

From associationism to a Cultural-Historical understanding of Utchénie

Do associacionismo à compreensão
Histórico-Cultural do Utchénie

Del asociacionismo a la comprensión
Histórico-Cultural del Utchénie

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ABSTRACT

The article examines the problem of knowledge assimilation in the context of the historical development of psychological approaches to utchénie. It shows that associationism, behaviorism, Gestalt psychology, and J. Piaget's conception overcame, in different ways, the limitations of a mechanistic understanding of the psyche, but did not provide a consistent explanation of the activity of the learner as the subject of his or her own action. Special attention is given to the conception of knowledge assimilation developed by D. N. Bogoyavlensky and N. A. Menchinskaya. The article argues that this conception represented an important step in overcoming a narrow associationist approach, since it began to consider assimilation as an integral process involving perception, memory, thinking, analysis, and synthesis, while also taking into account the role of personality, motives, and the learner's individual characteristics. At the same time, the internal limitation of this conception is revealed: utchénie is described in terms of activity primarily at the motivational and goal-oriented level, whereas the procedural side of assimilation remains linked to the logic of association formation and to the sensualist scheme "perception → understanding → memorization → application." The article demonstrates that overcoming this limitation becomes possible only through the transition to the theory of study activity developed by D. B. Elkonin, V. V. Davidov, and V. V. Repkin, in which knowledge assimilation is understood not as a process that precedes action, but as a moment in the construction and reconstruction of the subject's mode of

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action. It is concluded that the concept of study activity makes it possible to rethink assimilation as an internal moment in the formation of the learner as the subject of his or her own development.

Keywords: Knowledge assimilation; Utchénie; Study activity; Associationism; N. A. Menchinskaya; D. N. Bogoyavlensky; J. Piaget; V. V. Repkin; Developmental Learning; Subject of Utchénie.

RESUMO

O artigo examina o problema da assimilação dos conhecimentos no contexto do desenvolvimento histórico das abordagens psicológicas de utchénie. Mostra-se que o associacionismo, o behaviorismo, a psicologia da Gestalt e a concepção de J. Piaget superaram, de diferentes maneiras, os limites da compreensão mecanicista da psique, mas não ofereceram uma explicação consequente da atividade daquele que aprende como sujeito de sua própria ação. Dá-se atenção especial à concepção de assimilação dos conhecimentos elaborada por D. N. Bogoyavlensky e N. A. Menchinskaya. Argumenta-se que essa concepção representou um passo importante na superação da abordagem associacionista estreita, pois passou a considerar a assimilação como um processo integral que envolve percepção, memória, pensamento, análise e síntese, além de levar em conta o papel da personalidade, dos motivos e das particularidades individuais do aluno. Ao mesmo tempo, revela-se o limite interno dessa concepção: utchénie é descrito em termos de atividade sobretudo no plano motivacional e finalístico, enquanto o lado processual da assimilação permanece vinculado à lógica da formação de associações e ao esquema sensualista “percepção → compreensão → memorização → aplicação”. Demonstra-se que a superação posterior desse limite só se torna possível com a passagem à teoria da atividade de estudo de D. B. Elkonin, V. V. Davidov e V. V. Repkin, na qual a assimilação dos conhecimentos é compreendida não como um processo que antecede a ação, mas como um momento da construção e reconstrução do modo de ação do sujeito. Conclui-se que o conceito de atividade de estudo permite repensar a assimilação como momento interno da formação do aluno como sujeito de seu próprio desenvolvimento.

Palavras-chave: Assimilação dos conhecimentos; Utchénie; Atividade de estudo; Associacionismo; N. A. Menchinskaya; D. N. Bogoyavlensky; J. Piaget; V. V. Repkin; Aprendizagem Desenvolvemental; Sujeito de Utchénie.

RESUMEN

El artículo examina el problema de la asimilación de los conocimientos en el contexto del desarrollo histórico de los enfoques psicológicos del *utchénie*. Se muestra que el asociacionismo, el conductismo, la psicología de la Gestalt y la concepción de J. Piaget superaron, de distintas maneras, los límites de la comprensión mecanicista de la psique, pero no ofrecieron una explicación consequente de la actividad de quien aprende como sujeto de su propia acción. Se presta especial atención a la concepción de la asimilación de los conocimientos elaborada por D. N. Bogoyavlensky y N. A. Menchinskaya. Se argumenta que esta concepción representó un paso importante en la superación del enfoque asociacionista estrecho, ya que comenzó a considerar la asimilación como un proceso integral que incluye percepción, memoria, pensamiento, análisis y síntesis, además de tomar en cuenta el papel de la personalidad, los motivos y las particularidades individuales del alumno. Al mismo tiempo, se revela el límite interno de esta concepción: el *utchénie* se describe en términos de actividad sobre

todo en el plano motivacional y finalístico, mientras que el lado procesual de la asimilación permanece vinculado a la lógica de la formación de asociaciones y al esquema sensualista “percepción → comprensión → memorización → aplicación”. Se demuestra que la superación posterior de este límite solo se hace posible con el paso a la teoría de la actividad de estudio de D. B. Elkonin, V. V. Davidov y V. V. Repkin, en la cual la asimilación de los conocimientos se comprende no como un proceso que antecede a la acción, sino como un momento de la construcción y reconstrucción del modo de acción del sujeto. Se concluye que el concepto de actividad de estudio permite repensar la asimilación como momento interno de la formación del alumno como sujeto de su propio desarrollo.

Palabras clave: Asimilación de los conocimientos; Utchénie; Actividad de estudio; Asociacionismo; N. A. Menchinskaya; D. N. Bogoyavlensky; J. Piaget; V. V. Repkin; Aprendizaje Desarrollante; Sujeto del Utchénie.

1 Introduction

The present text was written in 2009 as the result of joint work with V. V. Repkin. It arose from our reflections on the problem of knowledge assimilation and on the limits of the psychological conceptions that preceded the theory of study activity. For a long time, the text remained unpublished, but today, in the context of the Brazilian discussion of the concepts of *obutchénie*, *utchénie*, and *usvoenie*, it has acquired renewed relevance.

Its publication is especially timely today in the context of the growing interest in Brazil in the concepts of *obutchénie*, *utchénie*, and *usvoenie* within the cultural-historical and developmental traditions. Roberto Valdés Puentes’s recent analysis of these concepts in the work of N. A. Menchinskaya shows the importance of returning to them carefully, distinguishing their theoretical functions and their relations to the problem of the learner’s development.

In this sense, the text presented here does not seek to replace or correct this current discussion, but rather to offer it a complementary historical-theoretical foundation. Its aim is to show how the problem of knowledge assimilation was transformed in psychology — from associationism and behaviorism to Gestalt psychology, J. Piaget’s conception, and the Soviet theory of assimilation — until it found, in the theory of study activity developed by D. B. Elkonin, V. V. Davydov, and V. V. Repkin, a qualitatively new formulation.

Thus, the analysis of the conception of D. N. Bogoyavlensky and N. A. Menchinskaya is situated here not only as an important moment in Soviet psychology of learning, but also as a point of transition: it makes it possible to understand both the advance represented by the notion of assimilation as an integral process and the limits of an approach that does not yet fully reveal the learner's construction of his or her own mode of action.

2 The Problem of Knowledge Assimilation and the Activity of the Learner

The problem of the assimilation of new knowledge by human beings occupied a central place in educational psychology not only because of its obvious practical significance, but also because it concentrated a broader theoretical question: what is the process of acquiring knowledge itself, and what place within it belongs to the activity of the learner?

Until the beginning of the twentieth century, different versions of associationism dominated psychology. Within this paradigm, the acquisition of new knowledge was understood primarily as the formation of new associative connections between sensory impressions, representations, words, and actions. Organized teaching, accordingly, appeared as a specially ordered process of selecting, systematizing, and consolidating such connections. This very logic lay at the foundation of the classical didactic theory of Jan Amos Comenius and played a progressive role in the formation of mass schooling: it made it possible to conceive of teaching as a guided, organized, and relatively universal process (COMENIUS, 1896).

At the same time, the possibilities of the associationist model were fundamentally limited by its mechanistic conception of the psyche and knowledge. In this scheme, the pupil in fact appeared as an object of external influences, while the success of teaching was linked primarily to the proper organization of these influences, to the plasticity of the brain, to the degree of maturity, and to the capacity for consolidating connections. In such a model, there was still no place either for the pupil's own cognitive activity or for the pupil as the subject of this activity.

2.1 The Reflex Scheme and the Behaviorist Interpretation of Learning

The subsequent reorganization of associationist conceptions was connected with the development of the physiology of higher nervous activity. The works of I. M. Sechenov and the further development of reflex theory showed that the relation between organism and environment cannot be reduced to the passive memorization of external influences. The organism responds to the influence of the environment through an integral adaptive reaction, and psychic phenomena begin to be considered as internal moments of this reaction, included within a broader system of behavior (SECHENOV, 2019).

However, the uncritical transfer of the reflex scheme into psychology led to behaviorism, in which learning came to be interpreted as the formation of responses to stimuli. Within this framework, knowledge lost its specifically psychological content and was treated as one form of behavioral response. The teacher could influence the learning process by selecting stimuli and reinforcing the desired responses, but the process of acquiring knowledge itself remained subjectless: it was conceived as the result of the operation of general laws of nervous activity common to humans and animals (WATSON, 1925).

Neobehaviorism made an important step toward overcoming this mechanism. Into the two-term scheme “stimulus — response” it introduced intervening variables: the image of the situation, need, goal, expectation, and evaluation of the success of action. As a result, the activity of the individual began to be regarded as an essential condition of successful learning. Yet even here it did not become the proper object of psychological analysis. The pupil’s activity remained only one factor in the effectiveness of learning, while the learning process itself continued to be explained through the adaptation of behavior to external conditions (SKINNER, 1954).

2.2 Gestalt Psychology: The Restructuring of Experience and the Limits of Structural Explanation

Another direction in overcoming the associationist-behaviorist scheme was connected with Gestalt psychology. It called into question the conception of the psyche as a sum of elements and connections between them, showing that perception, thinking,

and problem solving have an integral, structural character. Here *utchénie* is no longer reduced to the accumulation of associations or the formation of responses: it presupposes the restructuring of the situation, insight, and the grasping of the whole. In this way, Gestalt psychology came significantly closer to the problem of the activity of the subject (KOFFKA, 1935).

In the works of K. Koffka, the problem of *utchénie* was posed no longer as the problem of the simple accumulation of elements of experience, but as the problem of its active restructuring. This was an important step forward in comparison with associationism and behaviorism. Koffka regarded *utchénie* as a change in the individual's experience that unfolds in two phases: first, new forms of behavior arise that ensure success in a new situation; then these forms are consolidated through trace processes of memory. He attributed decisive significance precisely to the first phase, in which the inadequacy of existing experience in relation to the new situation is revealed and the need for its restructuring arises (KOFFKA, 1935).

At this point, Gestalt psychology substantially overcame the limitations of associationism. New forms of behavior were not simply added to already existing experience, but restructured it as an integral whole. *Utchénie* appeared not as the mechanical layering of new connections, but as a change in the organization of experience. It was therefore in Gestalt psychology that the possibility first emerged of considering the activity of the subject as a necessary condition of *utchénie*.

At the same time, this possibility remained unrealized. In analyzing the early forms of the child's *utchénie*, Koffka in fact brought them close to the spontaneous actions of the animal in its environment. Of course, a change in experience is also possible as a result of such spontaneous actions. They form the basis of individual learning in animals, which ensures more successful adaptation to the existing situation. But such learning does not lead the individual beyond the situation and does not provide means or modes for transforming it.

Human *utchénie* differs fundamentally from such learning in that the child acts not simply with physical objects, but with cultural objects in which historically produced modes of human action are fixed. Even when the child imitates the adult, the child reproduces not an external movement as such, but a mode of action with a cultural object. Therefore, imitation in human development cannot be reduced to the biological

mechanism of repetition. It is one of the forms of shared activity in which the child enters the world of human meanings and modes of action.

This, however, is precisely what Koffka was unable to reveal consistently. He correctly saw that *utchénie* presupposes the restructuring of experience, but he sought the source of this restructuring not in the object-related content of action, not in the subject's goals, and not in the modes of achieving them, but in the laws governing the formation of integral structures of the phenomenal field. The new situation disrupts the integrity of this field, and *utchénie* appears as the restoration of a new, more adequate structure in accordance with the law of *Prägnanz*. Thus, the source of activity turns out to be not the subject's activity with the object, but the very structure of the field, in which subject and object are not yet distinguished as moments of real action (KOFFKA, 1935).

This limitation becomes especially clear in the treatment of the problem. In Gestalt psychology, the influence of the problem on thinking was explained above all by the incompleteness of its structure: it is this incompleteness that gives rise to the direction of the search and to the so-called determining tendency. But in this approach, the source of the movement of thinking is located not in the contradiction between the subject's existing mode of action and the new conditions of its realization, but in the structure of the problem situation itself. Thus, the problem does not yet appear as a learning task in the sense of the activity approach — that is, as one that reveals the insufficiency of the already existing mode of action and requires the construction of a new one.

2.3 The Transition to the Cultural-Historical Formulation of the Problem

Thus, Gestalt psychology made an important step in overcoming the atomistic understanding of the psyche. It showed that psychic phenomena have an integral, structural character, and that *utchénie* is connected with the active restructuring of experience. However, as L. S. Vygotsky emphasized, the replacement of the laws of association by the laws of structure still did not resolve the question of the nature of the human psyche. If in associationism the association functioned as a universal explanatory principle, then in Gestalt psychology structure became the same kind of universal principle. In this sense, the naturalistic approach to the psyche was not overcome, but only assumed a renewed form (VYGOTSKY, 1982).

That is why a genuine way beyond the limits of the associationist-behaviorist and Gestalt traditions required a different formulation of the question: not how experience is restructured according to the laws of the field, but how the child enters the system of culturally produced modes of action, how these modes become the child's own, and under what conditions the child begins to act as the subject of this action. This turn was carried out in the cultural-historical psychology of L. S. Vygotsky (VYGOTSKY, 2005).

3 The Conception of Knowledge Assimilation in D. Bogoiavlensky and N. A. Menchinskaya: A Step Forward and the Limits of the Processual Approach

One such direction had taken shape by the 1930s in Soviet psychology. Its representatives — D. N. Bogoiavlensky, N. A. Menchinskaya, Yu. A. Samarin, P. A. Shevarev, and others — unreservedly recognized reflex theory as the natural-scientific foundation of psychology, while at the same time categorically opposing the reduction of psychology to a science of behavior. In their view, the subject matter of psychology was not the connection between stimulus and response, but those cognitive processes that constitute the internal, central link of the reflex and mediate the relation between stimulus and response. They regarded association as the simplest element of the cognitive process (BOGOIAVLENSKY; MENCHINSKAIA, 1959, p. 11–12).

The inclusion of association in the reflex scheme inevitably led to a certain reinterpretation of it. In classical associationism, association was usually understood as a connection between elements of consciousness, above all between its sensory elements. Now association began to be considered as a connection between any components of cognitive activity, for example, between a rule and the corresponding mode of action. However, the essence of the associationist approach did not change. In both cases, associations were regarded as the simplest initial elements of a whole, and particular combinations and systems of these elements were taken to characterize consciousness or cognitive activity as an integral phenomenon. From this point of view, the scientific analysis of cognitive activity presupposes, above all, the study of the conditions and regularities governing the emergence and functioning of associations and their systems. Since these conditions and regularities become most clearly manifest in

the process of organized learning, it was precisely this process that became the main object of investigation for the representatives of this psychological direction (BOGOIAVLENSKY; MENCHINSKAIA, 1959).

It should be noted that the views of the representatives of this direction were also significantly influenced by other psychological schools that emerged in the same historical period: L. S. Vygotsky's cultural-historical school, the activity approach to the psyche, Gestalt psychology, and others. As a result, their approaches to solving the problems they posed often proved inconsistent and sometimes even contradictory. Of particular interest in this respect is N. A. Menchinskaya's attempt to distinguish between the concepts of knowledge assimilation and *utchénie*, in which both the strengths and the weaknesses of this conception became quite clearly visible (BOGOIAVLENSKY; MENCHINSKAIA, 1959).

Analyzing earlier psychological theories, N. A. Menchinskaya noted: "The concept of 'assimilation' does not figure among the basic concepts of general psychology, since in its content it cannot be reduced to any particular psychic function... we use this concept..., designating by the term 'assimilation' a cognitive activity that includes a whole series of psychic processes: perception, memory, thinking" (BOGOIAVLENSKY; MENCHINSKAIA, 1959, p. 5).

The term "activity" in this context does not correspond to the philosophical and psychological concept of activity, which presupposes the realization of a definite relation of the human being — the subject — to the world and is characterized not by a set of psychic processes, but by needs, motives, goals, modes of achieving them, evaluation of the results obtained, and so on. It is clear that in this case what is meant is not cognitive activity as a special kind of human object-related activity, but the process of cognition. The term "activity" is used by the author in order to distinguish assimilation as a special kind of cognition, within which perception, thinking, and memory function in inseparable unity with one another, from other kinds and forms of cognition, in which the same psychic functions may operate successively, mutually complementing one another.

The assertion of the integrity of the process of assimilation, of its irreducibility to individual psychic functions or to their sum, is undoubtedly a significant step forward and an unquestionable merit of the author. At the same time, the recognition of assimilation as a special kind of cognition contains essential internal contradictions.

First, the question arises as to the legitimacy of identifying assimilation with cognition, however the latter may be understood — either as a special human activity or as a complex psychic process. Cognitive activity is indeed a special kind of human object-related activity, whose motive, goal, and result are new knowledge about the world. The meaning of assimilation, however, consists not in the production of new knowledge, but in the transformation of knowledge already acquired by humankind and fixed in one or another objective form into a subjective, psychic, ideal form. Such a transition is neither a special activity nor a particular case of cognitive activity, but a process carried out within any human activity.

The process of assimilation has its own regularities, which manifest themselves differently in different kinds of activity (MESHCHERYAKOV; ZINCHENKO, 2003). Different theoretical models of assimilation are possible. The best known and most widespread of them today is the theory of interiorization in the sense proposed by L. S. Vygotsky and subsequently specified and developed by A. N. Leontiev, P. Ya. Galperin, and others. Yet whatever the understanding of the process of assimilation may be, reducing its mechanisms and regularities to the mechanisms and regularities of cognitive activity appears illegitimate.

In considering assimilation as a special kind of cognitive activity, N. A. Menchinskaya thereby in fact reproduces the position of sensualist associationism, for which the identification of cognition and assimilation, subordinated to one and the same laws of association formation, is characteristic. In both cases, the process of association formation is described according to the following scheme: perception of the material, its comprehension, leading to the formation of associations, and their subsequent consolidation. N. A. Menchinskaya also adheres to this same scheme of assimilation, adding to it the “application of knowledge” (BOGOIAVLENSKY; MENCHINSKAIA, 1959).

What is new in her approach is that these links of assimilation are considered not separately, but as a single process of the formation of analysis and synthesis. Analysis and synthesis appear here as the leading processes of cognitive activity and, accordingly, as the main psychological mechanisms of association formation. Depending on the level of analysis and synthesis and their relation to one another, Menchinskaya distinguishes three main stages of assimilation.

At the first stage of assimilation, analysis and synthesis have an elemental, unsystematic character, with synthesis predominating over analysis. According to Menchinskaya, the characteristic feature of this stage is the unwarranted absolutization of a randomly selected feature, or several features, with which the concept to be assimilated is identified. At the second stage, the processes of the same elemental analysis begin to predominate over the processes of synthesis, as a result of which a number of essential and nonessential features of the concept are singled out, but are not yet related either to one another or to the concept as a whole. Finally, at the third and concluding stage of assimilation, the processes of analysis and synthesis come into correspondence with one another, losing their initial elemental character. It is precisely this that ensures the formation of correct associations that fix the actual content of the concept being assimilated. According to the author, these stages characterize the formation not only of intraconceptual but also of interconceptual associations, that is, the process of knowledge assimilation as a whole (BOGOIAVLENSKY; MENCHINSKAIA, 1959).

It should be noted that the above characterization of the stages of assimilation corresponds in many respects to the picture of the relation between analysis and synthesis established by S. L. Rubinstein in his study of thinking. The authors of the theory of assimilation under consideration repeatedly drew attention to this fact (BOGOIAVLENSKY; MENCHINSKAIA, 1959). However, the understanding of the nature of analysis and synthesis, as well as of the regularities that determine their relation in the processes of thinking and assimilation, is fundamentally different in these approaches.

In singling out analysis and synthesis as the main operations of thinking, S. L. Rubinstein considered thinking itself as an activity, that is, as a special kind of human object-related activity. Of course, he was aware that these operations are realized by special mechanisms of the brain that function according to the laws of higher nervous activity. However, he saw the ultimate determinant of both the processes of analysis and synthesis themselves and the brain mechanisms underlying them not in the laws of higher nervous activity taken by themselves, but in those object-related actions that the subject performs while solving one or another thinking task (RUBINSTEIN, 1958).

This is why S. L. Rubinstein emphasized: “In the study of cognition and thinking, a properly oriented psychological investigation cannot fail to take into account the role played, in every process of cognition, by human actions with the object being cognized, beginning with practical actions — in life, in labor, in experiment — and ending with such actions as drawing lines and constructing new figures in the course of solving geometrical problems” (RUBINSTEIN, 1958, p. 5).

Thus, the external similarity in the characterization of analysis and synthesis conceals a fundamental difference between the two approaches. For Rubinstein, analysis and synthesis are determined by the subject’s object-related action with the object; in Menchinskaya’s conception, by contrast, they remain primarily psychological mechanisms of association formation, whose ultimate determination is linked to the laws of higher nervous activity. This difference becomes crucial for the subsequent analysis of the limits of her conception of assimilation.

As if summarizing this approach to the relation between thinking and action, S. L. Rubinstein emphasized in another work that action “carries thinking on its leading edge” (Rubinstein, as cited in Davtdov, 2004, p. 204).

Other psychologists also repeatedly drew attention to the determination of psychic processes, and of the nervous processes underlying them, by human object-related activity. Thus, analyzing the conception of D. N. Bogoiavlensky and N. A. Menchinskaya, P. I. Zinchenko wrote: “associations (temporary connections), together with the internal regularities of the dynamics of the nervous processes that condition their formation, are determined by the behavior, by the activity of the subject, which, in turn, is determined by objective reality, by the material conditions of this activity” (ZINCHENKO, 1961, p. 162).

In contrast to this, Menchinskaya and her coauthors locate the ultimate determinant that conditions the quality of analysis and synthesis and their relation in the process of assimilation in the corresponding brain mechanisms, whose functioning is entirely determined by the laws of higher nervous activity (BOGOIAVLENSKY; MENCHINSKAIA, 1959, p. 56).

The difference between these approaches becomes especially clear in attempts to explain facts that characterize the real process of knowledge assimilation. Experimental studies and pedagogical practice convincingly show that

errors connected with deficiencies of analysis and synthesis at the initial stages of assimilation are by no means necessary. Quite often, pupils from the very beginning correctly identify the essential features of a concept, generalize them, and operate with the concept accordingly.

From S. L. Rubinstein's point of view, this phenomenon is entirely lawful and can be explained by the specific features of the mode of solving the task that was either proposed to the pupils by the teacher or found by them independently. By contrast, from the point of view of a theory of assimilation that reduces its regularities to the regularities of higher nervous activity, this fact cannot be explained. Indeed, it is impossible to explain why the same laws of irradiation and concentration of excitation and inhibition, operating during the initial acquaintance with an object, in one case lead to the generalization of an accidentally selected secondary feature of the concept, whereas in another case such generalization does not occur and attention is concentrated on an essential feature (BOGOIAVLENSKY; MENCHINSKAIA, 1959, p. 95).

In explaining such facts, the authors are compelled to turn to factors that lie beyond the nervous mechanisms of analysis and synthesis that ensure the formation of associations. N. A. Menchinskaya writes: "Assimilation is also directly connected with the particularities of personality — its feelings, will, and so on. Educational material is assimilated by a concrete pupil with a certain already formed relation to reality, with inclinations and interests, with certain intellectual qualities" (BOGOIAVLENSKY; MENCHINSKAIA, 1959, p. 5).

In this way, the process of knowledge assimilation is included in the broader context of pupils' activity, carried out in the process of organized learning and designated by D. N. Bogoiavlensky and N. A. Menchinskaya by the term *utchénie*. It is precisely *utchénie* that the authors identify as the main object of investigation. They understand it as the pupil's pedagogically determined study activity and see their main task in revealing its psychological regularities (BOGOIAVLENSKY; MENCHINSKAIA, 1959).

Speaking of *utchénie* as activity, the authors characterize it as a search activity whose task is the independent identification of the essential features of the concept being assimilated. In their view, this activity has a distinctly subjective character: under

the same pedagogical influences, its course and results depend substantially on the motives that impel the pupil toward *utchénie*, on the “degree of prior school preparation and the skills formed in the pupil, the pupil’s general mental development, conditioned by acquired knowledge, skills, and age-related particularities” (BOGOIAVLENSKY; MENCHINSKAIA, 1959, p. 6).

However, these general characterizations of *utchénie* as activity remain internally inconsistent, which becomes especially clear when they are concretized. I. I. Ilyasov rightly noted that Bogoiavlensky and Menchinskaya describe *utchénie* in terms of activity primarily when analyzing its motivational and goal-related aspect. “The description of the properly processual side of *utchénie* is presented through the characterization of the stages of knowledge assimilation” (ILYASOV, 1986, p. 131), which, as shown above, are described by the authors as stages in the formation of associations, that is, not in terms of object-related actions, but in terms of the analytic-synthetic activity of the brain.

Object-related actions are assigned an important but still quite limited place in the process of assimilation. This becomes especially clear in the relation between the concepts of knowledge assimilation and its application. From the very fact that application is considered as an action that relies on knowledge already assimilated in one way or another and appears as a continuation of the process of assimilation, it follows that assimilation itself is conceived as a process that takes place outside action and prior to action.

And no matter how strongly the great importance of application for assimilation is emphasized, such recognition of the role of action remains fully within the limits of the traditional — and, at its core, sensualist — conception of assimilation as a process carried out according to the scheme: “perception → understanding → memorization → application.” It is precisely from this logic that the concept of study activity fundamentally diverges: in it, knowledge assimilation is understood not as a process that precedes action, but as a moment in the construction and reconstruction of the subject’s very mode of action (REPKIN, 2019a; REPKIN, 2019b; REPKIN, 2019c).

Several remarks should be added concerning the authors’ treatment of those components of *utchénie* that they describe in terms of activity. First, attention should be

drawn to the fact that they characterize *utchénie* as “pedagogically determined study activity” (BOGOIAVLENSKY; MENCHINSKAIA, 1959, p. 3). Such an interpretation of the determination of activity contradicts its understanding as a non-reflex form of activity determined not by external influences, but by the needs, interests, motives, and goals of the subject (MESHCHERYAKOV; ZINCHENKO, 2003). In this way, the very concept of the subject is in fact removed from the analysis.

In this connection, the authors’ assertion regarding the subject character of study activity also becomes problematic. When they speak of the pupil as the subject of *utchénie*, they actually have in mind not those characteristics that enable the pupil to construct his or her own activity independently — for example, the presence of reflection and the level of its development — but individual particularities heterogeneous in their content and genesis, which in one way or another influence the process of assimilation.

Accordingly, the authors’ efforts are directed toward finding means of pedagogical influence that make it possible to prevent or eliminate the negative influence of pupils’ individual particularities on the process of assimilation. One of the main means of this kind, in their view, is the variation of nonessential features of the concept in the proposed learning tasks.

Finally, when speaking of *utchénie* as search activity, the authors have in mind not an activity of an investigative or research character, directed toward revealing the internal regularities of the functioning and transformation of the object under study, but pupils’ independent attempts to identify and distinguish the essential and nonessential features of a concept. Primary importance is given not to the modes of identifying these features, but to the analysis of inevitable errors. It is precisely the analysis of errors that is regarded as the main condition for awareness and correct generalization of the knowledge being assimilated. Within this logic, search activity is impossible without trial and error.

It is not difficult to see that such ideas about the conditions of concept assimilation fundamentally coincide with Edward Thorndike’s views on the conditions of association formation (THORNDIKE, 1913). Thus, behind the activity-related terms that the authors use in their general characterization of *utchénie*, there remains the

same reduction of *utchénie* to a sensualistically understood process of assimilation that is also revealed in the description of its processual side.

In general, the attempt to overcome the limited approach to *utchénie* that had taken shape in classical associationism, by refining its basic propositions and supplementing them with later scientific conceptions, must be recognized as internally unfinished. The authors in fact remained within the position of identifying *utchénie* with the sensually understood process of assimilation. Undoubtedly, they succeeded in constructing a much more complete descriptive model of this process. In fact, this model describes the process of assimilation in the form in which it had taken shape within traditional forms of teaching and makes it possible, within certain limits, to optimize it.

However, the proposed model does not fully reveal either the nature of assimilation, or its properly psychological regularities, or the relation of this process to human activity. It is precisely this that gives the model a partial character and makes it insufficient for the analysis of other forms of teaching. It is evident that in order to construct a general theoretical model of the process of assimilation, it is necessary actually to move beyond the limits of associationism and sensualism by opposing to them a fundamentally different approach to the psyche and to the understanding of its regularities.

4 J. Piaget's Conception: The Genesis of Intellect and the Limits of the Naturalistic Understanding of Action

One of the most radical attempts to solve this task was undertaken by the Geneva School, founded by J. Piaget. For the first time in the history of psychology, J. Piaget consistently implemented the genetic method of investigation, which he regarded as the only possible path toward an objective understanding of the nature of any phenomenon under study. He saw the essence of this method not in describing the development of the psyche in phylo- or ontogenesis, but in revealing its causal mechanism. This requires, "first, reconstructing the initial data of this genesis... and, second, showing how and under the influence of which factors these

initial structures are transformed into the structures that constitute the object of our investigation” (PIAGET; INHELDER, 2002, p. 10).

In solving this task, Piaget relied on fundamentally new approaches to the psyche that he had developed. First, unlike many earlier researchers, he understood the psyche not as a special substance, but as an integral structure that performs a definite function in human life. For him, the psyche is, above all, a special form of functional interaction between the individual and the environment, regulating the individual's behavior. The consistent implementation of such a functional-structural approach became an important contribution of J. Piaget to psychological science. Second, Piaget sought to synthesize, into a single non-contradictory system, the principles and methods developed in different historically preceding psychological conceptions.

The immediate object of J. Piaget's investigation was the genesis of human intellect. In his view, it was precisely this genesis that provided the key both to the scientific understanding of the psyche in general and to the solution of the problems of genetic epistemology, whose construction Piaget considered his ultimate goal.

Piaget understood intellect as one of the most important instruments of equilibration between subject and object, organism and environment. Such equilibration, in his view, is a necessary condition of vital activity and of the very existence of any organism. The mechanism of equilibration is constituted by behavioral schemes. The constant increasing complexity of the environment requires increasingly complex and flexible behavioral schemes. In the process of their formation and reconstruction, J. Piaget distinguishes the phase of assimilation, in which the environment is mastered by already existing behavioral schemes, and the phase of accommodation, that is, the adaptation of schemes to new situations (PIAGET, 1969).

In this way, a gradual transition takes place from elementary innate schemes that regulate the simplest acts of biologically appropriate behavior to increasingly complex schemes of social behavior that ensure the successful adaptation of the individual to the conditions of life in human society.

Piaget distinguished two qualitatively specific but genetically interconnected mechanisms for the formation and reconstruction of behavioral schemes. The initial

mechanism is the subject's object-directed actions, in the course of which the subject discovers new features of the situation and reconstructs existing behavioral schemes accordingly. As these actions are mastered, they are interiorized, that is, transferred into the ideal plane and transformed into intellectual operations.

Thus, if lower-level schemes arise and function as schemes of external motor behavior, then in the process of their increasing complexity and reconstruction they become detached from the situation of object-directed action, are interiorized, "grow inward," and are transformed into operations of the intellect. It is precisely intellect that Piaget regards as the second mechanism for the formation of behavioral schemes.

In affirming the existence of a genetic relation between intellect and object-directed action, Piaget at the same time persistently emphasized their qualitative specificity and their irreducibility to one another. Interiorization does not mean merely the transfer of action into the ideal plane. In the course of such transfer, action is abbreviated, up to the point of becoming a simultaneous act, and acquires qualities that do not and cannot exist in real action with physical objects: abstraction from the concrete properties of the object, reversibility, and interdependence with other actions. It is precisely thanks to these qualities that it acquires the character of an intellectual operation. Operations that function as psychological mechanisms of intellect are "interiorized actions in their general form, reversible and coordinated into structures of a coherent ensemble" (PIAGET, 1969, p. 34).

In this sense, according to Piaget, intellect "continues and completes the set of adaptive processes": if organic adaptation ensures only a momentary equilibrium, realized in a given place and therefore quite limited, then the simplest cognitive functions — perception, habit, memory, and so on — extend this equilibrium in space and time. Only intellect "tends toward total equilibrium," seeking to assimilate the whole of reality and to accommodate action to it, thereby freeing action from strict dependence on the primary "here" and "now" (PIAGET, 1969, p. 67–68).

The gradual transition from the simplest behavioral schemes that arise in the process of object-directed action to the most complex schemes supported by intellectual operations is precisely what J. Piaget regarded as the process of intellectual development. In this process, he distinguished four successive stages: the stage of sensorimotor intelligence, up to two years of age, based on schemes that ensure the

regulation of reflex movements and the construction, on this basis, of the simplest purposeful actions; the stage of preoperational intelligence, from two to seven years of age, when speech and representations are formed on the basis of schemes of external object-directed actions; the stage of concrete operations, from seven to twelve years of age, at which logical thinking appears, although its possibilities remain limited to the framework of concrete object-directed actions; and the stage of formal operations, from twelve to fifteen years of age, characterized by the emergence of “pure,” theoretical thinking, independent of concrete actions and therefore capable of ensuring more successful adaptation not only to existing situations, but also to anticipated ones (PIAGET, 1969).

Each of these stages incorporates the achievements of the preceding stages and creates the prerequisites for transition to the next stage. In other words, these stages constitute necessary links in the process of intellectual development, none of which can be skipped. According to Piaget, this strict stage-like sequence characterizes the immanent regularities of intellectual development, independent of external conditions and influences. As shown in the investigations of the Geneva School, the development of perception, memory, emotions, and other psychic processes is also connected with these stages of intellectual development; that is, the regularities of intellectual development in fact characterize the development of the psyche as a whole (PIAGET; INHELDER, 2002).

The proposition that object-directed action is the initial moment in the genesis of intellect and of the psyche as a whole formed the basis of J. Piaget’s conception, which led psychology beyond substantialist and epiphenomenalist conceptions and opened possibilities for the further development of psychology as a modern experimental-theoretical science. However, it was precisely the concept of action — more exactly, its interpretation in Piaget — that became the source of the inconsistency and incompleteness of this conception.

Indeed, by action J. Piaget means not an element of human object-transforming activity, but an act of behavior that ensures the individual’s adaptation to the environment. In this way, he in fact identifies human activity with the adaptive behavior of animals. Since changes in animal behavior are governed by strictly biological regularities, such identification means the automatic transfer of these regularities to human activity as well and, ultimately, to the genesis of human consciousness.

This is manifested above all in the fact that Piaget considers intellectual development not as the process by which the individual appropriates the cultural-historical experience of humankind, but as a process of individual adaptation to changing conditions of life, primarily to the object environment. Piaget attributes great importance to the human being's interaction with the social environment in the development of the psyche. However, for him, the social environment is not the source of the human psyche, but only one of the factors of its development.

The presence of a social environment alongside the natural one conditions a special aspect of intellectual development — its socialization, that is, the adaptation of behavioral schemes developed in the course of object-directed action to the demands of the social environment. Since these demands cannot always be discovered and fixed by means of object-directed action, socialization becomes the factor that dictates the necessity of transition to operational intellect, which is characteristic only of the human being. However, this circumstance merely adds to the process of human intellectual development a stage absent in animals; it does not take this process beyond the operation of general biological regularities.

Thus, despite the evident progressiveness of J. Piaget's conception, it remains, as many authors have noted, within the limits of a naturalistic understanding of the psyche (LEKTORSKY; SADOVSKY; YUDIN, 1969). Piaget made a fundamentally important step by placing object-directed action at the basis of the genesis of intellect, but this action was not yet revealed as a cultural-historical, socially produced form of human activity. That is why the problem of the assimilation of cultural experience and the formation of the subject of *utchénie* could not be solved within the limits of his conception.

5 From the Process of Assimilation to the Subject's Study Activity

Thus, the psychological approaches examined above overcame the limitations of classical associationism in different ways. Behaviorism transferred the problem of acquiring experience to the plane of behavior, but in doing so it effectively removed the subject from this problem (WATSON, 1925; SKINNER, 1954). Gestalt psychology restored to the analysis the integrity and active restructuring of experience; however, it sought the source of this activity not in the subject's object-related activity, but in the laws governing the structure of the phenomenal field (KOFFKA, 1935). Piaget made a

fundamentally important step by placing object-directed action at the basis of the genesis of intellect, but in his conception, too, action remained primarily a form of adaptive behavior rather than a mode of the child's entry into culturally and historically produced forms of human activity (PIAGET, 1969; PIAGET; INHELDER, 2002).

All these approaches, each in its own way, brought psychology closer to the problem of the activity of the learner, but they did not provide its consistent solution. It is precisely for this reason that, in Soviet psychology, special importance was acquired by attempts to combine a natural-scientific explanation of psychic processes with recognition of the role of organized learning, personality, and the pupil's activity. One of the most revealing examples in this respect was the conception of knowledge assimilation developed by D. N. Bogoiavlensky and N. A. Menchinskaya (BOGOIAVLENSKY; MENCHINSKAIA, 1959).

In the later history of Soviet psychology, there were also other attempts to construct a theoretical model of assimilation, in particular P. Ya. Galperin's theory of the stage-by-stage formation of mental actions. However, its analysis requires separate consideration. Within the limits of this article, we are interested above all in the line in which, on the material of Menchinskaya's conception, the internal limit of the traditional understanding of assimilation becomes especially clear: assimilation can no longer be described as the passive consolidation of connections, but it is not yet revealed as a moment of the subject's study activity proper.

The further overcoming of the associationist-sensualist understanding of assimilation was connected no longer with the clarification of its separate mechanisms, but with a fundamental change in the unit of psychological analysis. This unit becomes neither an isolated cognitive process nor a system of associations, but organized learning as a special form of human life activity that ensures the reproduction and development of the cultural-historical experience of object-transforming activity. In this context, knowledge acquires its meaning, function, and mode of existence only in the activity of the subject, who masters not a ready-made result, but a mode of human action.

It was precisely in this direction that the theory of study activity developed by D. B. Elkonin, V. V. Davydov, and V. V. Repkin moved. In this theory, assimilation is no longer regarded as a process that precedes action and is completed by the

subsequent application of knowledge. On the contrary, the action directed toward identifying the general mode of solving a task becomes the very form in which knowledge arises for the pupil as a necessary means of orientation. To assimilate knowledge means not simply to understand, memorize, and apply it, but to master a mode of action that reveals the essential relation of the object under study (ELKONIN, 2021; DAVIDOV, 2004; REPKIN, 2019a, 2019b, 2019c).

In this context, the concept of the study task acquires fundamental importance. Its content does not consist in having the pupil apply an already known rule to new material, but in having the pupil discover the insufficiency of the existing mode of action and be compelled to search for a new, more general mode of orientation. That is why the study task cannot be reduced either to a problem situation or to exploratory trials within already given content. It sets up such a contradiction in the pupil's action that it opens the possibility of transition from an empirical mode of solution to a theoretical one (DAVTDV, 2004; REPKIN, 2019b).

From this point of view, the limit of Menchinskaya's conception also becomes clear. Her attempt to distinguish assimilation from *utchénie* was extremely important, since it moved the analysis beyond the passive accumulation of knowledge and drew attention to the pupil's activity, motives, individual particularities, and search actions. However, this activity was not yet revealed as the pupil's own construction of a mode of action. It remained a condition or factor of successful assimilation, rather than the proper form of existence of study activity.

In V. V. Repkin's conception, this limit is overcome through a consistent distinction between knowledge assimilation and the formation of the subject of study activity. The pupil becomes a subject not because he or she possesses individual particularities, motives, or the capacity for self-regulation, but because the pupil begins to relate to his or her own mode of action as an object of analysis, reconstruction, and control. It is precisely this reflective relation to the mode of action, and not merely the successful assimilation of a concept, that opens the possibility for the development of agency in organized learning (REPKIN, 2019a, 2019b, 2019c).

Thus, the historical path from associationism to Menchinskaya's conception shows the gradual evolution of ideas about knowledge assimilation: from the formation of connections to the active restructuring of experience, from behavioral responses to

cognitive processes, from external determination to consideration of the pupil's personality and activity. However, only the transition to the theory of study activity makes it possible to pose the question of assimilation as a moment in the formation of the subject, who not only receives ready-made knowledge, but discovers, analyzes, and reconstructs the mode of his or her own action. It is precisely in this that the fundamental difference of developmental learning consists, in contrast to those models in which assimilation is conceived as the result of the external organization of cognitive processes or as individual adaptation to given conditions.

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