Vygotsky's words [5, p.69]), represented as an event in which the child is involved as an active participant, in which what Vygotsky called the "social plane" where psychological functions appear (or do not appear) in their "inter-psychological" from. It is in the social situation that the cultural means of development — signs — appear as mediating components of the social plane and inter-psychological forms. What is extremely important, the social situation is not static, it has its own dynamics, it is constantly changing and therefore the social plane of development can arise, disappear, and arise again depending on how the social situation unfolds.

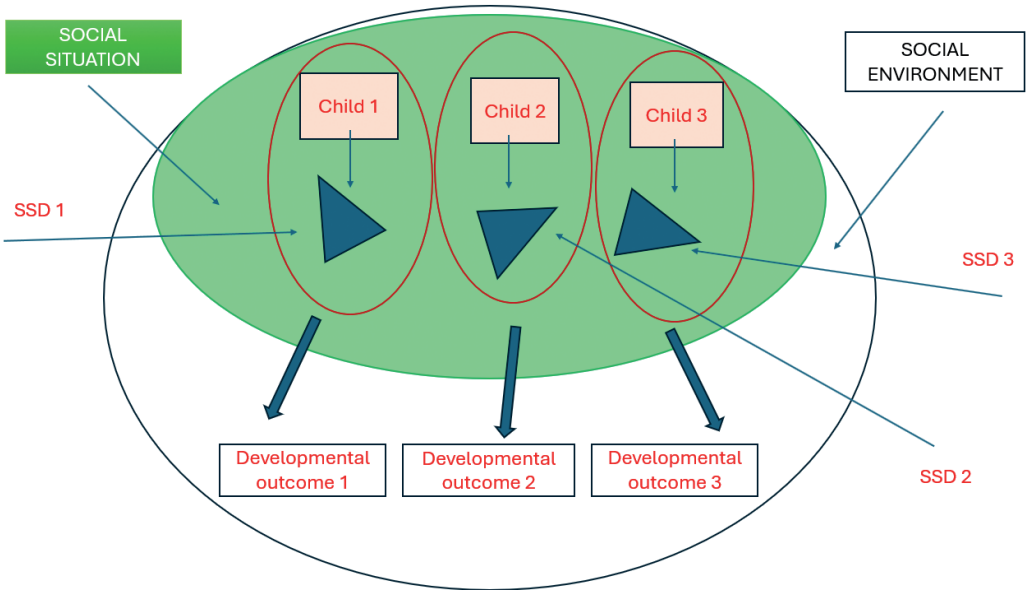

Fig. 1. Cultural-historical genetic-analytical model (Veresov, 2019, Veresov et al, 2024)

The social situation of development arises (or does not arise) within the social situation as a result of the child's *perezhivanie* of certain moments of the social situation through which it is refracted. Through the analysis of the child's individual perezhivanie of the social situation, which can create different social situations of development, it becomes possible to identify and analyse changes in development, if they occur, and if they do not occur, it becomes possible to explain why. This is where the social environment begins to "work" as a real source of development.

Thus, the proposed model is analytical because it allows us to not only describe but also analyse (using concepts as analytical tools) the process of development in specific conditions in the process of data analysis, and it is genetic because it allows us to analyse the process of development from the point of view of its dynamics and results, i.e. changes that occurred (or did not occur) in the process of unfolding the social situation. In other words, this model allows not only to record changes in the child's development, but also to explain why they occurred and also to explain why these changes ("new picture of development") look like this and not otherwise.

However, even with these advantages, this model remains a rather general framework. The question of how to analyse the available experimental or empirical data, where to start, what are the steps of analysis, in other words, the question "What exactly and in what order to look at the obtained data?" requires further specification. The model should be supplemented with something in the form of an instruction manual, where each step is described. The matrix of cultural-historical analysis, which will be discussed in the next section, might be considered as such an instruction.

How to analyse? From the model to the matrix

The genetic-analytical model is a general frame of analysis that allows us to see how, in what way, some social situation is constructed and unfolds at the macro- or micro-level and in which developmental changes occur (or do not occur). However, I should repeat, in a concrete experimental study, the identification of an individual developmental trajectory requires more precise tools. The developmental conditions and developmental potential of each social situation are unique, and this is the most essential characteristic of any social situation. On the other hand, in the study where the process of development is a process under study, the main goal of a researcher is not only to describe the changes, but also to explain them, i.e. to discover in their manifestation the internal mechanisms of development that obey universal laws. Thus, for the analysis to be both dialectical and genetic, uniqueness and universality must be present in the analysis at the same time.

The genetic-analytical model allows the aspect of generality to be captured in the analysis. The matrix that will be discussed below is based on this model (and therefore retains its generality), but can be used to analyse a particular social situation in terms of the specific conditions in which this generality is manifested.

This matrix has been developed and already used in a few studies [12], so here I will limit myself to a brief description. The matrix is a detailed description of all the steps in analysing the available data. It allows the data analysis to be structured according to the basic requirements for cultural-historical method. Firstly, the use of the matrix allows to identify the uniqueness of the analysed social situation in terms of its origin (pre-history) and background, actors, cultural means of development and internal dynamics. The second aspect of the analysis is to reveal the developmental potential of the social situation by analysing the moments of emergence and disappearance of the social plane of development and the corresponding inter-psychological forms of higher psychological functions in this situation. The third aspect is to analyse which aspects of a given social situation were refracted through the child's *perezhivanie* and whether or not a social situation of development and the corresponding intra-psychological forms emerge as an outcome to which this social situation leads.

Step 1: Analysis of the structure of the social situation

The analysis begins with the identification of the social situation in the analysed data. The uniqueness of this analysed social situation is revealed through two aspects — structure and dynamics. The unique structure of a social situation includes: 1) the background and pre-history, 2) the actors (participants), 3) the task 4) the cultural means included in this social situation and 5) the identification of the initial stage of the social situation. Each of these aspects of analysis is discussed below.

1. Background (origin) and pre-history

The background and the origin of a social situation is a very important component of its structure, because each child in a given situation already has his or her own developmental history (related to age, social conditions, etc.). At each age, the child has a unique combination of already developed higher psychological functions (which Vygotsky metaphorically called "fruits of development" [13, p. 42] and simultaneously those psychological functions that are not yet developed but are in the process of intensive development, and functions that are just beginning to develop (developmental buds or flowers of development). In the analysis, prehistory cannot be excluded from the structure of the analysed social situation. At the same time, the analysed social situation can be influenced by events that took place immediately before it and with which it is connected; for example, the social situation at the end of a lesson when the teacher asks children to answer questions using their knowledge gained during the lesson. The lesson that has just taken place is the background to the

social situation without which the analysis would be superficial and incomplete.

2. Participants

Participants are those who are involved in verbal and non-verbal interactions in a given social situation. In addition, a researcher who is observing or filming, and therefore present, can also be considered a participant in a given social situation. In addition, even people who are not personally present in the situation are considered participants (e.g. when two participants in an event tell a story to people who are absent, using audio or video recording as a tool).

3. A task (tasks)

This is what all interactions between participants are built around. In cultural-historical theory, the task (and the means of solving it) is part of the structure of any cultural form of behaviour (both collective and individual). A social situation may include one or more tasks. As part of the unique structure of a social situation, tasks can be general, set from the beginning (a shared story, reading a book, or playing a game), or they can arise in the course of a social situation (e.g., in class, a teacher asks a student to first count the number of words in a sentence before beginning to write it).

4. Cultural tools for development

The use of cultural tools by participants is an important component of the structure of a social situation. In the analysis, the cultural tools are not the focus of the analysis per se, rather the focus is on how they are used by the participants in their interactions. As already mentioned, they may be used collectively or the child may use them independently, and they may be external tools (signs or sign systems) or internal psychological tools.

5. The initial stage of a social situation

After identifying the structure of the social situation, the next task of the researcher is to identify the initial stage (beginning) of the situation. The general genetic law of cultural development states that every higher psychological function appears on the stage first in the social plane. In other words, the social plane, the inter-psychological plane of existence of any higher psychological function, its appearance not in social relations, but precisely as a specific social relation (when the higher psychological function exists as shared between people) is genetically the first form of its existence. The researcher cannot know in advance, of course, whether this inter-psychological form will emerge in a given social situation, but the emergence of a social plane of development is the most important condition and prerequisite for its emergence. Therefore, the initial stage of the unfolding of a social situation is the moment when the social plane of development first appears and, accordingly, **all the components** of the structure of a given social situation identified at the first step of the analysis begin to function.

Step 2: Analysis of the dynamics of the social situation

The dynamics of the unfolding of a social situation manifests itself, in particular, in who takes the initiative in the interactions, how this initiative passes from one participant to another, how tasks change in the course of the unfolding of the social situation, what turning points and clashes arise in the process — in other words, all those aspects that lead to changes in the interactions of participants. On this basis, the temporal dynamic parts of a social situation are singled out for separate detailed analysis, and each of them is analysed separately, but also in its relation to the development of the social situation as a whole.

The analysis of dynamics begins after the defining the starting point (the initial stage of the social situation), i.e. the point at which the task appears and the interaction begins, and which I mentioned above. It is in dynamics that the internal processes of development manifest themselves. Therefore, the analysis of dynamics is not limited to the fixation of external changes, but the focus is an analysis of the psychological changes occurring in the child in the unfolding social situation.

For this purpose, analytical tools (means of analysis) are used which are the concepts of: 1) social and individual planes of development 2) inter- and intra-psychological forms of higher psychological functions 3) social situation of development 4) perezhivanie 5) zone of proximal development. At the same time, other concepts such as sign (sign mediation), ideal and real forms, etc. can be used here — depending on what aspect of the process of development the researcher is interested in.

As I have already said, the role and place of the social situation is that it is in the form of a specific and unique social situation that the social environment can become a real source of development. However, the mere existence of a social situation does not tell us anything about how development occurs in the process of its unfolding, or whether it occurs at all. A social situation can become a source of development when a social plane of development appears in it. The social plane of development is an integral part of the process of development, the first form of development of psychological functions (inter-psychological form), which can later become an internal individual-psychological process (individual plane of development or intra-psychological form) in accordance with the general genetic law of development of higher psychological functions [18]. Therefore, in the analysis it is very important to reveal the moments of appearance of social planes of development in the course of its unfolding, i.e. such social interactions, where the higher psychological function appears in a form divided between people — i.e. in its inter-psychological form. The simplest example is the joint thinking of an adult and a child, where the function of thinking is divided and exists in the external (social) plane as an inter-psychological form of thinking.

The identification of such forms in the course of analysis allows us to draw a conclusion about the extent to which the conditions for development exist in a given social situation and what the developmental potential of this social situation is. However, the mere presence of inter-psychological forms does not mean that the process of development takes place. This condition is necessary, but not sufficient. The developmental potential of a social situation, which can be determined by the presence of inter-psychological forms and a social plane of development, may remain unrealised. After all, the social situation itself, even if it has a significant developmental potential, is not yet a real source of development. A social situation becomes a source of development only when a social situation of development (or several) arises within a social situation.

Development, "ingrowing" (вращивание), the transition from outside inwards, from inter-psychological to intra-psychological forms, depends on whether or not a social situation of development has arisen in which, and only in which, this transition is possible. And the emergence of the social situation of development depends on what aspects of the social situation are refracted through the child's individual *perezhivanie* and how this refraction takes place. Only those aspects of the social situation that are refracted in the child's *perezhivanie* can become (or not) the basis for the emergence of an individual plane of development. Therefore, even the most favourable social conditions and factors may not lead to development if they are not refracted through the prism of *perezhivanie* as an integral internal attitude to the social situation. The child, by virtue of his or her *perezhivanie*, creates and defines his or her own unique developmental trajectory, becoming the subject of his or her own development, often without even realising it. Therefore, in the analysed data it is extremely important to identify those moments in which there are manifestations of the child's individual perezhivaniya, which, of course, exist in various forms. However, here it is very important to proceed from the definition of *perezhivanie* — *perezhivanie* is " how the child is aware of, interprets and affectively relates to a certain event." [5, p. 71]. Any (direct or indirect) manifestations of the child's *perezhivanie* in the data must be identified and analysed, because only through this can the researcher draw conclusions about the presence (or absence) of a social situation of development in the social situation being analysed.

In this regard, it seems important to refer to the concept of *dramatic perezhivanie* [11] as special kind of *perezhivanie* refracting contradictory aspects of a social situation (it can be a dispute, clash of positions, desires and motives). I note in this connection that the situation in Vygotsky's example of the social situation of the three children and their perezhivanie are examples of a dramatic situation and *dramatic perezhivanie*. Attentive readers may object to this: in the example of analysing the situation of three children, Vygotsky says that as a result of three different *perezhivanie*, three different "pictures of development" emerged in the three children, but all of them, according to Vygotsky, are pictures of disruptive development. Does this mean that in a dramatic social situation the perezhivanie does not so much support development as destroy its normal course? The point, however, is that the concept of dramatic perezhivanie refers to the dynamic aspect of a social situation. This means that not only the perezhivanie, not only the drama, but also the way in which the child overcomes the drama is the psychological essence of the concept of dramatic perezhivanie. And in this sense, the role of the adult who, by offering cultural means, helps the child to overcome difficulties or challenges becomes extremely important. To clarify this, we conducted a special study [14] in which we showed that dramatic moments can be developmentally dangerous, but if managed accordingly, they become opportunities.

The child's *dramatic perezhivanie* and the way the child overcomes dramatic moments and collisions can be interpreted as turning points, key moments in the child's development within the analysed social situation. In other words, the child's dramatic *perezhivanie* and the refraction of collisions and dramatic moments in the unfolding of the social situation are the most reliable criteria for making a conclusion about the presence or absence of a social situation of development. If there are no dramatic moments, collisions, conflicts of positions or motives in the analysed social situation, or if they are not refracted in any way in the child's consciousness and do not manifest themselves in the form of a specific attitude towards them, then this is evidence that there is no social situation of development and that the developmental potential of the social situation remains unrealised even in the presence of a social plane and inter-psychological forms.

Step 3: Developmental outcomes

The final step of the analysis according to the matrix is to analyse the developmental outcomes in a given social situation, that is, to identify and analyse the changes in the child's development that have or have not occurred. From the perspective of cultural-historical analysis, not all changes in activity and interactions are understood as development. The essence and direction of the analysis is to identify the most significant moments that determine *the changes* in the social situation that create the conditions for development.

Such moments can be: 1) a contradiction (manifested as a clash of positions, motives, etc. in the form of a "small drama" [15, p. 59] or 2) a child's transition to a new qualitative level (for example, transition from unmediated to mediated actions), 3) transition from collective forms of cultural behaviour and activity to individual ones, or 4) transition from using external signs to using them as internal means of organising behaviour and activity. In addition, a child's movement in the zone of proximal development, when the level of potential development becomes the level of actual development, should also be

regarded as an act of development. If such changes in development (or changes leading to development) occur in a social situation, then we can say that the developmental potential of the social situation of development has been realised. However, the potential may remain unrealised, because the conditions for the realisation of the potential are the emergence of the social situation of development, the social plane of development, the presence of an inter-psychological forms. That is why these aspects are the most important to analyse using the matrix as a tool.

In conclusion

I believe the use of the matrix as a tool of analysis allows to solve the main task and corresponds to the main requirement to the analysis mentioned by Vygotsky — to focus the analysis not on the *description* of existing forms and phenomena in the data, but to reveal the internal processes of development manifested in these phenomena. Its use makes it possible to identify the most significant moments of development and thereby *explain* these data as manifestations of a process of developmental hidden from direct observation. But what makes this change of the focus possible?

Explanation becomes possible through the use of a system of concepts that reveal the most important aspects of development. Unlike other analytical models [16; 17] the concepts are not taken singly, but in a holistic relationship. This minimises the possibility of subjective interpretations.

For example, in the study of ZPD, the child's transition to the level of actual development can be judged only through analysing changes in all the dynamic components of the social situation — Did the social plane and the corresponding inter-psychological form emerge at the beginning of the given social situation? Did the unfolding of the social situation have a dramatic contradiction (intellectual collision, etc.) and was it refracted in the child's individual consciousness? Did this bring a new social situation of development and the disintegration of the previous one? Has an individualised developmental plane and corresponding intra-psychological form emerged as a result? Has there been a transition (vraschivanie), i.e. have external means/signs become internal psychological means? Only if all these components are present can we say that the child has moved to a new level of development in the ZPD. In all other cases we can only talk about some progress of the child movement within ZPD.

The matrix is not only for analysing the data that have already been obtained. It can also serve as a tool for the research design. This is especially important in the genetic (formative) experiment, the essence of which is the creation of experimental conditions in which it becomes possible to elicit and follow the process of development itself. This is what Vygotsky drew attention to when he wrote that the essence of the experimental-genetic method is that it " it artificially elicits and creates a genetic process of mental development" (1997, p. 68). The matrix can help the researcher to set up the proper experimental conditions that should produce the expected result. If development does not occur, the matrix allows us to explain this, for example, by the fact that there is no social plane (and the corresponding inter-psychological form) in the given social situation, or because the social situation of development did not arise and therefore no individual intra-psychological form appeared, or because the dramatic moments of the social situation were not present or were not refracted in the child's perezhivanie. In other words, if significant developmental changes do not occur, the matrix makes it possible to explain why this did not happen consequently, how the experimental conditions can be changed.

I am aware of the reactions this analytical matrix might provoke in the contemporary cultural-historical/activity community. Any departure from the charming activity reductionism is seen by some as heresy and an attack on the sacred foundations, confusing unformed minds. However, I hope that going back to the foundations (i.e., directly to Vygotsky's ideas) and developing them on this basis, which is the basis of the analytical matrix, may serve as some justification here. The experience of using this matrix in specific studies has already shown its effectiveness, and I hope that it will enrich the arsenal of tools of cultural-historical analysis and help young researchers in mastering the experimental-genetic method, and cultural-historical theory in general. Well, I will simply repeat the words I said ten years ago: I sincerely wish this daredevil success. And, of course, I am ready to help in any way I can.

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Genesis and Current State of Joint Activities in Educational Conditions

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In the article we carried out a historical and psychological analysis of psychological and pedagogical research of joint activities (its genesis) from the 60s of the XX century to the present time. Research reference points have been identified/ The first one is the beginning of the 60s of the XX century with a primary study of the genesis of the subject of joint activity in groups of children of preschool and primary school age. The secon is the end of the 80s of the XX, early XXI centuries within the framework of the development of the theory of developmental education (V.V. Davydov, V.V. Rubtsov, D.B. Elkonin, etc.) based on the positions of cultural-historical psychology L.S. Vygotsky, who emphasizes joint activity as the most important sociocultural mechanism of development. The third point takes place in the second decade — the beginning of the third decade of the XXI century, it's the study of the issues of promoting the ideas of sociogenesis in the traditions of cultural-historical psychology and activity theory, and an attempt to look differently at the key problems of joint activities in a modern school environment. The space of possibilities for modern children is analyzed. Current research shows that educational organizations today form and develop not only the abilities of students, but also their activities (from joint games, educational activities, to role-playing experimentation and project activities).

Keywords: genesis of joint activities, education, child, child-adult communities.

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Генезис и современное состояние содержания совместной деятельности в условиях образования

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Проведен историко-психологический анализ психолого-педагогических исследований, посвященных совместной деятельности (ее генезиса) с 60-х годов XX века по настоящее время. Выделены опорные точки исследования: во-первых, начало 60-х годов XX века с преимущественным изучением генезиса субъекта совместной деятельности в группах детей на дистанции дошкольного и младшего школьного возрастов; во-вторых, конец 80-х годов XX—начало XXI века в рамках развития теории развивающего обучения (В.В. Давыдов, В.В. Рубцов, Д.Б. Эльконин и др.) с опорой на позиции культурно-исторической психологии Л.С. Выготского, делающего акцент на совместной деятельности как важнейшего социокультурного механизма развития; в-третьих, второе—начало третьего десятилетия XXI века — изучение вопросов продвижения идей социогенеза в традициях культурно-исторической психологии и теории деятельности и попытка вновь и вновь — уже по-другому — посмотреть на ключевые проблемы совместной деятельности в условиях современной школы. Анализируется пространство возможностей для современных детей. Актуальные современные исследования показывают, что образовательные организации в наши дни формируют и развивают не только способ-

ности обучающихся, но и их деятельности (от совместных игр, учебной деятельности, до ролевого экспериментирования и проектной деятельности).

Ключевые слова: генезис совместной деятельности, образование, ребенок, детско-взрослые сообщества.

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Introduction

The relevance of studying the content of joint activities today is beyond doubt. Indubitably, we face the realities of our time, that points to the challenges and risks of the modern education system, where the leading role is played not only by the expansion of new knowledge combined with the development of the infosphere but also by the manifestation of the processes of transformation of traditional activities and already established social communities. Striving to find new ways of involving individuals in social spaces under modern conditions, the established education system undoubtedly takes a leading position. On the one hand, it implements the principle of mastering a limited amount of knowledge, and on the other, the aspiration for a person's readiness to function in specific types of activities.

The aim of our article is to conduct a historical and psychological analysis of numerous psychological and pedagogical studies devoted to joint activities (its genesis) from the 60s of the XX century to the present, thereby stating the potential practical opportunities that largely determine the sustainable interest of scientists and practitioners in the modern education system.

Genesis of Joint Activities in Psychological Science from the Late 60s to the Early 80s of the XX Century

Conditional starting point of a series of studies on joint activities is the period of the late 1960s. Since then, in psychological science, terms have begun to be developed and presented in various ways, which later evolved into numerous concepts for studying different groups and collectives. As A.L. Zhuravlev [17] notes in his monographic study, terms such as "group activity", "collective activity", "joint activity", and "joint involvement" have come to the forefront. It is worth noting that during this period, this issue was studied and activated in several directions simultaneously. Thus, scientific research, conducted mainly in laboratory conditions, was presented in the field of engineering psychology (works by F.D. Gorbov [9], V.V. Medvedev [29], M.A. Novikov [10], N.N. Obozov [30]), in social and pedagogical psychology when solving practical tasks of training school leaders, then educational-production collectives (studies by A.S. Kosarev and L.I. Umansky [21; 40], A.S. Chernyshov [41]), in the analysis of interpersonal relationships when implementing indicators of the effectiveness of joint labor activity (N.V. Golubeva [8], E.S. Chugunova [42]). Foreign studies on joint activities of this period are traced within the framework of the normative-value approach (T. Tyler), structural-functional approach (I. Steiner) (described in the monograph by A.L. Zhuravlev). In them, the authors describe, on the one hand, the influence of group identity, on the other, the structure of solving various tasks related to the analysis of the specifics of joint activity. Undoubtedly, the most intensive and in-depth studies of joint activities appeared at the turn of the 70s-80s and are associated with B.F. Lomov, who sought to study the specific psychological characteristics of joint activities. Our analysis of the author's publications [25-27] showed that his works were comprehensive and largely met the demands of that time, namely labor psychology, where the features of the functional connections of labor group members, the influence of the level of positive relationships on intragroup psychological compatibility, and common effective management impacts on them were studied. We cannot fail to mention such classics of domestic social psychology as G.M. Andreeva [1] and A.V. Petrovsky [31]. As renowned methodologists, the researchers, in their theoretical works, showed the mechanisms of mediation by the content of joint activities of key socio-psychological phenomena (primarily the structure of interpersonal relationships). Of particular interest to us are the works of A.S. Chernyshov and T.I. Suryaninova. The authors studied, in our opinion, an important issue related to the study of the genesis of the subject of joint activities in groups of children from preschool to early school age. Describing the main mechanisms that determined the genesis of the subject of joint activities in groups of children of different

ages, A.S. Chernyshov states: "... the process of formation is determined by at least two factors: the level of organization of children in the group and the degree of uncertainty of the activity that needs to be organized independently" [41; p. 15]. Thus, the results of psychological and pedagogical research of that period show us the success of joint activities in connection with a variety of socio-psychological factors (G.M. Andreeva, A.V. Zhuravlev, B.F. Lomov, N.N. Obozov, A.V. Petrovsky, L.I. Umansky, A.S. Chernyshov, and others).

Research on Collaborative Activities in Psychology from the Late 1980s to the Early 21st Century

A deeper immersion into the issues of joint activities was carried out within the framework of the development of the theory of developmental education (V.V. Davydov, V.V. Rubtsov, D.B. Elkonin, and others). The authors of this theory relied on the positions of L.S. Vygotsky's cultural-historical psychology, emphasizing joint activity as the most important socio-cultural mechanism of development. Reflecting on the need to find effective forms of joint activity in L.S. Vygotsky's scientific school, the studied phenomenon is mainly associated with the concept of "organization of joint activities", which substantially reflects, firstly, the distribution, action, and exchange of them, secondly, mutual understanding, thirdly, communication, and fourthly, reflection as a special action with the methods of joint work. It is important to clarify that the key question of organizing joint activities as the genetically original form of education was described in the 1970s by L.S. Vygotsky's student A.N. Leontiev. At the same time, a deeper immersion into this issue of his positions was especially appreciated in the 1980s when representatives of V.V. Davydov's school emphasized the importance of understanding the interrelationship between the subject and the structure of the emerging action and the content of common tasks and goals in explaining the phenomenology of joint activities. The practice of research on joint activities of that period was implemented through active interaction and communication, serving as an important means not only for the main psychosocial but also for the cognitive characteristics of the child. This is discussed in the works of A.V. Zaporozhets [18] and his scientific school. According to the author, joint activities not only contribute to the formation of the foundations of collective relationships but also develop communicative processes, improve cooperation skills, and the ability to empathize with other people. During this period, a group of researchers (A.I. Dontsov, E.M. Dubovskaya, I.M. Ulanovskaya) developed theoretical aspects of the problem of defining criteria for analyzing joint activities, which made it possible to analyze more deeply the mechanisms of action and the psychological and pedagogical possibilities of joint activities [16]. As noted above, it was V.V. Davydov's school with its new paradigm of education that began to comprehensively study the content of joint activities based on primary education. This period was characterized by several crucial and, at that time, extremely promising research directions. Among them, we especially note the specific characteristics of the relationship between individual and group forms of education, understanding how the educational actions of the child and the adult correlate in the developing community of "adult-child," and, importantly, understanding which symbolic means are most effective in organizing joint activities [32]. In discussing the importance of the adult's key task in actively striving to determine the zone of proximal development within the educational activity, M. Seligman [52] speaks of the importance of growing children's efforts in forming their independent experience of overcoming difficulties both in educational activities and others. In the late 1980s, foreign psychology saw a flourishing of research concerning the comparative effectiveness of individual and joint ways of solving intellectual problems by children. Among them are the works of A.-N. Perret-Clermont [51]. In our opinion, the author's interest in the problem of joint activities was driven by addressing several questions, among which, firstly, the possibility of assessing the influence of social relations involved in joint activities by other participants on their development, and secondly, analyzing the impact of different strategies used by group members striving to perform various joint tasks. The author noted the effectiveness of group activities under the key condition — the presence of subjects with different viewpoints when solving specific tasks. In the late 1990s, an interesting study emerged, the data of which allowed, on the one hand, to show the key ways of organizing joint activities, thus obtaining the opportunity to construct an optimal group effect, and on the other hand, in G. Wells' work [54], we observed the influence of various variables on the result of joint activities (the author showed the importance of the nature of the task presented, the role of the adult (teacher), and their assessment of the quality of the group work performed. Also, in the 1990s, foreign psychology researchers actively sought to clarify the concept of "joint activity", and its classical interpretation in the literature of that time took on the following names "cooperation", "die Kooperation", "la cooperation". S. Alper, D. Tjosvold, and K. [50], striv-

ing for their generalization, primarily emphasized their main meaning, aimed at cooperation, within which interaction occurs, including common goals and actions of individuals. Attempting to qualitatively describe this interaction, the authors analyzed the very specifics of the activity, namely the activity within which participants strive to exchange information, as well as in communication, taking into account the opinions of partners and providing mutual support.

The realities of the present time dictate a crucial aim for adjusting approaches to children's education and fostering their abilities for independent knowledge acquisition. Works by scholars such as P.Y. Galperin [7], V.A. Guruzhapov [13], E.I. Isaeva [19], G.G. Kravtsov [22], A.V. Konokotin [33], A.A. Margolis [12], N.N. Nechaeva [28], V.V. Rubtsov [34-36], G.A. Tsukerman [45-47], B.D. Elkonin [48], among others, based on the genetic-modeling method developed by L.S. Vygotsky, have comprehensively substantiated the position on collectively distributed forms as an initially formed form of organizing educational activities. The studies conducted by researchers of both theoretical and applied nature have enabled the establishment of the positive impact of using collectively distributed forms of organizing educational activities on the cognitive processes of learners. During that period, particular relevance was attributed to the hypothesis that the educational-cognitive action itself arises not always, not in all forms, but only in a certain one. For us, this scientific fact led to an understanding that jointness is a subject of significant investigation. Equally important is how the interaction of specific participants in joint action (students, educators, parents, etc.) is established, essentially being a basic characteristic of commonality. It is noteworthy that the subject under study at the present time focuses on what should be considered a crucial condition of joint activity in modern education. Approaching the studies of the early 21st century, based on their profound systematization presented in the monograph (V.V. Rubtsov, 2021) [39], specific characteristics of commonality in the form of communication, mutual understanding, and reflection were identified, systematized, and described. In our view, these characteristics determine the content of the structure of joint activity. Such valuable substantiation allows us to conduct an analysis of L.S. Vygotsky's research [4—5], which stated that the development of mental functions is linked to changes in the social situation of development. Simultaneously, this idea was supported by V.V. Davydov [14;32], emphasizing the connection of creativity with changes in the social situation through the alteration of communities and participants' modes of action. The author asserts that undoubtedly, the key ability of a modern individual is their capability to engage in various forms of community and various types of activities, with the primary condition for organizing learning being the process of distributing and exchanging modes of action, wherein the processes of communication and reflection, as mentioned earlier, are traceable. V.V. Rubtsov states: "...The fact that the distribution and exchange of common modes of action, requiring communication, mutual understanding, and reflection, should become the primary condition for organizing education conducive to development, does not give rise to any doubts for me" [33; p.8].

Joint Activity in Psychological Science of the 21st Century (Discussion Points)

Second, the early third decade of the 21st century brings to the forefront of scientific research on this problem the promotion of sociogenesis ideas in the traditions of cultural-historical psychology and activity theory, as well as attempts to revisit key issues of collaborative activity in modern school settings. Before inviting further discussion on this issue, we would like to highlight two profound monographic works (V.V. Rubtsov et al.) [33, 39] that have been published in recent years. These works have, on one hand, revealed the content and practical outcomes of collaborative learning activities, demonstrating their role in the holistic mental development of children, and on the other, delved deeper into the analysis of the obtained indicators and features of the development of communicative-reflective abilities in children aged 6—10 under educational conditions. We undoubtedly agree with V.V. Davydov's opinion that education is a space of opportunities where a child's abilities are formed and developed. At the start of the discussion, we will focus on the content of the analyzed issues of collaborative activity in preschool education. In the initial justifications for the development of collaborative activity, it is impossible not to touch upon the works of E.E. Kravtsova [23]. The researcher identifies an important trend in preschool age — a striving for collaborative play, which serves as a predictor of psychological readiness for the formation of collaborative activity. Kravtsova's long-term studies have shown that for the successful implementation of collaborative activities (collaborative play), a child must have developed individual play activity. In this regard, Elena Evgenievna describes the collaborative activity of a preschooler not only as external but also as internal. To resolve contradictions in the conclusions previously developed in the works of L.S. Vygotsky and later V.V. Davydov, the author was keen on thoroughly testing this hypothesis

through a system of correctional and developmental work with them, which we consider particularly valuable (the key goal was to assess the readiness of future first-graders for schooling). Consequently, children who showed satisfactory and below-average indicators of school readiness were much more difficult to engage in collective-distributed activities. We also noted an interesting study conducted in 2020 by T.D. Savenkova. In her opinion [38], representatives of preschool pedagogy and psychology are interested not only in the effectiveness of group activities and the participating preschooler but also in their pedagogical value, as the author states that for preschool education, the child's socialization experience, gained against the backdrop of developing communicative-reflective processes, is crucial (it depends on how preschoolers communicate with each other and what experiences they gain during collaborative activities). In this regard, the researcher identifies five main types of interactions during collaborative activities. We will briefly discuss and comment on them. Firstly, there is the collaborative activity of an adult with a child. Commenting on this type, let us refer to L.S. Vygotsky's well-known arguments [5] that learning leads development, where the adult's role is built according to the child's zone of proximal development, striving to enrich the zone of their actual development. The teacher's task in working with preschoolers is to teach them something new. Secondly, collaborative activity between a child and an adult is built on equal footing (equal partners). Thirdly, collaborative activity of a group of children is carried out under the guidance of an adult. Guided by L.S. Vygotsky's ideas, these reflections have found direct reflection in the development of theoretical and practical provisions of pedagogy and psychology of developing communities. It is important to note here that the cooperation between children and teachers creates conditions for the formation of communicative-reflective processes (including the development of new productive activities, communication skills, and socialization). Fourthly, collaborative activity among preschoolers unfolds without adult participation but according to their assignment. Undoubtedly, this activity is fundamental, allowing the preschool teacher to mainly act as an organizer. The teacher sets the task for the children but does not participate in it, with the result being the formation of leadership resources among preschoolers. Finally, fifthly, there is spontaneous collaborative activity among children. This is represented by various forms of collective children's games, communicative practices, carried out by children without any participation from teachers. Briefly summarizing the above, we note that in preschool education, collaborative activity is characterized by diversity in organization, subject matter, and thematic focus (e.g., collaborative artistic, sports, musical events, etc.). In studying the prerequisites for the development of collaborative activity in preschool age, researchers M. Hedegaard and N. Liben [44] constructed a "radically localized" methodology, based on the traditions of cultural-historical psychology, aimed at studying the social situation of preschoolers' development. The authors of this methodology were able to fully assess their interaction not only with adults (teachers) but also with peers. Since we continue the discussion on the formation of collaborative activity within the framework of preschool education, we would like to address another important and relevant issue — the determination of the level of readiness of children with special educational needs to interact with peers. In this regard, an interesting dissertation study by O.G. Boldinova [2], conducted in 2023, caught our attention. In the experimental part of her research, the author described criteria for collaborative activity of preschoolers with visual impairments; in particular, she revealed the abilities of students considering typhlo-pedagogical conditions to use primary communicative means, the characteristics of emotional involvement in the interaction process with peers, and the desire to participate in long-lasting stable associations combined with transitioning to further types of activities.

Continuing the discussion, we will emphasize several points on the "movement" of child-adult communities, specifically in primary school ("school as an educational activity"). In substantiating the most important points in its description, we once again touch upon the concept of the zone of proximal development, considered by L.S. Vygotsky as the "key law of child development", as well as the possibility of organizing collaborative activities (interaction in the community with an adult (teacher) and peers). A modern study conducted by A.V. Konokotin et al. [36] not only implemented the ideas of the system of developmental education (D.B. Elkonin-V.V. Davydov) and its method (educational activity) but also modern research on collaborative educational activities in primary school age, which allowed identifying psychological conditions for the development of communicative and reflective processes. The authors note: "Experimental studies of collaborative activities as a zone of proximal development of reflective and communicative abilities of primary school children revealed three types of interaction in the process of searching and identifying a common way of acting in a situation: pre-organizational, organizational, and reflective-analytical. Each of these types of interactions is characterized by a qualitatively specific way of implementing communicative and reflective actions" [33; p. 38]. Thus, in a monographic study (edited by V.V. Rubtsov), it is noted that

"the following components can be distinguished in the organization of joint action:

• distribution of initial actions and operations — determined by the system of transformations that underlie the search for the principle of constructing the studied object;

• exchange of ways of acting — determined by the need to transform various ways of acting to obtain the cumulative product of activity;

• mutual understanding — determined by the nature of the inclusion of different ways of acting in joint activity (mutual understanding allows establishing the correspondence of one's own action and its product to the actions of other participants in the activity). Among the means that ensure the implementation of collaborative activities, the most important from a psychological point of view are:

• communication, without which distribution, exchange, and mutual understanding are impossible, and which allows for planning adequate conditions for the educational task and choosing appropriate ways of acting;

• reflection, through which the participant's attitude towards their own action is established, and this action is transformed in accordance with the content and form of collaborative activity" [39; p. 40].

In support of the above, it should be noted that modern school education, including at the primary general education level, rapidly recognizes the importance of forming not only subject knowledge, skills, and abilities during this period but also processes of communication, reflection, interaction, and cooperation.

The transition to adolescence and its analysis from the perspective of collaborative activity is described as deeply controversial. Contemporary researchers do not fully support the domestic concept of D.B. Elkonin that the leading activity in adolescence is dictated by intimate-personal communication [49]. N.N. Veresov [3] offers his justification, stating that in A.N. Leontiev's reasoning, the leading activity should have a certain structure, which, unfortunately, is not worked out in the content of communication. In analyzing alternative possibilities for the development of intimate-personal communication during adolescence, scientists have considered, on the one hand, socially significant (V.V. Davydov), project-based (K.N. Polivanova), socially useful (D.I. Feldstein), but on the other hand, an attempt (within the framework of modern studies by O.V. Rubtsova [37]) to describe primarily from the point of view of the "ideal form" of adolescence to analyze the content of the development of a growing adolescent in the process of involving them in the system of social interactions. This process is presented by the author in the form of "role dramas". O.V. Rubtsova theoretically and empirically proved that the system of social roles in which a child develops and matures is considered the "ideal" form of adolescence. Through the process of interiorizing these roles, the content of mental development during adolescence, unfolding in activity, takes the form of role experimentation. It is important to note that the ideas presented by the author partially address the gap in the implementation of the current Federal State Educational Standards for General Education (FSES GE), which highlight the necessity for adolescents to assimilate social roles as part of the educational process. The importance of its development is due not only to the prevention of key problems in secondary school, such as decreased learning motivation, disruption of adaptation, frequent formation of intra- and interpersonal conflicts, but also to issues of risky and negative (including self-destructive) behavior. Thus, the effectiveness of the teaching and educational process for adolescents aged 13-15 depends on the content of collaborative activities, thanks to their ability to engage in role-playing trials. O.V. Rubtsova presents the experience of creating a real platform within educational organizations in Moscow (theatrical activities, the "Multimedia Theater" activity technology). The implementation of role-based forms in collaborative activities (experimenting with roles, positions, and relationships) allows adolescents not only to internalize cultural norms, values, and methods of joint activity but also creates conditions for externalizing internal conflicts and experiences, overcoming the negative phenomena of modern educational environments. Foreign studies on the issues of collaborative activity within the framework of cultural-historical psychology and the analysis of L.S. Vygotsky's works are again presented by N.N. Veresov. In his research, he reminds us that higher mental functions were initially external, social, and later demonstrated the ability to speak about the social relationship between two people [53]. Galina Anatolyevna Tsukerman, considering Nikolai Nikolaevich a keen researcher, pointed out his active effort to avoid the simplified perception of Lev Semenovich Vygotsky's works regarding the study of interactions in which a child can be involved.

The transition to the analysis of collaborative activities in late adolescence allows us to introduce young people to project activities. Although, as V.V. Rubtsov notes, "the real project school is still conceptually out of reach" [35; p. 8], we strive to focus more on this topic in our ongoing discussion. In discussing our chosen topic, we want to emphasize the conceptual model "School of the Future" as an ecosystem of developing child-adult communities, constructed in the works of Y.V. Gromyko

[11] and A.A. Margolis [12]. The concept presented by these scholars involves integrating growing young people into communities by mastering various social practices, through which they can develop personal cognitive strategies. The authors see the ecosystem based on various types of child-adult activities and the creation of a communicative-activity semiotic environment. Discussing this issue, the renowned scholar V.S. Lazarev expressed interest in this concept but also raised several questions, including that "the inclusion of children in activities does not guarantee their development" [24; p. 72]. The author does not see clarity in the content of subject and project education. In expressing his views on the school of the future in high school, Valery Lazarev offers several justifications; first, he believes that project activities for adolescents should not be leading but should be a form of leading developmental education, representing real research activities. Secondly, the collaborative activities of educators are crucial. In an article dedicated to the content of a methodological seminar roundtable held in 2018, the author recalls a conversation with V.V. Davydov about the need to "cultivate new learning activities...develop the ability to make decisions..." [35; p. 20]. In this regard, he sees the key task in constructing a model for the development of the modern school as creating mechanisms for its development. Galina A. Tsukerman also discusses the perspectives of creating the school of the future ("normal school of collaboration") [35]. She provides several arguments that, in the context of collaborative activities, foster the development of cognitive processes and other abilities. The author approaches the analysis of these arguments through the evaluation of the mechanisms and tools of modern education. Firstly, she convincingly argues that collaborative activities as a condition for developing important mental processes arise when there is joint action. Secondly, a type of pedagogical consciousness that facilitates the organization of joint action is formed. Thirdly, the methods of organizing collaborative activities are inherently technological. The general assumptions presented by Galina Tsukerman emphasize the importance of initiatives in activities (analyzing how they are organized, on what subject matter, and in what specific semiotic form they are manifested). Essentially, as the author believes, this is "the normal action of a professional educator". Greek colleagues Dafermos M., Chronaki A., Kontopodis M. [15], analyzing the significance of ideas including the formation of collaborative activities, relied primarily on the ideas of the cultural-historical and activity-based approach in the Greek context from the perspectives of the academic environment, educational policy, and reforms in the socio-cultural space of the country. The research of our French colleague Laura Clotzer [20] is also important to us. Dynamically analyzing the views of L.S. Vygotsky and Politzer, the author presents the concept of "activity clinic", using cross-self-confrontation interviews, capable of having a developmental dramatic impact on a person.

Concluding Thoughts

Collaborative activity — in contemporary psychological and pedagogical works, this term is actively used both in research and educational contexts. Its formation and development are linked to the semantic transitions observed when addressing key issues in modern education, which are directly associated with the intensively evolving interactions between children of different ages (preschool, elementary school, and adolescence) and adults, their mastery of communicative-reflective processes, and various forms of cooperation. Intensive engagement with the topic of collaborative activity was undertaken within the framework of developing the theory of developmental education (V.V. Davydov, V.V. Rubtsov, D.B. Elkonin, and others) in the 1980s. The authors of this theory drew on the principles of L.S. Vygotsky's cultural-historical psychology, which emphasizes collaborative activity as a crucial sociocultural mechanism of development. The 21st century provides a space of opportunities for contemporary children. Education for today's child is not only about the formation and development of their abilities but also about the transition between child-adult communities and activities (from joint games and educational activities to role-playing experiments and project activities).

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Diagnostic Problems of the Agency in a Project Group

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A child-adult group building an educational project is an effective environment for the formation of adolescent agency. Agency is an important parameter of professionalism and maturity in any work. However, so far, the diagnostics of agency has not been sufficiently developed; conceptually grounded indicators of agency in activity have not been formulated. The aim of our research is to develop indicators of agency and create diagnostic techniques based on the thinking-activity approach. Agency is not an ability, but a certain level of mastery of activity, allowing grasping it as a whole, managing it and developing it. Either an individual person or a community-group or a community consisting of individual groups can be an agent. There are two main phases in the process of the agency formation: agency initiation and agency action. From the point of view of project agency formation, we can distinguish three activities which form it: game, educational and project activities. The types of agency corresponding to them form a hierarchy.

Keywords: agency, individual and collective agency, communitarian agency, types of activity, types of agency, agency diagnostics.

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Проблемы диагностики субъектности в проектной группе

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Детско-взрослая группа, строящая образовательный проект — это эффективная среда формирования подростковой субъектности. Субъектность является важнейшим параметром профессионализма и зрелости в любой работе. Однако до сих пор диагностика субъектности недостаточно разработана, не сформулированы концептуально обоснованные показатели субъектности в деятельности. Целью нашего исследования является разработка показателей субъектности и создание диагностических методик с опорой на мыследеятельностный подход. Субъектность является не способностью, а определенным уровнем владения деятельностью, позволяющим схватывать ее как целостность, управлять ею и развивать ее. Носителем субъектности может быть как отдельный человек, так и общность-группа или сообщество, состоящее из отдельных групп. В процессе формирования субъектности можно выделить две основных фазы — инициация субъектности и субъектное действие. С точки

зрения формирования проектной субъектности можно выделить три формообразующих деятельности, внутри которых происходит ее становление — игровая, учебная и проектная. Соответствующие им типы субъектности находятся в отношениях иерархического соподчинения.

Ключевые слова: субъектность, индивидуальная и коллективная субъектность, коммунитарная субъектность, типы деятельности, типы субъектности, диагностика субъектности.

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Introduction

The relevance of agency diagnostics can hardly be overestimated. The spheres of career guidance, education, HR, management of employees professional growth need instruments of diagnosis of employees' agency and diagnosis of the process of agency enhancement [5]. However, 'agency' as a qualitative indicator of activity possession is still insufficiently developed. The development of diagnostic tools relies on the conceptual representation of the object under study, so let us consider the conceptual representations underlying the understanding of agency today [10].

Let us turn to the history of this concept. The category 'subject' is clearly present in Kant philosophy, where the 'subject' is able to cognize the world of 'objects' by means of sensory experience and its ordering on the basis of reason. The famous 'subject-object' scheme has long defined the scientific view of the cognition process. Further development of this category is associated with the emergence in the 20th century of the activity approach, in which the 'subject' ceased to unambiguously oppose the 'object', and along with it turned into a certain characteristic of activity, in which the processes of subjectivation and objectivation were also distinguished [8]. The concept of 'agency' that emerged on this basis means the expression of the subject's characteristics in the activity of its certain carriers or in its certain fragments [11]. In the 20th century, 'agency' in the key of activity methodology in psychology was considered by such scientists as S.L. Rubinstein, A.N. Leontiev, V.A. Lektorsky [13], V.V. Davydov, and their followers [14; 16].

A.K. Abulkhanova-Slavskaya [1] and O.A.Konopkin [9] reveal 'agency' as a specific ability of a person to perceive the surrounding reality as a personal problem, which leads to 'self-determination of all aspects of being'. V.V. Davydov believed that agency is associated with the ability of a person to develop activity. An important contribution of his school to the formation of this concept is also in the development of agency problems in teaching, where an important role is played by the formation of the ability to learn. The notion of the subject of activity, agency was developed in the theory of learning activity by V.T. Kudryavtsev, V.V. Rubtsov [18, 19] B.D. Elkonin [20], A.V. Konokotin.

Thus, from the psychological point of view, 'agency' is a characteristic of a person that contributes to the implementation of conscious, motivated and purposeful activity, capable of development, to overcoming the established, habitual way of performing actions. agency is associated with the author's position (V.T. Kudryavtsev) [12], with creativity (D.B. Bogoyavlenskaya) [2], realised in the transformation of the way of action (V.V. Rubtsov) [19], (Y.V. Gromyko) [6].

The main hypothesis on which our development of means for diagnosing the level of agency of activity is based is that the individual agency of a single person is formed within the collective subject. At the same time, two main phases can be distinguished in the process of agency formation: agency initiation and subjective action. The hypothesis is in line with the activity approach to the process of anthropological development and corresponds to the ideas about interiorisation as its most important mechanism.

The theoretical significance of the article is determined by the conceptual model of agency proposed within the framework of the activity approach, as well as by the set of diagnostic indicators of individual agency, built on the basis of this conceptual model and embedded in the diagnostic techniques of questionnaire-questionnaire type. The practical significance of the work lies in the created diagnostic techniques of individual agency level, which can be used in the framework of educational design to assess the most important parameter of the educational result [15]. Diagnostic questionnaires require a short time for answering (10—15') and therefore are convenient for use within the educational process of any type. The developed methods have passed the initial phase of approbation, during which they were carried out on 2 groups of subjects. The type of analysis and interpretation of the obtained data has been worked out.

An important question in the context of the tasks of analysing and forming agency is whether agency is an

ability? If it is, then being formed at a certain moment, it will be manifested in any professional and activity fields and situations. That is, having agency as an ability, a person will be a subject of activity in any situation.

In our opinion, it is not so. Agency is not an ability, which, according to the activity approach, is followed by some universal way. There is always a question, what is the subject of a particular person? One can be a subject of the laboratory activity and at the same time not be a subject of the organisation of the hike in which one is participating. This happens because one of the characteristics of agency, which allows us to manage and develop activities and set goals for the team that implements them, is subject mastery of the activity itself, competence. A person can only be a subject of the activity he or she possesses. This means that agency sets a certain mode of work with any abilities, leading to their development and necessary reformation [4].

The category of agency, as it is used in the field of consulting and design of professional activity, is not purely psychological or even purely anthropological. It connects the actual activity reality with anthropological reality. Therefore, the principles of agency, which a person possesses, are his ability to connect the social and technical 'machinery' of the activity in which he participates with his semantic, volitional, thinking, affective capabilities, goals, values and interests and to manage it on their basis. Thus, agency is a qualitative level, a quality of possession of activity that allows its bearer to manage and develop the activity in which he/she participates.

From the point of view of the process of agency formation, we can distinguish two main phases of its manifestation: the phase of agency initiation and the phase of subjective action. This structure of agency is presented in Fig. 1. Within each phase its components are highlighted.

The scheme shows that the emergence of agency passes through the initiation phase, the most important moment of which is a person's acceptance of a certain challenge that is important for the community in which the initiation takes place. 'Challenge' means that a person assumes a task that exceeds his or her capabilities, but is nevertheless necessary for the existence or development of the community with which he or she associates.

The fact that the task has the character of a challenge means that at the moment no one can cope with its solution, i.e. that behind what seems to be a task there is an objective socio-cultural problem. Therefore, the second component of initiation is the realization of the problem that a person has to overcome. By accepting the challenge, the person thereby determines the direction of his or her development, which is necessary to solve the task he or she has taken on.

As a rule, initiation takes place as a result of the transmission of a challenge from a Teacher, Master, Hero, or other type of subject to a representative of the next younger generation, thanks to which the process of transmitting socio-cultural problems and activities to solve them from generation to generation takes place. The process of transmitting and accepting the challenge also relies on the ideology and value-worldview environment of the community.

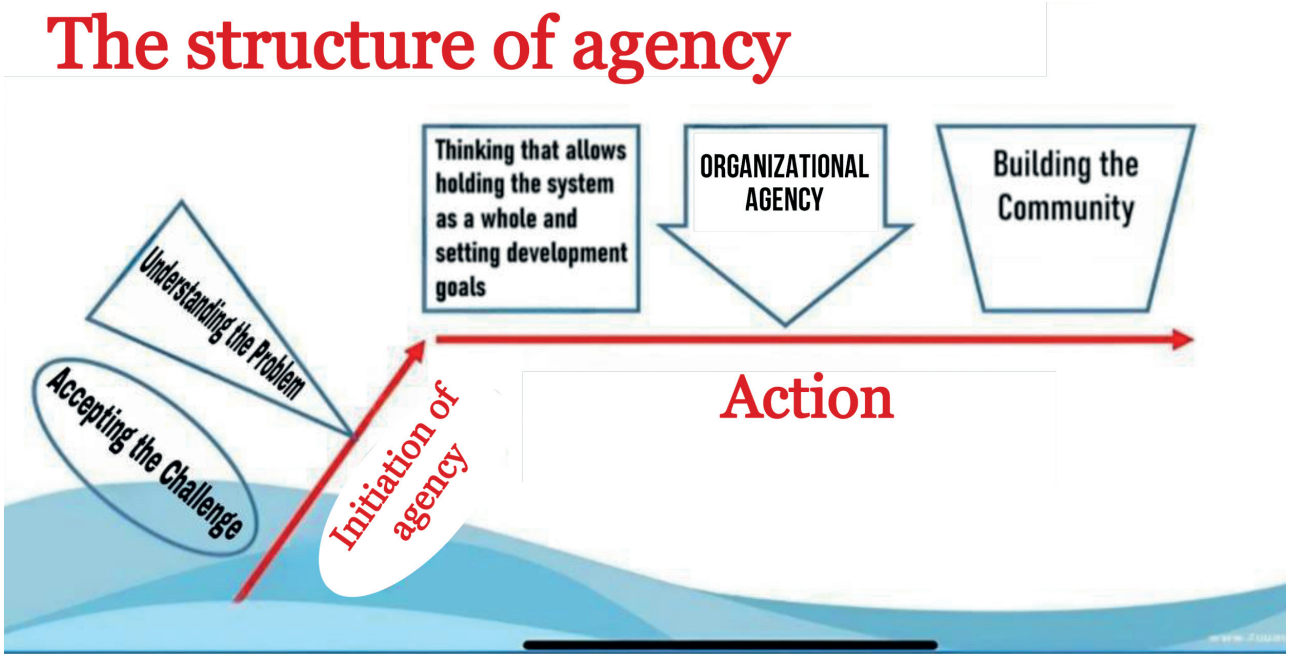

Fig.1. Phases of agency formation

The task of diagnosing agency raises the question of who or what can be its bearer and what material we should analyse. From the complex activity-anthropological nature of the concept of agency, it follows that the carrier of agency can be not only an individual, but also a collective, an organization and even a group of organizations. Therefore, we should distinguish between an individual subject, a collective subject and a communitarian subject.

We believe that the individual subject is initially formed within the collective subject. Related to this is the allocation of characteristics indicating the deep embedding of a potential individual subject in the sociocultural basis of the collective subject [7]. This issue is studied in detail in the works of V.V. Rubtsov and his school [16, 19]. The internal properties and characteristics of the subject in the above three cases will be somewhat different from each other while maintaining a common functional orientation.

In order to develop the diagnostics of agency, it is necessary to formulate the conceptual structure of agency beforehand, within the framework of which the corresponding diagnostic indicators should be defined. Thus, a number of researchers have attempted to identify the structure of agency [8, 17].

We have developed a number of questionnaire diagnostic techniques aimed at determining the level of agency of professionals. We have developed two diagnostic questionnaires aimed at assessing the level of individual agency of the participants of the Circle Movement (hereinafter referred to as CM). The first one is designed for the participants of CM, and the second one is designed for the mentors of CM activities.

Let us consider the conceptual structure of agency and the corresponding set of indicators, which formed the basis of the developed diagnostic techniques.

Diagnostic characteristics of agency

Individual subject.

1. Integration into a collective subject.

Acceptance of ideology

Acceptance of the principles of the world picture

Acceptance of goals and intent

Adoption of a pattern of action

Acceptance of tradition

2. Initiation.

Going through a problematization. Overcoming

Change in understanding of mission (meaning of activity), picture of the world

Emergence of a vision of the life trajectory and meaning of life related to the mission or the main problem

Acquisition of an ancestral name

Spiritual acceptance of the challenge

3. Leadership.

Functionalization in the community.

Emergence of a position in the community.

Becoming part of the core of the community.

Leadership and acceptance by the community as a leader.

Agency of action.

4. Competence.

Understanding of the main problem to which the collective subject's action is directed.

Mastery of the main method (mode) of action of the collective subject.

Ability to overcome social barriers in project activities.

The ability to organize the collective and distributed action of the collective subject on the basis of the basic method.

5. Autonomy of action.

Presence of independent goals and projects at the level of the collective subject (in continuation of the collective subject or in opposition with it).

Management of one's own professional development.

6. Task and goal-oriented agency.

Collective subject.

1. Having a mission or problem at the edge of the problem frontier.

2. Existence of coordinated goals among participants that are consistent with the mission

3. Going through trials together and recognising them as points of birth and formation of the subject. Recognizing themselves as a unified force with a common destiny.

4. Possession of a method to achieve the goals, to move towards the realization of the mission.

5. Functionalization of the participants and mutual understanding of the functions.

6. Presence of common cultural patterns.

7.Presence of a governing nucleus and a system of self-organization and self-management in the community. High level of trust in the governing actions of the core.

8. Presence of mechanisms for collective goal setting.

9. Presence of mechanisms for collective reflection of the situation and achieved goals.

10. Existence of the subject's history

11. Presence of educational mechanisms

12. Presence of a field of collective consciousness — a common picture of the world.

Communitarian (public) subject

1. Presence of a common mission

2. Coordinated goals of the organisations' activities

3. availability of communicative mechanisms for sharing results. Horizontal links.

4. Existence of value communication.

5. Existence of mechanisms for coordinated reflection on the situation and goal setting.

6. Mutual complementarity of organizations' competences in relation to the mission.

7. Availability of educational mechanisms

An important point in analyzing agency is to distinguish its manifestations in different types of activity. Our analysis shows that collective work, which has the features of agency, always contains several layers of different types of activity, which make it heterogeneous. This heterogeneity is connected, first of all, with the different qualification levels of the participants, as well as with the differences in their professionalism and the tasks they solve. As a minimum, every collective project includes, in addition to the project activity itself, educational and, presumably, play activities. The educational conditions necessary for the unfolding of adolescents' project activities in different strata are presented in the work of Y.V. Gromyko, V.V. Rubtsov, and A.A. Akhmetov. Rubtsov, A.A. Margolis [6].

The necessity of learning activity is connected with the fact that inside the project work all participants have to master a lot of competences, tasks, and knowledge that are new for them, which are required by the emerging situation. The necessity of game activities within the project work is less obvious. However, it is also necessary due to the situations of high uncertainty that arise in project work, in which it is not possible to set specific tasks for implementation, and some fragments of the situation remain unclear and must first be played out as if by trial and error. Playing out acts as a trial action, on the basis of which those fragments of work are built , which will then be carried out in the real design. However, effective switching between the three types of activity is possible only when they are fully mastered and reflection is developed.

This allows us to distinguish between project, educational and game agency. Using V.V. Rubtsov's term [6], we can say that these are 'form-forming' levels of agency, which correspond to the modern periodization of the leading activity in ontogenesis, based on D.B. Elkonin's classical periodization scheme.

Probably, while carrying out project activity, a person returns to learning or game activity if necessary. If the primary criterion of project agency is the presence of a visionary idea, the basic criteria of learning agency are the experience of overcoming difficulties in collective work at the expense of learning activities, transformation of the form of organization of joint action of participants in a learning situation, and the ability to set adequate learning tasks for oneself in a given situation. Game agency is determined by the ability to arrange a game probing an uncertain situation and to change the rules of interaction in a game mode.

Method

Based on the identified parameters of agency, we developed questionnaire diagnostic methods for participants and mentors of the CM.

Initial testing of the questionnaire diagnostics of agency on the material of participants of the Association of participants of technological circles

Participants of the approbation. Two groups of subjects were interviewed: a mixed group of 7 participants of CM, including students, managers, experts, leaders of CM, and then a group of 25 mentors of different CM circles. The age of the participants of the first group is 18—58 years old, the age of the participants of the 2nd group is 18—27 years old. The total number of people examined was 32.Procedure. Determination of possibilities of data interpretation. In both cases the questionnaire was administered on-line. In both cases, the subjects answered the questions voluntarily in response to the request of diagnosticians and CM supervisors.In the first case, they were participants in a face-to-face CM innovation workshop. In the second case, the request was posted in the chat room of the CM mentors. The number of participants in the chat room was 80.What does the proposed survey diagnostics allow to evaluate? The first diagnostic measurement was done on a heterogeneous group of 7 CM participants. The point of this survey was to test the questionnaire technique itself and to determine what it can give — the possibilities of interpreting its data.

Based on the results of the survey, a 'group agency profile' was constructed, showing the ratio of expression of different aspects of agency in the group (based on the averaging of individual indicators of all group members).

The picture shows that in the group the aspect of autonomy of action (presence of independent goals and projects) is maximally expressed, and the aspect of initiation (passing through the problematization event, overcoming, changing the understanding of the meaning of activity) is minimally expressed.

A similar profile was constructed for each individual member of the group based on their individual data. Comparing the individual profile with the group profile allows us to see the peculiarities of a particular community member's agency. For example, the following indi-

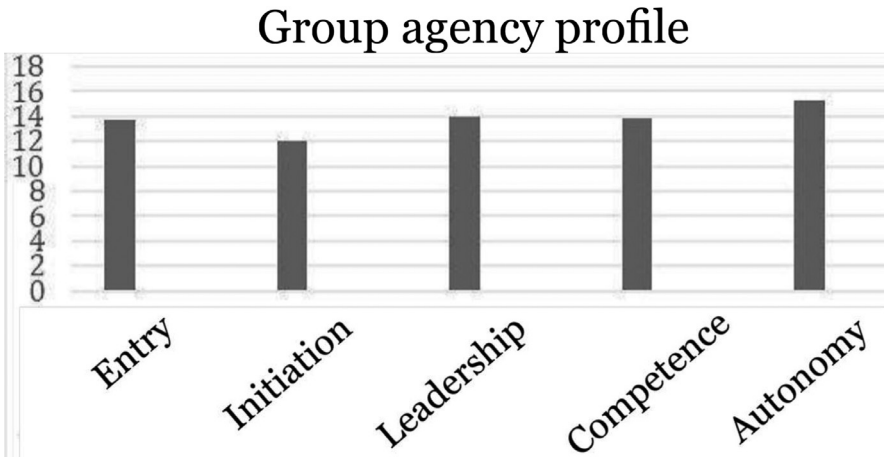

Fig. 2. Group agency profile

vidual profile shows that initiation and leadership are primarily expressed in this group member, while joining the collective subject and autonomy of action are much weaker. This member is unusual, non-standard for this group.

Based on the individual data obtained, we can construct a rating of the agency level of the group participants.

The second group we surveyed consisted of 25 CM mentors, mostly students. This group was quite homogeneous, all participants were mentors of young age, predominantly students of different universities. Therefore, the results of the survey are relevant not only for the validation of the methodology itself, but also allow us to characterize the group of CM mentors.

The agency profile of this group seriously differs from that of the mixed group. Initiation is still at the lowest level, ideological inclusion in the collective subject and leadership are of the highest importance, and autonomy of action takes the second-to-last place in terms of expression. The main difference from the mixed group lies in the significantly higher level of ideological inclusion in the collective subject and lower level of action autonomy. The rating of individual levels of mentors' agency was compiled both as a whole for the sum of indicators and for each agency indicator separately. In each case, three leaders were identified, occupying the 1st, 2nd and 3rd places of the rating. The rating showed that each of the three leaders of the overall rating is a leader in only one of the indicators. There are no leaders in several indicators. This means that the highlighted aspects of agency are rather independent entities.

One of the questions of the questionnaire was the question about the priority of tasks that mentors solve with their mentees. The results of answering this question are presented in Fig.4. It shows that in their work with adolescents, mentors' task of transmitting the ideology of CM comes last, while the first task is to teach adolescents to independently set and solve tasks in teamwork. At the same time, the mentors themselves have the indicator of ideological entry into collective activities in the first place among other indicators of agency (Fig. 4). This means that the mentors are not sufficiently aware of the role of adopting the ideology

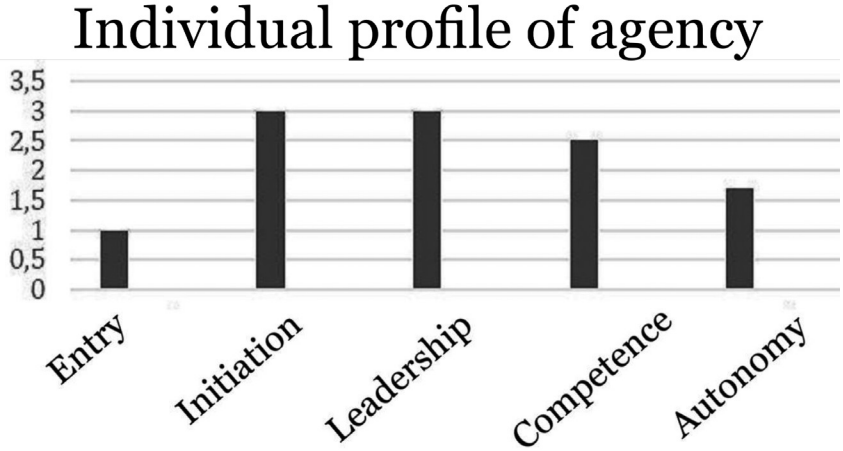

Fig. 3. Individual profile of agency

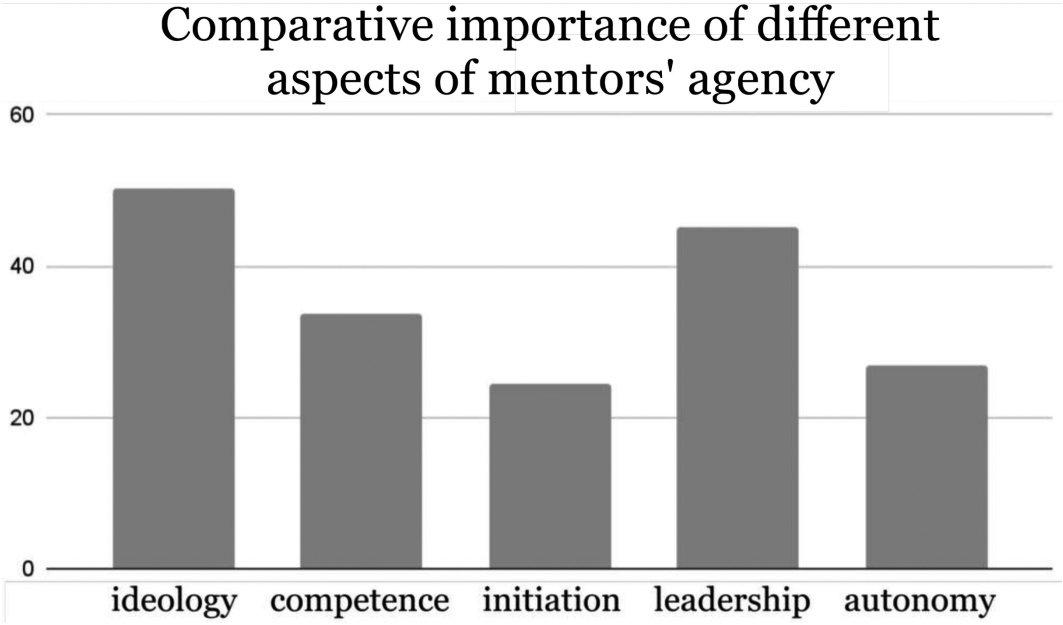

Fig. 4. Comparative importance of different aspects of mentors' agency

of CM for effective participation in the circle, in particular, for learning to independently set and solve tasks in collective work. That is, they do not seek to form in adolescents the worldview that led them to participate in CM, but try to transfer skills related to operational self-organisation. We assume that this will lead to the fact that the type of agency of the new generation of CM participants will be significantly different from that of the mentors. However, this hypothesis should be tested.

An analysis of the average group scores obtained by the participants for answering specific questions showed that the maximum scores were obtained for answering the following questions.

1. How do you understand the main goals and intent of the CM?

2. Who and where taught you how to work as a mentor?

3. Why do you participate in the CM? The minimum points are obtained by answering the questions.

1. Do you present the results of your mentoring work at conferences? If yes, where?

2. Do you have a model that you use as a mentor? If so, what is it?

This allows us to conclude that there is a collective subject within which mentors are formed (learning mechanisms are present), but they are insufficiently related to cultural tradition (low level of presence of common activity and cultural patterns). The communitarian subject is manifested to a lesser extent — the exchange of results of mentoring activities among members of different groups working in the CM is poorly represented.

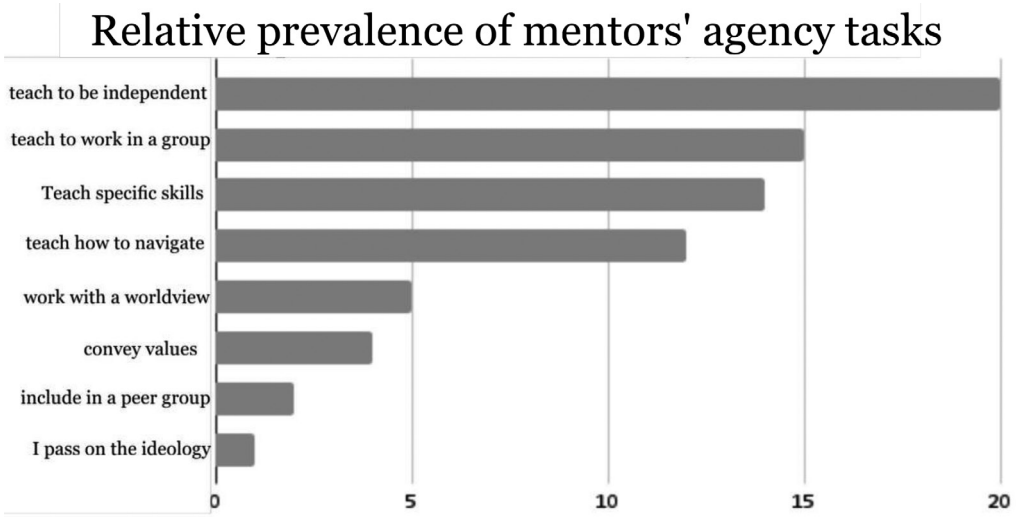

Fig. 5. Relative prevalence of mentors' agency tasks

Results and conclusions

The developed diagnostic questionnaire techniques for assessing agency in project activities are based on the idea that agency is a certain level of mastery of the activity on the part of the participant. agency is not a universal ability and can be manifested only within the framework of the activity in which the subject is competent [3]. The carrier of agency can be an individual person (individual subject), as well as a community-group (collective subject) and a community consisting of many groups (communitarian subject).The authors believe that the individual subject is formed within the collective subject.

We can distinguish separate phases of agency (initiation and subjective action), and within them — different aspects-indicators of agency.

The initial approbation of the proposed methods of diagnosing individual agency showed that they allow:

1. To build a group profile of agency including 5 separate indicators. For example, the profile of agency of the group of mentors of CM shows that the highest values are ideological integration into the collective subject and leadership, and the lowest values are indicators of initiation and autonomy of action. Based on such a profile, different groups can be compared with each other in terms of the level and individual aspects of agency.

2. To build an individual level of agency of a group participant, on the basis of which a rating of group participants can be created by the level of their agency in the activity being carried out, as well as the strongest and weakest aspects of agency of individual participants by individual indicators can be determined. The conducted analysis of the group of mentors allows us to consider that the highlighted agency indicators are sufficiently independent formations, on the basis of which it is possible to build a forecast and recommendations for further formation of agency in individual group members.

3. If necessary, the agency indicators can be examined in a more differentiated way by comparing the scores obtained on individual questions included in one or another indicator. For example, an analysis of the results obtained in the group of CM mentors on the question of the priority of the tasks that the mentor solves in work with adolescents revealed a discrepancy between this priority and the leading indicator of the mentor's own agency profile. In relation to mentees, the task of communicating the CM ideology was in the last place for mentors, whereas for mentors themselves, the acceptance of the CM ideology was the most significant indicator of their own agency profile.4.To identify manifestations of collective and communitarian subjects in the activities of individual subjects and project groups as a whole.

4. To identify manifestations of collective and communitarian subjects in the activities of individual subjects and project groups as a whole.

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HISTORY OF SCIENCE
ИСТОРИЯ НАУКИ

ON FOUNDERS AND SUCCESSORS
ОБ ОСНОВАТЕЛЯХ И ПОСЛЕДОВАТЕЛЯХ

Turning Psychology "into a Science of the Living Human Being…": On the Psychotechnical Character of Research of the A.N. Leontiev school of the 1940s.

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This paper analyzes select 1940s works of A.N. Leontiev's school of psychological thought in light of the methodological principles of psychotechnical cognition which F.Ye. Vasilyuk formulated on the basis of L.S. Vygotsky's ideas about practice as a constructive principle of psychological science. The paper refutes the assertion that Soviet-era cultural and activity psychology had no psychological practice in its own right and demonstrates that such practice did really exist, had a distinctly activity-oriented nature, and contributed to the advancement of the activity theory. It was the practice of movement recovery which a team of psychologists, put together by A.N. Leontiev, practiced at the military hospital in Kourovka, fusing "psychotherapy", research, and education into an inseparable whole. We observe that unity in Z.M. Istomina's 1948 research, discussed in this paper in light of the eight general principles of psychotechnical cognition identified by F.Ye. Vasilyuk. Revisiting the Leontiev school's heritage is relevant in the context of the ongoing conceptual revolution in psychology, for many methodological principles and provisions of activity psychology were ahead of their time.

Keywords: methodology of psychology, activity, practice, psychotechnical approach, A.N. Leontiev, F.Ye. Vasilyuk, Z.M. Istomina.

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Превратить психологию «в науку о живом человеке…»: О психотехническом характере исследований школы А.Н. Леонтьева 1940-х гг.

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В статье представлен анализ некоторых работ школы А.Н. Леонтьева 1940-х гг. в свете методологических принципов психотехнического познания, сформулированных Ф.Е. Василюком на основе развития идей Л.С. Выготского о практике как конструктивном принципе психологической науки. В опровержение утверждений о том, что в культурно-деятельностной психологии советского времени не было своей собственной психологической практики, показано, что такая практика имела место, причем она отличалась особым, деятельностным, характером и, в свою очередь, способствовала дальнейшему развитию теории деятельности. Таковой была практика восстановления движений, осуществляемая командой психологов, собранной А.Н. Леонтьевым в госпитале Коуровки; в этой практике «психотерапия», исследование и обучение были представлены в неразделимом единстве. Это единство наблюдалось и в исследовании З.М. Истоминой (1948), проанализированном в настоящей статье в свете выделенных Ф.Е. Василюком восьми общих принципов психотехнического познания. Новое обращение к наследию школы А.Н. Леонтьева актуально в контексте совершающейся в настоящее время концептуальной революции в психологии, поскольку многие методологические принципы и положения психологии деятельности опередили свое время.

Ключевые слова: методология психологии, деятельность, практика, психотехнический подход, А.Н. Леонтьев, Ф.Е. Василюк, З.М. Истомина.

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Introduction

This article addresses some aspects of the academic legacy of A.N. Leontiev and his school of thought which created an activity approach in psychology as an integral part of the cultural and activity movement that has become international. The abbreviation CHAT (Cultural-Historical Activity Theory) appearing in the English-language literature fairly accurately captures the unity of the cultural-historical and activity approaches, although attempts to pit them against each other again — unsuccessful, in our opinion — are made from time to time in the literature.

Although, as B.D. Elkonin rightly noted, “a lot has been written and said about the theory of activity” [17, p. 4], he believed that one should reread its authors’ works from time to time, “...mastering the way of thinking embedded in them. Reread along with mastering and understanding the structure of A.N. Leontiev’s truly brilliant and unique experimental research” [ibid.]. We believe that in addition to the works B.D. Elkonin referred to in his paper, these are the empirical studies that Leontiev and members of his school conducted in the 1940s. They are largely widely heard and, judging by the popularity of the review article written by the head of the school and dedicated primarily to the studies of that period, which was recently translated into English [18], they also interest contemporary psychologists, including those abroad. However, various textbooks and monographs retelling results of those studies, often miss their connection with the underlying methodology whose origins should be sought in L.S. Vygotsky’s work.

F.Ye. Vasilyuk described Vygotskyian cultural-historical psychology as “...psychotechnical in its original conceptualization, [and] in its methodological ‘genotype’” [1, p. 211]. This is evident in Vygotsky’s analysis of the historical significance of the psychological crisis, the exit from which he saw in restructuring the principles of psychology so that “...they can withstand the supreme test of practice” [3, p. 387], whereby practice is no longer a “colony of theory”, but instead its “supreme court” and embeds “into the deepest foundations of scientific operation and rebuilds it from beginning to end”

[ibid., pp. 387—388]. The "supertask" of this psychology is "...not so much to explain the psyche as to understand it and master it" [ibid., p. 387].

F.Ye. Vasilyuk considered the A.N. Leontiev's experimental studies of memory mediated by psychological tools as materialization of this original concept, in which, in his opinion, Leontiev studied not memory in general, but "...social mnemotechnics, the collaborative activity of two persons, the experimenter and the subject" [1, p. 210]. Another example of successful materialization of the psychotechnical approach for F.Ye. Vasilyuk was P.Ya. Galperin's theory of planned stage-by-stage formation of mental actions, as the very name of the theory suggests.

However, E.Yu. Patyaeva, commenting on the further development of the psychotechnical approach in Russian psychology, believes, following F.Ye. Vasilyuk, that the psychotechnical "methodological genotype" "...could not be deployed and operationalized to the full extent" in the time of L.S. Vygotsky, A.N. Leontiev and P.Ya. Galperin, "because domestic psychology had no practice of its own; it could only be integrated into pedagogical, medical, or engineering practice" [13, p. 72].

However, it is impossible to agree with the above thesis. The present paper demonstrates that the Leontievian school's activity psychology did have a practice in its own right, and that it successfully implemented the psychotechnical approach, which is obvious from the study of 1940s works of that school in this context. Therefore, the purpose of this paper is to revisit some of them anew through the prism of the general principles of psychotechnical cognition, which F.Ye. Vasilyuk highlighted in his works, despite certain differences distinguishing its various approaches. This technique which E.Yu. Patyaeva used discussing [13] B.V. Zeigarnik's well-known study of the memoriation of completed and uncompleted actions, appeared very curious and fruitful to us, and we use it in this paper to analyze Z.M. Istomina's work published in 1948.

Revisiting "ancient" texts that seem to have long faded into history, is very relevant in the context of the ongoing "conceptual revolution in psychology" that A.P. Stetsenko detailed and analyzed in her article [20]. In her opinion, the Leontievian school, as an integral part of the cultural and activity movement, appears to be a "guest from the future" in this context, as modern world science is turning to such principles of psychological cognition which that school of thought formulated and implemented long before this turn.

Live Relationships of Living People

V.T. Kudryavtsev rightly noted that the true supertask of L.S. Vygotsky's doctrine as the founder of cultural and activity psychology was not the substantiation of his ideas about the sign-symbolic determination of consciousness, but "live relations of living people" [6, p. 141]. L.S. Vygotsky insisted, not without reason, on creating a "psychology in terms of drama" — a concrete, rather than abstract, psychology, which, as G. Politzer's put it, abolished the human being and made processes the acting party [14, p. 257][1].

A similar intention to make psychology a truly vital science underlay the scientific program of the newly formed Kharkov school in the early 1930s, whose recognized leader was A.N. Leontiev. Although the development of the central problems of this program (the relationship between practical activity and consciousness) initially seemed to the Kharkovites a kind of alternative to L.S. Vygotsky's research in the last years of his life, it was soon understood that the movement "from consciousness to activity" meant only a return to Vygotsky's original concepts. A.N. Leontiev wrote in his notes, *Materials on Consciousness*, which commentators attribute to 1940—41, "What was that *original* concept? It consisted of finding in the *way of life* of man the key to his C[onsciousness], [and] connecting life with consciousness. 'Behind consciousness, life is revealed.' 'Psychology is the science of a special, higher form of life'" [9, pp. 38—39; italics in the word "*original*" stand for spaced italics in the Russian text. — *E.S.*].

A.N. Leontiev would write in his *Methodological Notebooks* around the same time that he always sought to turn psychology "into a science about the living human being, into a science 'about the most important thing'" [7, p. 181]. He had good reasons to select activity as the initial category for building his system of psychological concepts, one of the definitions of which states that it is a molar and non-additive "...unit of life mediated by mental reflection" [ibid., p. 65]. Leontiev, viewing activity as a substance of consciousness and psyche, offered another definition of psyche (non-standard for the then and — and even for the present-day — psychology) as a function (or, as they later referred to it in his school, a functional organ) of activity as the latter's inherent attribute. According to these views, the psyche cannot be seen apart from activity in any form of the latter, and any "work with the psyche" meant "work with activity", namely, its formation, change, and/or its eventual correction in case of some pathology.

[1] See the discussion of this scientific program of L.S. Vygotsky in correlation with the G. Politzer's legacy, on the one hand, and in correlation with its further development in the doctrine of A.N. Leontiev and his school about deed, on the other, in the author's earlier paper [19].

These general ideas found their impressive embodiment and, importantly, further development and practical application in rehabilitation of patients at the specialized combat casualty rehabilitation clinic set up in the military hospital at Kourovka, a town of near Sverdlovsk, on September 6, 1942. A.N. Leontiev's team developed techniques for restoring movements in the patients' injured arms on the basis of the psychological theory of activity and N.A. Bernstein's activity physiology; the work continued later in collaboration with the Central Institute of Traumatology and Orthopedics after the return the MSU staff to Moscow in 1944.

It should be expressly noted that this was an explicitly psychological and not medical practice (in which psychologists would have played a supporting role); this practice was not reduced to either psychological counseling or psychotherapy in the usual sense of these words. The authors of the book in which they summarized their results explained the meaning of this highly organized practice, "In order to successfully restore the function of *an organ*, it is necessary to restore the activity of the subject and to remove interfering inner attitudes. [10, p. 6; italics in the words "*an organ*" here stand for spacing in the original text — *E.S.*]. The motives of the patient's activity played, as was demonstrated and proved in the process of "live relations of living people" at the Kourovka hospital, the main role in this rehabilitation, "...for functional methods of treatment are active methods, in which the patient is not just exposed, but must himself act energetically to restore the function, the more motivating power this restorative activity will have for him, the stronger motives it will contain and the greater will be the chances of success" [ibid. p. 174].

The psychologists noticed, in particular, that many patients' obvious desire to spare their injured arms most often restricted movements in the injured limbs. That made it difficult to restore normal movements in the usual way, i.e. by rehabilitation and strengthening exercises that the medics practiced in rehabilitation hospitals; whereas integration of movements into other activities, meaningful to the patient, sooner or later reversed the sparing attitude, making recovery surprisingly fast.

Kourovka patients were engaged to work for this purpose in occupational therapy workshops, where practical tasks were tailored to actualize the patients' significant motives for their activity, and, consequently, had a positive meaning to them. The psychologists carefully made sure that such tasks were not imposed on the patients without taking this meaning into account; e.g., the work-like movements in meaningless hammering nails into planks or doing minor repairs of clothes or boots, which were of no interest to most wounded soldiers, were totally unsuitable for the purpose. Instead, the tasks the psychologists developed at Kourovka involved operations incorporated into collective meaningful work activities that had real, significant material results. Then the patients' attention focused not on their injuries, but on the work.

The manufacture of wooden window frames and metal fittings for them in the hospital's carpentry and locksmith workshops to be installed in new houses built in war-destroyed Stalingrad, for example, was a socially significant activity that aroused the patients' great interest. It offered them an opportunity to carry out strictly definite work operations with a corresponding productive result (and at the same time leading to eventual recovery of necessary movements), and let the patients feel at all times "sharing one great common cause" [10, c. 182].

The psychologists' laboratory studies proper of motor activity in injured limbs followed the same principles. One of them was, for example, P.Ya. Galperin's and T.O. Ginevskaya's well-known investigation where the subjects had to solve several motor tasks; the psychologists measured the amplitude of their arms' movements while the subjects were solving them. As a matter of fact, the number of those tasks was not three, as some retellings of the results of that fine work assert, but five, with the last task being objectively fully identical to the first one[2]. Many of the subjects demonstrated a significant increase in the amplitude of movements of their injured arms while solving the last (i.e. fifth) task, as compared to the first, right in the progress of the study, i.e., practical work was carried out to change the subjects' activity right in the course of communication with them, including its physiological support.

As a matter of fact, the patients' limb movements recovered in the process of real meaningful activity often without purpose-oriented occupational therapy or special exercises. A.N. Leontiev and A.V. Zaporozhets's book provides a number of examples of how the hospital's reality, with the reconvalescent soldier patients involved in doing everyday tasks of the hospital's support services, worked as psychotherapy of a kind, and movements of the injured arms recovered as if spontaneously, because while solving those tasks, the patients actualized meaningful (until then potential) motives.

Many other studies which Leontiev's school began in the mid-1940s, when he came to head the Department of Child Psychology at the Psychological Institute, em-

[2] Briefly, the subjects' movement tasks were these: the first instruction (Task A1) was, "Close your eyes and raise your hand as high as possible... higher." The second task (A2) involved the same with open eyes, against a lined screen. In the third (task B) the subject was instructed to raise his hand to a certain number on the screen named by the researcher. The fourth instruction was to take in hand a certain object that the researched named. The fifth task (A3) was the same as A1 [10, p. 13].

phasized the significance of motives of actual activities of "living people".

Our further objective, as stated earlier, will be to analyze Z.M. Istomina's 1948 work in light of the peculiarities that F.Ye. Vasilyuk identified in psychotechnical cognition in general, despite certain, rather substantial, differences distinguishing various psychotechnical approaches.

Fusion of research, education and practice

Briefly, the essence and objective of Z.M. Istomina's research [5] was to reveal the mechanisms of arbitrary memorization in preschool children, i.e. the study of emergence of special ("mnemic") actions in children's activity. It was hypothesized that emergence of such actions depended on specific motives of children's activity that made memorization and recall meaningful. The preschoolers of different age groups were to memorize meaningful words (five to eight in different experimental series) under conditions of usual laboratory experiments involving memorization and recollection (children were told that these were "special" lessons) on the one hand, and, on the other hand, as part of deliberately staged role-playing games, which actualized or created motives that were more significant for preschoolers for corresponding actions of memorizing and recalling. The experimenter who acted as the daycare center's director, instructed children to "buy" this and that at the "store", whose "manager" was the experimenter's assistant. The next task was to investigate how various means of accomplishing the above goals, i.e., mnemic operations, originate and evolve[3].

Several series of tailored formative experiments furthered a detailed study of the formation of arbitrary mnemic processes, i.e., functional development of memory in the course of experimental studies. The experiments formed in children who could not yet actively memorize, the ability to set special mnemic goals for themselves and thus the ability to memorize; and after that, the ability to find and improve the means to achieve this goal, i.e., mnemic operations, which improved memorization performance.

We will present now the results of a new reading of Istomina's paper in light of the general features of psychotechnical theory or, more generally, of the system of "psychotechnical cognition" identified by F.Ye. Vasilyuk [1], omitting most interesting data Z.M. Istomina obtained in her study, and without discussing the differences revealed in the investigated processes formed in preschool children of different age groups. Despite some subsequent amendments made by Vasilyuk [2] to the list and the phrasing of those general features, we found no fundamental differences from the previously presented.

1. **Values.** The psychotechnical system, which includes practice as its living organ, according to Vasilyuk, "...must consciously choose its value position in the context of all basic values, [i.e.] truth, goodness, beauty, holiness, usefulness, etc." [1, p. 185], which distinguishes it from the classical science and, in general, from the "classical rationality", which sees the sole value in "objective truth" independent of anyone's subjectivity. Psychotechnical cognition corresponds in this respect, according to F.Ye. Vasilyuk, to V.S. Stepin's "post-nonclassical" type of rationality.

This value principle quite obviously underlies the theory of activity in general and the study discussed here in particular. A.N. Leontiev always emphasized that the measure of development of one individual person is determined by the extent to which the individual becomes a "man of humanity" [7, p. 168], pompous as it sounds. This "vertex" (as L.S. Vygotsky termed it) aspiration is not innate according to cultural and activity psychology; it forms in ontogenesis in the process of personality formation, i.e. the individual's self-assertion in the life of society, in the whole, "...within which he can only exist and develop as a human being" [8, p. 389].

A.D. Maidansky, reviewing in the same context certain aspects of A.N. Leontiev's like-minded co-thinker E.V. Ilyenkov's work, specifically his discussions of the problem of free will, argues that Ilyenkov solved the problem in the traditions of activity psychology; he understood the will as a psychological function of subordination of an individual's activity to the goals and norms of social life: "The will, like the entire higher psyche, is a social function. Other people and society that they represent dictate the child's will initially. My freedom begins with obeying others and is essentially compelling myself in fact, to cultural behaviors and lifestyles" [12, p. 93].

This value attitude was implicit in the Leontiev school's 1940s empirical studies. "Introducing the preschooler to the life of humanity" in Z.M. Istomina's work consisted just in developing the child's ability to regulate arbitrarily the processes of memorization and recall. While stating that this development process is much slower in real life, Istomina made it her task to induce

[3] It appears that Z.M. Istomina's study identified, along with the inducing and meaning-making functions of motive, its so-called structuring function, although not labeled with a appropriate word combination. Only 30 years later O.K. Tikhomirov's school, which developed and is still developing certain ideas of cultural and activity psychology, began to identify, discuss, and investigate the structuring function of motive in relation to adult subjects' thinking activity [16, pp. 116—124].

the child to "run faster" down this path [5, p. 73] in a series of specially designed formative exercises. That, among other things, made the child readier for adequate entry into school life.

Note that this work has not lost its relevance. Today's studies show that the level of intellectual readiness for schooling in modern preschoolers goes along with a low level of personality readiness, i.e. with insufficient arbitrary behavioral regulation, especially noticeable when compared with children who lived in Soviet-era socio-cultural conditions. That, in turn, is due to a lower level of development of modern preschoolers' story-role play [11; 15].

2. **Addressee.** The addressee of the psychotechnical theory, according to Vasilyuk, is the practicing psychologist who thinks in terms of precedents, clinical cases, and so on. He expects answers from this theory to a number of questions. *Why?* (What are the meaning, ultimate goals, and values of counseling, training, etc.?). *What* exactly can and should he do? *How* does he achieve the desired results? *Why* do certain actions produce this or that result, and what mechanisms are behind it? [1]. To add, from E.Yu. Patyaeva's point of view [13], which we share, a researching psychologist adhering to the same strategy can also be the addressee of psychotechnical cognition. It will be further shown that one can find answers to all these questions in the theory of activity and, accordingly, in Z.M. Istomina's study conducted in its context.

The first question ("*Why*?") was answered above. Z.M. Istomina answers the question "*What?*" as follows: it is necessary to organize the child's activity most adequate for effectively developing arbitrary memorization and recall actions. It is easiest to do so in preschool age children in certain cultures using story-role play, for the goal (memorization) has for the child a very concrete and actual meaning if determined by the motives of the game. In the meantime, "neither the goal of memorization nor the very memorization follow directly from the content of the motive" in laboratory conditions, for "both these moments are related to each other in a manner external to the child" [5, p. 85].

How does one achieve the desired results? By tailored training drills impacting not only the activity practiced in formative experiments, but also other activities, and here, too, the game was in the first place in terms of developmental effect.

Why do certain actions produce the desired result? The psychologist can only answer this question in a deep study of the integral system of principles and propositions of the activity theory, but in short, the answer is as follows: since any mental process (in this case, memory) is a function (functional organ) of children's activity, change of the activity and its structure changes the mental processes corresponding to this activity.

3. **Subject of cognition**. The psychologist, according to Vasilyuk, ought to take an interested, participatory and personal position in psychotechnical practice in accordance with his ultimate values, but he is not the only cognitive subject: his clients, group participants, act as equal and indispensable partners, and in some particular moments of advancement to the truth a "dialogical 'cumulative subject' of cognition" emerges [1, c. 186].

A similar kind of "cumulative subject", we believe, emerged in Z.M. Istomina's studies. She treated children not as "average subjects", but rather as partners in games or lessons. The game necessarily involved two adults: the experimenter ("store manager") and his assistant ("daycare center's director"). As in the case of movement recovery in patients with combat injuries, children were not passive objects of influence; their joint activity with the adults followed two patterns: in the lessons the experimenters set mnemic goals for the children, while in the story-role play the children had to identify the goals themselves, yet all the same in joint activity with the adults.

That took into account how the subjects perceived the situation: the protocols recorded not only what each child said, but also how they accepted the instructions to "buy" something in the "store" (in the story-role play) or to memorize words (in the lessons); whether the children used any memorization techniques; how they later reproduced the words in the "store"; etc. The children's own perception of the situation manifested itself, for example, in their perplexed questions they asked to the adults (in 4—5 year old children's "special" lessons), "Why do you keep saying, 'memorize, memorize'?" One child of that age said, "I do not know how to memorize here, I only know how to memorize at home". Six- and seven-year-olds were able to memorize arbitrarily and could even evaluate their ability, although their memorization in "special" lessons was also less effective than in play: for example, a six-and-a-half-year-old boy asked the experimenter, "Only speak slower, or I won't remember" [5, p. 80].

4. **Contact**. The psychologist's contact with the subjects, according to Vasilyuk, is not an inevitable evil, but a necessary condition for psychotechnical work, and that contact is intense, unique, and emotional. This is all traceable in Z.M. Istomina's research. The children's contacts with adults in the play were, for example, in the following forms, among others: when a child came to "shop" in the "store" and could not recall what he or she had been told to "buy", the "store manager" would ask the "shopper", "Have you named everything, haven't you forgotten anything?"

The children also came in live contact with the experimenters in the same way. For example, "shoppers" who had forgotten what they had to buy in the "store", would turn to the "store manager" and show the shopping checklist, saying, "Look what it says here, because I forgot". One forgetful "shopper" wanted to return to the "daycare center" so that the "director" would remind him what else he had to buy.

5. **Process and procedure of research**. Neither of these needs to follow any rigid program that cannot be deviated from in the slightest; the program of psychotechnical research can vary throughout its course, contributing to the participants' self-exploration and self-discovery. Communication was individualized each time in all cases and series of Z.M. Istomina's experiments, taking into account not only the children's chronological age, but also other factors, which manifested itself in unique dialogues between the subjects and the experimenters. Naturalness and liveliness particularly distinguished the play experiments, of course; the psychologists found out later [5, p. 58] that children kept playing the game they liked outside the context of research.

Moreover, repeating the play in the formative experiments showed that the exercises arranged by the experimenter, developed the children's very motivation of the play activity, which is closely related to goal-setting. At first, the children's concrete activity motive was just to go to the "store" as "shoppers", without setting the goal to memorize the instruction and to reproduce it, i.e., merely exercising the social function of "shoppers". The subsequent experiments — some starting from the second — changed the meaning of the game for the children: they "shopped" knowledgeably, i.e. knowing they had to buy not just some groceries, but those needed for the "daycare" (one child would even hurry the "store clerk" to pack the "goods" faster, because "the kids are waiting out there"). The motivation of the game was thus different now: the function of the "shopper" was now included in a relationship with other people — those who give instructions and those who carry out them. Those experiments actually comprised "teaching to play" that A.N. Leontiev's school insisted on orally and in writing since the inception of the school in Kharkov.

6. **Knowledge.** According to F.Ye. Vasilyuk, knowledge obtained in the process of psychotechnical research is not about something external or impersonal; on the contrary, this is knowledge of "you" and "myself". The examples cited above illustrate this point of psychotechnical cognition too, so we will limit ourselves here to citing a couple of new ones. The researchers reported a case where a 6 years 7 months old child who, after playing shopping and successfully carrying out the "daycare director"'s instruction, told the experimenter, "I have now understood how to play", and would later use appropriate memorization techniques [5, p. 79]. Another child of about the same age told the experimenters before the third learning repetition of the game, "Now I know how to memorize. I'll be walking and repeating it to myself" [Ibid.] Another subject of four and a half years old, who had forgotten what he had been told to "buy", realized that "he had not listened well" and asked permission to go back to ask what he had to "buy" [Ibid., p. 63].

7. **Subject of the theory**. F.Ye. Vasilyuk's discussion of this point of the psychotechnical system appears to be very controversial. It is hard to agree with his definition of the subject of the psychotechnical theory in general (and, therefore, the activity theory in particular) as "...not a theory of some 'object' (psyche, activity, [or] thinking), but a theory of psychological work with the object. It is a *theory of practice*" (Vasilyuk, 2003, p. 189). But if "...practice, education, and research constitute a single whole" [13, p. 77][4] in a psychotechnical system, then how can one contrast a theory of this or that "object" and a theory of "working with it"? F.Ye. Vasilyuk clarified his position in the synopsis of his doctoral dissertation, "Practice is not just enlightened inside and justified outside by the scientific theory; [...] it rather participates itself in the creation of this theory as the main research method" [2, p. 4]. One can then agree with this and find just this kind of connection between "theory" and "practice" and — more broadly — between research, education and practice in psychology of activity in general and in Z.M. Istomina's study we are reviewing here in particular.

It appears that this latter research (and other similar studies of the 1940s published in the same volume of the proceedings of the Department of Child Psychology at the Psychological Institute) fully implemented the idea (formulated already by L.S. Vygotsky) that shaping the psyche implies both work with it and studying it as an "object" at the same time, for the development of the human psyche always occurs in children's joint activity with adults (we mean ontogenesis here), albeit unintentional and unplanned in real life, yet intentional and planned in many experimental studies of A.N. Leontiev's school.

8. **Correlation between the scope and method**. Omitting discussion of the assertion — one that is close to F.Ye. Vasilyuk's previously cited reasoning — that "...the general scope of the psychotechnical theory is its

[4] According to E.Yu. Patyaeva, these characteristics distinguished K. Levin's studies of the last period, and, in her opinion, only psychotechnical theory is suitable for describing research of that particular type.

very method which facets and creates a space for psychotechnical work with the object" [1, c. 190], we agree that the description of method in such studies merits increased attention. This fully applies to Z.M. Istomina's study, where this description is thoroughly detailed.

Thus, having looked at Z.M. Istomina's research on the basis and in development of activity theory ideas through the prism of the principles of psychotechnical cognition as named by F.Ye. Vasilyuk, it can be confidently asserted that the psychotechnical nature of the research of A.N. Leontiev's school (at least in the 1940s), and the very activity theory, is beyond any doubt.

Conclusion

Re-reading the Leontiev school's 1940s works convinces us that the ideas of the activity theory, materialized and developed in certain types of "highly organized practice", steadily made their way like grass through cracks in the pavement, despite the peculiar socio-cultural conditions of that era. The psychologists' practical work in the forms in which it could only exist at that time, drove the substantial development of the system of ideas of activity psychology, especially as regards the doctrine of motives, which was only briefly discussed in this article.

We leave out of our discussion a problem calling for a particularly careful analysis, namely, that of similarities and differences between the different psychotechnical approaches proposed in the Leontiev school's classic works, and those of A.N. Leontiev's immediate disciple F.Ye. Vasilyuk, who nevertheless developed that approach in a substantially different direction. The evidence of this lies at least in the fact that F.Ye. Vasilyuk referred to *perezhivanie*, which he regarded as a particular "inner activity aimed at overcoming critical life events", as the central category of the psychotechnical system that he had developed and named "the understanding psychotherapy" [2, p. 5], whereas A.N. Leontiev's central category of psychology was activity which he understood much more broadly and viewed in all the diversity of its forms, including its initial, practical forms. A.N. Leontiev argued at the memorable discussion of his book *Outline of the Development of the Psyche* in 1948 that it was precisely this understanding of activity that allowed one to say that psychology was moving away from a contemplative point of view to become an active transformative psychology, "We control, we build, [and we] plan a system of man's relationships with the world, i.e. his activity in the surrounding reality. We change, by doing so, his consciousness, [and] his psyche. This is how things actually stand in our practice. But what is a relationship? I never mean anything by this term but a really *embodied* relationship, i.e. a life process, a real process of activity, even if only in a theoretical form" [4, c. 338].

Yet, for all the differences, sharing by adherents of various psychotechnical approaches of the common focus on work with concrete whole living people in various life settings distinguishes them favorably from traditionalist research psychologists who still actually deal with abstract human beings. F.Ye. Vasilyuk argued that the only chance for psychology to become a true science was to change fundamentally. He was deeply convinced that this change was "...genotypically inherent in domestic psychology. It needs in fact only to become itself and not to hide its talent — a talent *of its own* — in the ground, but to invest it, materialize its inherent potentials, [and] to turn from a psychology of activity into an active and vital psychology" [1, p. 196].

True, the last statement needs, we believe, to be corrected in light of what has been laid out in this paper. This transformation began in A.N. Leontiev's school long ago and has materialized in some places. However, new efforts are needed to keep this transformation going, or, in G. Politzer's words, the same individual processes will remain as "actors" on the stage of 21st century psychology, while the concrete whole acting human being will be finally "abolished".

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The First Commentary on L.S. Vygotsky's Papers at the II All-Russian Congress of Psychoneurology in Petrograd (January 1924)

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At the Second All-Russian Congress on Psychoneurology in Petrograd (January 1924), Vygotsky delivered three papers. The first paper ("Methodology of Reflexological and Psychological Research"), was printed separately, but the text of the other two reports ("How Psychology Should Be Taught Now" and "Results of a Questionnaire on the Moods of Students of the Graduating Classes of the Gomel Schools in 1923") has not survived. A brief account of these two reports, which appeared in the magazine Krasnaya Nov' in 1924, is reprinted here for the first time. The author was the revolutionary M.I. Ginzburg (1877—1940), a researcher at the Moscow Psychological Institute in the mid-1920s. He wrote under the pseudonym G. Dayan. Ginzburg-Dayan was severely criticised in 1935 on charges of Trotskyism.

Keywords: L.S. Vygotsky, M.I. Ginzburg-Dayan, II congress of psychoneurology, Trosky, Gomel'.

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Первый комментарий к докладам Л.С. Выготского на II Всероссийском съезде по психоневрологии в Петрограде (январь 1924 г.)

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На Втором Всероссийском съезде по психоневрологии в Петрограде (январь 1924 г.) Выготский прочитал три доклада. Первый доклад «Методика рефлексологического и психологического исследования» был напечатан отдельно, но тексты двух других докладов («Как надо сейчас преподавать психологию» и «Результаты анкеты о настроениях учащихся в выпускных классах Гомельских школ в 1923 году») не сохранились. Краткое изложение этих докладов, появившееся в журнале «Красная новь» в 1924 году, перепечатывается здесь впервые. Автором был революционер М.И. Гинзбург (1877—1940), научный сотрудник Московского психологического института в середине 1920-х годов, писавший под псевдонимом Г. Даян. Гинзбург-Даян подвергся резкой критике в 1935 году по обвинению в троцкизме.

Ключевые слова: Л.С. Выготский, М.И. Гинзбург-Даян, II съезд по психоневрологии, Троцкий, Гомель.

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Introduction

In the years after the October Revolution, the most important public events in the history of Russian psychology were perhaps two Congresses on psychoneurology, the first in Moscow, held from 10 to 15 January 1923, and the second in Petrograd from 3 to 10 January 1924 [15; 16]. The second congress is especially famous for the participation of Lev Vygotsky and the interest the young psychologist raised in the participants (Alexander Luria's testimony: "When Lev Vygotsky took the podium to begin his speech, he had neither a printed text nor an outline. However, he spoke smoothly, without stops, easily moving from one thought to the next. I found his manner of presentation exceptional because of the persuasiveness of his style. I was even more impressed by the content of the report. Instead of discussing any minor issue, as befits a young man of twenty-eight, speaking for the first time before such an honourable assembly, L.S. Vygotsky chose a difficult topic on the relationship between conditioned reflexes and conscious human behaviour" [12; p. 25]. Although in the past there was confusion about the title and content of his reports, today we know for sure that there were three of them: "Methods of Reflexological and Psychological Research", "How Psychology Should Be Taught Now", and "Results of a Questionnaire on the Attitudes of Students in the Graduating Classes of Gomel Schools in 1923". The text of the first report formed the basis of an essay published in 1926 [4] (as is well known, this essay should not be confused with the essay "Consciousness" published in 1925 [7], as it has been in the past [problem and it is discussed in 2; 11; 18; 19]). Unfortunately, the text of the other two reports for January 1924 has not survived. However, there is an extensive commentary on the third report, now reproduced here in full as an important source for the study of Vygotsky's first steps in psychology. We also reproduce a brief commentary on the second report. The two commentaries appeared in the journal Krasnaya Nov' and were signed by G. Dayan, the pseudonym of Moisei Isaakovich Ginzburg (as a publicist he used various pseudonyms, including G. Dayan).

Moses Ginzburg was not a mere columnist or reporter [1]. He was born on 1 January 1877 in Nizhyn, Chernigov province. Associated with the Bund Syndicate, he participated in anti-government demonstrations, was arrested and in October 1903 sentenced to imprisonment in various places in the Russian Empire until February 1905, when he managed to escape from Pinega, Arkangelsk region. He took part in the armed uprising in Donbass in 1905, then was arrested again and sentenced to exile in Eastern Siberia for three years. We have less information about his education and activity as a scientist-philosopher and psychologist. He studied for some time at the University of Berlin, and also studied at the philological faculty in Kharkov. He was first in the ranks of the Bund, then joined the Jewish Communist Party and from 1922 the Russian Communist Party (Bolsheviks). In Moscow he collaborated with the Psychological Institute and the 1st Moscow University, where in 1925 he received the title of professor of pedology and psychology (title confirmed in 1927). In 1934 he moved to Crimea, where he became director of the Sevastopol Museum Association and the Chersonese Historical and Archaeological Museum. He also led a seminar on dialectical materialism. In 1935, during the repression against Trotskyism, he was expelled and dismissed from his job on the charge that he had never self-criticised the positive position towards Trotsky that he had already expressed ten years earlier in his review of Trotsky's book on Lenin [10]. He died in 1940.

As for Dayan's interests in psychology, we have found no information about the specific research or activities he carried out during the above-mentioned three-year collaboration at the Moscow Institute of Psychology [1; 13]. However, it is reliably known that he knew Vygotsky personally (in the report on the Institute's activities for 1924, he is listed in the same list of "second-class research coworkers and free coworkers" that included Vygotsky [14; p. 86]), and he was also present at Vygotsky's papers at the 1924 Petrograd Congress. It is interesting to note that Dayan's favourable position on Trotsky's political-philosophical views is consistent with Vygotsky's references to Trotsky's writings in support of his own theses [3; 11; 19]. These references to Trotsky were censored in reprints of Vygotsky's works or in the first editions of unpublished works. Take, for example, the long quotation that concludes "Pedagogical Psychology" (1924) [5; p. 347—348] is an excerpt from Trotsky's "Literature and Revolution" [17; p. 193-194]. In the 1991 reprint, because of the removal of inverted commas, one can erroneously conclude that Vygotsky wrote this passage [6; p. 371—372]. In this regard, from the analysis of the results obtained through a questionnaire on the personal and social life of young students of Gomel schools (18 years old), a complex picture emerged: strong individual differences due to (1) pre-existing social and cultural factors and (2) to the great political and social changes of those years were evident. Dayan wondered what the evolution of this youth — who would have to build the "new Soviet man" — would be: the goal posed in the last pages of "Pedagogical Psychology", on the basis of Trotsky's net and utopian words.

Dayan G. Second Congress of Psychoneurology [8; C. 164—166]

Among the speeches of those psychologists of the "intermediate" trend who have taken the path of scien-

tific objectivism, but have not yet taken a decisive step towards dialectical materialism, the paper of the young psychologist L.S. Vygotsky on the methodology of reflexological research is worthy of mention.

The method of reflexological research of a person is becoming more and more close to research techniques long established in experimental psychology (simple reaction, association experiment, etc.). This convergence is not accidental, and the similarity of research forms is not only external. Since reflexology seeks to explain all human behavior as a system of reflexes, it invariably deals with the same material as psychology. Reflexology indeed excludes the consideration of mental experiences, but psychology is not at all limited to one internal side of the psyche, but also includes consideration of the objective side of mental processes (all the reactology, etc.). Thus, reflexology is one of the methods of psychology.

The current state of both branches, says L.S. Vygotsky, persistently raises the question of the necessity and fruitfulness of the closest interweaving of both methods, their general application in experimental psychological and reflexological research. In addition to the general theoretical and methodological foundations for the merging of these two sciences, practical experience in the holistic study of any phenomenon also speaks for this.

For any reflexological study, it is necessary to consider the data and personal report of the subject about inhibited speech reflexes (inner speech: verbal thinking), because if they are not considered we risk getting a completely false and distorted picture. The technique of reflexology has come close to including in the system of its techniques this evaluation of *inner speech as inhibited reflexes, according to the personal report of the subject, and it is logically inevitable for it to take this step*.

In the experiments cited by L. S. Vygotsky, the purity of the reflexological principle was not violated in any way: everywhere he used only reflexes, considering those that were inhibited. The subjects themselves should be considered as reflexes, because they report the presence of inhibited reflexes. If the technique allows for the establishment of inhibition with the help of instructions and the choice of the speech apparatus as a reacting organ, then it should probably allow for a complete study of the inhibited reflexes of the speech organ. The general theory of reflexology about conscious processes as inhibited reflexes, that arise when establishing new connections, inevitably obliges to consider inhibited reflexes (fully, in the form of subject's reports), because without their activity correlative activity cannot be understood and explained. In addition, a general view of the mind is required, which rejects the theory of parallelism and affirms the unity of mental and nervous processes.

The considerations about teaching psychology in secondary schools expressed by L. S. Vygotsky were interesting.

The teaching of psychology in secondary schools is currently experiencing a crisis. On the one hand, the very place of this subject in the curriculum is not clear, and in the vast majority of provincial schools it is abolished altogether. The virtual liquidation of psychology in secondary schools is taking place before our eyes. On the other hand, where this discipline is preserved, the most pressing issues of teaching remain unclear: the program, the number of teaching hours and years allocated for it, the necessary educational material, its location, general guidelines and concepts on which the course should be based, the textbook, etc. There is no less confusion in pedagogical educational institutions (technical schools) in this matter.

It is necessary, says L.S. Vygotsky, to take all measures to put an end to such a vague and uncertain situation. First of all, it is necessary to maintain psychology in the course of general and special pedagogical secondary schools. Data from the teaching experience of Russian teachers, reported in the survey of the Moscow Psychological Society, as they were summarized by P.P. Blonsky, established that psychology is an irreplaceable subject from a pedagogical point of view. The experience of Western European school speaks for the same thing. In the modern school environment, psychology is called upon to occupy a very prominent place in the curriculum.

L.S. Vygotsky is undoubtedly right when he demands that the psychology course in the secondary school system play the role of a link between the cycle of natural sciences and the humanities. Psychology should be taught as a part of biology, closely related, on the one hand, to physics, physiology, zoology, and on the other, to political economy, history, and literature. Such introduction of data from other disciplines can only be useful in the sense of creating a living connection between disparate sciences. Psychology should become a node that connects the natural and human sciences. Depending on this, the course should be built on the basic data of reflexology, as a doctrine of the correlative activities of physiology and comparative psychology.

General definitions of the tasks, principles and methods of psychology should proceed from psychology as the science of the behaviour of living beings, considering the latter as a special type of adaptation and integrating the course with biological and social points of view on the subject. The role and significance of the mind must be clarified in accordance with the data of the natural sciences — without referring to existing scientific hypotheses of parallelism and interaction — on the principle of the unity of the psycho-physical process. All hypotheses of idealistic philosophy must be eliminated from the course.

Dayan G. Second Congress of Psychoneurology [9; С. 234—238]

In connection with the methods of studying personality, L. S. Vygotsky's report on the study of the subjective and mental moods of our students using the questionnaire method is of significant public interest.

Despite all the imperfections of the questionnaire method, it is still necessary to put forward it as almost the only way to get acquainted, at least in the most general terms, with what our students are like. As a basis for developing the questionnaire, the speaker proposed a questionnaire that he used when examining students in the graduating groups of all second-level schools in Gomel. The questionnaire was conducted in May 1923 by the Psychological Laboratory at the Pedagogical Institute with the participation of students of social education courses in 7 groups of different schools. A questionnaire was administered using the same methodology with precisely developed instructions for filling out and a very specific explanation of each question. Needless to say, the anonymity of the questionnaire was guaranteed, and the majority of students believed in its observance. We present this questionnaire as an exemplary basis for this type of survey, and as such we recommend it.

Here is the text of the questionnaire:

I. External data: Age. Sex. Nationality. What did parents do before and after the October Revolution? Parent education.

What serious changes and events occurred in connection with the revolution in your family?

II. Family. Do you have a personal-psychological relationship with your family and of what kind? What kind of relationship do you have with your parents and there is mutual understanding and closeness between you? Do you want to have your own family? Do you help the family and how?

III. School. If you were in the old school, do you find advantages in the new one and what exactly? What subjects interest you mostly and why? What did school give you in terms of education? What has school given you in terms of camaraderie and friendships and how do you feel in the school environment? What did the school give you in other respects? How do you feel about the co-education and why? Are there people of a different sex among your closest friends? Do you participate in the public life of the school and how do you feel about self-government?

IV. Society and politics. How do you consider politics and political parties and how do you imagine your role in public life? Do you read political literature and newspapers and what interests you in them? How do you consider communism?

V. Religion and nationality. What place does religion occupy in family life? How do you feel about rituals, religious feelings and faith? Do you agree equally with people of all nationalities or do you prefer your own? How do you look at nationalism?

VI. Profession and future life. What profession do you intend to choose and why? How do you imagine your future life?

VII. Love and sexuality. Have you experienced falling in love and is it related to your school friend? How do you look at sexuality and love and what place do they occupy in your life?

VIII. Extracurricular life. What books do you like to read and why? Your favorite writers and why you love them? What is the most interesting thing in life for you? Your favorite entertainment and games. Do you have intimate friends from your schoolmates and not from them, and what place do they occupy in your soul and life?

IX. Mental interests and emotional moods. Do you have any inclination towards any worldview and which one? How do you feel about life? Do you feel the joy of life or loneliness, loss of spirit, fatigue? Do you strive for personal happiness and where do you see it? How do you view individualism? What oddities, weaknesses and addictions do you notice in yourself? How do you feel about this questionnaire, how sincerely and truthfully did you fill it out and with what feeling?

The last question was posed for control purposes, and, as the speaker testifies, it gave positive results. Each time it was like an assessment by the participants themselves of the truthfulness, sincerity and degree of accuracy of their answers. Almost everyone answered this question. There are answers showing that the questionnaire was filled out completely truthfully and sincerely. There are gradations and degrees of these signs and assessments, there are also frank indications of omissions, distortions, inability to answer, and stereotyped answers. There are indications of feelings of heaviness, difficulty, awkwardness, and some violence against oneself when filling out the questionnaire; but there are much more indications of the opposite nature. Participants say that the questionnaire prompted them to a number of questions in their own lives that they needed to understand, forced them to ask themselves some important questions, often for the first time to formulate things that they had not previously dared to admit to themselves. The questionnaire gave a lot to the participants themselves: that is their general idea. The majority points even more persistently to the desire to share much of the content of their mental life, albeit with an anonymous questionnaire. For the first time, the opportunity to have a heart-to-heart talk, to pour out oneself. This allows you to look at each sheet as a letter without a signature, as a human document. The questionnaire was an impetus and release in the spiritual life of many, and this is its positive pedagogical qualities.

But its value is even greater in the sense of studying the mind of our youth.

The first thing that catches the researcher's eye when looking at what results were obtained is the incredible variety of answers to each question, huge ranges in polar opposite directions, with minor age, national, social and school differences. An outwardly approximately homogeneous or close to this environment, taken on the same day as extremely close in terms of the conditions of school life, is striking in the simultaneous presence of concepts, ideas, judgments, and tastes that are distant from each other on the same issue. On the question of religion, in the questionnaires collected by the speaker, we encounter lines of fiery faith, Komsomol-style "opium for the people" and personally suffered disbelief. Moreover, all this is in the most sharp, extreme, expressive forms. In questions about nationalism, politics, sexuality, we face the same thing. All possible types of logical opposition are presented here. It seems as if we are looking at profiles from completely different eras and nationalities. Meanwhile, these are people sitting together on the same desk and sending their "papers" to the University in the same envelope. This first impression — the absence of any correct, logical conformity, of correspondence with external data, of any regular pattern, of typicality — all is full of the most unexpected fragmentations, contrasts, polarities — could be called the psychological asymmetry of our student youth.

Moving from this general impression, from the entire questionnaire as a whole to group analysis, we come across within individual groups, already united according to a well-known general principle we found, again the same phenomenon: mental asymmetry within each group. If we take separately believers or non-believers who stand for a completely unrestricted sexual life or for completely erasing this issue from the life of a young human being, we will notice within each group the enormous range of opinions, as if these answers are counted on a giant pendulum of the social mind. Again, we would have to substitute entire eras and various social groups under these differences in order to find their external justification and explanation. The matter is further complicated by the fact that between the groups there is a most unexpected interweaving, again of a completely asymmetrical order. Their political views do not seem to be connected by any regularity with their religious ones, and their views on their future life and profession, with their beliefs, tastes, and moods. Inside the groups, everything spreads out and appears in the most unexpected places, as if someone had cut the sheets of paper into separate questions and then mixed them up about the most whimsical and bizarre disorder. And, finally, we get the same impression from the individual analysis of each questionnaire, as if it (and, therefore, the person filling it out) was cut and sewn from a variety of scraps. It is entire pieces of the mind that suddenly seem to have fallen from another sheet, brought from the outside, and if we were to graphically depict the relationship, the internal correlation of the students' mind, as it was reflected in the questionnaires, we would get a curve of the most unexpected and sharp zigzags, turns and angles, and if we were to draw a diagram in colors, it would be a real *blanc et noire*...

Thus, mental asymmetry, atypicality, discrepancy in personality, counter-feelings are revealed as the first and most obvious result of Comrade Vygotsky's survey. First in a general quantitative analysis, then in a group review of the answers, and finally in an individual sheet for every student.

These results are not unexpected or inexplicable, as they might seem at first glance. The speaker dealt with graduating groups, with young students 18 years old on average, i.e. people whom the revolution found at 11-12 years of age, and the war at 8-9 years of age. Here were people who had experienced social changes, social disruption in the most decisive years of their lives. All this is the generation that, in their personal turning points, captured the great shifts in socio-political life, culture, and history. This is where, undoubtedly, different centuries speak in their biographies. In fact, in their 18 years, entire centuries and eras met: pre-war urban life in the northwestern Russian province, war, pogroms, revolution, war communism, NEP. In psychological asymmetry it is easy to see a trace of the social asymmetry of a generation. And, if we add to this, that in terms of social composition these are, for the most part, also intermediate, asymmetrical, mixed groups of the population, those who, in eras of disruption, manage to unite and combine the most seemingly incompatible features — then the path to the correct sociological explanation will not be difficult to find.

The task of subsequent surveys is not so much to consider every scrap of the remaining and determined structure of the mind of our youth, but to capture the dynamics of its shifts. The main thing is the tendencies of these dramatic processes: what dies in them and what strengthens and sprouts.

Everything flows in the mind of this generation.

Where does it flow? This is the main question for future surveys, which should be organized on a mass scale and carefully studied.

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The Development of the Principles of Cultural-Historical Theory in Special Education and Psychology

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The article analyzes the importance of research in the field of special education and psychology for the development of cultural-historical theory. In this article we show that the development of the principles of cultural-historical psychology should be analyzed, and problematic areas of special education are identified. We have analyzed an importance of researches on special education and psychology to better understand a correlation between learning and development, the cultural development of a child as "growing into culture", the development of the regulatory function of speech, the content of the category "development" in psychology, the role of the collective in the development of children with disabilities. For the first time in cultural-historical psychology were shown the role of interaction with a peer without disabilities in the development of higher mental functions of a child with disabilities, the importance and conditions of interaction of a special child with an adult for making a step in development, the ratio between disability and its compensation, ideas about the zone of proximal development and the patterns of abnormal development. We showed how L.S.Vygotsky's ideas on the diagnosis of abnormal development in modern special psychology work, and imporntn modern studies are for better understanding of normal development. It is shown that many problems of special education (including the problems of inclusive education) pose a challenge to cultural-historical theory and can be solved using it. The article shows prospects for the development of the analyzed problem area.

Keywords: special psychology, special education, cultural-historical theory, children with disabilities, cultural development of a child, zone of proximal development, compensation for violations, collective in the development of a child with disabilities, inclusive education, diagnosis of developmental disorders.

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Развитие принципов культурно-исторической теории в специальной педагогике и психологии

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В статье проанализировано значение исследований в области специальной педагогики и психологии для развития культурно-исторической теории. Показана необходимость анализа развития принципов культурно-исторической психологии и выявления проблемных областей специального образования, решение которых возможно на основе положений культурно-исторической теории. Проанализировано значение исследований в области специальной педагогики и психологии для точного понимания связи между обучением и развитием, культурного развития ребенка как «врастания в культуру», развития регуляторной функции речи, содержания категории «развитие» в психологии», роли коллектива в развитии детей с ОВЗ. Показано значение современных исследований в области специальной психологии для решения проблем, поставленных впервые в культурно-исторической психологии: роль взаимодействия со сверстником без ограниченных возможностей для развития высших психических функций ребенка с ОВЗ, значение и условия взаимодействия особого ребенка со взрослым для совершения шага в развитии, соотношение нарушения и его компенсации,

представления о зоне ближайшего развития и о закономерностях аномального развития. Представлено развитие идей Л.С. Выготского о диагностике аномального развития в современной специальной психологии, обосновано значение современных исследований для понимания нормотипического развития. Показано, что многие проблемы специальной педагогики (в том числе проблемы инклюзивного образования) представляют собой вызов для культурно-исторической теории и решаемы на ее основе. Показаны перспективы развития анализируемой проблемной области.

Ключевые слова: специальная психология, специальная педагогика, культурно-историческая теория, дети с ОВЗ, культурное развитие ребенка, зона ближайшего развития, компенсация нарушений, коллектив в развитии ребенка с ОВЗ, инклюзивное образование, диагностика нарушений развития.

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Introduction

The centenary of cultural-historical psychology encourages to analyze ways of its formation, that is the way to see the prospects of its development. In this article we will trace how most of the key principles of cultural-historical psychology have developed in studies on defectology (special psychology and special education), because it will help to see both growth points and problem areas need for theoretical understanding and practical development in modern realities.

L.S. Vygotsky formulated most of the principles of cultural-historical theory in conducting defectological researches. Based on the materials of these researches L.S. Vygotsky had formulated basic principles of his theory and passed the critical points in the development of scientific worldview. "Theory of unity of learning and development, where learning is given a leading role in the development of child's psyche; doctrine about the zone of proximal development, up to now in the arming both in defectology, as well as in general psychology and pedagogy; the concept of unity of intelligence and affect in the psyche — that is not a complete list of his contributions both to general psychology and to defectology" [29, p. 334] — noted E.S. Beyn, T.A. Vlasova and co-authors. Many foreign authors also emphasize the importance of L.S. Vygotsky's ideas for special psychology and, conversely, the importance of research in the field of special education for the development of cultural-historical theory [13; 36; 37]. It is necessary to continue this list and briefly trace the development of the key principles of cultural-historical theory in special education and psychology.

First, based on the material of defectological studies L.S. Vygotsky formulated ideas about growth into culture as a way of human development. The research of childhood primitiveness played an important role in the formulation of these representations (L.S. Vygotsky, A.E. Petrova). Their importance in the context of inclusive education is all the greater. The principles of defectological diagnostics formulated by L.S. Vygotsky [5] are developed due to his followers in the framework of special psychology and pedagogy. The problems of special pedagogy put researchers in front of the need to develop ideas about the area of proximal development [16]. The idea of commonality between normative and anomalous patterns has been extended to special psychology, which is particularly important for inclusive education practice. For cultural-historical theory, the principle of unity of education and development has great importance, which was brought to a qualitatively new level I.A. Sokoliansky, A.I. Meshcheryakov, E.V. Il'enkov in the practice of "initial humanization" of children with complex developmental disorders [25]. Finally, the studies of impaired development confronted the cultural-historical psychology with the problem of adequate understanding of the category of development itself, which is even more relevant in the context of the relationship between it and learning.

The aim of the work is to analyze the development of the most important principles of cultural-historical theory in special psychology and pedagogy after L.S. Vygotsky.

Tasks:

— to trace the development of principles of cultural-historical theory in special psychology and education;

— to identify problems of special psychology and education, for the solution of which it is necessary to use theoretical-methodological apparatus of cultural-historical psychology.

Method: theoretical analysis of studies in the field of special education and psychology, which are most important for the development of cultural-historical theory.

Results

The relationship between learning and development. The relationship between learning and development is a major issue at the intersection of many scientific fields. To

understand the ideas about their relationship, established in cultural-historical theory, starting with L.S. Vygotsky, it is possible on the material of studies in the field of special education. The problem is that in psychology and educational sciences are all too common oversimplifications or deeply misinterpretations of the genetic law of cultural development and the relationship between learning and development. An example could be the following judgment about cultural-historical theory: "A predominantly sociological interpretation of the origin and driving forces of these changes can be called sociogeneticism. It's based on the idea that human being is a product of society. "Psychology seeks in the history origin of a number of activities" (L.S. Vygotsky)" [34, p. 95].

Theoretical analysis shows that L.S. Vygotsky's approach to the problem of learning and development is fundamentally not reducible to sociogenetism, but this becomes most obvious when analyzing the practice of "initial humanization" in developmental work with deaf-blind children [25]. The initial mental development of a child in teaching his practical behavior begins with overcoming inert stereotypes and giving to needs the natural direction of development. The adult is facilitating the activity of the child, promotes his initiative in a joint action (for example, in the process of feeding with a spoon). The teacher encourages the smallest manifestations of autonomy and transmits to the child that part of the joint action that he can already perform himself. Thus, the starting point of development is the child's own need, the driving force is a joint activity with an adult, in which as the child learns the specific actions the joint part decreases. The adult is not a "social factor", but a partner in joint activities, in which there is "growing into culture" of a special child.

The problem of cultural development. One of the most important theoretical foundations of cultural-historical psychology has become the idea of child development as "growing into culture". L.S. Vygotsky formulated these ideas in the material of defectological researches [8]. According to V.I. Lubovsky [21], it is the research in the field of defectology that has caused the need to set several theoretical and practical problems directly arising from this principle as well as their solutions. He considers these problems are the need for elaborating methodological foundations of diagnosis of development, and detection in the diagnostics not only the level of actual opportunities, but also the zone of proximal development, and clarification of the presentation on ways to compensate for violations in special training. "From the viewpoint of cultural-historical psychology main task of psychological diagnostics especially diagnostics of mental development is to identify the presence and level of formation in the child of those psychological mechanisms, which full functioning ensures the process of mastering of the culture" [21, p.5].

Emphasizing the significant role of A.R. Luria and the scientific team he created on the base of Institute of Defectology, V.I. Lubovsky showed the importance of neuropsychological approaches in the care of child developmental disorders. It is not possible not to mention the importance of activity approach, which emerged within the framework of special psychology and education, for further development of cultural-historical psychology. V.I. Lubovsky [21] also emphasized the importance of R.E. Levina's works on the speech therapy [21] for the development of problems of relationship between thinking and speech, presented by L.S. Vygotsky in a monograph of the same name. Research of verbal regulation of actions was very important for solving the problems posed by L.S. Vygotsky in "Thinking and speech": "We observed how the word expressing the result of an action was inextricably intertwined with this action, and precisely because it captured and reflected the most important structural moments of a practical intellectual operation, it began to illuminate and direct the child's action, subordinating him to intention and plan, raising him to the stage of expedient activity" [9, c. 46]. In the studies of verbal regulation of actions in children with intellectual disabilities, this L.S. Vygotsky's assumption was clarified and revealed a sequence of development of the regulatory function of the word (the word as motivation, as reinforcement, as a means of action planning) [20].

The studies by S.A. Zykov (development of speech of deaf children in the process of practical activity), by Y.A. Kulagin (mechanisms for compensation of sensory deficits in blind schoolchildren), by G.M. Dulnev (development of mentally retarded students in the process of labor education) were very important for developing ideas on compensation of disorders in activities. Indeed, "...the position of L.S. Vygotsky remains relevant that pedagogical practice in the field of education of children with developmental disabilities has a main task of creating bypass paths in development» [21, p. 6]. New aspect of the problem of cultural development is highlighted by O.I. Kukushkina, E.L. Goncharova and N.N. Malofeev — the relationship between academic and life competences [18]. Thus, there are many problems of special psychology and education that have an applied nature but require solutions to fundamental theoretical problems that have their roots in cultural-historical theory.

Solving new problems based on cultural-historical psychology. In recent decades, the technologies of prosthetics deficit functions, especially hearing, have been developing intensively. Improvement of hearing aid design and cochlear implant technology. The situation arises when technical progress is outrunning the development of special education and psychology, which are not able to comprehend and assimilate the possibilities of rehabilitation work arising from new techniques of prosthesis of impaired function. In this context, the range

of applied studies on rehabilitation work after cochlear implantation is expanding [19]. The task arises of developing structural models of recoverable functions, which solution based on the principles of cultural-historical psychology. Rehabilitation work practices are emerging, which should be based on updated data from cultural-historical developmental psychology. For example, the practice of 3P rehabilitation of a child with a cochlear implant and his family, proposed by E.L. Goncharova and O.I. Kukushkina [10], is based, among other things, on living on a new sensory basis the stages of early ontogenesis lived by a child in a family in conditions of deafness, as well as on the restructuring of the child's emotional interaction with the family on a new sensory basis. These principles pose a number of questions to the cultural-historical psychology of development: 1) how early ontogeny stages can be experienced on a new sensory basis, while they have already been experienced on another basis, and the sensitive period of formation of neoplasms of these ages has already passed; 2) what is the restructuring of the emotional interaction of the child with his family, if it is necessary to change the entire system of symbolic mediation of this interaction? Thus, the necessity of solving a practical problem forces the theory to make a step in its development.

New aspects of the development of inclusive education practices are emerging in the area under analysis. V.V. Rubtsov and co-authors showed that many of them are related to the development of an inclusive higher education system [30]. These include the issue of accessibility of the information environment for students with disabilities. The authors of numerous guides on inclusive education have pointed to the need to address this issue [3; 12; 27]. The principles of educational content design accessible for students with sensory impairments have been developed. In recent years, the object of work is not only information accessibility; adaptive disciplines are developed, what give students the opportunity to make their own limitations (such as sensory) and associated difficulties in educational activities an object of transformation. The psychological well-being of students with disabilities is a relatively new aspect in this problem area [33]. Solving the problem of accessibility of educational content and development of adaptive disciplines, ensuring "ingrowth" of special students in the educational environment of the university, are also possible based on cultural-historical theory and active approach.

The category "development" and special education researches. One of the most important problems of cultural-historical theory is the content of the "development" category. N.N. Nechaev [26] rightly argues that is necessary a meaningful analysis of the "Development" category in psychology and the identification of what L.S. Vygotsky called false ideas of development. These include the widespread belief that development is only a positive process. N.N. Nechaev draws attention to the letter of L.S. Vygotsky addressed to R.E. Levina, where he considers development as a true drama: "Crises are not temporary states, but the way of internal life. When we go from systems to fates (say scary and funny this word, knowing that tomorrow we will investigate what is behind it), to the birth and death of systems, we will see it firsthand" [4, p. 127]. It is correct to say that he came to such conclusions when analyzing the cases of children and adolescents with disabilities, where dysfunctional mechanisms of compensation for primary violations are formed: "Drowns and does not want to sink: wildly beaten, grasps for a straw. Tragic spectacle. Forced, convulsive development of a number of functions" [14, p. 242]. The idea of development as a drama was formed by Vygotsky largely on the basis of observation of children with disabilities.

Being in a group and development of children with disabilities. Defectological studies trick L.S. Vygotsky into the need to analyze the role of the group ("collective") in the development of disabled children. This problem is not only relevant for special education and psychology, but for all education sciences. In the article "*Collective" as a factor of development of defective child* [6] he had shown that children with developmental disorders have a much greater importance of the inter-mental functions for the formation of the intrapsychic, and the development patterns become more noticeable. The conclusion that the group is a factor of development of higher mental functions, while the violation of development is a factor of underdevelopment of elementary functions. Conclusions about the developmental potential of groups that include children with different levels of intellectual disability are of great importance for inclusive education. L.S. Vygotsky outlines the activity approach in special education, when he states that group activity of hearing children together with non-hearing is for the latter a crucial factor in the development of communication.

Meanwhile, in the draft notes to this article L.S. Vygotsky states that the group can be a factor of underdevelopment: "Orphan homes from early childhood. [Development] is delayed. Groups — minus. Nursery all equal. There is no magic power of the group" [14, p. 201]. This direction, started in defectological theory by L.S. Vygotsky, in modern cultural-historical psychology goes by several ways. First of all, it is necessary to name studies on the inclusion in the group of children with disabilities in inclusive education: formation of social competence of special children in an inclusive class [2], development of models for their inclusion in school groups [11].

The most important and significant area for the cultural-historical sciences of education is the study of joint educational activities of children with disabilities and with normotypic development. Thus, the study of A.V. Konokotin [17], devoted to the inclusion of chil-

dren with special educational needs in the joint solution of educational tasks, convincingly showed that the development of relationships in the course of solving educational tasks and the transition from focusing on the objective properties of the task to the analysis of the models of interaction themselves contributes to the development of higher mental functions.

Interaction of an adult and children with disabilities. Another important direction in the development of this problem area is the study of the interaction of an adult and a child with disabilities, which helps to overcome educational difficulties. The work of V.K. Zaretsky is noteworthy, who proposed a reflexive-activity approach to overcome educational difficulties, including for children with disabilities [15; 16]. It has been shown that the joint solution of educational tasks is provided that the positions of an adult and a child are equal, when the adult acts as a consultant, encouraging the child to analyze the grounds for his actions (i.e. contributing to the development of reflection in educational activities), not only contributes to the emergence of a subjective position in teaching, but is a condition that makes it possible to implement the principle formulated by L.S. Vygotsky: "One step in learning is one hundred steps in development" [15]. It should be noted that this direction is a direct continuation of L.S. Vygotsky's scientific research in the last months of his life, when his attention was directed to semantic dynamics and its violations [7]. Proposed in the works of V.K. The Zaretsky reflexive-activity approach is a method that allows overcoming, among other things, violations of semantic dynamics through the formation of reflection.

The problem of disabilities and their compensation. The ratio of the disabilities and its compensation is essential for understanding normal development. This problem was posed in the works of L.S. Vygotsky, but nowadays new aspects of its connection with the education of adults with disabilities in higher education are visible [30]. For special students, higher education acts not only as a way to "grow into culture" (in this case, professional culture), but also as a way to compensate for violations. At the same time, many students with disabilities develop dysfunctional psychological mechanisms that compensate for learning difficulties. Their research, based on the principles of cultural and historical psychology, is of great importance for the design of psychological and pedagogical support for all students, not only with disabilities.

Ideas about the zone of immediate development. The multi-vector model of the zone of proximal development (ZPD), proposed by V.K. Zaretsky to track the development of a child in many directions in joint work with an adult to overcome educational difficulties, is also of great importance for cultural and historical psychology [16]. Previous models of ZPD were less successful and did not make it possible to trace the development of a child in an almost infinite number of directions. The ZPD model proposed by V.K. Zaretsky, represents a significant step forward in understanding the development of a child in interaction with an adult.

Conceptualizations about the abnormal development. L.S. Vygotsky's conclusions about the commonality of patterns of normotypic and impaired development were very important for cultural-historical psychology. For the first time this community was noted by G.Ya. Troshin [32], then this position was developed by L.S. Vygotsky [7]. An important role in the study of the patterns of impaired development was played by the works of T.A. Vlasova, L.V. Zankov, I.M. Solovyov, J.I. Shif. Large-scale comparative studies of the psychological characteristics of children with various types of developmental disorders were conducted by A.R. Luria and his colleagues at the Institute of Defectology of the Academy of Educational Sciences of the Russian Soviet Republic since the early 1950s. The theoretical principles formulated on the basis of these studies are of great importance for cultural and historical psychology in general. In 1971, V.I. Lubovsky's article *General and specific patterns of the development of the psyche of abnormal children* was first published [24], which shows the commonality of the characteristics of development in various variants of disorders. The concept of general and specific patterns of development is a logical continuation of the line of development of special psychology and pedagogy, begun by G.Ya. Troshin and L.S. Vygotsky [31]. It should be noted that this concept is very important for the practice of inclusive education.

Problems of diagnosis of developmental disorders. Many problems of the diagnostics of children disabilities' and ways to solve them were shown by L.S. Vygotsky in the work *Diagnostics of development and the pedological clinic of difficult childhood* [5]. The most important role in the subsequent development of this area was played by his ideas that 1) diagnosis should be aimed at identifying the structural aspect of symptom complexes and 2) diagnosis should contain a prognosis. A continuation of the cultural-historical approach in this area was the idea of the focus of diagnostics on assessing the level of development and preservation of psychological systems that ensure "growing into culture" [22]. T.G. Bogdanova and N.M. Nazarova emphasize that "for special psychology at the present stage of its development, according to V.I. Lubovsky, it is necessary to move from the diagnosis of selection to the diagnosis of specific features of mental development, the desire to find optimal conditions for compensating for various variants of impaired development, expanding the capabilities of the individual, creating various educational and nurturing environments that make it possible to build a developing lifestyle" [1,

p. 85]. Social intelligence assessment and monitoring of social skills of children with developmental disabilities can be considered examples of diagnostics aimed at building a developing lifestyle [35].

The principles formulated by L.S. Vygotsky became the basis for the development of a new concept of psychological diagnostics of developmental disorders [22], where the structure of the disorder is understood as some invariant, "... something that remains constant. It is precisely this that is the "keeper of the originality" of each type of impaired development" [22, p. 151]. This invariant has a stable combination of parameters for all types of this kind of disabilities. For example, according to G.R. Novikova [cit. by: 23], the profile of indicators of children with mental retardation' intellectual activity, belonging to different clinical groups, is almost the same. Studies have also shown that "a function with low indicators, despite a significant individual variation, in all representatives of this type of impaired development will be lower than a function with higher indicators" [22, p. 55]. The system-profile principle of developmental diagnostics is important not only for the study of children with disabilities, since in normotypic development there is a significant variation in indicators of higher psychological functions, which is important when analyzing the difficulties of "growing into culture" of children without disabilities. The importance of developing ideas about the psychological structure of the disorder for the practice of psychological assistance to children with developmental disabilities is shown by A.M. Polyakov [28], but the ideas he proposed about the subjective and objective type of response, as well as the dysfunctional and evolutionary cycle, are also applicable in the practice of helping conditionally healthy children and adolescents.

The development of the principles first proposed by L.S. Vygotsky can be traced in the ideas about the structure of developmental disorders formulated by V.I. Lubovsky [23]. He emphasized two meanings of the term "structure of the disorder": "1) a holistic view of the development parameters and the connections between them in a child or adolescent with disabilities based on sufficient experience, on the basis of which the case can be considered as typical for a particular variant of abnormal development; 2) designation of the specifics of a particular type of impaired development" [23, p. 147]. The data presented in the work on the structure of the disorder show that the ratio between the parameters of the development of higher psychological functions changes during the transition of children to a new age stage. Knowing about the changes in these ratios makes it possible to make, in the words of L.S. Vygotsky, a diagnosis that contains a prognosis. These data are extremely important for the study of changes occurring in the process of age-related development, and not only in children and adolescents with disabilities.

Discussion

Our analysis shows that special education and psychology have made and continue to make a huge contribution to the development of cultural and historical psychology. The interaction of the theory created by L.S. Vygotsky and the practice of special education is a mutually enriching cooperation. Using many examples, we have seen that the application of the theoretical and methodological apparatus of cultural-historical psychology to solve urgent problems of special education contributes to its progressive development. Special psychology and education pose problems to cultural-historical theory, which become a challenge for it and, thereby, an incentive for development, which is the prospect of development of the analyzed scientific field.

Conclusions

The analysis of works on special education and psychology shows that many problems are posed in this scientific field, solving them helps to the develop cultural-historical theory. It has been shown that the theory and practice of special education provides an opportunity for an accurate understanding of the fundamental principles of cultural-historical theory, including the genetic law of cultural development, and the idea of cultural development as "growing into culture". The education and upbringing of children with disabilities requires and, at the same time, provides material for a theoretical study of the category of development, as well as clarification of the theoretical schemes proposed by L.S. Vygotsky in *Thinking and Speech* (for example, ideas about the stages of development of actions' verbal regulation).

The implementation of activity principles in special education enriches the activity approach in general education. Thus, the development of problems of the entry of a child or adult with disabilities into a team as a condition for "growing into culture" contributes to the development of cultural and historical psychology and an activity approach. Research in the field of psychodiagnostics of impaired development is of great importance to them. Ideas about its focus on assessing the preservation and formation of mechanisms of "growing into culture" are important for the theory and practice of special education. Our research has shown that modern ideas about the zone of proximal development, which have significantly advanced this area of cultural-historical theory, are formed, among other things, on the basis of special pedagogy.

The heritage of cultural-historical psychology has become developments in the field of special psychology and pedagogy, which at first glance have a highly specialized significance, but in fact are significant for the entire system of educational sciences. Thus, the concept of

general and specific patterns of abnormal development is significant for the theory and practice of inclusive education. In special pedagogy, new approaches are emerging that are of great importance for cultural, historical and activity psychology (reflexive activity approach, 3P rehabilitation). It is important to develop ideas about the structure of developmental disorders, because, as it has been shown, data on the ratio of functions during the transition to a new age stage are important for studying changes in normotypic development.

A number of problems of special psychology and pedagogy have been identified, which require a theoretical and methodological apparatus of cultural and historical psychology to solve. These include new aspects of the problem of "growing into culture" (information accessibility, the creation of adaptive educational content to form students' means of mastering learning difficulties). The creation of an educational environment for students with disabilities should be based on the principles of cultural, historical and activity psychology, for example, the design of educational situations for the joint solution of educational tasks, in solving which it becomes possible that a child, having taken one step in learning, would have gone a hundred steps in his development. The situation in which technological progress overtakes special pedagogy and psychology requires the use of not only modern mathematical modeling and data analysis tools, but also the methodological apparatus of cultural and historical psychology. Solving these problems using the possibilities of cultural and historical theory contributes to progress in the development of not only it, but also the sciences of education in general.

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АРХИВ

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Стенограмма выступления на реактологической дискуссии (1931 год)

Л.С. Выготский

Комментарий

2 марта 1931 г. в стенах Государственного института психологии, педологии и психотехники состоялся заключительный акт «реактологической дискуссии». Затеяли ее члены партячейки Института во главе с А.А. Таланкиным. Под видом научной дискуссии они устроили заседание с заведомо предрешенным исходом, без шансов на оправдательный приговор. В роли главного обвиняемого предстал директор Института К.Н. Корнилов, но в резолюции упоминалась и «“культурническая” психология Выготского и Лурия», в числе теорий «неразоблаченных и выдававшихся за марксистские».

Л.С. Выготский взял слово одним из последних. Корнилов присутствовал на собрании, энергично возражал, по ходу нередко бросал реплики, однако Выготского выслушал, не перебивая. После выступили еще несколько человек, среди которых и А.Р. Лурия.

Стенограмма выступления Выготского хранится в архиве РАО (Ф 82, оп. 1, д. 11, л. 5—15). Машинописный текст отредактирован чернильной ручкой, аккуратным мелким почерком Выготского, вплоть до знаков пунктуации и разбивки текста на абзацы. В настоящей публикации авторская правка полностью учтена.

Бросается в глаза, что Выготский говорит о Корнилове с уважением, называя его не иначе как по имени-отчеству и характеризуя его как человека, который искренне пытался создать новую, марксистскую психологию, однако не сумел должным образом осуществить «огромный, революционного значения замысел». Критикуя реактологию, Выготский признает, что на первых порах он и сам увлекся ею и участвовал в общем деле. И даже при создании культурно-исторической теории «высших функций» известное влияние реактологии сохранялось.

Ряд историков психологии выделяют в творческой биографии Выготского «реактологический период», в который им была написана «Педагогическая психология» (вышла в 1926 г., с задержкой на год или два). Как можно убедиться из стенограммы, сам Выготский свидетельствует, что «такой момент был», пусть и «длился недолго».

Вместе с тем даже поверхностное сравнение работ Корнилова и Выготского того периода обнаруживает, что их учения о психологических реакциях глубоко различны (не говоря уже о направлении развития их теоретических программ). На это различие прямо указал в своем выступлении Выготский: реактология не смогла выйти за пределы биологии, ибо ей чужда идея исторического развития. Сам Выготский никогда, ни в один период творчества, не выпускал эту идею из вида. И в «Педагогической психологии» он усматривает специфику человеческой реакции в том, что она «замыкается в чужом опыте», в «опыте прошлых поколений», в «историческом опыте» человечества. Так что период этот правильнее назвать «историко-реактологическим». Неслучайно именно тогда, ровно сто лет тому назад, в голове Выготского и родился замысел культурно-исторической психологии.

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Transcript of a Presentation at the Reactology Discussion (1931 year)

L.S. Vygotsky

A commentary

On 2 March 1931, the final act of the "reactological discussion" took place within the walls of the State Institute of Psychology, Pedology and Psychotechnics. It was initiated by members of the Institute's Party Committee, led by the Aleksander Talankin. Under the guise of a scientific discussion, they arranged a trial with a foregone conclusion and no chance of acquittal. Konstantin Kornilov, the director of the Institute, was the main accused, but the resolution also mentioned "Vygotsky's and Luria's 'cultural' psychology", among the theories "not unmasked and passed off as Marxist".

Lev Vygotsky was one of the last to take the floor. Kornilov was present at the meeting, he objected vehemently, often throwing his remarks, but he listened to Vygotsky without interrupting him. Several other people spoke afterwards, including Aleksander Luria.

The transcript of Vygotsky's speech is kept in the RAE archive (fond 82, file 1, case 11, pages 5—15). The typewritten text is edited with an ink pen in Vygotsky's neat small handwriting, right down to the punctuation marks and the division of the text into paragraphs. In the present publication, the author's editing has been fully taken into account.

It is noteworthy that Vygotsky speaks of Kornilov with respect, calling him by his first name and patronymic and describing him as a man who sincerely tried to create a new, Marxist psychology, but failed to properly implement "a great, revolutionary intention". Critical of reactology, Vygotsky admits that he himself was initially fascinated by it and took part in the common endeavour. And even in the creation of the cultural-historical theory of "higher functions" a certain influence of reactology was still present.

A number of historians of psychology distinguish in Vygotsky's creative biography a "reactological period" during which he wrote *Educational Psychology* (published in 1926, with a delay of one or two years). As we can see from the transcript, Vygotsky himself testifies that "there was such a moment", even if it "did not last long".

At the same time, even a superficial comparison of Kornilov's and Vygotsky's work of that period of time reveals that their teachings on psychological reactions are profoundly different (not to mention the direction of development of their theoretical programmes). Vygotsky explicitly pointed out this difference in his speech: reactology could not go beyond biology, because the idea of historical development was alien to it. Vygotsky himself never, at any stage of his work, lost sight of this idea. And in *Educational Psychology* he sees the specificity of human reaction in the fact that "it closes in some other person's experience", in the "experience accumulated by previous generations", in the "historical experience" of humanity. So It would be more accurate to call this period "historical-reactological". It is no coincidence that it was then, exactly one hundred years ago, that the idea of cultural-historical psychology was born in Vygotsky's mind.

A.D. Maidansky

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Введение

ВЫГОТСКИЙ. Целый ряд личных обстоятельств помешал мне принять участие в этой дискуссии и поэтому я сейчас, когда решаюсь выступить к самому концу дискуссии, рискую попасть в положение человека, пришедшего к концу разговора, когда собеседники высказали очень многое, и рискующего высказаться невпопад.

Но критическое обсуждение реактологии настолько замалчивалось, в частности и мною, что я считаю нужным выступить. Целый ряд моментов, связанных с реактологией, был уже здесь освещен, и я могу без большой боязни опустить их и остановиться на нескольких моментах, которые могут иметь значение дополнения к тому, что уже высказано. Я имею в виду моменты, которые выходят за узкие пределы одной только реактологии, и в то же время такие моменты, которые могут не только вскрыть ошибки, но и наметить для дальнейшей работы то, что надо учесть. С другой стороны, эти моменты могут иметь положительное значение. Вскрывая прежние ошибки, они могут указать нам то, что мы должны учесть, когда хотим по-новому подойти к проблеме марксистской психологии.

Я имею в виду вопрос об историческом анализе психологического кризиса, тот момент, который был положен в основу реактологии. Эта установка была крайне проста. Упрощенность проникает всю оценку исторической обстановки. Весь вопрос исторического развития и судьба психологии рассматривается по схеме триады. Эмпирическая психология — тезис,

объективная психология (бихевиоризм, рефлексология) — антитезис. Марксистская психология, согласно этой идее, должна явиться синтезом эмпирической психологии и рефлексологии[1].

Это представление выходит за пределы частного момента и имеет общее значение, потому что задача революционной перестройки целой дисциплины, задача перестройки психологии на марксистской основе, требует анализа того, что делается в мировой психологии, — ясного ответа на вопрос о смысле того кризиса, который охватил психологию. Без этого анализа невозможно вести правильно научную политику, особенно революционную политику, имеющую задачей создать истинный переворот в науке.

Всякий знает, что субъективная психология была психологией эмпирической в учебниках, а на деле были самые разнообразные тенденции, отражавшие различные взгляды. Бралась эта психология — то, что называлось эмпирической психологией, — и бихевиоризм, чтобы наметить правильную линию революционного действия в смысле перестройки психологии. Представление о синтезе бихевиоризма и эмпиризма оказалось теорией ложной и на практике привело к целому ряду ошибочных ориентировок. Там, где говорим о синтезе, мы представляем, что моменты предшествующие сохраняются в снятом виде.

Таким образом, выходило, что марксистская психология должна синтезировать и сохранить рефлексологию и эмпирическую психологию. Таково было основное положение реактологии. Когда определились исследования и попытка систематического развертывания реактологической психологии, то на деле получился, с одной стороны, ряд рефлексологических, бихевиористских моментов, а с другой стороны — в не переработанном виде ряд моментов эмпирической психологии. Мне представляется, что этот неверный анализ исторического положения психологии, ложный вывод в смысле направления действия, уже наперед лишал революционного подъема тот огромный, революционного значения замысел, который лежал в основе идеи марксистской психологии — идеи, которая верна и которая так волновала К.Н. [Корнилова]. На деле вышло, что в ней ничего особенного нет.

По пути синтеза пошла и бихевиористская психология, и эмпирическая психология, от имени которой вначале Челпанов трактовал бихевиоризм как нонсенс. Эта эмпирическая психология потом стала вводить целые главы из объективной психологии. Вначале не признававший Вундта, бихевиоризм затем стал вводить целые главы из его психологии в свои системы. И сейчас этот «синтез», этот сплав является господствующим образцом курсов психологии в Америке.

Таким образом, неправильный анализ исторических судеб, исторического кризиса психологии лишил революционной силы в высшей степени революционную идею, и вместо того, чтобы выдвинуть задачу революционной перестройки психологии, вместо разоблачения того, что есть, получилось движение в неверном направлении.

В связи с этим стоит еще один момент, который также выходит за пределы реактологии и имеет значение для всех нас, — вопрос относительно движения нашей коллективной работы дальше. К.Н. представлял это проще, чем было на самом деле. Казалось, что надо сформулировать ряд положений — и [вот] марксистская психология осуществлена. И можно от этой формулировки перейти к составлению учебников, «изложенных с точки зрения диалектического материализма». Представление, что главная работа уже сделана, что она завершена в такой системе, которая была сколочена наспех (она была сделана в течение одного года), это представление привело к искажению исторической перспективы в построении самой марксистской психологии. Это — другая сторона ложной ориентировки, которая имело место здесь.

Положительное значение этих моментов заключается в том, что эти ошибки, исходные ошибки, существуют не только в реактологии, но и в целом ряде других работ и течений, которые можно было бы рассматривать с субъективной стороны — с точки зрения намерения их авторов — как марксистские, и которые объективно очень часто уклоняются от этого, потому что вопросы правильного исторического анализа развития и кризиса психологии, программы революционной перестройки психологии и конкретизации развития этой работы во времени, к сожалению, нами всеми чрезвычайно мало разработаны. Если мы возьмем вопрос нашего отношения к тем или иным буржуазным течениям, мы увидим здесь очень часто не только отдельные ошибки, но ошибки общего характера, заключающиеся в том, что, хотя мы с отдельными течениями боролись решительно, никто, тем не менее, не проделал попытки вставить эту работу в исторический контекст, дать какую-то марксистскую формулу исторического кризиса, дать линию конкретного действия в отношении психологии и наметить ряд этапов, которые надо было пройти.

В связи с этим стоят и внутренние трудности, и ошибки реактологии. Самая главная опасность ее заключается в том, что в ряде словесных формулировок все обстояло благополучно, на деле же эти формулировки прикрывали собой пустоту, и это превращало революционную идею в лозунги, в собственную противоположность.

Пример (я повторяю вслед за К.Н.). Понятие реакции более отвечает марксистской психологии, чем понятие рефлекса, потому что оно, в отличие от рефлекса, является не узким физиологическим и биологическим понятием, а широким — социальным и психологическим.

Казалось, что психология вышла за пределы биологии. А на деле, когда не только экспериментально, но и теоретически пользовались понятием реакции, все эти заявления оказались отброшенными у самого

[1] Со слов «Весь вопрос» и до конца абзаца вписано Выготским от руки.

порога. По существу, мы имели дело со словами, которые не реализовывали даваемых ими обязательств. Все знают, что мы повторяли за К.Н., что значение реакции шире, чем значение рефлекса, потому что оно включает объективный и субъективный моменты поведения. Психический момент, как внутренне необходимый момент целостного процесса, здесь находит свое отражение. В смысле «признания» тут нет противоречия с марксизмом, а на деле, когда применялось это понятие, то получалось — либо психологическое исследование разбивалось на два ряда по принципу параллелизма, либо по существу не реализовывалось то понятие, которое с этим смыслом связывалось.

Неудивительно, что тот же самый недостаток мы видим в рефлексологии и в эмпиризме: метафизичность, не знающая идеи движения, была целиком и полностью воспринята рядом новых течений, в том числе и реактологией. Идея развития, представление о том, что все должно рассматриваться в аспекте развития, что поведение человека должно быть понято исторически, — все это было чуждо реактологии. В том синтезе рефлексологии и эмпирической психологии, которым признавала себя реактология, естественно, не могло быть идеи развития, ибо ни тут, ни там нет ничего, что могло бы ее породить.

Хочу еще сказать, что эта общая упрощенная схема синтеза на деле ведет к тому, что целый ряд острейших проблем, вокруг которых нужно развить исследования — ломать копья, не попал в центр марксистской психологии, а пассивно оценивался и воспринимался — как воспринимались часто многие буржуазные психологические школы. Создавался отгороженный мирок, в который не попадали сегодняшние бури, бывшие в психологии. Мы боролись часто с мертвецами, а с рядом новых течений мы, по существу, мало встречались. Это является следствием ложной исторической ориентировки, которая имела место.

В заключение хочу остановиться на моих личных отношениях к реактологии. Не потому, что они занимают серьезное место в истории этого учения, и не потому, что вопросы личных взглядов представляют на данном вечере особое значение, — но потому, что в этом снова есть нечто выходящее за пределы только личных взглядов. Здесь имеется еще одно указание на положительные моменты, к которым мы перейдем, когда будем делать выводы.

Лично мое отношение к реактологии, мне кажется, охватывает три момента.

Первый, самый простой: необходимо упомянуть о своей личной роли, когда критически говорят о работе, в которой принимал участие. Был период, когда я вместе с целым рядом товарищей думал, что реактология разрешает на данном этапе основную проблему. Это длилось недолго, но такой момент был. В начальный период реактологии я и целый ряд товарищей разделяли с К.Н. ряд основных положений реактологии, и в ранних работах моих и других товарищей нашли прямое отражение эти взгляды, эти точки зрения. Само собой разумеется, что, говоря сейчас о реактологии в целом, мы говорим и о той части этих взглядов, которые были высказаны не только К.Н., но и всеми, кто с ним работал. В том числе я говорю и о своих взглядах.

[Второе.] Очень скоро в процессе развития, идя по тому же пути дальше, целый ряд ошибок реактологии — в частности, ошибок исторического анализа — стал мне и группе товарищей ясен. Здесь началось самое худшее — ряд лет, когда у нас критически реактология замалчивалась. В отдельных совещаниях, которые созывались по поводу конфликтов, моя точка зрения высказывалась мной до самого конца. Но среди положительных формулировок — например моих взглядов в отношении исторического анализа кризиса [в психологии] — ясная, отчетливая критика реактологии не давалась никем, в том числе и мною. Эта двойственная позиция, эта ложная позиция психологически объяснима, потому что она была ошибкой не только моей. Но я в отношении к себе должен отнестись строже, ибо для меня целый ряд центральных пунктов, в смысле полной несостоятельности реактологии, давно уже сделался ясным, и запоздание в пересмотре этого вопроса является, несомненно, ошибкой.

Третий момент имеет еще более серьезное значение, с точки зрения более глубокого анализа того, с чем мы имеем дело в реактологии. Даже когда мы выходили за пределы реактологии, когда пытались применить менее упрощенный, более адекватный анализ сложных форм поведения, когда я и ряд товарищей занялись анализом высших функций, то все же представление о реактологической схеме настолько владело нами, что мы не решались сразу и полностью отбросить ее при изучении структуры высших функций. И внутренней, и внешней проверкой того, что мы находили в эксперименте, нам представлялось то, чтобы в конце концов возможно было сказать, что весь процесс при анализе, при разборке на части допускает сведение к реакциям. Это мы имели в исследовании более сложных функций, чем реакция; оно является как бы отдаленным последствием ошибок реактологии, но, тем не менее, последствием, которое должно быть в общем анализе ошибок реактологии вскрыто, которое должно быть изжито внутри тех работ, которые вначале были связаны с реактологией и усвоили некоторые ее понятия.

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