Reconstructing the views of a scientific genius is a process of approaching an understanding of the personality, the thinking, and the meaning of the views that transcends the limitations of time. A process that is especially relevant when paradigms change. In this article we address the ontological heart of L.S. Vygotsky's theory, his idea of the “whole” and the “one”. We show that these key concepts, on which his idea of the psyche as a network of “units of analysis of the whole” is built, contain the content corresponding to the postnonclassical paradigm. Vygotsky's “unity” and “whole” are not the same thing. The three mental functions are fused into a unity possessing new properties, which are manifested in each of these functions. We find this when we pay attention to an independent function, separate from the others. The psyche, according to Vygotsky, is arranged as fusions of three functions (triangulation) and connections between these “unities” (network). The “unities” form the whole. The whole is given and not given at the same time. The “unity” becomes a whole reflecting the larger whole, the whole psyche. The genesis of the “unity” leads to a whole that is not equal to the sum of its parts. Such a whole is identical to the concept of modality. Vygotsky's approach to the construction of psychology can give rise to the development of modal psychology.

Keywords: unit of analysis of the whole, unit, whole, psyche, modality, mental function, personality.

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The personality of the scientist

For psychology, the ontological foundations presented in philosophy are the necessary foundation of those norms and rules which help scientists comprehend reality. The question of ontology is the main issue of L.S. Vygotsky’s theoretical and applied research. The personality of the scientist determines the choice of ontological foundations of the doctrine being developed. The path “from above” — from ontology to psychology, is inherent in Lev Vygotsky by virtue of his education and from a young age began pedagogical practice. Memories of friends and relatives [18] indicate that the hobbies and reasoning of his closest relatives influenced the formation of the value of the dialectical way of research activity.

Perhaps the practically embodied networking in the hobby of esperanto and collecting stamps, expanded his perception and representation of the world. His sensitivity was already in those years internalized from practice into a way of thinking and into a kind of prism through which one could look at the psyche and the processes taking place in it.

Around Vygotsky hovered ideas about human being as the crown of creation and personality are the pinnacle of human development, the importance of the word and the value of art, etc. Lev Vygotsky had great intellectual abilities, dialectical thinking and the ability to apply the developmental method of teaching, he was able to realize the synthesis of ideas and theories, reasoning and conducting experiments.

Personality and the way of his analysis help us understand a subject area and how he was constructing this theory. Recognizing himself and the world as holistic, as evidenced in Vygotsky’s early articles and his theatrical criticism, he had no choice but to build on the ontology of the whole and the unified, a theory of psychology. The history and relevance of this psychology in the postnon-classical paradigm is another confirmation of the truth of his ontological foundations.

In this article, we reconstruct the notion of the unified and the whole in Vygotsky’s scheme of a theory of psychology. These concepts deserve special attention not only because of their ontological character, but also because of the distinction made between them.

On “unity” in the scheme of Vygotsky’s theory

L.S. Vygotsky introduces into the scheme of analyzing the psyche the triangulation we wrote about in the first part of this article. He also indicates dialecticality and the result of this connection, the unity. “Unity”, for Vygotsky, doesn’t exist by default; it develops, is formed and self-develops. Consequently, “unity” is the process and result of mental activity embodied in its practical products. The study of the processuality of “unity” by L.S. Vygotsky was called historical-genetic method.

Each highlighted by L. S. Vygotsky triangular connection can be referred to his words, referred to the triangulation of perception, speech and action: “The emerged unity...” that leads to the rearrangement of laws <...> constitutes the true and most important object of analysis aimed at studying the origin of specifically human forms of behavior” [6, c. 23]. Consequently, psychology needs to study the constituted “unities” of mental functions, not each one separately. But, the psychological textbooks of that time and of our time provide students with the structure of the material not by “unities”, but by each individual function. Further, Vygotsky provides an explanation of what is the basis for the formation of a “unity” — it’s genesis and structure. He writes: “We shall consider briefly the problem of the unity of higher mental functions, based on the essential similarity which is manifested in their origin and development. Such functions as arbitrary attention, logical memory, higher
forms of perception and movement, which have so far been studied in isolation, as separate psychological facts, now in the light of our experiments appear essentially as phenomena of the same order-single in their genesis and psychological structure” [6, p. 52].

Let’s make another conclusion from the above statement about unity. “Unity”, what it is in its quality, allows us to draw a watershed between forms of behavior and between levels of development of functions. “Unity”, according to Vygotsky, has such power that it determines a generalizing, peculiar to the whole psyche product as behavior. “Unity” accommodates and influences the properties of the whole, of the psyche. The psyche is considered as a product of social development, so “unity” is formed, investigated in the course of the historical development of man and society. “The formation of the complex unity of speech and practical operations is the product of a development process going far into the depths, in which the individual history of the subject is closely connected with its social history” [6, p. 23].

In the above quotation not only the historical-genetic method is given in its entirety, but also the trick that one can meet in the works of L.S. Vygotsky [7]. In other works we pointed out the absence of the third function in the triangular relation, the apparent absence. Lev Vygotsky’s texts are dialogical, he dialogues with his interlocutor, be it Freud, Clapared, Blondel, Lévy-Bruhl, Ach and many others. In the dialog, in order to emphasize certain arguments, he highlights them, then in an extended form, then in a condensed form. Where L.S. Vygotsky makes a dyadic connection as an argument, it is necessary to read the text of the whole work or several works in order to understand Vygotsky in the dialog rather than to take literally what is written. The third function is the meaning or the sign, but mostly is the meaning. Therefore, the above unity is read as the unity of speech, meaning and practical operations, as well as “the unity of sensory and motor processes in intellectual operation” [6, p. 43], where the unity is built according to the principle of singling out the third ranked element. The scheme can be presented as follows: intellectual operation is the unity of sensory processes, motor processes and intellect. In the operation, the unity, its dynamic state in a triangular connection is reconstructed for the solution of a certain task. The task is the condition that triggers the dynamics within this unity. Let us note that in the above example we are talking about the influence of a factor outside the unity on the unity, on its quality and functioning. Changes occurring in one element of the triangular connection, according to the principle of unity, lead to changes in the other two elements participating in this connection, as well as according to the principle of integrity. Thus, the transformation of the intellect, the emergence of symbolic functions (speech and sign) leads to the destruction of the natural coherence of perception and movement. “Reactions to objects and to people constitute in children’s behavior an elementary undifferentiated unity, from which later grow actions directed to the outside world and social forms of behavior” [6, p. 30].

Differentiation and transformation of functions in the unity qualitatively changes the unity. Natural unity becomes a cultural unity with greater arbitrariness, awareness and logicality. “Symbolic activity is aimed at organizing practical operations by creating second-order stimuli and by planning the subject’s own behavior” [8, p. 1059]. Mastering one’s own behavior is the result of cultural psychological functions.

Thus, the dynamics of “unity” represents the process of transformation of the undifferentiated state in the triangular connection of three psychological functions to differentiation, representing complex (not direct, not transparent to observation, not unidirectional, not unambiguous, dialectical, conditioned, systemic) connections between the three psychological functions. In the course of this process, complication through differentiation of the connection is realized and qualitative changes in functions change the state of functions, which L.S. Vygotsky denotes as mental and psychological functions. The complication within the “unity” is the transition from mental to psychological (cultural) functions. The direction of development of the human psyche identified by L.S. Vygotsky is initially given and as the human being develops, the conditions of his development are realized differently. In cultural unity functions are so transformed that new qualitative characteristics appear in them, the consequence of which is self-education, self-organization, self-development, self-determination.

Reconstruction in Vygotsky’s psychology of the “whole”

The triangular network is dynamic; changes within unities lead to changes in the network as a whole. L.S. Vygotsky introduces the concept of “whole” to reveal the special quality of unity. The whole is the psyche and the whole is unity. In other words, the triangular unity and the triangular polyfunctional network representing the psyche are the whole. The introduction of the whole solves an important methodological problem. The whole can be different: it can be equal to the sum of parts, greater than the sum of parts, and “quantum”, each part possessing the properties of the whole [13]. Such representation of the whole reflects the dynamics of changing views and paradigms. The latter corresponds to the post-nonclassical paradigm. For L.S. Vygotsky, each unity is a whole and possesses the properties of the whole of which it is a part. That is why, in the triangular relation, he, revealing the unity of three functions, attracts the demonstration of changes in other functions and reveals the influence of this change on these three functions. He performs actions in a network. This is why, reductionist-
On the “unit of analysis of the whole”

“Unity” as a whole is according to Vygotsky “unit of analysis of the whole”. The history of the introduction of units and their qualitative differences is briefly disclosed in the work of T. E. Sizikova “Unit of analysis” by L.S. Vygotsky and “modality” by N. Hartmann [13]. In this article, we emphasize that the “unit of analysis” of the whole in L.S. Vygotsky’s works is presented in two types:

A) The unit of analysis as a dynamic unity in the triangular connection of the functions of the psyche and the psyche itself in the form of these dynamic unities included in the network. L.S. Vygotsky, using the example of word research, writes concerning the analysis that this unity is not able to grasp: “The word itself, which is a living unity of sound and meaning and contains in itself, as a living cell, in the simplest form the basic properties inherent in speech thinking as a whole, appeared as a result of such analysis fragmented into two parts, between which then researchers tried to establish an external mechanical associative connection” [5, p. 14—15] which, in our opinion, in modern conditions has been replaced by masticatory methods.

L.S. Vygotsky emphasizes the following qualitative characteristics of such a “unit”:

— The unit possesses the properties of the whole: “Under the unit we mean such a product of analysis, which unlike elements possesses all the basic properties inherent in the whole, and which is further undecomposed living parts of this unity” [5, p. 15].

— The unit has its “development, functioning, structure” [5, p. 17].

— The unit has and allows to investigate interfunctional relations: “If for the old psychology the whole problem of interfunctional relations and connections was a completely inaccessible area for research, now it becomes open for the researcher who wants to apply the method of the unit and replace the method of elements with it” [5, p. 21].

— The unit presents opposites and this is a necessary condition for development, which is to be analyzed with the help of “units in which these properties are presented in an opposite form, and with the help of such analysis to try to solve specific questions that arise” [5, p. 15] and further, “apparently, there is every reason to assume that this qualitative difference of the unit in the main and principal is a generalized reflection of reality” [5, p. 16].

— One unit of analysis is capable of generating other units of analysis.

— The unit is selected by the researcher for analysis. The analysis of psyche, respectively, and the idea of psyche put in the practical activity of people, depends on what unit for analysis the researcher chooses. L.S. Vygotsky, using speech thinking as an example, writes the following: “On this path we can expect a direct answer to the questions we are interested in about the relationship between thinking and speech, because this relationship itself is contained in the unit we have chosen, and by studying the development, functioning, structure, and movement of this unit in general, we can learn much of what will allow us to clarify the question of the relationship between thinking and speech, the question of the nature of speech thinking” [5, p. 17]. The whole and units are constructed by him on the basis of certain laws. So for inner speech he writes that “completely different laws of construction of the whole and semantic units prevail” [5, p. 239]. Several questions follow from this statement: “What are the laws of construction of the whole? What is a whole that is not an entity, a given, constructed by the researcher?” This article tries to answer these questions.

B) Unit of analysis as a substrate unit. For example, L.S. Vygotsky writes about the word: “It is speech and thinking at the same time, because it is a unit of speech thinking. If this is true, then it is obvious that the method of research of the problem we are interested in cannot be other than the method of semantic analysis, the method of analysis of the semantic side of speech, the method of studying verbal meaning” [5, p. 17] and further, “the unifying point of all these separate studies is the idea of development, which we tried to apply first of all to the analysis and study of word meaning as a unity of speech and thinking” [5, p. 17]. Consequently, L.S. Vygotsky clarifies that a substrate unit is a unit of unity representing a whole.

In our other works we considered the identity of the concepts of “unit of analysis of the whole” by L.S. Vygotsky and the concept of modality as a unit of analysis of the whole by B. Spinoza and N. Hartmann [13; 14]. This allows us not only to introduce the distinction between psychological and cultural unity, but also to find a way to explain the non-binary nature of mental processes.
between “unit of analysis” in L.S. Vygotsky and “unit of analysis” in other works, for example, in the activity approach [13]. In philosophical tradition, modality denotes a unit of analysis of the whole. Traditionally, modality is understood as a way, a kind, a measure. “Modality (Latin modus — way, kind) — is the way, kind of being or co-existence; categories of modality are: possibility, reality, necessity; modal means being conditioned by circumstances; modal analysis is a study of modality” [4]. In modern psychology, the concept of modality has found its application in many works [3; 11; 12], but the studies do not pay attention to triangulation within modality. Using reflexion as an example, we made such an attempt [15] and saw how cultural historical psychology and psychology of modality can be mutually enriched, which is still like a sprout, but is capable of growing and taking shape as psychology of modality on the basis of Lev Vygotsky’s cultural historical psychology [16].

Taught and culturally developed Lev Vygotsky followed the philosophical tradition. Lev Vygotsky’s favorite philosopher, B. Spinoza operated with modalities, modus as a way of analyzing the whole, the Absolute. G.W.F. Hegel, who knew well the works of B.Spinoza, thanks to the translation into German of “Ethics” did not escape his influence, but “... did not like to specify exactly what he was indebted to his teachers and teachers of his teachers. The truth, revealed to him as a result of hard work, study, he proclaimed as the very truth, regardless of who were extracted its preconditions and results “ [2, p. 95] applied modal categories. B. Spinoza wrote: “5. By modus I mean the state of substance (Substantiae affectio), in other words, that which exists in another and appears through this other” [17, p. 4]. Hegel deepened the notion of modus, preserving its dialecticality and relation to the subject “... reflexion as removing itself in its definitions and, in general, as movement returning to itself is truly absolute identity, and at the same time it is the process of determining the absolute or its modality. Modus is therefore the external of the absolute, but equally only as its reflection into itself; in other words, it is its own detection (Manifestation) of the absolute, so that this detection (Auperung) is its reflection into itself and thus its in-itself-and-for-itself-existence” [10, p. 349]. “... it is the reflexive own movement of the absolute, a process of determination, but not such a process by means of which the absolute would become something else, but a process of determination only of what it already is” [10, p. 597]. In fact, this is L.S.Vygotsky’s “unit of analysis of the whole”, which has its own modal essence and dialectics of development.

Let us focus on the role of the researcher in identifying the “unit of analysis”. The consciousness developed in meaning and culture is able to identify and apply modality in the analysis. Modality itself is the ultimate abstraction, which the researcher endows with content and meaning. N. Hartmann [9], who based his critical ontology on the method of modal analysis, believed that the future in science is behind this method. According to Hartmann, ontic modalities of the necessary, possible, actual and their opposites should be found in the subject of research, whether it is natural-scientific or humanitarian knowledge.

Thinking and consciousness, which is able to realize the fusion of rational and irrational, logical and mythological, are capable of seeing reality with the help of modalities. A.G. Asmolov, emphasizing personality in the post-nonclassical paradigm, wrote about L.S. Vygotsky: “Mythopoetic thinking is a very special type of rationality. And in the epistemological context in which M.K. Mamardashvili criticized the classical idea of rationality, the positive research program implemented by L.S. Vygotsky with the reliance on mythopoetic thinking is highlighted for us. His texts are distinguished not so much by their cognitive meaningful character, but above all by their semantic polyphony” [1, c. 7–8].

Whatever whole Vygotsky constructs, be it speech, distinguishing in it oral, internal, written speech; thinking, distinguishing in it autistic, practical, symbolic; perception, revealing in it what belongs to the immediate, categorical, symbolic and other whole, he clearly observes the triple logic of primary distinction into natural, mental and psychological functions. In each whole he finds manifestations belonging to the three kinds of functions. Three criteria consisting of opposites are central to the derivation of the distinctions: spontaneous vs arbitrary, conscious vs unconscious, abstract vs logical. To confirm this, let us cite L.S. Vygotsky’s quote about speech: “a sharp divergence between his oral and written speech; this divergence is determined and measured by the difference in the levels of development of spontaneous, involuntary and unconscious activity, on the one hand, and abstract, arbitrary and conscious activity” [5, p. 240].

Based on the logic of L.S. Vygotsky, we voluntarily make a reasonable association with the modalities of the possible, necessary, actual and their opposites developed in the philosophical tradition of modal analysis, which included B. Spinoza, a favorite philosopher of L.S. Vygotsky.

In this tradition, which itself is heterogeneous, the common feature of the analysis is finding the manifestation of these modalities in phenomena and naming them. Our analogy allows us to form a hypothesis that L.S. Vygotsky found manifestations of arbitrariness, logicality (systematicity), consciousness and their opposites in psychological phenomena. Drawing parallels between possibility and awareness, necessity and arbitrariness, reality and logicality, as well as in arbitrariness finding a correlation between modalities, as well as in logicality, awareness and their opposites, is not without reason,
but requires a thorough analysis, which is not the subject of this article. From these positions, modal analysis is promising for the understanding and development of cultural-historical psychology [16].

Conclusion

Vygotsky’s scheme of theory building, which we are reconstructing based on Vygotsky’s works, is not speculative. It is a tool for organizing life, in particular, learning, followed by development, which is the keynote of Vygotsky’s psychology. In fact, Vygotsky does not present the psyche as separate mental functions, although we can find chapters with the same names as functions “attention”, “perception” and so on. Lev Vygotsky singles out alloys of functions, which are formed in the course of the genesis of functions, the growth of an infant into an adult. He designates such a fusion of three functions as a “unity” with new properties. This “unity” becomes the whole. The concepts of “unity” and “whole” in L.S. Vygotsky’s works are identical or different. The difference is most pronounced in the analysis of infancy, identity is pronounced in the analysis of general theoretical provisions on the psyche. “Unity” has the properties of a “whole” as a whole in a larger whole. Should be noted, that the whole is not equal to the sum of its parts. This is an important ontological position that Vygotsky’s work places in line with the modern paradigm. Vygotsky conceives “unities” as “units of analysis of the whole”. Vygotsky’s understanding of “units of analysis of the whole” corresponds to the concept of modality applied to the study of the whole by ontology and other sciences. Translated into modern, applied scientific concepts, we can state that three functions united as a “unity”, form a triangular relationship, is modality in its characteristics. The psyche is a whole formed by the “unities” which become the whole, and the connections between them. This whole is a large whole in small wholes. The whole has dynamic properties. We have reconstructed this view of Vygotsky and in the modern understanding it is a dynamic triangular network of modalities in which the transformation of the whole is realized. Vygotsky’s views give the development of modal psychology, what Vygotsky pointed out as the analysis of psyche using “units of analysis of the whole”, using the “unities” and the “whole”.

References

12. Vygotsky’s scheme of theory building, which we are reconstructing based on Vygotsky’s works, is not speculative. It is a tool for organizing life, in particular, learning, followed by development, which is the keynote of Vygotsky’s psychology. In fact, Vygotsky does not present the psyche as separate mental functions, although we can find chapters with the same names as functions “attention”, “perception” and so on. Lev Vygotsky singles out alloys of functions, which are formed in the course of the genesis of functions, the growth of an infant into an adult. He designates such a fusion of three functions as a “unity” with new properties. This “unity” becomes the whole. The concepts of “unity” and “whole” in L.S. Vygotsky’s works are identical or different. The difference is most pronounced in the analysis of infancy, identity is pronounced in the analysis of general theoretical provisions on the psyche. “Unity” has the properties of a “whole” as a whole in a larger whole. Should be noted, that the whole is not equal to the sum of its parts. This is an important ontological position that Vygotsky’s work places in line with the modern paradigm. Vygotsky conceives “unities” as “units of analysis of the whole”. Vygotsky’s understanding of “units of analysis of the whole” corresponds to the concept of modality applied to the study of the whole by ontology and other sciences. Translated into modern, applied scientific concepts, we can state that three functions united as a “unity”, form a triangular relationship, is modality in its characteristics. The psyche is a whole formed by the “unities” which become the whole, and the connections between them. This whole is a large whole in small wholes. The whole has dynamic properties. We have reconstructed this view of Vygotsky and in the modern understanding it is a dynamic triangular network of modalities in which the transformation of the whole is realized. Vygotsky’s views give the development of modal psychology, what Vygotsky pointed out as the analysis of psyche using “units of analysis of the whole”, using the “unities” and the “whole”.

Literatura

3. Веккер Л.М. Психика и реальность. Единая теория психических процессов [Электронный ресурс]. URL: https://gtmarket.ru/library/basis/6487/6498 (дата обращения: 14.03.23)
11. Япыгин С.Г. Модальности социокультурных форм человеческой субъективности. [Электронный ресурс]: дисс. ... канд. филос. наук. Армавир. 2008. 176 с. // Научная библиотека диссертаций и авторефератов
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