

Valentin Ageyev

Creative education as a way of the organisation of self- development

Methodological, theoretical and empirical results

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The sense of many years of experimental research was creation of the theoretico-methodologico-empiric foundations of the model of system of creative education. Creative education can give an impulse to reformation of the system of education and upbringing. Creative education can give opportunity to educate the new generations capable of not only reproducing the experience of the previous generations, but creating such an experience. The main thing that the system of creative education must do is educate the people, who are able to produce, in problem situations, the new experience and make them their social heritage. The results of the conducted experimental research will give the opportunity to start the large-scale practical realization of the new principles of creative education. Nowadays, there develops the work on creation of the system of educational Centres, which could further become the basis for creation of the large-scale model, which will allow to obtain the result, inaccessible for the classical system of education, resting on the outdated and unpromising principles of translation and appropriation of the former social experience.



Valentin Ageyev

Valentin Ageyev was born in Murmansk (Russia). In 1973 he graduated Moscow engineering-physical Institute. He got the degree of Dr. in Research Institute of Common and Pedagogical Psychology in Moscow in 1987. The sphere of his interests is the psychology of self-development. More than 200 scientific works were published by the author.



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CONTENTS

1. Theoretical analysis of the problem of individual development determination	p.3
1.1 Development as a psychological problem	p.3
1.2. Main approaches to the analysis of the problem of individual development determination	p.33
1.3. Types of psychological determination of individual development	p.41
2. Adaptive mediation as the mechanism of externally Determined Development	p.82
2.1. Man as subject of appropriation of the “external” developmental determinants	p.82
2.2 Mediation by internal conditions as the mechanism of appropriation of internal social causes	p.133
2.3. Sign mediation as the mechanism of ideal forms as the determinant of cultural development	p.167
3. Creative mediation as the mechanism of production of the “Internal” determinants of development	p.249
3.1. The Man as the subject of production of “internal” determinants of self-development	p.249
3.2. Creative mediation as the mechanism of the production of ideal forms as the “internal” determinant of self-development	p.260
3.3. Theoretical and methodological foundations of self-development conception	p.274
4. Theoretical and methodological background of experimental self-development organization	p.309
4.1. Cooperative educational and cognitive action as the form of ideal forms appropriation	p.309
4.2. Cooperative creative action s the means of production of the ideal forms	p.324
4.3. Creative experiment as the method of organization of cooperative creative action	p.330

5. Experimental research on psychological peculiarities of self-development organization (with reference to the elementary school age)	p.343
5.1. Psychological foundations of self-development organization technologies	p.344
5.2. Main principles and basic forms of self-development organization	p.348
5.3. Psychologo-pedagogical project of experimental situations of self-development	p.361
5.4. Technology of experimental situations organization	p.375
5.5. Main results of experimental research	p.410
References	p.429

1

1. Theoretical Analysis of the Problem of Individual Development Determination.

1.1 Development as a psychological problem.

1.1.1. Historical dynamics of the content of “development” concept.

The content of “development” concept in Ancient Greece.

For the ancient science the problem of development didn't have an independent meaning. Development was viewed alongside with the other changes. The idea of upbringing and education as processes, which create all necessary changes, was widely spread. Plato didn't accept the idea of development. He accepted the idea of the Man formation as a citizen under conditions of the system of education. But in antique medicine, nevertheless, there appeared the first hypotheses about specific features of developmental process. First explanations of such changes were connected with the changes of ages. K.Galen was the first who, on the basis of Erazistrat's works, put forward the thesis of inborn and acquired forms of behavior. The first age-related periodization (division into periods) of development was suggested by Aristotle, and it was based on the criterion of puberty. Compared to periodization suggested by Plato, which originated from the external (state) expediency, Aristotle's division, for the first time in the science history, was based on the internal changes, happening in the organism of the Man.

In comparison to Plato, Aristotle proceeded from the process of biological changes of the human being. According to Aristotle, life is the process of internal changes, taking place under the influence of external factors. Aristotle's thesis of unity of form and content is the first evident formulation of the development idea in the history of science. In Antiquity the idea of development wasn't independent and didn't stand out against the idea of changes, the content of which were the *quantitative changes*.

The content of development concept in Middle Ages and Renaissance period.

In Middle Ages and Renaissance period, due to the dominance of Christian dogmatism and traditionalism, the idea of development wasn't practically worked out. Some thinkers (e.g.: Phoma Akvinsky) continued their investigations of development, but their ideas were fully borrowed from ancient Greeks, from Aristotle in particular.

The content of the development concept in the New Time.

In the 17th c., due to the works of J. A. Komensky, research into development acquired a new impulse. In pedagogical practice he realized Aristotle's idea of life as the internal development. J. A. Komensky was the first in the history of science to formulate the principle of *conformity with the nature* as the pedagogical principle of necessity to follow the universal law of nature development. Later, this principal was considered by many outstanding educators as the main principle (J.J.Rousseau, I.G.Pestalozzi, F.A.Diesterweg).

From a new point of view, the idea of development was carried out in the works of F.Bacon, who gave up the idea of world creation by God and accepted the idea of nature formation (universum, world) from the material source. The idea of unity of the developing world was also shared by Bacon's contemporary R.Dekart. Dekart supplemented it with the idea of development as the main law of existence, which is the foundation of all remaining laws of nature. But, recognizing the idea of nature development as the fundamental hypothesis, Dekart, at the same time, didn't accept it in relation to the thinking substance (human psyche). The problem of development found its place in the works of Dekart only as the hypothesis, but not as the subject of real research.

In the works of B.Spinoza the investigation of development occupies the new methodological level. In his doctrine [Spinoza] development is the process of unfolding of moving substance into its attributes and modi and its reverse rolling up, but

already on a new coil of movement. Spinoza, for the first time in the history of science, formulated the thesis of substance self-movement, of substance as the *cause of itself*.

On the boundary of the 17th and 18th c. the idea of development undergoes substantial changes. The first scientist, who fulfilled the transition to a new understanding of development, was and transforming to all objects of nature (monads). Due to this idea, many scientists consider G.W. Leibniz the founder of the dialectical method of research, which was later formulated in the German classical philosophy [1]. Remaining in many respects on the positions of preformism, G.W. Leibniz, however, introduced the process characteristics of development: *uniformity (self-identity)* of the developing object and *change*. The contradiction between the first and the second is the vehicle for developing of the originally existing to the gradual emerging of the new [2].

The content of development concept in the 18th c.

In the 18th century J.J. Rousseau, having used the principle of *conformity with the nature* as the fundamental one, suggested his own concept of development. He used the leading principle of each age and interconnection of ages as the criterion for singling out the periods of development. J.J. Rousseau looked upon *maturation* as the internal mechanism of development. J.N. Tetens in his book “Philosophic Experiments on Human Nature and its Development” undertook the search for common regularities of development. He was the first to pay attention to the development as the process, not only as characteristic features of ages. He proposed both internal and external factors (education, exercises and models of behavior) as the most significant factors of development.

The famous achievement of the 18th c. was the idea of developmental education put forward by Pestalozzi. In his opinion, education shouldn't follow (lag behind) the nature, but it should actively form a child's personality (education should bring about the development).

Philosophy of the 18th c. worked out the idea of development within the limits of gnoseological problems. A lot of doctrines at that time (I.Kant, J.G.Fichte) viewed the world as the projection of people's idea of the world on the reality.

I.Kant, however, in his theory of knowledge realized the idea of dialectical synthesis as development, forward movement and progress. I.G.Fichte introduced into the scientific use the idea of "I", which in relation to "non-I" reveals its potentials (develops). Besides, he suggested reflexion as the mechanism of self-development.

In 18th c. A.Galler, an outstanding Swiss Physiologist, in his book "Foundation of Physiology" viewed the organism as "a living machine", developing according to its own internal laws, but not under the influence of external factors.

In 1740 there appeared the first issue of "Natural History" of L.L.Buffon, who made an attempt to reflect the way, passed by our planet during "seven epochs". This book includes life and development into the general context of evolution. The idea of development was shared by D.Didro, P.M.Maupertuis and J.Robine. Their works gave rise to the formation of the mechanism of *causal determination* of development. Mechanistic determination of development was being replaced by a more complicated biological determination founded on the species character.

By that time the science had evidently manifested two approaches to the development analysis. The first approach was based on the idea of psyche innateness, which matures in "a natural way" and doesn't depend on the external conditions of a child development. The second approach was based on the idea of a child as *tabula rasa*, which mainly forms due to the leading role of external factors of child development [1].

J.G.Herder spread the idea of development on the nature and society as a whole. According to J.D.Herder, the nature exists in its constant development, which is understood as the movement from the lowest forms to the highest ones. From this point of

view, the world is presented as the whole, continuously developing whole, naturally passing the necessary stages. The development makes its way from the simple substance, through the emergence of plants and animals, to the human being, endowed with intellect and mind. The top of its development is the “world soul”.

This scheme is not the stairs of creatures created by God, but a constantly improving “chain of development”, the crown of which is not on the Earth, but in the supersensitive world. Thus, the concept of development acquires the universal character. Everything exists in its development: the Universe, the Earth, the Nature, the Man and Culture. The distinctive feature of Herder’s point of view is that the evolution of the Man drops out of the “natural course of history”. This means that the *Man himself should establish the foundations of his future formation as the Man. He himself should create his future.*

I.V.Goethe believed that the development in nature can be revealed only when it is revealed in the Man. The man, if he doesn’t develop himself, cannot understand the idea of development. I.V.Goethe was the first in the history of science to introduce the notion of metamorphosis (drastic reformation in the development) of organic world and *ascent* in the development. Ascent means the transition, the leap of the system onto a higher level of organization.

The new investigation of the category of development as a specific principle and general mode of universum existence was carried out in German Classical Philosophy, especially in Hegel’s philosophical system. He established the foundations of dialectical (genetic) logics as the logics of formation, development and reformation of any organic integrity (totality) [2].

Despite the variety of different points of view on the content of development, understanding the development as unfolding, revealing of what existed before the beginning of the development, had been the most widespread till the 18th century. This concept of development became a part of different systems of

knowledge. At that time the development (evolution) was understood literally as the growth or mere increase in size of all already existing (I.Kant also understood development in this way). Numerous systems of rational knowledge in the 16th – 18th centuries were based on the postulate that the world, which had once emerged (created by someone and somehow), was unchanged, and the task of the science was to open and learn the laws, according to which it had been established in its initial scheme.

The content of the development concept in 19th century.

The 19th c. was fruitful from the point of view of working out the idea of development, experimental research and practice of the developing man. I.F.Herbart suggested the psychological theory of development stages based on the mechanism of apperception. He differentiated three types of education: descriptive, analytical and synthetical. But in the works of I.F.Herbart the idea of development was in the second place. He assigned the first place to the type of education implemented on the ground of psychic mechanisms, which were not actually connected with development.

After Pestalozzi, Diestweg developed the idea of *conformity with nature*, which was understood as the necessity of following the natural processes of Man's development. In addition to the principle of conformity with nature, he put forward the principle of *conformity with culture*. Due to this principle it was possible to give up individualistic interpretation of the Man and make interrelation of the society, education and individual development the primary object of research. Developing the ideas of Pestalozzi, Diesterweg created the didactics of developing education. In connection with this, he considered it necessary to take into account the age and individual peculiarities of school-children.

F.W.Schelling understood the development as revealing (cognition) of what had already been in its indiscernible form at the very beginning. According to Schelling, to suppose the pos-

sibility of emergence means to accept the appearance of *something from nothing*. As far as the emergence, from this point of view, cannot have any premises, Schelling understood the development as the process of continuous changes without any qualitative leaps.

G.W.Hegel understood the development as the process of formation of the genuine knowledge received as a result of historical development of fundamental contradiction between the knowledge and objective reality, between the subject and object. Such concept of development resulted in rejection of the natural and real process of organization and acknowledgement of organization only within the internal idea, composing the basis of nature. Hegel, rejecting the real processes of organization, rejects the reality of the processes of origin. Thus, he rejects the possibility of development of certain species from the other ones.

On the grounds of research in philosophy, medicine and natural sciences in the 19th c., the concept “development” acquired three different contents: development as *preformism*, development as *epigenesis*, and development as *evolution*.

Development as preformism is the unfolding of the content, initially laid in the original germ, to its maximum form assigned by its content.

Development as epigenesis is the process of creation of the proper qualities by the vital force, immanently inherent in this process, from the originally unstructured organic substance.

Development as evolution is the process of creation of the final variety of forms from their common source.

Despite the existence of different points of view on the content, development is understood in these three versions as a strictly regular process controlled by both internal factors and external conditions, and possessing a certain succession and length.

In psychology of the 19th c. the specific features of the development process were investigated in three directions: child-

ren psychology, comparative psychology and cultural psychology. At first, all these directions studied the regularities of phylogenesis. But gradually the investigation of phylogenesis made it possible to look upon ontogenesis in a new fashion. Soon the problem of phylogenesis and ontogenesis correlation became the object of concrete scientific research.

The first version of correlation of phylogenesis and ontogenesis was put forward by E.Haekel. This correlation was referred to as the biogenetic law, which later became the basis of recapitulation theory. According to this law, ontogenesis (history of an individual development) is the compressed and shortened phylogenesis (history of a species development). From this point of view, the history of an individual organism development repeats in a condensed form the development of the whole group of preceding biological forms.

Discovery of biogenetic law is connected with emerging of the scientific psychology of development. On the grounds of recapitulation theory, S.Hall suggested the idea of child psychology periodization, according to which the child in his individual development repeats the main stages of the humankind phylogenesis.

In his conception S.Hall actually insisted on *biological determination* of psyche development. Such development is carried out as the shift from one phase of the shaped psyche to another. According to S.Hall, such shift is accomplished in conformity with the main trends of evolutionary -historical process.

By virtue of analogy between ontogenesis and cultural history of humankind, H.Taine proposed the periodization of psychic development, where the stages of mental development of a child corresponded exactly to the stages of cultural development in the history of mankind culture [1].

In the end of the 19th c. the problem of development acquired an independent status. This was caused by merging of two scientific trends: child development and childhood ethnography.

Ch.Darwin's evolutionary ideas exerted decisive influence on the further working out of the psychological concept of "development". Their essence consisted in the fact that psyche changes alongside with the environment and serves to adapt the organism to it. This resulted in the emergence of two new postulates in psychology: about *adaptation* as the principal determinant, identifying the psychic development, and about the genesis of the psyche. According to these postulates, psychic processes do not appear ready-made, they undergo in their development the regular stages of their own formation.

The content of development concept in the 20th century.

In the beginning of 20th c. the biogenetic law was generally accepted in child psychology. But some psychologists didn't interpret the biogenetic law in terms of recapitulation. They considered it as the evidence that common logics takes place in the development of consciousness in phylogenesis and ontogenesis [e.g. E.Claperede] [1].

The evolutionary approach in psychology was reflected to the fullest extent in the conceptions of A.Bain and H.Spenser. They maintained that psyche is the regular stage of evolution and its function consists in facilitating adequate adaptation to the environment. These theories, especially the views of H.Spencer, were widely spread and had a great influence on the formation of psychological concept of development.

The views of I.M.Sechenov were also important for the formation of the concept of development. He emphasized the significance of investigating the psychic development of a child. Sechenov's views, especially his idea of interiorization, had a large influence on the further formation of developmental psychology, including, probably, the conception of L.S.Vygotsky [3].

But already in the 20th c., alongside with the evolutionary – biological content of psychological concept, there started the formation of culture – historical content. [D.Boldwin, N.Lange, T.Ribot, G.Mead, etc.]

G.Mead was the first to put forward the suggestion that psychic reactions of a child are originally derived from his interaction with the other people. P.F.Kaptev asserted in his works the idea of parallelism of the child psyche, the psyche of the contemporary “savage” and our remote forefathers.

However, earlier attempts of employing culture-historical approach for studying the psyche development were not a success, because by the beginning of the 20th c. the development had been considered by the overwhelming majority of psychologists, as a rule, in isolation from the environmental impact and in isolation from schooling and education.

Nevertheless, if earlier the dynamics of individual consciousness phenomena underlied the conceptions of ontogenetic development, then in the beginning of the 20th c. individual development was understood as procreation by an individuum of over-the-individuum laws, which govern the world of nature and culture. By that time, due to the study of the specific features of child development, there had appeared the necessity of creating the universal theory of psyche development.

Enormous achievements in the 19th-20th c. allowed, on the grounds of the discovered empirical facts, to maintain that the development phenomenon *exists*. At the same time, there appeared a problem of how to perceive development, in which conceptual system to reflect its subject-matter.

Up to the present day, *the principle of evolution* has remained the dominant world-view foundation of the whole array of scientific views of development. But nowadays, it has fundamentally been rethought and understood not only as the growth and increase of the originally given, but, first of all, as the historical process of changes of any system (its maturation, differentiation, sophistication and improvement) under the influence of external and internal conditions. Each fundamental change (metamorphosis) of this system supposes the shift (leap) onto the other level of its organization and new level of self-identity.

The separate internal problem of the evolutionary approach was the question of *sources, grounds and mechanisms* of these changes. It is evident that the knowledge accumulated today in natural sciences doesn't give answer to these questions. Similar situation exists in modern psychology of the Man development [2]

The driving forces and determining factors of psychic development became the most important problem for *domestic psychology*. As early as in the beginning of the 20th c., the joint work of A.F.Lazursky and S.L.Frank brought about the formulation of the idea of two spheres of spiritual action – endopsychic (internal) and exopsychic (external). Action is understood as "the fact or process of doing things, with the intention of gaining the desired effect" [4].

The endopsychic sphere was alleged to be founded on the in-born peculiarities of the man and determine the inborn sides of a personality. Exopsychic sphere of the personality is formed in the life process. It is founded on the system of the Man's relations with the environment and people, pointing to the fact that the Man belongs to the main factors of the surrounding world.

From this point of view, the category of interrelation was a step forward in comparison to the mechanistic idea, according to which the environmental influence on the organism takes place along the lines of an external impulse.

In the 20-30s of the 20th c. M.Ya.Bassov showed that in the process of psyche development the Man doesn't only adapt to the environment, but he also adapts it to himself. Thereby, the Man appears to be an active agent in the objective, naturally organized environment. From this position M.Ya.Bassov drew a conclusion that the psychic and biological developments are different processes, which obey different laws.

Development of the organism is determined by the mechanism, which is biologically fixed in it. Therefore, though the environment influences in a certain way the process of biological

development, the source of development, however, is not involved in it. It is in the organism itself.

Development of the Man as an active agent in the environment is, on the contrary, determined by the surrounding social medium and, depending on conditions, may proceed in different ways. The main idea of such development consists in the fact that the man penetrates efficiently into the environment and influences it as a result of its active cognition [3].

Resting, initially, on the ideas of Ch.Darwing, psychologists considered that psyche development takes place gradually and evolutionarily. At the same time, there exists the continuity in transition from one stage to another, and the tempo of development is strictly fixed, though it can partially accelerate or slow down, depending on conditions. The works of V.Stern, particularly his idea that the tempo of psyche development is individual, shook, to some extent, opinion of S.Hall and E.Claparede. However, natural science postulates, asserting the connection of the psychic with the nervous system, didn't allow to doubt the onward character of the psyche development connected with the gradual maturity of the nervous system and its improvement. P.P.Blonsky, for instance, who related the psyche development to growth and maturation, asserted impossibility of its acceleration, because the tempo of intellectual development, in his opinion, is prepositional to the tempo of somatic development, which cannot be accelerated. But the works of specialists in genetics, reflexology and psychiatry, however, showed that the Man's nervous system itself is the product of his social development. Thereby, it was proved that, with the purposeful organization of the environment, it is possible to achieve quite quick changes in a child psyche and accelerate substantially his psychic development.

This led some scientists, particularly Russian psychologists, working out socially- genetic trend, to the idea that not only evolutionary, but also revolutionary, intermittent periods in the psyche development are possible, in which there takes place the

drastic shift of the accumulated quantitative changes into qualitative.

Investigations of the adolescent period, for instance, led A.Zalkind to the idea of its crisis character, facilitating the sharp shift (leap) onto a new stage.

However, the psyche development, on the whole, was still characterized by the majority of psychologists as predominantly evolutionary, and the possibility to completely change the direction and individual peculiarities of the psyche development was gradually rejected. The idea of combination of the lytical and critical periods in the psyche formation was later embodied in L.S.Vygotsky's periodization [3].

Development psychology after the 90ies of the 20th c.

V.P.Zinchenko and E.B. Morgunov. The suggestion of relationship of the categories "civilization-culture" in building up the development psychology is put forward as initial. The authors consider that the top theory in domestic development psychology (the culture-historical conception of L.S.Vigotsky) is predominantly founded on cultural tradition in the sciences about the Man.

Besides, this conception involves civilization constituents. Particularly, one of the most important positions is that the *internal world* of the Man is formed by means of interiorization of instrumentally-meaningful content of culture, and the culture "sort of" fills the inner space of an individuum, ousting and transforming his natural (available, customary, habitual, etc.) psychological structures.

The statement *acquisition of culture* (more exactly, its socially restricted action-related content) makes the foundation of A.N.Leontiev's psychological theory of the action. But "handling the development process as the acquisition of or mastering the human experience, doesn't leave room for self-development, self-construction, self-determination of a personality and manifestation of its autonomy for genuine activity of consciousness" [5, p.21]

The abovementioned statement reflects the whole essence of action-related version of culture –historical conception.

V.P.Zichenko and E.B.Mogrunov believe that one of the primary tasks of contemporary developmental psychology is the meaningful synthesis of L.S.Vygotsky's culture-historical conception in its classical variant and A.N.Leontiev's action-related theory as one of historical interpretations of this conception.

B.D.Elkonin. The author investigates the ontology of development. He believes that development is a sort of specific existence. In his opinion, all developmental theories are based on the idea of evidence of development existence. But the problem consists in understanding how the development *is possible*. Due to the research fulfilled by B.D.Elkonin, it is possible, for the first time in domestic psychology, to differentiate between “*reality of development*” and “*development of reality*”, act of development and course of development, unit of development and object of development, which were not differentiated in traditional age-related psychology, and they are not still differentiated nowadays.

G.A.Zukerman. Studies the problem of the Man's emergence as the subject of his own development. Believes that nowadays psychology of self-development and pedagogics of self-development are more than ever essential [2]

1.1.2 The content of the “development concept in modern Psychology”.

Practically all psychologists agree that development can be defined as change in time. The idea of development as change in time is viewed as indisputable. But quite a different thing is how to answer the question about what changes and how it changes. Here, exactly, discrepancies are observed.

Nowadays, there exist several interpretations of the development content. To analyze this, it is convenient to employ the scheme, suggested by Yu.N.Karandashev [6].

Development as the growth. The process of quantitative changes (accumulation) of external features in objects.

Development as maturation. The process of morphological changes proceeding as a result of the immediate genetic determination.

Development as perfection. Teleological (determined by the aim) process. The aim consists in a certain “perfect”, i.e. the best, model, “ideal” final form.

Development as universal change. Universal process of changes. This means that similar changes are to take place with the people belonging to different cultures, confessions, levels of development and speaking different languages.

Development as qualitative (structural) changes. Determining development through qualitative changes is connected with understanding the object as a system.

Development as quantitative- qualitative changes.

Development as a change followed by new changes. Dissatisfaction with existing definitions stimulated the search for and emergence of new ideas. In connection with this, G.D.Shmidt insists on existence of a close, existential connection between changes, following each other in succession. According to A.Flammer, only those changes, which prompt new changes, can be considered development (avalanche of changes) [1].

1.1.3. Types of psychic development periodizations.

The problem of periodization is one of the most important problems. L.S.Vygotsky remarked that the majority of well-known periodizations are formal and don't touch upon the essence of the development. He believed that many periodizations proceeded from external foundations and they hardly touch upon internal foundations, immediately belonging to the changes, which happen in a child psyche.

The problem of division of ontogenesis into separate, articulate from each other stages and phases, has its old-established tradition, but it is still unsolved. Criteria, underlying such a division, as well as the content, the number and length of the suggested age-related periods, are exceedingly different.

A more pivotal position in this case belongs to some modern authors (R.Bergius, Trautner H.M.). They insist that, due to the continuous growth of knowledge about the phenomena and facts of development, it is impossible, as a matter of principle, to create the acceptable project of division of ontogenesis into successive age-related periods. In their opinion, ontogenesis may only be subdivided into large periods (prenatal period, infancy, etc.), but more fractionary periods are applicable only to the separate functional spheres (cognitive development, development of emotional sphere, socializing, etc).

From theoretical point of view, the problem of periodization, in fact, reduced itself to the problem of criteria. A.Gezell, Z.S.Freud, J.Piaget, L.S.Vygotsky, in their time, applied different criteria for building such periodizations. Systematization of such attempts was accomplished by L.S.Vygotsky in his work "The Problem of Age" [7]. He subdivided all periodizations, existing at that time, into three groups. This division was so successful, that the majority of contemporary periodizations might be included into this classification.

*First group of periodizations (analogous)*_Created not as a result of personality development, but on the analogy with the other stages of development processes and their direct shift on the process of the Man development (e.g.: S.Hall's periodization created an analogy with the historical development of the society).

*Second group of periodizations (monosymptomatic)*_Created on the ground of one (or several) characteristic features of development. Periodization of P.Blonsky, for instance, is based on the criterion of emergence of teeth in babyhood; periodization of V.Stern is based on personal activity of the Man; periodization of S.Freud is based on the criterion of libido zones of satisfaction; periodization of J.Piaget is based on the criterion of complication of intellectual structures; periodization of L.Colberg is based on the criterion of human morality, etc.

Third group of periodizations. Based on separation of essential features of human development proper, e.g., periodization of A. Gezell; periodization of L.S.Vygotsky based on the criterion of separation of stable and critical ages; periodization of E.Erikson built on the grounds of the criterion of change of the leading type of action. Periodization of V.I.Slobodchikov, based on the criterion of subjectness and intercourse (communication) as the form of acquisition of subjectness, belongs to modern periodizations.

1.1.4. Types of psychic development theories.

The common philosophic foundation for all contemporary theories of psychic development is the “subject-object” relation, which acquires in Psychology the type of “subject - environment” relation. A diverse character of subject – environment relation determines the diverse character of the development concept, its determinants and mechanisms.

The following combinations of relations between the subject and the object are theoretically possible [6]:

1. Relation of *exclusion* of the subject and environment. Development is determined neither by the subject nor the object;
2. Relation of *additivity* between the subject and the object (environment). Development determines both subject and object (environment), taken in different proportions;
3. Relation of *exclusion* of the environment. Development is determined only by the subject;
4. Relation of *exclusion* of the subject. Development is determined by the object (environment)
5. Relation of *multiplicativity* between the subject and the object (environment.) Development is determined to the full extent, by both subject and object (environment). This relation, depending on its content, is differentiated into subtypes in direction of a large exploration of the object (environment) by the subject: 5.1 the subject is *suppressed* by the object (environment); 5.2 the subject *studies* the object (environment); 5.3 the subject *gets involved* into the object (environment); 5.4 the sub-

ject *grows into* the object (environment); 5.5 the subject overcomes the object (environment).

The relation of *exclusion* is a characteristic feature of *nihilistic* theories. It is hardly ever met in scientific theories. The relation of *additivity* is a characteristic feature of *syncretical* theories. It occurs, on the one hand, in trivial theories of development, on the other hand, empirical theories, used for solution of applied problems.

Two scientific trends are distinguished on the assumption of relation of *opposition* of subject and object (environment): *endogenous* theories, where the driving forces are the genetically conditioned dispositions of the subject, and *exogenous*, where the driving force is the object (environment). Proceeding from the relation of *multiplicativity* of subject and object (environment), development is looked upon as the result of interaction of subject and object (environment). Multiplicative relation underlies the majority of scientific theories. These theories may be classified in the following way:

5.1 *psychoanalytical trend*. The subject develops, being suppressed by the object (environment);

5.2 *cognitive trend*. The subject develops, apprehending the object (environment);

5.3 *sociological (culturological) trend*. The subject develops, integrating into the object (social environment) and acquiring (mastering) it in the process of socialization;

5.4 *humanistic trend*. The subject tries, at the expense of biologically conditioned need in self-actualization, to overcome the external environment and establish himself as a single unicity.

5.5 *socio-ecological trend*. The subject develops, growing into wider strata and levels of the object (social environment);

5.6 *self-developmental trend*. The subject develops, mastering the object (social environment), overcoming it. In modern psychology the systematic trend is becoming more important. It doesn't study the system "subject-object" from inside, but from outside. System theories of psyche development have not yet

existed, though there are prerequisites for their creation (e.g. the theory of higher nervous activity of I.P. Pavlov, the theory of functional system of P.K. Anochin, the theory of dynamic localization of psychic functions of V.M. Bechtereva, A.R. Luriya; theory of arbitrary movement activity of N.A. Bernshtein, socio-reflectory theory of Rubinshtein, culture-historical theory of L.S. Vygotsky, etc.) [1].

1.1.5. Problem of correlation of development types.

a) The problem of phylogenesis and ontogenesis correlation (of historic and individual development)

The problem of phylogenesis and ontogenesis correlation is one of the major problems in common problematics of development. This is a key problem, because only its solution can give confidence in ontogenesis projection strategy. Individual development of the Man is a socially organized process of the Man's education. Therefore, the adequate foundation for projection and practical implementation of the socially organized process of the Man's development is of primary importance. There arises the problem of the nature of such foundation.

Nowadays this problem has several solutions.

First Solution. Ontogenesis of the organism represents the individual form of the species phylogenesis. This statement is a biogenetic law. Formerly, there were attempts to transfer it, on the analogy, into developmental psychology. Nowadays, this doesn't practically have any supporters among psychologists.

Second Solution. Ontogenesis of the man and historical development are qualitatively different types of development [8, p.349]. If historical development is the process of emergence of new quality, then ontogenesis is the process of reproduction of the already existing quality. Thereby, the main characteristic features of individual development include its fixed programmed essence, equifinality and circularity as distinct from unpreconditioned character and uncircularity of the historical process of development [8, p.350].

The second solution is only from the first sight different from the first one. In reality, Hegel asserted that in his individual development the Man must pass all stages of the universal spirit formation. Education must, in a tabloid form, reproduce the history of knowledge of the whole world [9, p.15]. Marx and Engels shared the same point of view on ontogenesis and phylogenesis correlation [10, p.128]. It consists in the fact that individual development is the shortened form of culturegenesis repetition.

In Psychology the opposition of ontogenesis and phylogenesis is the methodological foundation of practically all well-known conceptions of psychic development (and its two paradigms: socio-reflex and culture-historical).

In socio-reflex conception the criterion of contraposition of historical development and ontogenesis is production-consumption [11, p.183]. On the one hand, labor is considered to be the main law of development of humankind, which creates sociality as the environment of its own existence [12, p.51]. On the other hand, it is asserted that in the child's period development is carried out not on the basis of labour, but at the result of upbringing and education; i.e. as a result of appropriation (assimilation) of social development products [13, p.129] [13, p. 130]. In the end, there is a conclusion that as the conditions for upbringing and education are different, all processes of individual development, including the course of development and its stages, must be different to the same extent [11, p.182].

In culture-historical conception of development the criterion of production-consumption is also the criterion of contraposition of historical development and ontogenesis. It is exactly stated that the process of each individual development is unambiguously predetermined by the products of historical development represented by ideal forms of culture [14, p.29]. Individual development is implemented as a result of appropriation (assimilation) of cultural development products [15, p.114]. Thereby, the generative character of historical development is

opposed to the consuming character of individual development [16, p.294].

Third Solution. Historical and individual developments coincide. This solution rests on several provisions. *First*, the beginning of individual development and beginning of historical development coincide [10, p.131] [17, p.131]. *Second*, both historical development and individual development take place as self-alteration [18, p.23]. *Third*, both historical development and individual development are determined by one and the same logics of subjective content. But in historical development this logics is the logics of production, and in individual development this is the logics of consumption [11, p.183]. *Fourth*, both historical development and individual development can be considered as the development of a personality [18, p.74].

Fourth Solution. *Individual* development is the *form* of emergence of *historical* development. This solution is founded on one of the most important theses of K.Marx, that social history of people is no more than the history of their individual development. [19, p.47].

This thesis expresses the idea of individual substantiality of the Man in opposition to the idea of his social substantiality [19, p.47]. All forms of culture also have only one (individual) form of development [18, p.140]. In a wider sense the individual substantiality embodies the idea of the Man as the inner force, facilitating the development of the whole Universe [20, p.75].

The method of implementation of such individual development, which is the essence of social and cultural development, is self-development. Self-development is understood here as creation of the man by himself at the expense of creation of his social reality [17, p.160]. Finally, self-development understood in this way and carried out by an individual Man himself, is the decisive factor ,changing the man himself, the society,the social and cultural reality [21, p.67].

b) the problem of correlation of age-related and functional development.

Psychology considers two main types of development: “vertical” (genetic, age-related) and horizontal (functional, formation). The analysis of genetic development supposes that there exists a certain succession of stages of emergence of a new quality of a certain psychic phenomenon (property, sign, ability, etc.), which is common for all “vertical” processes. This phenomenon, chosen as a criterion, actually represents the fundamental base for singling out the corresponding periods in concrete process of qualitative psyche change.

The analysis of functional development supposes that there exist the stages of the formation of concrete psychic phenomena, common for all “horizontal” processes. These stages are not considered to depend on age in the limits of which the regularity of the formation of a certain psychic phenomenon (action, faculties, knowledge, skills, etc.) remains unchanged.

The analysis of correlation of these two types of periodization is made practically by all scientific trends and schools. But if the first conceptions of psychic development (W.Preyer and S.Hall) concerned, primarily, the overwhelming dominance of the biological factor, and the development itself was understood as the maturation of the inborn qualities, then E.Claperede suggested in his works a different approach to understanding the psyche genesis. Speaking about psyche *self-development*, he emphasized that this is the self-unfolding of inborn qualities, which depends on environment, governing the current of this process. E.Claperede was the first to speak about the specific mechanisms of developmental process – *play* and *imitation*. But if S.Hall wrote about the play as the mechanism of psychic development, then imitating the surrounding people, identification with them were first introduced into Psychology by E.Claperede [3].

Claperede’s idea of self-development, of the fact that genesis of the psyche doesn’t need any external factors, but exists in the nature of the psychic itself, became the leading idea for V.Stern. He proceeded from the assumption that self-unfolding of the

Man's inclinations is governed and determined by the environment, where the child lives. His theory is referred to as the theory of convergence, because it takes into account the role of two factors – heredity and environment. V. Stern was the first to single out *content* and *form* of the play action, and showed that the form is unchangeable and connected with the inborn qualities, for exercise of which the play was created. The content, however, is assigned by the environment, which helps a child to understand in what concrete type of action he can realize his inborn qualities. Thus, the play serves not only for *the exercise of the inborn instincts*, but for children's *socialization*. According to V. Stern, the psychic development has the tendency not only to self-development, but also to self-preservation, i.e. preservation of individual, inborn peculiarities of each child, first of all, individual tempo of development [3].

From the point of view of behaviorism, psychic development depends, mainly, on the social environment, external conditions (i.e. stimuli, supplied by the environment). In connection with this, behaviorists reject the idea of genetic development and believe that regularities of functional development at a certain age period, common for all children, do not exist. The proofs for this thesis were founded on the investigation of learning of children of different ages, which showed that, due to purposeful education, even two or three year old children can read and write, and even type on the type-writer. This proves that periodization depends only on the environment: the environment influences the regularities of psychic development.

The denial of genetic development, however, doesn't eliminate, from the point of view of behaviorism, the necessity of functional development and corresponding periodization, which would make it possible to single out the stages of learning, formation of certain skills. From this point of view, the stages of formation of playing skills, teaching reading and swimming are the stages of the formation of mental acts. (P. Ya. Galperin). Research, fulfilled by Thorndike, let him think that psychic

processes are the interiorized external reactions. Thus, the main mechanism of *functional development* in behaviorism is *interiorization*, due to which the internal content of psychic life is formed [3].

In gestalt psychology the process of psychic development is the growth and differentiation of gestalts. Gestalts are integral forms which constitute the psyche content. The process of their changes and transformation determine both the character of understanding external world and specific features of behavior in it. Due to the fact that the perception of the surrounding world determines and directs the process of formation and transformation of gestalts, the *perception is*, exactly, the *leading* psychic function of psyche *development* as a whole.

In the opinion of gestalt psychologists, the *psychic development* consists of two independent and parallel processes: maturation and education. K.Koffka emphasized their independence, proving that in the process of development education may outstrip maturation and may lag behind it, though more often they go parallel to each other, creating the illusion of interdependence. The most important fact is that education cannot speed-up the process of maturation and differentiation of gestalts, just at the process of maturation cannot speed-up the process of education [3].

Some psychological trends (e.g. behaviorism) denied the existence of genetic (age-related) periodization, others (e.g.: genetic psychology of J.Piaget) recognized the existence of both vectors of development, but studied, in fact, functional development, the third group (e.g. domestic psychology and gestalt psychology) studied both components of development: genetic and functional.

Nowadays, as a result of these investigations, all psychologists share the common opinion, that teaching (education and learning) is the main factor, stipulating the formation of any psychic function of the Man. Opinions differ only on matters of to what extent significant changes education can integrate into

the psyche development. Should it be developing and determine the whole course of ontogenetic development of human psyche, or should education be founded on the actual level of psyche development, which is achieved by the Man in the natural way, and facilitate the optimal formation of psyche, emerging regardless education? [3].

One of the most significant problems of correlation of two main vectors of development is the problem of role and function of each in the common psychic development process. Is genetic (age-related) development determined by functional (formation) development, or *visa versa*? How does genetic development influence the functional one, or how does functional development influence the genetic one? What are the differences and similarities of genetic and functional development? How are they represented in the common mechanism of the integral developmental process?

Nowadays, in domestic psychology there exist two alternative points of view on correlation of genetic (age-related) and functional (formative) vectors of development. They are represented in socio-reflex and culture-historical conceptions respectively. In one of them the vector of functional development is considered to be the leading (single) one. It represents the processes of formation of internal conditions (internal world of the Man) as a result of determination of human action by external social causes. Thereby, the genetic vector is either not considered at all, or is reduced to the functional one.

The other conception studies both developmental vectors. On the whole, development represents age-related (qualitative) and functional (quantitative) changes, happening in the psyche due to purposeful determination of mediating action of a developing Man. In this case genetic vector has the same meaning as the vector of formation [3].

The process of functional development was subjected to a deep systematic investigation by P.Ya.Galperin and his colleagues. According to P.Ya.Galperin, after preliminary orienta-

tion in the task, the further formation of mental action passes a number of appropriate stages. Regularities of step-by-step formation marked by P.Ya.Galperin are of universal character. Besides, the conducted investigations point to the fact, that functional development and age-related development are not identical, they do not coincide. At the same time, it was discovered that, being nonidentical, the processes of functional development and age-related development are interrelated.

On the one hand, there are reasons to believe that separate, partial changes in the formation of individual actions create necessary background for those global reorganizations of children's consciousness, which characterize the course of age-related development. On the other hand, it is revealed that *functional* development in different age-related periods of children's development proceed in different ways, because the stage-by-stage formation of mental actions supposes their consecutive implementation on different levels and different plans. This would be impossible if these levels or plans haven't been preliminarily formed at a given age-related stage.

There are reason to believe that age-related development in comparison to the functional one, consists not so much in assimilation of separate knowledge and skills, as in the formation of new psychological levels, new plans of reflecting reality and is determined by common changes in the character of children's actions. It is connected with reorganization of a child's interrelation with real world and surrounding people [2].

P.Ya.Galperin himself pointed to the limited character of the second type of the doctrine in relation to its support of the development. He connected the true development with the other, the third type of the doctrine, which supports, in particular, the formation of cognitive motivation. At the same time A.V.Zaporozhets believed that the whole direction of Galpern's works, though connected with the problem of development, but the development of a certain type - functional, but not stadial [22].

Ideas of L.S.Vygotsky and P.Ya.Galperin on the role of education in development were carried on in the works of D.B.Elkonin and V.V.Davidov, who regarded as the source of development the leading actions of a given age-related stage, especially the junior school age. Organizing children's actions in accordance with the principles of building up educational actions, they managed to follow up the interrelation between the real children's actions and course of their development, the results of this.

In the beginning of the 60s of the 20th c. it was shown that the junior school age is characterized by the educational actions, fulfilling which, the child acquires the foundations of panhuman theoretical consciousness and thinking. In the process of such acquisition (assimilation) by a child of the junior school age, there emerge the main new psychic qualities: content reflexion, analysis and planning, which determine significant qualitative changes (development) of both cognitive processes of a child and the whole sphere of needs and emotions, and personality sphere.

Developmental character of educational actions is determined by its content, i.e. the content of concepts acquired (assimilated) by a child. The adequate educational actions, providing the development of a school age child, can be built only on condition that the content of the knowledge itself is theoretical [3].

Investigations showed that the process of functional and stadial development are closely interrelated, but not identical. Functional development is possible with the people of different ages. It takes place when the man masters certain mental actions, acquires the possibilities of their implementation in new plans. Age-related development as such consists in the formation of these plans, to put it otherwise, the process of age-related changes of the Man has a deeper fundamental character, and it cannot be reduced to the acquisition of separate knowledge and

skills, even those, which can extend significantly the possibilities of his actions.

The thesis on the leading role of education remains valid even in such understanding of development: it is recognized as the cause of development. At the same time, stadial development demands such a requirement as maturation, as compared to functional development, which can be implemented inside one period of maturation. Besides, stadial development is based on the radical change of the Man's life attitudes, building up new relations with the people, formation of the new motives of behavior and axiological attitudes [23].

For instance, in pre-school age functional development (formation of isolated actions, the shift from their performance in a material plan to their implementation in the plan of conceptualization) is more effectively carried out in a play and forms, which are close to it in their character. Alongside with this, more fundamental changes take place in the psyche of a pre-school child. They consist not in acquisition of isolated actions and their implementation on different levels and in different plans, but in the formation of these levels [22].

Comparison of the courses of age-related and functional development points to the fact that, compared to acquisition of isolated actions, the process of age-related transformations of children's actions has a deeper, fundamental character. The foundations of these transformations are not only the acquisition of well-known combination of knowledge and skills, but a drastic change in a child's life position, building up new interrelations with surrounding people, formation of new motives of behavior and life attitude [22].

1.1.6. The problem of correlation of education and development.

The problem of "education and development" became timely due to investigations fulfilled by K.Koffka, J.Piaget, L.S.Vygotsky and other psychologists as early as on the boundary of 20-30s of the 20th c. [24, p.76]. But nowadays it is also

one of the most important issues in the problematics of psychic development.

On the initial stages of developmental investigation, in *biogenetic conceptions*, and, first of all, in recapitulation theory of S.Hall it was stated that education must *overbuild* each stage of development, because exactly the maturation of an organism creates the basis for its education. In this case, the problem of education and development correlation is solved in favor of development: *development precedes education* and the *genetic* vector of development is dominant in relation to the *functional* one.

In *behaviorism* the problem of correlation of education and development is solved due to identification of education (skills formation) and psychic development: education is *nothing but development*, and *functional* vector of development is dominant (is not the single one) in relation to the *genetic one*.

The solution identical to behaviorism is suggested in S.L.Rubinstein's socio-reflex theory of psychic development, though it belongs to a different class of theories. But he, nevertheless, also believes that education should neither rise over development, nor precede it. Here, the problem of education and development correlation is solved due to identification of education and development [13, p.128].

Gestalt psychology considered that education can both precede development (maturation) and lag behind it. But more often these processes go in parallel, creating the illusion of interdependence. The problem of correlation of education and development is solved at the expense of postulation of education and development independence: education cannot speed up the psychic development process (maturation and gestalt differentiation), and maturation cannot speed up education.

In culture-historical theory it is widely thought that education may develop only if it creates and presets a zone of proximal development. L.S.Vygotsky believed that potential developmental level corresponds to a child's abilities, while actual deve-

developmental level corresponds to his learning level. The problem of correlation of education and development is solved here in favor of education: *education guides the way for development*.

Genetic psychology denies the possibility of developmental education. J.Piaget considered that adults cannot help a child to change the scheme of his actions and switch to a new stage of thinking till he himself is ready for it. Children, depending on their abilities, come to discovery of new schemes quicker or slower, irrespective of education quality. J.Piaget didn't exclude the possibilities of education in a "narrow sense of the word", which helps a child to spread the new schemes, discovered by him, on different sides of his action. Here, the problem of education and development correlation is solved due to the postulation of independence of education and development in genetic development and the leading role of education in functional development [3].

On the whole, the problem of education and development correlation has still been unsolved, despite its significant importance for solving the problem of psychic development on the whole.

In our opinion, there exist several reasons for such state of things. *First*, Psychology doesn't have at its disposal the psychological analysis of the concept of "education". Researches, as a rule, use intuitive views, not scientific concepts of education. *Second*, each researcher has his/her own understanding of the term "education". And, indeed, there isn't any scientific subject in the problem of education and development correlation. Each scientist has his/her own, intuitively identified area of research. *Third*, education has still been understood as the process of communication of social experience. Under this condition, the student has always been the object of transmission, even being the subject of appropriation action. *Fourth*, keeping in mind the idea of social nature of the Man, which occupies the leading position in contemporary Psychology, development may be viewed as determined externally. *Fifth*, consideration of self-

development as the leading form of development in ontogenesis supposes the sharp change of views on the nature of human development determinants, anticipating change of the attitude to the process of education (denial of the culture-consuming character of education in favor of acknowledgement of its culture-generative character).

1.2. Main approaches to the analysis of the problem of individual development determination.

1.2.1. Investigative paradigms.

Naturalism. This is the *paradigm of natural determinism* of the human psyche (internal world). Its content constitutes the correlation “Man - Nature”. Philosophy defines naturalism as the system of views, in accordance with which the nature itself is the only, universal principle of explanation of all existing. In connection with this, the main principle of explanation of psyche origin is the principle of heredity. Theoretical scheme, describing developmental processes in naturalistic conceptions, is the relation “organism-environment”, and the bearer of these processes is the man as a *natural individuum*. In naturalistic approach human psyche has a double, simultaneously acting causal determination: in its qualities and manifestations it is the result of organismal, biogenetic transformations, and in its functions it is the result of an individual adaption to the natural and social environment.

In this paradigm development is first of all, maturation and growth (growing up), taking place under the influence of two factors: heredity and environment. Naturalism in psychology presets the boundaries and methodological foundations for the theory of liberal education and requires specific technology of non-intervention into the process of psychic maturation by pedagogical means.

Sociomorphism. This is a paradigm of *social determinism* of the human psyche (internal world). Methodological content is the interrelation “Man - Society”. Here the Man is regarded, first of all, as a social individuum. His essence is neither in na-

ture, nor in himself, but in the society. In sociomorphism, as compared to naturalism, the organic peculiarities of an individuum are only preconditions (but not the sources or causes) of development. These preconditions involve neither mechanisms, nor the driving forces of development.

Sources and driving forces of development are embodied and objectified in social experience, which stands in opposition to the individuum, in the system of accomplished actions, in the structure of “social substance itself». Only having appropriated such an experience, the natural individuum acquires the human psyche, becomes the Man. The structure of society itself is the source, foundation and explanatory principle of origin and structure of the human psyche. The extreme manifestation of sociomorphism is the apprehension that the born individuum is the “tabula rasa”, on which the social medium “writes” psychological properties useful for the society, and specific features of the Man.

The milder variant of sociomorphism is included into the thesis on the leading and main role of the objective (subjective) actions in the formation of an individuum psyche. Acquiring (desobjectifying) them, he is capable of normal functioning in social media. But concrete, real mechanisms of transformation of external social impact into internal subjective phenomena and processes, as a matter of fact, were never disclosed and haven't been disclosed as yet.

The main developmental processes in the paradigm of sociomorphism possess the purposeful determination and are described by theoretical scheme “individuum– social structure”. Here the common sense of development is socialization of an individuum, formation (“casting”) of the internal world of the Man in accordance with a certain, socially preset norm, model or standard. The individuum only obtains, adopts “the social culture” lying outside, his essential forces, which have already been objectified in social world structure.

In full accordance with this philosophic tradition, there exists classical psycho-pedagogical practice, which provides this ideology with all necessary socialization of the individuum, technology of his adopting social experience. In Pedagogics this practice manifests itself as the formation; in Psychology – as exteriorization (adoption) of all types and manners of the Man's actions, his activity, behavior, needs and inclinations.

Gnoseologism. This is the paradigm of objective determination of psycho (inner world) of the Man. Based on the assumption that cognitive attitude of the Man to the world is original and fundamental and determines all other attitudes. Cognitive point of view on the process of psyche emergence is based on the classical methodological scheme of rationalism of New Time, on the scheme of interrelation of subject and object of cognition: S-O. Gnoseologism is founded on “subject-object” interrelation. In this paradigm psyche development results in cognitive development, emergence and formation of cognitive structures. At the same time, initial determinants of cognitive structures formation lie outside human psyche (J.Piaget, A.Bandura, etc.).

According to J.Piaget, the determinants of psyche development should be searched, ultimately, in Biology and Logics. J.Piaget also builds his theory of psychic development on the basis of subject-object scheme, but the facts obtained in the limits of genetic Psychology are interpreted already on the grounds of “organism-environment” scheme. The correlation between intellectual structures and object structures are supported by assimilation and accommodation. According to Piaget, the intellect is the fundamental mechanism of balance, adaption of an individuum to natural and social environment.

Psychic structures emerge and improve in themselves, by analogy with the object structures or logical schemes in life-sustaining activity. Their emergence is determined by the inborn cognitive orientation, existing irrespective of education and upbringing. There is one fundamental circumstance in Piaget

theory, which had always been vague: whether the psychic structure gives rise to the object, or the object gives rise to the psychic structure, which is analogical to its own structure.

The basic processes in Gnoseologism are interrelation and reflection. In interrelation the structure of the object is reflected in the psychic structure of the subject. In conformity with this, the psyche structure of the subject is formed.

Culturalism. This is the paradigm of cultural determination of the Man's psyche (inner world). This is an alternative to naturalism and sociomorphism. The central moment is the denial of the individual perception of the Man, of reduction of human reality to the status of natural, social and cognitive individual in particular. The main question is the question of mechanisms of transforming the culture into the world of personality, and the world of personality into the forms of culture. Culturalism is founded on the interrelation "Man-Culture". Cultural point of view on the essence of human psyche rests on the opinion that there is no direct interrelation "Man - Nature" and "Man - Society" and it consists in the following:

1. Both nature and society become the characteristic features of the Man's inner world only through axiological and culture - historical *mediation*.
2. Axiological and culture historical relations cannot be interiorized.

Inclusion to the forms of culture is only possible with the help of mediator (sign, word, symbol, myth, etc.). Exactly with their help there takes place the transformation of natural forms of psyche into ideal ones (cultural, pure human) forms. Culturalism is based on the interrelation "Man-culture". As a result of this, an attempt has been made to overcome the gap and opposition of internal-external, objective-subjective, biological-social, ideal-material, interiorization- exteriorization, etc. In culturalism the psychic development is understood as sign-symbolic mediation, "enculturation of nature".

From the point of view of culturalism, the man has diversified connections and interrelations with the whole variety of human culture universum. In the universum, exactly, he finds his original image of creative personality. Methodology of culturalism was realized in the most consistent form in Vygotsky's culture-historical theory of child development, and partially in cultural anthropology (M.Mead, D.Bruner).

However, the problem of criteria of cultural values selection remains unsolved in culturalism.

Anthropologism (anthropocentrism). This is the paradigm of historical determination of psyche (inner world) of the man. Methodological foundation of Anthropologism is the historical principle (principle of development). The main meaning of historical approach consists in considering the man in all diversity of forms and methods of his formation: as a natural individuum, as a socio-cultural subject, and as a spiritually-cultural creature, all - simultaneously. The man must be looked upon as the whole, in the context of his history, in tracing the processes of his emergence, formation, transformation, functioning and decay of his fundamental human abilities; i.e. in development.

From this point of view, development is the main value of anthropologism. Therefore, the ideology of historism is of principal importance in studying the regularities of the development of fundamental human abilities in the *time of history* and *space of culture(at different stages of human life)*. Anthropologism is founded on interrelation "Man - World". In the range "Man-World" there unfolds the main (single and simultaneous) process of formation and development of the Man as a culture-conformable creature, capable of acquiring (turning into his own) the existing world and creating new real forms of culture. To understand the Man's development means to learn his historical-cultural formation.

From the point of view of anthropological principle, historically accomplished systems of perception of the Man's reality are, on the one hand, the preconditions of development (Nature,

Socium), on the other hand, conditions of development (Culture). In the limits of anthropological paradigm, there appears the special class of tasks: the description of mechanisms of transformations by the Man of natural and social preconditions and cultural conditions into the means of his development and self-development.

Universalism. Paradigm of psyche (inner world) *self – determination.* Methodological foundation of universalism is a historical-generative (universal) principle. Central meaning of universal approach: the Man should be considered the self-determined whole, the essence of which is the history of his self-development.

From this point of view, self-development is the main value of universalism. Therefore, universalism ideology has the fundamental meaning in studying the regularities of the Man's self-generation of himself, of his new abilities in the process of generation of socium, culture and its history. From this point of view *the self-determination* development is the main value of universalism.

Universalism is based on reflexive intersubjective attitude of "the Man towards another Man as towards himself". In the subjective reflexive space "Man-Man" there unfolds the universal process of self-construction of the creature, generating the history of culture and capable of generating a new real world as the means of his self-structuring. To understand the self-development of the Man means to study his formation as the universal creature. From the point of view of universal principle, traditional system of notions about human reality are the means of self-development of universal Man (Nature, Socium, Culture, Spiritual World). In the limits of universal paradigm there appears a special task: to construct a mechanism of generation by the Man of natural, social and cultural factors as means of self-development.

1.2.2. Investigative Approaches.

Systemic approach. (E.G.Yudin, B.F.Lomov, B.A.Barabanshikov, Z.Freud, K.Levin, A.Maslow, G.Allport, J.Piaget, N.I.Nepomnyashaya, etc.). The technology of systemic approach is aimed at objectivation, at building the model of the object under study. As a result, we learn what the object represents; how it is organized, how it functions, how it is connected with the other objects. But this is insufficient for understanding the essence of the object as such. In developmental psychology we deal with the subjective reality. Therefore, systemic-structural description as steadily functioning object is insufficient.

Processual-dynamic approach. (Z.Freud, A.Maslow, K.Rogers, G.Allport, K.Levin, S.L.Rubinstein, A.N.Leontiev, V.N.Myassishev, B.G.Ananyev, A.N.Prangishvili., etc.). Explanatory and predictive capacities of processual-dynamic approach are considerably limited. They are limited by its orientation towards investigation of the Man's behavior in concrete situation, "here and now".

Action-related approach. (A.N. Leontiev, S.L.Rubinstein, P.Ya.Galperin, A.A.Bruschlinskiy, D.B. Elkonin, K.A.Abulchanova- Slavskaya, V.V.Davidov, etc). It didn't give fundamental answer to the question: what is the object of development? It demonstrated "high technologies of understanding", but the result had *always* been supposed and expected. Uncritical usage of action-related methodology generated technologies of the "stage-by-stage formation" type, creating the illusion of almighty educator, who brought about the transition of action-related ideology on the positions of sociomorphism. Action-related approach didn't realize the genetic principle as the principle of inference of the due, as compared to the postulation of the desired.

Subjective Approach (S.L.Rubinstein, S.D.Smirnov, A.V.Brushlinsky, B.D.Elkonin, etc). Systemic, processual-dynamic, action-related and other objective approaches to the

Man will always be limited, because they don't include into cognitive means the activity of the subject. Subjective approach is based on the parity of subject and object cognition. Psychological research is the form of the dialogue between two independent subjects. This thesis is a matter of principle for anthropological paradigm, because the dialogical co-existential communality is understood here as the object of development and, consequently, as the object of cognition. Perception of the man as the subject made it also possible to integrate such concepts as "self-determination", "self-development", "self-education", etc., which orient at the search for "internal" sources of psychic development of the Man.

The Man in his essence acts as the *subject* of psychic activity, directly and regulatively influencing his psyche and, practically by means of mediation, influencing the surrounding world. The Man as the subject is capable of turning his own life-sustaining activity, into the object of practical transformation, relate to himself, evaluate the methods of action, control its place and results, change its devices. To become the subject, the Man must constantly transform his nature into the special functional organ realizing the subjective attitude to the world; turn the preconditions into conditions of his life and "second nature".

Subjective approach has a fundamental meaning for developmental psychology. Up to now the major part of theories of the Man psychic development, both in domestic and foreign psychology, are inclined to explanatory principles of biological or social reality. At the best case, the attention was paid to the ideology of double determination of the psychic. Psychology must include the perception of self-development, of subjectivity (subjectness), of the ways of its internal accomplishment and formation.

1.3. Types of psychological determination of individual development.

1.3.1. Endogenous determination of individual development.

Aristotle's theory of psychic development.

Entelechy which, while maturing, determines ontogenetic development of the Man, acts as the internal force of development [1].

Theory of psychic development of J.A.Komensky. He considered that in the process of teaching a child must be offered what he is best inclined to. According to J.A.Komensky, a child is an active component of subject-object interrelation. External environment fulfils the passive function of feeding the active maturation process [1].

J.J.Rousseau's theory of psychic development. His main idea: the Man is determined by his internal nature. It depends on social environment to what extent the internal nature can unfold in the process of maturation. Education acts as the method of creation of necessary conditions for maturation [1].

Ch.Darwin's theory of psychic development. He considered that in every Man there is a preset course, preconditioned by constitution. The environment implements the selection. [1].

Theory of recapitulation. Historically, this is the first history of the Man development (S.Hall, D.Baldwin). This theory is founded on biogenetic law, formulated by E.Haeckel, the pupil of Ch.Darwin. Biogenetic law represents the statement that the human embryo, in its development, repeats all historical stages of development, which were passed by its kindred in the historical development. S.Hall applied the effect of biogenetic law on the human psyche, having postulated, that the psyche ontogenesis is a shortened repetition of the phylogenesis [3].

In theory of recapitulation, created by S.Hall, it is stated that the succession and content of ontogenetic stages of development are determined genetically and, therefore, a child cannot miss any stage. In connection to the human development, this law

insists, that in the process of individual development, the Man passes, in a shortened form, all stages of cultural and evolutionary development, which were passed before him by the humankind. S.Hall considered that succession and content of ontogenetic stages are predetermined genetically and, therefore, the Man can neither avoid, nor miss any stage of his development.

This being said, the ontogenetic process is viewed by S.Hall, as a biologically determined process. According to Hall, the mechanism of transition from one ontogenetic stage to another is the play. Recapitulation theory was popular in the end of the 19th - beginning of the 20th c. It was worked out with some modifications by the other psychologists. D.Baldwin, for example, believed that ontogenetic development doesn't repeat phylogenesis to the full extent. Omission of some stages is possible [2].

D.B.Elkonin believed that the theory of recapitulation was not a correct theoretical conception, but it was exactly the *first theoretical conception*. S.Hall was the first to make an attempt to show that there is a connection between historical and individual development, which presents a serious *investigative problem* in modern psychology [1].

Theory of psychic development of A.Gessel (the pupil of Hall). He was a famous educator of the biology-related trend. He shared the opinion that the child, in the first years of his life, sort of repeats the history of humankind development. He believed that childhood is also the result of evolution. The higher position a species occupies on the evolutionary stairs, the longer the childhood. Though the Man's childhood is qualitatively different from the animals' childhood, the Man, nevertheless, preserves the common biological function of the psyche, i.e. adaptation to the environment. He suggested the normative theory of a child development, according to which, beginning with the moment of development, through the strictly determined periods of time, the children acquire, in a certain age, specific forms of behavior, which successively change one another.

A.Gessel assigned the main part in the psychic development of a child to the maturation of the nervous system. The main indicator of the psyche development is its tempo. The main law of the psychic development consists in the maximum tempo of development at the initial stages of development and minimum at the final stages. From this point of view, A.Gessel removed the problem of environment and heredity and replaced it with the problem of development tempo.

Recognizing the main role of social factors in the psychic development, A.Gessel, however, reduced the development to a mere increase, biological growth, maturation – “increase of behavior”. Without analyzing the qualitative transformations in transition from one stage of development to another, he emphasized the dependence of psychic development only from maturation of the organism. A.Gessel explained age-related changes by the hereditary factor, thereby, remaining within the limits of biologically–related trend. But his approach to child psychology as the normative one is also important nowadays [2].

To draw up the norms of psychic development, A.Gessel introduced into child psychology the longitudinal method. On the grounds of these norms, he worked out the system of diagnostics of a child psychic development from his birth to adolescence. On the whole, A.Gessel oriented at the biological model of development in which the cycles of renewal, integration and equilibrium change each other. As a result of this, he identified the development with the growth.

Contribution of A.Gessel and L.Termen consists in initiating the formation of Child Psychology as a normative discipline. In the 60s of the 20th century there appeared qualitative changes in the normative approach. If earlier Psychology oriented at the description of *how* the child behaves, now the accent is shifted to *why* he behaves so, under what conditions, what the results of this or that type of behavior are [1].

K. Buchler's theory of development.

K. Buhler shared the widespread opinion on the psychic development of the Man as on a single (biological in its nature) process. K. Buhler considered that the nature doesn't make any leaps, the development is going on gradually. He defended the idea of heredity of psychic qualities, their transfer from parents to children. K. Buhler believed that the main interest of developmental psychology must be concentrated on the first years of a child's life. The main psychic functions mature exactly at this time. In his opinion, the main aim of research is to understand and study the biological functions of the psyche and internal rhythm of its development [2].

In his theory he made an attempt to combine the positions of Vurtsbourg School and gestalt psychology, transforming the concept of association and applying genetic laws to the psychic development. He regarded the mental development of children as the creative process. The analysis of the children's drawing lead K. Buhler to discovery of the "*scheme*" concept, which is the intermediary between the immediate image and concept of the subject [3].

K. Buchler suggested the theory of three stages of development (instinct, training, intellect). He considered that transition from one stage of development to another is mainly determined by development of the cortex structure, i.e. it has purely biological reasons. [3]. But he connected the stages of development not only with the maturation of the brain and complication of relationships with the environment, but also with the development of the pleasure experience, connected with an action. In K. Buchler's opinion, the course of behavior evolution, on the whole, includes the transition of pleasure "from the end to the beginning".

First stage (the level of instinct) is characterized by the fact that pleasure comes as a result on the instinctive act, satisfying the instinctive need. *Second stage* (level of a skill, training) is characterized by the fact that pleasure is transferred from the

result to the process of the act. In connection with this, there appeared a concept of “functional pleasure”. *Third stage* (level of intellectual tasks decision) is characterized by the anticipatory pleasure. According to K.Buchler, transition of pleasure “from the end to the beginning” is the main driving force of behavior development. He transferred this scheme to ontogenesis [1].

H.Verner's theory of psychic development. Formulated *orthogenetic principle* which was also used in later theories of psychic development. Orthogenesis is the theory of development of animated nature (author of the term and theory is T.Eimer), according to which the evolution is carried out in a strictly determined way, obeying the principle of initial expedience in nature. Orthogenetic conception makes an attempt to describe the psychic life on the whole and in its development. For this purpose H.Verner fulfilled the comparative analysis of different evolutionary processes: phylogenesis, ontogenesis, microgenesis, ethnogenesis and pathogenesis. In his opinion, the psychology of a separate man and the psychology of human race, psychology of an animal and a child, psychopathology and pathology of specific states of consciousness have common genetic foundations.

According to H.Verner, all organisms are born with the species functional structures fixed on the minimal level, which allow them to interact with the environment in order to assimilate the experience and stimulation. Organism accepts actively and investigates the environmental peculiarities, due to which psychological and/or psychic development takes place.

Just as psychological structures can assimilate only those environmental qualities, for which they have psychological organs, psychological structures identify selectively the character of interaction and the result of experience of the developing organism. This experience is consolidated in functional structures, which were the original source of interaction. Such connection leads to the qualitative transition from one stage to another. Ac-

According to H.Verner, the objective cause of development consists exactly here: organization of preceding stages logically imply, but doesn't include in itself organization of the following stages. As the organization of the following stage differs from the preceding ones, the interaction of the organism with the environment changes throughout the whole life.

H.Verner proposed the principle of genetic spiral, according to which all psychic processes on each evolution become on the one hand more differentiated, on the other hand – more integrated and specific. The key to H.Verner's developmental process is the idea of interaction, and to characterize it he used the metaphor 'actor - scene'. Environment is the scene, or object for the activity and development of an organism, and the organism is the subject on this scene. The organism doesn't only react on the environment; it is the operator on the scene.

In the course of development there appears a shift in the interaction of "scene - actor" towards the actor. On the primitive stage of development the "scene" (or psychological environment) is the first initiator of the interaction. On more developed stages the organism becomes the primary initiator of interaction, and it predetermines increasingly its own behavior in this interaction. In this sense the "actor" becomes more spontaneous, independent and active to satisfy his needs and achieve his aims.

According to H.Verner, developmental process is the transition from the undifferentiated functioning to the differentiated one, specialized and hierarchically integrated [1].

A.Buzeman's theory of psychic development .

Characterizing the development, the author singles out five types of changes: 1. *Specialization* – movement from the undetermined to the determined ; 2. *differentiation* – movement from the heterogeneous to the homogeneous; 3. *Stabilization* – movement from the changeable to the simple; 4. *Coordination* – movement from the arbitrary to the stable; 5. *Structuring* – as the hierarchical organization. [1].

E.Claperede's theory of psychic development. Played a significant role in the creation of developmental psychology. He was an advocate of self-development, understanding it as self-unfolding of inclinations the Man has in his birth and thinking that psychic development doesn't need additional stimuli for its implementation. According to E.Claperede, the mechanisms of psychic development are the play and imitation. Between them he especially singled out the play, thinking that the play is the more universal mechanism, because it is directed at the development of different sides of the psyche (common and special). Imitation, according to E.Claperede, is connected, to a large extent, with the development of behavior, arbitrary action. Alongside with E.Claperede, A.Binet was the first to study the specific features of psyche development. He studied peculiarities of the stages of thinking development. This led him to the idea of rate setting of intellectual development [3].

V.Stern's theory of convergence (theory of personalism) of two factors. According to V.Stern, a child is the organism, which, when coming into the world, has already got the definite organic inclinations, instincts and inborn attractions. These internal specific features represent the first factor of psychic development. The second factor is the influence of the environment, natural and social.

Spiritual development occupied the central position in V. Stern's research. The study of integral personality and regularities of its formation became the target of the theory of personalism, worked out by him. He considered that the psyche development is not a simple manifestation of the inborn endogenous factors, and not a simple perception of the external influence, but the result of convergence of internal inclinations with the external life conditions. In this theory, endogenous factors were preferred to the environmental factors, because, V.Stern assumed that inherited factors can unfold only in proper environmental conditions.

V. Stern considered that personality is the self-determining, consciously and purposefully acting integrity, possessing a certain depth (conscious and unconscious strata). He proceeded from the assumption that psychic development is the self-development, self-unfolding of the inclinations the man possesses. It is directed and determined by the environment where the child lives. In V. Stern's opinion, the mechanism of psychic development is *introception* as the means of combining by the child of his internal aims with those, which are preconditioned by the social environment.

Social environment allows the child to acknowledge himself, organize his inner world, implies to it distinct forms, well-formed and conscious structure. Then the child takes from the environment all that conform to his potential inclinations, puts barriers to those influences which contradict his inclinations. The conflict between the external (environmental pressure) and internal (inclinations) generates negative emotions, which serve the stimulus for self-consciousness development. Frustration, preventing introception, makes the child analyze himself and the environment. V. Stern believed that emotions are connected with evolution of the environment; facilitate socialization and development of reflexion. Integrity of development manifests itself not only in the fact that emotions and thinking are closely interconnected, but also in the fact that the directions of all psychic processes development are similar: from the periphery to the centre (from contemplation) (perception) to apprehension (memory) and later thinking)).

Theory of two factors, though taking into account the role of external influence in development, represents, in point of fact, the conception of inherited predeterminacy of psychic development. Social factors serve only as the conditions, realizing hereditarily fixed peculiarities of psychic development [2]. At the same time, V. Stern put forward the idea that the child's own activity plays the main role in unfolding the heredity [1]. V. Stern's works made impact on practically all spheres of deve-

developmental psychology, the same as the opinions of many outstanding psychologists, who investigated the problems of psychic development [3].

1.3.2. Exogenous determination of individual development.

Alongside with endogenous theories, there were formed exogenous theories, which supposed the priority of the environment over the subject. With that, the subject was referred to as “tabula rasa”, which was sealed by the environment. In this case the environment is an active component, but subject, personality, organism are only the “scene”, where there unfolds the play, preconditioned by the external rules.

These theories also have an old history, but they started penetrating into developmental psychology only in the 20th c., due to theoretical assumptions of behaviorism, according to which, the Man is what the environment makes of him. If in biogenetic theories identification of qualitative growth and development takes place, then in behaviorism there takes place identification of the development and learning, new experience and development. If the formation of biogenetic approach was substantially influenced by Ch. Darwin’s theory of evolution, then in the formation of developmental theory as learning the main role belongs to I.P.Pavlov’s ideas [1].

In classical behaviorism the environment is the determinant of psychic development. Psychic development is identified with learning, i.e. with acquisition of knowledge and skills, which are not formed purposefully, but emerge spontaneously. From this point of view, acquisition of skills is the wider concept than education, as it includes the knowledge, purposefully formed in education. Research into psychic development in behaviorism is reduced to the study of behavior formation, the links between the stimuli (S) and reactions (R), which appear on their bases. On the strength of this, psyche development depends, mainly, on social environment and external conditions (stimuli).

B.F.Skinner’s theory of development. Based on the theory of E.Thorndike, B.Skinner identifies development and learning,

pointing to their single difference: if learning embraces short periods of time, then development embraces relatively large periods. In other words, development is the sum of learnings, protracted along the long time distances. According to B.Skinner, the Man's behavior is on the whole determined by the influence of the environment, the same as the behavior of the animals; it can be deliberately constructed and controlled [1].

Theory of development of S.Bijou and D.Bayer. According to these psychologists, individual development, preconditioned by interaction of the Man and environment, consists of the following stages:

1. *Base stage:* satisfaction of biological needs through the primary preconditioning, predominance of response and investigative behavior, completed with the appearance of speech behavior.

2. *Main stage.* Increasing liberation of the organismic restrictions, appearance of speech, extension of relations circle from biologically significant persons towards the whole family. This stage is subdivided into:

- a) Early childhood: family socialization, first independence;
- b) Middle childhood: socialization in elementary school, development of social, intellectual and motor skills;
- c) Adolescence: heterosexual socialization.

3. Social (cultural) is subdivided into:

- a) Adulthood: stable behavior, professional, matrimonial and public socialization,
- b) Elderly age: involution of social, intellectual and motor abilities, formation of compensating behavior [1].

Classical behaviorism didn't raise the problem of behavior as such. Here, there is only the problem of learning on the basis of availability or absence of re-enforcement under the influence of the environment.

Search for the answers to the question of whether learning (i.e. establishment of relations between a stimulus and reaction) depends on such states of a testee as starvation, thirst, pain,

which in American conception are referred to as drive, lead to the necessity of working out more complicated conceptions of learning. Such conceptions were worked out by N.Miller and K.Hull. Here, there began to take shape the turn from strictly behavioral experiment of I.P.Pavlov type to the study of motivation and cognitive development of the child [1].

Social learning theories

In the end of the 30^s in the 20th c. N.Miller, J.Dollard, R.Sears and J.Whiting made an attempt to unite psychoanalytical theory with K.Hull's theory of learning. There took shape the main trends of research: *social learning* in the process of child's upbringing, *cross-cultural analysis*, *personality development*.

R.Sears's theory of psychic development. If, according to B.Skinner, the re-enforcement brings about the increase of probability of appearance of certain behavior under certain circumstances, then, according to K.Hull, at whose theory R.Sears oriented, re-enforcement leads, first of all, to decrease of motivation. In behavior he singled out action and social interaction.

Action is called forth by the drive. From the very beginning all actions are connected with the primary (inborn) drives. Satisfaction or frustration, emerging as a result of behavior, induced by these primary drives, leads an individual to the acquisition of the new experience. The constant re-enforcement of specific actions brings about new, secondary drives, which emerge as a result of social influences.

R.Sears introduced the diadic principle of child development investigation. Just as the development takes place inside the diadic unit of behavior, so the adaptive behavior and its re-enforcement with the individuum must be studied consistent with the behavior of another person. R.Sears investigates the Man's behavior within the limits of the following scheme. The primary need calls forth the state of tension – the motive. Tension activates the behavior which provokes a certain state of environment. Achievement of the aim is followed by the remov-

al of tension, and then by the strengthening of the link between the need and behavior.

According to R.Sears, child development is determined by the practice of education. In the development process R. Sears singles out three phases.

1. Phase of rudimentary behavior. Based on in-born needs and learning in early infancy.
2. Phase of secondary motivational systems. Based on learning inside the family.
3. Phase of secondary motivational systems. Based on learning outside the family.

New motivational systems appear under conditions of the opposition “dependence-independence” of the child’s behavior. New level of dependence is compensated by adaptation of the children’s behavior and acquisition of a new level of independence. On the whole the child behaves the way he was brought up by his parents. According to R. Sears, development is the mirror of the child’s upbringing practice and, consequently, the result of learning [1].

The main problem for the theories of social learning is the problem of socialization as the problem of the man’s assimilation of the system of norms, values and knowledge of the culture. Conceptions of social learning describe how the child adapts in the surrounding world, how he acquires the norms of public life. Social learning is based on classical and operant types of stipulation. *Classical stipulation* is based on the formation of new schemes due to combination of unconditional and conditional stimuli. Operant (instrumental) stipulation is based on the formation of the schemes of behavior, the child possesses, by means of their re-enforcement.

However, the principles of classical and operant learning don’t explain how the new schemes of behavior emerge. A. Bandura, the leading contemporary theorist in the field of social learning, thinks that children acquire new schemes of behavior due to imitation of the behavior of the adults and their equals in

age. Learning through observation, imitation and identification are the forms of social learning. A. Bandura pays much attention to the phenomenon of learning through imitation. One of the representations of imitation is identification, when the Man reproduces thoughts, feelings and activities of another person acting as a model. Due to identification, the child learns to imagine himself in the position of another person, to feel sympathy, participation, empathy to this man.

1.3.3. Multiplicative determination of individual development.

In *Depth Psychology* the determinant of psychic development is the genetically stipulated (biological) factor. Depth Psychology proceeds from the fact that the main determinant of the psyche development is the tendency to adapt to the environment. Though environment wasn't consequently perceived by the leading psychoanalysts (except Z. Freud) as fully hostile, it is, nevertheless, considered in psychoanalysis that it always stands against the concrete individuum.

In this case the psychic development is viewed, first of all, as motivational, as the formation of the emotional and demanding sphere of the Man. Unconscious aspiration is the force, which stimulates and directs the process of development. Since this is the inborn energy, the development is looked upon, as a matter of fact, as the spontaneous process, as the transformation of those inclinations, which were naturally preconditioned in the Man (aggression, libido, inferiority sense, etc.) and is not realized by him.

The opinion that the driving forces of psychic development are inborn and unconscious unites a large group of theories into a single tendency. The important discovery of the Depth Psychology is the thesis that the psychic development is the process of the child's socialization. The main mechanisms of psychic development, which are also inborn, build up the foundations of a personality and its motives already in the early childhood. The leading mechanisms of the psychic development are identifica-

tion and compensation. Later the personality structure doesn't change significantly.

The concept of defense mechanisms, protecting the personality from the conflict among different ambivalent inclinations, was introduced into the depth psychology. These mechanisms also influence the psychic development, directing it and applying to it the individual character [3].

Z.Freud's psychoanalytical theory. One of the key ideas of psychoanalysis consists in the following: the causes of internal conflicts and neuroses of an adult man are found in his childhood. Reconstruction of the Man development history in his early childhood is the method of cognition of the human nature [2]. On the ground of the common theses of psychoanalyses, Z. Freud formulated the ideas of the psyche and personality genesis: stages of ontogenetic development correspond to the stages of transposition of zones, where the primary sexual need finds its satisfaction. Z. Freud identifies the psychosexual development with the development of a personality. At these stages the development and interrelation between Id, Ego and Super-Ego find their reflection [2].

According to Z.Freud, at the *first stage* of psychic development (oral) the new born baby hasn't yet got the Ego, but it is gradually differentiated from Id, modifying itself under the influence of the external social world. On this stage Super-Ego doesn't yet exist, but the child's Ego is in constant conflict with his Id.

At the *second stage* of psychic development (anal) Ego is completely formed and now it can control Id. Children's Ego learns to solve conflicts, finding compromises between their drive for pleasure and reality. Social compulsion, punishment by parents, the fear of losing their love makes the child mentally imagine, interiorize, some prohibitions. Thus, the formation of Super- Ego starts, which mainly involve the authorities, influence of parents and other adults, who play a significant role as educators and socializers of the child.

Super-Ego is fully formed at the third stage of psychic development (phallic) by means of ousting the Oedipus complex. According to Z.Freud, the most important periods in the child's life are completed at the third stage of his psychic development (phallic stage). Exactly to this age all three main personality structures are formed. Two subsequent stages of psychic development are connected with the dynamics of children's sexuality and, from the point of view of formation of a personality's basic structures, do not present such interest as the first three [1].

A.Freud's conception of psychic development. In this conception she describes the developmental stages of each basic component of a personality structure (Id, Ego and Super-Ego). Id development takes place along two vectors (libido and mortido) and is realized, respectively, by oral, anal, sadistic, phallic, latent, prepubertal and pubertal stages. Ego development is carried out in accordance with the development of defense mechanisms: ousting, reaction formation, projections and transpositions, sublimation, regression, etc. Development of Super-Ego takes place in two stages: identification with parents and interiorization of the parents authority.

According to A.Freud, each phase of development is a result of a conflict resolution between internal instinctive drives and restrictive requirements of the external social surrounding. A. Freud believes that the lines of development can be built for any quantity of children's psychic spheres. On the whole, A.Freud looks upon the development as the process of a child's socialization, obeying the law of transition from the principle of pleasure to the principle of reality. The movement of the child from the principle of pleasure to the principle of reality is closely connected with the development of thinking, memory, etc. On the other hand, the formation of the principle of reality and development of the thinking processes opens the way to such mechanisms of socialization as imitation, identification, introjections. All of them facilitate the formation of Super -Ego [1].

E.Erikson's epigenetic conception of development (life journey) of a personality.

Accepted the idea of unconscious motivation, but considered that the bases of human "I" are rooted in social organization of the society. Analyzing with the help of psycho-historical method the biographies of M.Luther, M.Gandhy, B.Shaw, T.Jefferson and, conducting ethnography field study, E.Erikson made an attempt to understand and evaluate the influence of the environment on a personality, constructing it as it is, not in the other way. This research triggered two key concepts of his conception – "group identity" and "Ego - identity".

Group identity is formed due to the fact, that from the very first day of life, the education of a child is oriented at his inclusion into this social group, at working out the perception of environment, peculiar to this group. Ego-identity is formed along with the group identity and creates the feeling of stability and continuity of the subject's "I", despite the age-related and other changes [1]. The concept of "identity" is defined as the feeling of self-identity and integrity. Identity is the self-identity, which includes the adopted and subjectively acquired image of oneself, the feeling of adequacy and stable possession by a personality of his "I", ability of the personality for solution of the tasks, emerging at every stage of its development.

Formation of the personality's Ego-identity continues throughout his life and possesses eight stages. At each of them the Man makes a choice between two alternative phases of solving the tasks of development. The tasks and content of development at each stage are determined by the society, where the man lives. According to E. Erikson, solving of each task is reduced to the formation of a certain dynamic correlation between two opposite poles. Equilibrium achieved at each stage, represents the adoption of a new form of ego-identity and opens the opportunity of inclusion the subject into a wider social surrounding. Transition of one form of Ego-identity to another is referred to as the crisis.

To be one's own self in the eyes of the others, particularly in one's own eyes, is that driving force of development, which underlines E. Erikson's periodization. Entering into relations with the others, the Man makes more or less subconscious choices, which determine the direction of development at each age-related stage. Transition from one form of self-identity to the other leads to the crises of identity. But the crises are neither the illness of personality, nor manifestation of neurotic disorder, but "turning points", the moments of making choice between the progress and regress, integration and delay [2].

The term "epigenesis" was borrowed by E. Erikson from Biology. According to epigenetic principle, all, that grows and develops, has the common plan, on the basis of which separate parts receive their development, each of them having the most favorable period of pre-eminent development. This happens until all parts, having developed, can form the functional whole. According to E. Erikson, succession of stages is the result of biological maturation, but the content of development at each stage is determined by what is expected from the Man by the society he belongs to. Each Man, despite the fact which culture he belongs to, goes through these stages. All depends on his life expectancy.

E.Erikson accepted Z.Freud's ideas of three-component structure of the personality, identifying Id with desires and dreaming, and Super-Ego - with feelings of obligation, between which the Man is constantly hesitating in thoughts and feelings. Between them, there exists the "deadlock"- Ego, in which, according to E.Erikson, we are most of all ourselves, though least of all realize it. Psychoanalytical practice convinced E.Erikson that assimilation of life experience is implemented on the basis of primary bodily impressions. That's why, exactly, he introduced the concept of "modus of the organ" and "modality of behavior". The organ, which the sexual energy is linked to at the concrete stage of development, creates a certain modus of de-

velopment, i.e., the formation of the dominant quality of a personality.

Zones and their modi, according to E.Eriksson, are paid much attention to in any cultural system of child education. Modus of the organ is only the primary ground, the boost for psychic development. When the society by means of different institutions of socialization (family, school, etc.) implies the specific sense to a given modus, the “estrangement” of its meaning takes place, i.e., separation from the organ and turning it into modality of behavior. Thus, the modi build up the links between psychosexual and psychosocial development [1].

Cognitive conceptions of psychic development.

Cognitive theories of development go back to philosophical theories of cognition. Intercrossing with Biology, theory of cognition interlocks with resolving the tasks of individuum adaption to the surrounding social and real environment. The main target of this trend is to clear up in what succession the cognitive structures, responsible for adaption, unfold.

In *J.Piaget's genetic Philosophy* cognitive development is considered to be the foundation of psyche development as a whole. J. Piaget proceeded from several significant concepts. First of all, this is the concept of interrelation of the whole and its part. Since there are no isolated elements in the world, and all of them are either parts of larger whole, or they themselves fractionize into smaller components, interrelations between isolated parts and the whole depend on the structure they are included into. In common structure their relations are balanced, but the state of balance is always changing [1].

J.Piaget considers development as evolution, which is controlled by the need in a balance. He defines the balance as the stable state of an open system. Balance, in its static already implemented form, represents the adaptation, adjustment, the state in which each measure has its countermeasure. From the dynamic point of view, balance is the mechanism, which provides for the main function of psychic action – constructing the image

of reality, provides for the links between the subject and object, and regulates their interrelation [1].

J.Piaget considered that intellectual development, like any other type of development, drives to stable balance, i.e. the formation of logical structures. Logics is not inborn, it develops gradually. What permits the subject to learn this logics? In order to cognize the objects, the subject must fulfill actions over them, transform them - transfer, combine, remove, bring, together, etc. The main point of the transformation idea consists in the following: from the very beginning the boundary between the subject and the object hasn't been established and it is vague, therefore, in each act subject and object are mixed up.

In order to cognize his own activities, the subject needs objective information. Without creation of intellectual instruments of analysis, according to Piaget, the subject doesn't distinguish what in cognition belongs to him, what belongs to the object, and what - to the act of the object reformation. The source of knowledge lies neither in the objects themselves, nor in the subjects, but in the interrelation between the subject and object, which have originally been indivisible. This is exactly the reason why the problem of cognition cannot be investigated separately from the problem of the intellect development.

Objectivity hasn't been given to the subject from the very beginning. In order to adopt it one needs a series of successive constructions, which would more and more approach a child to it. These structures are the result of the construction: they are given neither in objects, because they depend on the actions, nor in a subject, because the subject must learn how to coordinate his movements.

According to J.Piaget, the subject is endowed *hereditarily* with *adaptive activities*, with the help of which he implements structuring the reality. Intellect is the private case of such structuring. Characterizing the subject of reality, J.Piaget emphasizes its structural and functional properties. Functions are means of interrelation with the environment, which are biologically inhe-

rent to the organism. Organization and adaption are the two properties peculiar to the subject. Each act of his behavior is organized, i.e. represents a certain structure, dynamic aspect of which (adaptation) consists of the balance of two processes – assimilation and accommodation.

According to J.Piaget, all adopted sensorimotor experience is formed into the schemes of action. “Scheme of actions” is the most important concept of J.Piaget’s theory. The scheme is the sensorimotor equivalent of the concept. The scheme of action is that common (invariant), which is preserved in action in its multifold repetitions in different circumstances. This is a mental structure, at a certain stage of intellectual development. This is a mental system or integrity, reproducing the logics of objective actions [2]. It permits a child to adequately fulfil actions with different objects of one and the same class or with different states of one and the same object. From the very beginning the child adopts his experience on the basis of action. All this experience is shaped into schemes – the most common, that is preserved in the action in its multifold exercise in different circumstances.

In a wide sense, the scheme of the action is the structure at a certain stage of mental development. Structure is the mental system or integrity. Its principles of activity are distinct from the principles of activity of the parts, which compose this structure. Structure is a self-regulating system, and new mental structures are formed on the basis of action.

J.Piaget believed that the scheme is not given to the Man ready-made, it doesn’t exist in the surrounding world either. According to the J.Piaget, adaptation is the active means of adjusting (adopting), as a result of which there emerge as its product the schemes (of the world and his own actions in the world). The scheme is produced by the Man himself (a child) in the process of active interaction with the surrounding world. There are two mechanisms of producing the scheme: *assimilation* and *accommodation*.

In assimilation the scheme built by the child is “hard”, it doesn’t change depending on situation. Conversely, in case of action of mechanism of assimilation, the man tries to consider all external changes through his unchangeable scheme. J.Piaget considered the play, in which a child cognizes the world, as an example of assimilation. Accommodation is the means of changing the scheme along with the change of situation.

According to J.Piaget, development is such an alternation of assimilation and accommodation where the child tries, down to the limit, to use the old scheme, a more adequate one [3].

As the result of interaction with the reality, new objects are involved into the schemes and are assimilated by them. If the existing schemes do not embrace new types of interaction, they restructure themselves, adapt under a new action, i.e. accommodation takes place. In other words, accommodation is a passive adaptation to the environment, assimilation is an active one. At the stage of accommodation the subject reflects internal links of the surrounding world, at the stage of assimilation he starts influencing these links in his aims.

Adaptation, assimilation and accommodation are hereditarily fixed and unchangeable, but structures (in comparison to functions) build up in ontogenesis and depend on a child’s experience, and, consequently, vary at different age stages. Such correlation between the function and structure provides for continuity, succession of the development and its qualitative uniqueness at each age-related stage.

On the grounds of theory of development, where the main significance is applied to the drive of subject structures to the balance with reality, J.Piaget put forward the hypothesis on the existence of intellectual developmental stages. Stages are steps or levels of development, alternatively changing each other, where each level achieves a relatively stable balance. J.Piaget once and again tried to present the intellect development as sequence of stages, but only in his late survey works the picture of development acquired definiteness and stability [1].

According to J.Piaget, the stages of psychic development are stages of intellect development, which a child passes successively in the formation of a more adequate scheme of a situation. Logical thinking underlies such a scheme. According to J.Piaget, the process of a child's intellectual development consists of three large periods during which there take place generation and formation of three types of structures: 1. Sensimotor, systems of reversible actions, fulfilled materially and successively; 2. Structures of concrete operations; systems of actions, fulfilled mentally, but by external, visual aids; 3. Structures of formal operations, linked with formal logics, hypothetico-deductive reasoning.

Development is carried out as the transition from the lowest stage to the highest, with each preceding operation preparing the following one. Each new stage achieves the integration of the structures formed earlier. The preceding stage rearranges on a higher level. The order of stages succession is unchangeable, though they don't include hereditary programmes. Maturation, in the case of intellect stages, results only in discovery of development possibilities, and these possibilities must be realized.

According to J.Piaget, it would be wrong to see in the succession of studies the product of inborn predeterminance, because the continuous construction of the new takes place in the process of development. Stages of intellectual development can be looked upon as the stages of psychic development on the whole, because the development of all psychic functions is subjected to the intellect and determined by it [1].

In J.Piaget's opinion, the order of stages of intellect development corresponds to certain ages, and it is unchangeable. Adults can influence the process of psychic development, but they cannot change its logics. Learning follows the development [2].

L.Kolberg's theory of moral development. In the capacity of criteria of singling out the stages of development, he suggests three types of orientation, forming the hierarchy: 1. Orientation

towards authorities; 2. Orientation towards customs; 3. Orientation towards principles. Working out the idea that the development of a child's moral consciousness is parallel to its mental development, which was put forward by J.Piaget and supported by L.S.Vygotsky, L.Kolberg singles out several phases, each of them correlating to a certain level of moral consciousness: 1, 2. Pre-moral consciousness, 3,4 conventional moral consciousness, 5. Autonomous moral consciousness, 6. Moral consciousness, 7. Philosophical–moral consciousness.

Sophistication and differentiation of social relation is the prerequisite for moral judgment autonomism. Besides, the style of moral judgments unavoidably depends on from wherein a certain society sees the source of moral regulation - God's will, communal initiation or simply logical rule. Thus, the centre of gravity of problems is transferred from mental development of an individual to socio-structural characteristics of the society, macro- and micro-social environment, which makes an impact on the level of his personal autonomy. L.Kolberg considered that moral development of both child and adult is spontaneous, and usage of any metrics is impossible here [1].

In Gestalt psychology the process of psychic development is the growth and differentiation of Gestalts. Gestalts are integrated forms, composing the psyche content. The process of their changes, transformations identify both the character of surrounding world perception and peculiarities of behavior in it. Since the perception of the surrounding world identifies and directs the process of formation and transformation of the gestalts, then exactly the perception is the leading psychic function of psychic development as a whole.

In the opinion of gestalt psychologists, psychic development consists of two independent and parallel processes: maturation and education. K.Koffka emphasizes their independence, proving that in the process of development, education can both precede maturation and lag behind it; though more often they are parallel and create the illusion of interdependence. The most

important thing is that education cannot speed up the process of maturation and differentiation of the gestalts, the same as the process of maturation cannot speed up the process of education [3].

Sociological (culturological) conceptions of the Man's psychic development.

Socialization trend emerged in developmental psychology as an attempt to identify the correlation in the system subject-object (environment) through the category of social context, where the child developed.

D.M.Baldwin's theory of psychic development. The main role in developmental psychology belongs to D.M.Baldwin, American psychologist and sociologist. In the beginning of the 20th c. he was one of a few psychologists, who considered it necessary to study not only cognitive, but also emotional and moral development. D.M.Baldwin believed that the society (socium) is not the external, but internal factor of a child's psyche development. He considered that dialectical approach is necessary in the analysis of intellectual development, i.e. one must simultaneously study what a personality is from the social point of view, and what the society is from the point of view of a personality.

D.M.Baldwin was one of the first who proved that spiritual development depends on both inborn and adopted qualities. Both social environment and heredity determine the level of social achievements of the Man in a concrete society. That's why individual differences are the specific features of the process of learning and adoption of the factors provided by the socium.

D.M.Baldwin came to the conclusion that the society, contemporary to him, influences, with the help of norms, the formation of both emotions and personal qualities of children. Thereby, there exist two types of norms (sanctions, as D.M.Baldwin wrote): "narrow", which belongs to the *immediate socium*, where the child lives, and "wide" belonging to the *mediated socium*, the child belongs to. D.M.Baldwin considered that since

all children of the same circle and nationality happen to be under equal conditions, and they are taught practically the same, an “average man” doesn’t have any contradictions between personal and social norms. D.Baldwin distinguished special mechanisms of thinking development: assimilation (interiorization of the environment influence) and accommodation (change of organism) [3].

French Sociological school

E.Durkheim is considered to be the founder of sociological trend in Psychology. He assigned a decisive part in child development to the social factor, the *collective representations*, according to E.Durkheim, being the basis of it. Collective representations are an integral system of ideas, customs, religious faiths, moral foundations, social institutions, writing, etc. They don’t depend on the individuum, imperative in relation to him and total(universal).

Child development takes place in the process of adoption of collective representations. Adoption of social experience happens due to imitation, which has the same meaning in social life as heredity has in Biology. A child is born with the ability to imitate. French sociological school opened the mechanism of formation of a child inner world: interiorization as the transition of the external into the internal.

P.Janet. Believed that the psyche is socially determined and its development consists in the formation of system of various links with nature and society. By “links” P. Janet understood actions of forms of the Man’s attitude to the world. Social interrelations among people form the foundation of each Man’s development.

French genetic school.

A.Wallon proceeded from the biological concept of anabolism and catabolism, which, in his opinion, belong not only to the organism, but to the personality as a whole. A.Wallon viewed anabolism as the man’s reaction, oriented at the change of his inner state, and catabolism – as the reaction, directed out-

side, at the environment alteration. A.Wallon understood development as alternation of anabolism and catabolism, repeated at each coil of development and accompanied by the formation of a new quality.

According to A.Wallon, the psyche cannot be reduced to *organics*, and, the same time, the psyche cannot be explained without it. In order to explain how the organic becomes the psychic, A.Wallon considered the connection of four phenomena: emotion, movement, imitation and socium. A.Wallon emphasizes that socium is absolutely necessary for development. Therefore, the human child is a social creature, genetically and biologically. Social nature is not implanted by means of external impacts, the social has already been included into the biological as the absolute necessity.

A.Wallon doesn't deny the role of maturation in the development. In his opinion, the maturation of nervous system created the succession of types and levels of activity. But maturation needs exercise and it has already been involved in the nature of emotions, movements, and imitation, in the nature of human organisms itself. According to A.Wallon, *onthogenesis* doesn't produce *phylogenesis*. Due to new technologies, which impose on the Man the ability of thinking and feeling, the child is always on the same level with civilization.

A.Wallon decisively showed that among other conditions, influencing the psychic development, the most important are interrelations of people and modes of their behavior, especially in the first years of life. Psychic child development is implemented through the qualitative transitions from one stage to another. Transitions themselves are implemented through the crises of development. A.Wallon suggested six stages of onthogenetic development of a personality, beginning from intrauterine life and ending with the stage of sexual maturation and adolescence. Transition from one stage to another takes place as a qualitative alteration of action [1].

R. Zazzo. Being simultaneously a pupil of A.Wallon and A.Gesell, he studied the interrelation of the heredity and environment in psychic development. He thought that these factors are complementary: due to heredity, the man creates his environment; the environment gives the heredity the possibility of self-expression, orientation and formation.

American school of cultural anthropology.

Founder of school is F.Boas. The main methodological orientation of the school is the concept of cultural dependence of consciousness and human personality in the process of his psychic development. The means of examination of cultural determinism was cross-cultural research into the psychic development.

M.Mead. Her research showed, that character and abilities of the people depend, to a large extent, on what they learn and the structure of the society where they were born and brought up. Distinction among members of different cultures as well as distinctions inside the same culture, almost fully resort to differences in their life conditions, especially in early childhood. M.Mead worked out the conception of the relation between generations, which is founded on the idea of three types of culture: *postfigural*, under conditions of which children get knowledge from their ancestors; *configural*, under conditions of which both children and adults get knowledge from their equals in age; *pre-figural*, under conditions of which adults get knowledge from their children.

Cross-Cultural research into cognitive child development.

D.Bruner. According to D.Bruner, development of cognitive actions is carried out through the formation of three main means: objective actions, perceptive images, and symbols. These means appear in appropriate ages. "Laying-up" of each new means of cognition over the previous one constitutes the central line of a child intellectual development. The essence of Bruner's position is that psychic development of a separate man takes place in the process of cultural means adoption. He re-

marks that the sources of man development differ fundamentally from the sources of animal development. Adaptation of man to surrounding conditions, in comparison to animals, happens not on the basis of biological changes, but through the usage of cognition means, possessing social nature. Psychic development is determined, first of all, by cultural conditions of a man's life but not biological factors [2].

L.S.Vygotsky's culture-historical conception of development. One of L.S.Vygotsky's fundamental ideas: in development of a child behavior one should distinguish two braided lines. First – natural maturation. Second – cultural development, adoption of cultural ways of behavior and thinking. Cultural development consists in adoption of cultural signs. Cultural development is connected with adoption of such types of behavior, which are founded on the usage of these signs as the means of implementation of psychological operations.

L.S.Vygotsky suggested two concepts, which determine each type of age development: social situation of development and new psychic qualities.

Social situation of development is a specific for a certain age interrelation between a man and social reality taking shape to words the beginning of each new stage. Social situation of development is an initial moment for all changes, which are possible at a given period. And he determines the way, following which, the man adopts new psychic qualities of development. *New formation* is a qualitatively new type of personality and interrelation of the man with reality, which didn't exist as an integral part at the previous stages of development.

L.S.Vygotsky ascertained that a child in mastering himself (his behavior) chooses the same way as in mastering external nature, i.e. from outside. With the help of cultural signs, he masters himself as though he were one of the natural forces. The fundamental contradictions in development, building up towards the end of each period of life and “pushing” the development ahead, bring about the leap in development (change of social

situation of development) and appearance of the new formation. Accordingly, L.S.Vygotsky referred to the age as an objective category for definition of three moments: 1. Chronological limits for a separate developmental stage; 2. Specific social situation of development, built up at a concrete developmental stage; 3. New psychic qualities, emerging under its influence.

In developmental periodization L.S.Vygotsky suggests alternating the stable and critical ages. In stable periods slow and stable accumulation of quantitative developmental changes takes place. In critical periods there take place the qualitative changes, which in stable periods undergo quantitative changes. At each developmental stage there appears the central new formation, which is the leading one for the whole developmental process and characterizes the alteration of the whole child's personality on a new basis.

Understanding development as a continuous process of self-advancement, never-ceasing emergence and formation of the new, L.S.Vygotsky considered that new psychic qualities of "critical" periods are not preserved later in such shape, in which they appear in a critical period, and are not a necessary component in the integral part of a future personality. They die out, being absorbed by new psychic qualities of the next (stable) age, being included into their composition, being dissolved and transformed in them.

Developmental theory allowed L.S.Vygotsky to formulate the connection between education and development, and the concept of "zone of proximal development". In his opinion, investigating, what the child is capable of fulfilling himself, we investigate yesterday's development. Making research into what child is capable of fulfilling in cooperation, we determine tomorrow's development – "zone of proximal development". L.S.Vygotsky suggested the thesis: the only good education is the one, which precedes the development, creating the zone of proximal development. Education is not a development, but an internally necessary and common moment in the process of de-

velopment in a child of culture-historical peculiarities of the Man. Education creates the background for future new psychic qualities, and, in order to create the zone of proximal development, i.e. generate a number of internal developmental processes, it is necessary to have the correctly built process of education.

A.N. Leontiev's action-oriented theory of psychic development. Leontiev's theory of psychic development consists of two parts, which are not directly connected with each other. The first part belongs to psyche phylogenesis, the second – to its ontogenesis. A.N.Leontiev singled out six stages in psyche phylogenesis. *First stage.* Characterized by the biological processes of assimilation and dissimilation and marks the emergence of life. Prepsychic forms of life, to which neither animals, nor Man belong. *Second stage.* Characterized by emergence of sensibility, consequently, sensory psychics. Both animals and people belong to it. *Third stage.* Characterized by emergence of perceptive psyche. *Fourth stage.* Characterized by emergence of intellect. *Fifth stage.* Characterized by emergence of consciousness. Only people belong here. *Sixth stage.* Characterized by emergence of thinking and speech.

A.N.Leontiev's phylogenetic conception of psychic development is based on the genesis of reflection forms. A.N.Leontiev's ontogenetic conception of psychic development is founded on common developmental theory. Its structure unfolds in two plans - external and internal. External plan is characterized by the following dynamics: action, action operation, movement. The internal plan is characterized by the other dynamics: motive, goal, perceptive task, sensory task. A.N.Leontiev views the psyche as an interiorized action. Therefore, all forms of psychic reflection are the forms of action.

The principle of action underlies the conception of psyche ontogenesis.

A.N.Leontiev projects the age structure, suggested by L.S.Vygotsky, on the action structure. Now the contradiction

between a child's needs and his abilities acts as the driving force of development. The concept of new psychic qualities formation is replaced by the concept of leading action, and different types of action are looked upon as lines of development. In this respect, the leading type of action acts as the central line of development for the given age, the other types of development are secondary, which in the other ages are leading or central.

A.N.Leontiev considered that the Man is born with a certain inborn (unconditionally-reflex) organization of genetic behavior. But the decisive part in the psychic development of Man is applied to appropriation by a separate individuum of the people's historical experience, the main part of which is constituted by their socially worked out psychic abilities, transferred to the usage of certain objects in the material and intellectual culture. But culture as the common source of a child's psychic development acts in this function only in such case, when the child fulfills the actions, directed at appropriation of social abilities, transferred to means of usage of the objects of culture. The child must fulfil in relation to them such practical or cognitive actions, which are adequate to the people's actions embodied in them. In the process of his own actions the child desobjectifies the respective parts of culture, and, thereby, appropriates the social abilities, connected with them. Appropriation is the process of reproduction by a child of the historically formed human qualities, abilities and ways of behavior of individual actions.

Reproductive actions determine the child psychic development at each age-related stage. However, the formation of reproductive actions and respective abilities of the child take place only in his constant communication with adults and other children. The necessity in interiorization is identified by the fact that central content of a child development is his appropriation of people's historical developments achievements, which initially appear before him in the form of externalities and external word marks. A child can reflect in his consciousness their specific

social meaning only by means of implementation of some action in relation to them, which is adequate to the one embodied in them, and transferred to the means of their usage.

But a child cannot fulfil this action independently. It must be always organized by the people around him in interrelation and communication with the child, i.e. in external cooperative action which fully represents the actions. Their implementations permit the child to adopt the meanings connected with them. This adoption requires transition from the externally unfolded actions to the actions in the verbal plan, and eventually, to gradual interiorization of the latter, as a result of which they acquire the form of folded up mental operations, mental acts, later, the independent advance of a child's thought is only possible on the grounds of interiorized historical experience.

Each age stage is characterized by a certain (leading) type of action. Leading action is characterized by the fact, that other types of action emerge and are differentiated in it, the main psychic processes are rearranged, and there take place the changes of particular psychological qualities of a personality at a given stage of development.

D.B.Elkonin's conception of psychic development. He built his theory of psychic development on the grounds of psychological theory of action worked out by A.N.Leontiev. D.B.Elkonin's opinion on the common nature and sources of child psychic development come down to the following. First, all types of child actions are social according to their origin, content and form, therefore, the child from the moment of his birth and the first stages of his development is the social creature. Second adoption of human culture achievements by a child has always had an action-oriented character – a child is not passive in this process, he doesn't adapt to his life conditions, but acts as an active subject of their transformations, reproducing and creating in himself human abilities.

Basic concept of D.B.Elkonin's developmental theory: 1. Conditions of development-growth and maturation of the organ-

ism; 2. Source of development – ideal forms (social environment); i.e. to what development must come in the end. All, that a child must have, has already existed in the society, particularly the needs, social tasks, motives and even emotions; 3. Form of development – adoption; 4. Driving forces of development – contradiction between adoption of the real and social sides of the action.

In Elkonin's opinion, the source of development is determined by the moment from the system "child – social adult" to the system "child - social object". This means that, at first, a child appropriates the methods of social action, and then, on this basis, builds up relationship with the cultural real world. D.B. Elkonin opened the law of periodicity of two types of action: action of the first type (orientation in the system of social relationships) is followed by the action of the second type (orientation in the means of usage of the objects). Contradiction between these types of action is the determinant of development. The law of periodization of the action types makes it possible to build up the epoch of ontogenesis in a different way, having divided each of them into two specific periods.

L.I. Bozhovitch's theory of a personality development. Founded on the concept of social situation development and personal new psychic qualities. Social situation of the development separates internal developmental processes and external conditions, supporting them. His periodization is identical to periodization suggested by L.S. Vygotsky.

M.I. Lissina's theory of communication. Based on A.N. Leontiev's psychological theory of action. Intercourse is viewed as communicative action. M.I. Lissina considered the need in the intercourse as a special need, different from the others. She singled out four periods of intercourse development: 1. Situationally-personal intercourse (2 month – 6 month); 2. Situationally-business-like intercourse (5 month – 2 years); 3. extrasituationally – cognitive intercourse (3-5 years); 4. extrasituationally – personal intercourse (6 - 7 years) [1].

Humanistic conceptions of psychic development.

Basic ideas of humanistic psychology have penetrated into developmental psychology, though the detailed theory of psychic development hasn't been founded till nowadays. Demand development and motivational sphere of a personality is central in humanistic psychology. The thesis that the personality is an open and self-developing system is central for humanistic psychology. Representatives of this trend proceeded from the assumption that Man is, first of all, social rather than biological creature; therefore he cannot develop without the contacts with social environments.

Humanistic psychology was the first trend in psychology history, which put forward the thesis that the Man doesn't strive to balance with the nature, but he strives at its breaking. Balance, adaption, acceleration in the environment reduce or bring to nought the drive for self-actualization, which makes a man the Man. Therefore, self-actualization and is the basic goal and basic determinant of Man and society development.

But social pressure is an obstacle on the way to spiritual growth. It diminishes the autonomy and independence of the Man. Therefore, along with identification, a new mechanism of development is introduced. This is estrangement, which is connected with the demand to protect one's selfness, existence from the pressure of the surrounding social world [3].

Sh.Buhler's theory of psychic development. Sh.Buhler's works, devoted to the study of Man's life, are of great importance. She was among the first, who introduced this concept, considering life as the integral Man formation. In her opinion, the main driving force of such development is the need of a personality for self-realization, which throughout the life manifests itself in different ways. Later, this research led her to humanistic psychology.

K.Rodgers. He formulated in his works a new conception of Man, different from psychoanalytical and behaviorist ideas. The fundamental base of this conception is that people in their self-

determination rely on their own experience. Every man has the unique field of experience (phenomena field). The field of experience is psychologically and biologically restricted. The Man's inner world can conform or not conform to the objective reality, can be cognized or not cognized.

In the field of experience there is selfness. Selfness or the Man's idea of himself is founded on the previous experience, essential qualities of the present and expectations of the future. Ideal selfness is the idea of himself, which the Man would most of all wish to have, to which he would apply great value. As well as selfness, it is constantly subjected to redetermination and development. The extent, to which selfness is different from ideal selfness, is one of indications of discomfort, dissatisfaction and neurotic problems.

Accepting oneself as the man is, as a matter of fact, not as he would like to be, is the sign of psychic health. The image of ideal selfness, inasmuch as it differs from the real behavior and values of the Man, is one of the obstacles for development of Man. Rogers believed that every Man has a strive to be competent, integral and full. This is the tendency for self-actualization. The foundation of his psychological ideas consists in the statement that the development *is possible*, and the tendency towards self-actualization is fundamental for the Man.

The most important Roger's scientific discovery consists in the fact that he opened the necessary conditions for humanization of any type of interpersonal relations, providing for the constructive personal changes. This is non-judgmental positive acceptance of another Man, his active empathic hearing and congruent (adequate, genuine, sincere) self-expression in the intercourse with him. Humanistic pedagogical practice consciously gives up the purposeful influences, in the course of which manipulation of people is unavoidable, which complicates their self-actualization.

It is impossible to develop a Man from without, and it is impossible to form his humanistic convictions. Only from within it

is possible to create conditions, in which the Man will come to these convictions himself, he will choose them. The practice of humanistic education is built up on the ground of creating conditions, simulating free development of people. This means that development is implemented in accordance with their own goals and aspirations [2].

Socio-ecological conceptions of psychic development.

U.Bronfenbrenner's conception of psychic development. The ecology of the Man development means scientific investigation of the progressive mutual accommodation between the active, growing human creature and changing properties of immediate conditions, where the developing personality lives. This process depends on the relationships between all these conditions and more common social context, which include these conditions. Child development is implemented not by unilateral influence of the environment on a personality or vice versa, but as a result of their constant interaction, growing of an interacting personality into the environment. In this process of growing in, ecological environment manifested as concentric structures micro-, meso-, exo-, and macrosystems, consequently expands.

K.F.Riegel's antiequilibrium developmental theory. He considered that states of balance (equilibrium) should not constitute the subject of developmental psychology, because, in fact, they don't occur in a man's life. It should be the states of conflict, constant dynamics, overcoming of external and internal tensions. He is interested in the genesis of non-equilibrium states and how they are resolved. According to K.F.Riegel, the conflict arises in four dimensions: 1. Innerbiological, 2. Individually-psychological, 3. Culture- sociological, 4. Externally-physical. Insufficient synchronization of all plans of development is the source of crises and, as a result, the driving force of development. On the crossing of these plans K.F.Riegel distinguished the phenomena, which are interpreted as positively or negatively resolved crises (infection or insemination, illness or maturation,

destruction or creativeness, disadaption or adaption, conflict or cooperation, etc.).

A.V.Petrovsky's personalization theory. He looks upon the personality as determining itself through socium. The need in personification is a starting point of development analysis. Therefore, A.V.Petrovsky refers to his conception as personalization theory.

A.V.Petrovsky distinguishes three basic processes, identifying the course of development: 1.adaptation as adoption by the man of social norms and values, i.e. the formation of socio-typical in the Man; 2. individualization as opening or confirmation of "I", revealing its inclinations and capabilities; specific features of character, i.e. formation of individuality; 3. Integration as alteration of the vital function of the surrounding people, making contributions and their acceptance by the surrounding people,assertion of their otherness in the other people, i.e. formation of the universal in a personality.

Periodization suggested by A.V Petrovsky looks as followings:

1. Childhood epoch (including elementary school age) is characterized by predominance of adaptation over individualization;
2. Adolescence epoch (teenage) is characterized by predominance of individualization over adaption;
3. Adolescence epoch (juvenile) is characterized by predominance of integration over individualization [1].

Psychological conception of self-development

Over recent years much attention has been paid to theories of self-development, which proceed from the assumption that the Man himself determines his fate, even despite the fact, whether he wishes this or not. There haven't yet been extensive and detailed theories in this trend, there have only been separate principles, e.g.: principle of development through action, self-construction suggested by R.Lerner. The idea of personal con-

trol of development, the idea of critical (non-normative) life events, etc.

1.4. Conclusions on 1.

The concept of development is one of the key concepts in modern culture. But it has been viewed as a scientific concept for a little more than 200 years. "Development is a rather new category, which hasn't yet acquired its place in the system of other categories and hasn't got its strictly identified content. It is characterized by indistinct multiplicity of interpretations [2]

Analytical outline of history and contemporary state of foreign and domestic psychology makes it possible to come to conclusion that modern developmental psychology is the complex of slightly connected trends, schools and conceptions.

Not all theories of developmental psychology are equivalent in investigation of common regularities of Man development in ontogenesis. A number of theories are limited to the child period of human life (they are in majority), others are oriented at the research into the side issues of psychic development (cognition, emotions, personalities, etc).

Special analytical outlines of contemporary state of development problem (A.A.Mitkin) distinguish about twenty concrete theories of psychic development and allot the tasks of working out the systematic developmental psychology [2].

Developmental and pedagogical psychology still contains a lot of variant readings and contradictions among various opinions and definitions of the developmental category.

There takes place conceptual inconformity between psychological (first of all Hegel-Marxist), scientific (biological) and socio-practical (educational) treatments of developmental concept.

From common Marxist point of view, only such totalities as nature, society, civilization and culture possess the ability towards development. An individual Man is not such a system, and in the best case, he only draws into it as one of its elements. From common biological point of view, this is, first of all, matu-

ration and growth in accordance with the existing biogenetic program. In pedagogical practice, development is a purposeful formation of useful knowledge, skills and abilities, formation of useful qualities of a personality – useful for the self-valuable socium.

Along with external differences, there is one common quality: such development is always extra-subjective, irrespective of developmental process participants. They are only the ‘material, on the basis of which the objective process, implying to this material the form of the preset model, enacts.

Classical psychology traditionally opposes two rows of forms and structures in human nature: “natural” and “cultural”, “biological” and “social”.

Besides, there takes place indistinction of two objective contents: “*psychic development*” (as development of psychics) and “*developmental psychology*” (development of human subjectiveness, inner world of a man); “*act of development*” (of what already exists); “*unit of development*” (as the measure, mechanism) and “*object of development*” (what is developing) [2].

Basic question for developmental psychology is the issue of boundaries and specific features of psychic development dynamics, of whether it is preformed or non-preformed.

Preformed development has the top limit, initially preconditioned in a developing system. But is psyche development limited? Psychologists are inclined, to a certain extent, to answer this question positively, since there exist, for instance, the limits, connected with the Man’s life expectancy, his inborn abilities, boundaries of his sensations, etc. At the same time many facts show that conscience development, will improvement, improvement of personality do not have their limits.

Thus, the psychologists of the first half of the 20th c. didn’t share the common point of view on many issues; however, the possible answer depended, to a large extent, on what the driving force of psychological development is, and what mechanisms support it.

If initially the psychologists (V.Preyer, S.Hall) pointed to the dominant biological factors, and the development itself was viewed as the maturation of inborn factors, then in works of E.Claperede there appeared a different approach to understanding the psychic genesis.

Speaking about psyche self-development, he emphasizes that this is the process of self-unfolding of in-born qualities, which depend on the environment, directing the movement of this process.

E.Claperede was also the first to speak about specific mechanisms of developmental process - the play and imitation. S.Hall wrote partially about the play as the mechanism of overcoming the inborn stages of development, but imitation of the surrounding persons, identification with them, which, as it was shown in works of modern psychologists, are ones of the *leading mechanisms* of psychic development, were first integrated into psychology by E.Claperede.

His idea on self-development, on the fact psyche genesis doesn't need any external factors, but exists in the psychic nature itself, also became a leading one for V.Stern.

V.Stern proceeded from the assumptions; the Man possesses, is identified and directed by environment, where a child lives. This theory is referred to as the convergence theory as it takes into account two factors altogether – heredity and environment, their influence was analyzed by V. Stern on the example of man types of child action, predominantly play.

V.Stern was the first to separate content and form of the play action and proved that the form is unchangeable and connected with the inborn qualities, for exercise of which the play is created. Content is presupposed by the environment, which helps a child understand in what concrete action he can realize the qualities laid in him by nature. Thus, according to V.Stern, the play serves not only for the exercise of the inborn instincts, but also for children's socialization.

According to V.Stern, psychic development has a tendency for both self-development and self-protection, i.e. protection of individual, inborn peculiarities of every child, first of all of the individual tempo of development [3].

All abovementioned problems of modern developmental psychology have the common foundation. This foundation is included into the nature of determining factors, preconditioning the development. From this point of view, all modern conceptions of development have been built, proceeding from the assumption of external character of the developmental determinant.

External nature of individual determinants development, studied in the development conception, is in contradiction with the creative essence of the Man as the creature, whose developmental determinants possess the inner nature.

Exactly the contradiction between the *external nature* of the individual development determinants, viewed as the only possible is psychological developmental conceptions and laid into foundation of educational process, and *internal nature* of the (self) developmental determinants of a creative man, is central (strategic) in the common developmental problematics.

2

2. Adaptive Mediation as the Mechanism of Externally Determined Development.

2.1. Man as the Subject of Appropriation of the “External” Developmental Determinants.

2.1.1. External nature of the Man as the object of development.

The contradiction between the external nature of individual development determinants and internal nature of self-development determinants, inherent in a creative man, is the world-view problem. Its solution is the solution of the question of the “Man’s nature (what is the Man) and his place in the world” [25, p.382].

a) The nature of factors, determining Man’s existence, in philosophical conceptions.

The history of learning the Man’s nature started in Ancient Greece.

Naturalistic conception of the Man.

Ancient Philosophy asserted identity of the Man to the world-wide cosmic substance. The Man represented “small world” microcosm (Democritus), repeated in a less accomplished form. The main determinant of the Man’s existence in the antique period was considered to be the integral cosmos, reflected with one or another rate of distortion and projected on the Man’s microcosm. From the point of view of naturalistic conceptions, the human world dissolved in the elements of the Cosmos.

Anthropological conceptions of the Man. The period of proximate study of the Man as such in the times of antiquity was quite short: this is the epoch of sophisters and Socrates. According to Protagor, the Man is the measure of all things existing, which exist and unexisting, which don’t exist. Therefore, the foundations of social life should not be the laws of God, coessential with the laws of the Cosmos, but human “nature”. So-

ocrates insisted on the transition to investigation of human matters, but, at the same time, he finds inside the human consciousness objective, not subjective factors. In his opinion, they lie in the human mind. That's why in ancient Greek anthropological conceptions the external objective world, in its transformed form, acts as determinants of the Man's existence, and his subjective world.

Metaphysical conceptions of the Man. In Platonism the Man is represented as the bearer of the spirit, but the spirit itself is external, objectively – substantial, in relation to the Man. Platonism understands the Man as the combination of two essentially heterogeneous origins: Soul and Body. The soul belongs to the world of bodiless Gods – ideas, and its passing to the Earth is only the fall. Plotin unfolds Platon's idea of the "World Soul" into the theory of monopsychism (the soul is one whole in its existence, and only on the level of the phenomenon it fractionizes into individual souls). From this point of view, the Man is determined by external ideal factors.

Aristotle, as opposed to Platon, insisted on interdetermination of soul and body. In his doctrines the soul has a form of the body, which, during its life time unfolds spontaneously according to laws immanent to it and "external" in relation to the Man.

In late Antiquity there appeared mystic teachings on the purusha as a Divinity, involving the whole rational structure of the Universe (secondary in relation to the purusha). This image passes to the Christian Gnosticism and Hebrew mysticism, combining the motives of Platonism with a new, sublime valuation of the Man (in the relation to the Universe).

In Biblical belief the Man is represented as the intercrossing of contradictions between the God and the World, unfolding in temporal historical process. The Man in his createdness stands against uncreatedness of the God, in his thingness stands against the absolute "I" of the God. But if his body is "made" as the thing, then the soul is the breath of the God himself, and the Man, being non-thing, stands against the God as the partner in

the dialogue. The power of the God is implemented from one will to another as the order, vocally expressed in the “commandment”, and therefore, the Man can disobey the God.

The Man is honored the “God’s image and likeness”, but in contrast to natural creatures, which cannot lose their non-godlike image, the Man can destroy his god-likeness. His way, started with the fall, unfolds as the succession of dramatic transitions from being chosen to being outcasted, and back.

In Christianity the image of the Man is built on the preconditions of Biblical faith. If Jesus the Christ is the Godman “by nature”, then every Christian is the godman by grace. In gnoseological plane self-cognition is recognized as the cognition of God. In historical development of Theology the Christian scheme of the man’s existence is laid on the scheme of the antique ideal Anthropology with its contraposition of spirit and body, idea and materia.

But for Christian anthropology real dissociation takes place not between material and non-material substances in the Man, but between a “spiritual Man”, whose body is also spiritual and “carnal man”, whose spirit is marked by the weak-willed and self-willed suggestibility of the flesh. Conquering the “flesh” is not the liberation of the spirit from the captivity of fleshliness (as in Neo-platonism, Gnosticism, Manichaeism, etc.), but vivification of the body.

Patristics worked out typological distinction between two approaches to the problem of the Man. The type of Christian anthropology, proceeding from the idea of the synodical “I” and related to the whole humanity (preconditioned as the unity of “integrity of souls”) was represented by Grigori Niski and later it was a characteristic feature of Orthodoxy. The type of Christian anthropology, proceeding from the idea of individual “I”, revealed, in its solitude, to the absolute “I” of the God, was represented by Augustine, and later it was a characteristics feature of Catholicism and Protestantism.

The second typological difference (revealed in anthropology of Western medievalism) is the rivalry, between Platonic (Blissful Augustine) and Aristotelian (Phoma Akvinsky) traditions in the treatment of interrelation of the Soul and body.

As distinct from Medieval anthropology based on transcendental approach, in the epoch of Renaissance there appeared a new approach to the Man connected with understanding of him, proceeding from the Man himself. Humanism of the Renaissance is penetrated by the pathos of the Man's autonomy, his limitless creative abilities (*Piko della Mirandola, Fichino, Bruno*). Piko della Mirandola considered that the Man to be the only creature capable of voluntary development and free formation of his existence. Peculiarity of human sphere of existence is represented by Nikolay Kuzanskiy.

The old idea of the medial position of the Man between the spiritual and the natural is transformed by Piko in such a way, that the "mediality" itself is interpreted as the specific advantage of the Man, and particularly before the world of spirits, because the latter are initially put into Eternity, and only the Man possesses the freedom of self-determination.

In the 17th c. understanding of the Man as a living integrity, typical for the epoch of Renaissance, was pushed back to the background by Cartesianism. But it was resumed in the end of the 18th c, by J.B.Herder and representatives of romanticism, and in the 19th c. by L.Feuerbach and philosophy of life.

R.Dekart's idea of thinking as the only trustworthy evidence of the Man's existence provided the basis for the new European rationalism, which perceives exactly in mind, thinking the specific peculiarity of the Man, constituting his essence. This is connected with the ethical postulate of supremacy of mind over passion (e.g.: in R.Dekart and Spinoza's doctrines on affects), wherein the Man's freedom is perceived. Cartesian dualism of soul and body, proceeding from the doctrine on the existence of two opposing substances – thinking and extensional, identified for a long time setting up and solving the problem of the Man.

Interrelation in the Man of the divisible extensional body and indivisible immortal soul became one of the central problems of the philosophic thought. In Psychology it provided the basis for psychophysical problem. This being said, the body was looked upon as an automatic device or machine, which is common for a man and animal, but the soul was identified with consciousness (e.g.: affects as B.Spinoza's "vague ideas"). Naturalistic ideas of the Man in mechanistic materialism go back to Psychics and Physiology of R.Dekart: monistic conception of the Man as a material creature, determined by the laws of mechanics and, in principles, having no significant differences from an animal (T.Gobbs, French materialism of the 18th.c.)

In I.Kant's doctrines dualism in understanding the Man acquires a new form. This is not the combination of two opposing substances, but a creature, belonging to two different worlds. It belongs to the world of nature, where he is fully subjected to the natural necessity and to the world of freedom, where he acts as a morally self-determining creature. Consequently, I.Kant delimits the approach to the Man into "psychological and pragmatic". The first approach studies what the nature makes from the Man, the second - studies what he, as the freely acting creature, makes, can make and must make from himself.

As a result of overcoming both cartesian rationalism and sensational empiricism of the 17-18th c., German Philosophy of the end of the 18th and beginning of the 19th c. (I.Goethe, J.Herder, romanticism) comes back to understanding of the Man as a living integrity, characteristic for the epoch of Renaissance. I.Goethe and J.Herder in the spirit of *pantheistic* tradition view the Man as a part of nature in the unity of his different emotional abilities and instinctively vital forces. The sphere of imagination and feelings is equalized in rights with thinking and elevates over it. There appears the idea of organic interpenetration of the corporeal and spiritual, which is understood as the expression, symbolic exposure of one in the other. Naturalistic Philosophy of Romanticism views the Man as the corporeal,

emotional and spiritual unity. F.Sheller, trying to overcome Kant's dualism of the natural and moral, sees the Man's identity and his specific essence in the aesthetic sphere, in his ability for aesthetic play, uniting physical and moral sides of the Man.

Characterizing the place of the Man in the organic world, J.Herder refers to him as "the first freed Man of the nature": the man, his organs of sense and corporeal organization, as distinct from the animals, are not specialized, more uncertain. But exactly this uncertainty is the source of his specific advantage: he must be formed by himself, creating the culture.

J.Herder, representatives of Romanticism, G.Hegel developed the idea of historicity of the Man's existence and human culture. The most important for German Classical Philosophy is the idea of the Man as the subject of spiritual actions, creating the world of human culture. They looked upon the Man not as the bearer of generally valid consciousness, but as the representative of the Universal ideal source – spirit and mind. In Hegel's Philosophy, where the idea of historicity of the Man receives the most logical development, human action stands out as the highest step of objectivation and self-cognition of the "World Mind".

Criticizing these ideas of German idealism, L.Feuerbach implemented reorientation towards understanding the Man. For the time being, L.Feuerbach considers all, that was previously referred to God (and his rationalized substitutes of the absolute idea type), to be the estranged projection of human qualities and wishes. The Man is positioned, thereby, into the centre of Philosophy, now he is understood, however, as the sensually-corporeal, terminal and, consequently, suffering creature. Similar to J.Herder, L.Feuerbach sees the difference between the Man and an animal in the fact, that an animal is limited in the means of its existence, the Man is universal. Feuerbach's ideas made a decisive influence on the formation of K.Marx's conception of the Man in the way it is presented in his early works in 1840s. (See "Economically- Philosophic manuscripts of 1844", etc).

In irrationalistic trends, opposing rationalistic conceptions of the Man, the first and foremost are abilities and spheres, which don't belong to intellectual ones: feeling (Gaman, Jacobi), will (Shopenhauer), internal comprehension analogical to intuition (Baader), vital forces and attractions (philosophy of life in its biologically naturalistic variant), existence (Kierkegaard), etc.

Natural Philosophy and Romanticism developed the doctrine on the unconscious as the initial source of creative forces of the Man, the deep foundation of his existence.

F.Nietzche, proceeding with these motives of Romantic Philosophy, assigns the central position in the Man's understanding to the concept of life as a nonsegmented current of biologically-cosmic formation. Being included into this current, the Man is determined by the play of vital forces and attractions, but not by his consciousness and mind. In polemics with metaphysics of classical idealism, *F.Nietzche* emphasizes the common character of the Man (as an organism) with the animal world. Rejecting the idea of "reserved essence" of the Man, *F.Nietzche* insists on his being open and incomplete. The man is a "great promise" open for different abilities, the "bridge" between the animal and "superman".

In V. Dilthey's philosophy of life, as well as in *F.Nietzche's* philosophy, the Man is fully revealed through the concept of life as an ending immanent foundation of existence, "after which there's nowhere to go further". But in contrast to *F.Nietzche*, this concept acquires the culture-historical meaning. Human life is revealed in historical process of its objectivation in the system of cultures, through which, only, the Man can be understood, thus, possessing no eternal constants.

The problem of the Man is central in such philosophical trends as personalism and *existentialism*. The former in its most consecutive order proved to be the form of philosophizing in the course of Christian anthropology (however, without an accent on the idea of *humanity conciliarism*). Proceeding from the human personality as having the absolute and unique value, and

striving to find a support for it, personalism appeals to the personal absolute (God), in participation to whom the Man affirms his sense and dignity.

Personalistic pathos is a characteristic feature of existentialist philosophy, proceeding from B.Pascal, S.Kierkegaard, F.Nietzche, and accordingly interpreted Dostoevsky, which was formed in the 20th c. The main source of understanding the Man in existentialism is the philosophy of *S.Kierkegaard* who sharply criticizes Hegel's understanding of the Man as the moment, through which the objective spirit realizes itself. S.Kierkegaard's doctrine on the Man builds up in opposition to rationalism.

S.Kierkegaard pays central attention to the volitional act, by means of which the Man gives birth to himself. According to S.Kierkegaard, the choice is something, due to which the individual, i.e. the natural proximate creature, determined by external circumstances, becomes a personality, i.e. the entity – spiritual, free, self-determining. *S.Kierkegaard* opposes the volitional act as a moral one to the thinking act, characteristic for German Classical Philosophy. Only the will in the act of choice supposes the distinction between the good and the evil. From the point of view of S. Kierkegaard, the mind is not the receptacle of the Man's spiritual merits, but, what is more, it acts as a betrayer of human proximity.

The birth of a free personality starts not from the act of doubt (as in traditional or rationalistic philosophy), but in the state of "despair". Only in the state of "despair" the Man gives up his intellectual hopes, connected with sensibility of the life objective laws and wakes up his will for the search of miracle and the God. Thus, S.Kierkegaard, who didn't give up the Christian teaching on the Man, views the spiritual content of a personality as *created by the Man himself*.

Existentialists continue their uprising against determinism (embodied for S.Kierkegaard in Hegel's objective idealism), seeing in natural determinism (positivists and scientists) the

main enemy of the Man's supercapabilities. The idea of "despair" develops in existentialism into the concept of "catastrophe" (L.Shestov) and "borderline situation" (K.T.Jaspers).

In its characteristic and most categorical form, existentialism is the doctrine of a man, who is left alone with himself. He lost his ability for faith, but he is longing for the holy thing. From this point of view, the world appears to be the placing of impersonal forces – it can offer nothing to the Man, except for absurdity. The personality acts here as something capable of opposing itself to the whole world. Pessimistic heroism or "tragic stoicism" of existential *purpose* expresses "chivalrous service to unrealizable ideal" (S.L.Frank).

In his uprising against the natural (objective) necessity of peace and declaration of the subjective, personal freedom existentialism continues the traditions of the autonomous and imperative ethics of I.Kant, asserting the highest value of moral instruction. But as, according to the atheistic variant, not only the world, but the man doesn't have any support or any moral values externally allotted to him, then the man, as a matter of fact, has got nothing to oppose to the world, apart from the act of opposition itself.

Philosophy of life (V.Dilthey) and phenomenology (E.Husserl), as well as the crisis of traditional opinions on the Man (three unconnected traditions in understanding the Man – religions, philosophic and naturally –scientific), became the background for creation of philosophical anthropology proper, the aim of which was the theoretical analysis of specific peculiarities of human sphere of existence. In its limits there was implemented an attempt of reconstruction of the integral concept of the Man by means of revision and interpretation of various objective knowledge about the Man, which had been obtained by concrete sciences in the end of the 19th - beginning of the 20th c. (Biology, Psychology, Ethnology, Sociology, etc).

Emergence of Philosophical Anthropology is connected with the name of M.Scheler (1928), who centered his attention at the

essential difference in the ways of existence of the Man and animals. M.Scheler sees its difference in the ability of the Man to estrange from the pressure of biological needs, in turning it away in relation to the environment, in objective(subjective) attitude to it.

H.Plessner determines the peculiarities of the Man as “eccentricity”, as his constant withdrawal from the proximity of existence, constituting his nature. If M.Scheler considers that the principle of the Man’s existence is the off-life spirit, which restrains and sublimates the drives, turning the environment into the world, then H.Plessner thinks that the Man must be understood through the descriptions of relationship structures of organic creatures with the environment. In his case, eccentric position of the Man specifically determines not only the highest level of its essence, but the whole corporal organization beginning with the lowest vegetative levels.

A.Gelen, developing a number of M.Scheler’s ideas, sees the difference of the Man from the animals already in elementary, but specifically human combinations of perception and movement, in human sensorimotor processes. In the spirit of American pragmatism (D.Dewey, M.Mead) A.Gelen considers the action to be determinative in understanding the Man. Discerning (following I. Herder) its source in biological “deficiency” of the Man (primitive and multipurpose character of his organs), he comes to the conclusion, that as distinct from animals, the Man is open for perceptions, lacking inborn signal function. According to A. Galen, the Man is a “cultivated” creature.

The conception of E.Rothaker, the founder of “cultural anthropology” is close to the ideas of A.Galen. The Man is looked upon, first of all, as the creature, determined by culture, as the “creator and creation of culture” (M.Landman).

Philosophy of E.Cassirer, rooted in neokantianism, presents the man as the creature, creating specific forms of expression – symbolic systems of culture (language, myth, religion, art, science, etc.). This is a symbolic animal.

Conclusions . In the history of Philosophy understanding of the Man is characterized by inconsistency. From this point of view, the criteria of differentiation of various conceptions of the Man may be different.

1. *The criterion of materialism and idealism opposition.*

From this point of view, *on the one hand*, an attempt to explain the Man as the product of natural materia development. In other words – to deduce spiritual forms from material ones. *On the other hand*, recognition of the spiritual, irrespective of the material beginning of the Man's existence.

2. *The criterion of the Man's essence source.*

From this point of view, *some* (transcendental) *conceptions* view the Man in relation to some source, existing externally and filling him. (God, absolute spirit, socium). In the *other* (immanent) *conception* the Man is limited by himself and acts as the last one in spiritual hierarchy, obtaining his content from himself.

3. *The criterion of isolation /subjoining.* From this point of view,

the conceptions on the isolated individuum, the lonely and “deserted” personality, stand in opposition to the conceptions of the personality as a member of the humankind, the bearer of human commonness (Christian conception of the purusha and conciliarity; le Grand Etre of O.Kont; the postulate on the Man as the bearer of the universal mind, the doctrine on “transcendental subject” of Kantian tradition, etc. .)

4. *The criterion of “substantiality/existentiality”.* From this point of view, *substantial conceptions* are characterized by interpretation of the Man's existence as the substance modus with the stability of its qualities, impersonal commonality, immanent regularity, self-sufficiency, associability. *Existential conceptions* are characterized by their attitude to the Man's “I” as a current, movable, open, unique, supported and revealed in correlation with another “I”. Here, the personal “You” is opposed to the naturally-substantial impersonality of substantialism, ano-

nymous “It”. Monological objectivizing opinion, striving to reflect itself in a rational (scientific) form is opposed to dialogical unobjectivized “attentive listening” into human existence, which can only be symbolized.

5. *Marxism looks upon the Man as the communal creature.* The central in defining the essence of the Man is considered to be his ability to carry out the conscious reformation of the reality by means of artificially created facilities (tools and things). Mastering social, historically built forms of action, turning them into abilities is the main condition of the formation (development) of the Man. The base point of the Marxist understanding of the man is the treatment of him as the derivate of the society, the product of social labor action.

The distinction of the Man from animals, from the point of view of Marxism, consist in the following. Animals cannot change drastically the conditions of their existence, turning the natural environment into the artificial one. All transformations of the environment by animals are reduced to the changes of its certain natural states into its other natural states. They adapt to the natural environment, using its natural means of existence. This natural environment, exactly determines their existence (life). *The Man* produces the conditions of his existence, transforming the natural environment into the artificial one. As a concrete historical creature, the Man, transforming the natural environment of his existence into the artificial one, changes as a result of determination of his existence by the artificial environment as the artificial products of his own action.

Every new man, coming into life faces the world of human objects and human (social) relationships, which have embodied in themselves and objectified social action of the previous generations. This human world, where each object and process is “charged” with the human sense, social function, surrounds a new man (a child). Developing human nature, the new man becomes familiar with the existence of human culture.

The norms of law, morale, way of life, thinking, taste, etc., historically created as the results and products of the social action, form the Man's behavior and mind, turn the isolated man into the representative of a certain way of life, culture and psychology.

Marxism views the Man as the creature, preconditioned by the communal (social) relations. This being said, the essence of an individual Man doesn't belong to him, it is the socium attribute and it represents the system of social (communal) relations. Individual Man acts as a personality when he achieves self-consciousness, understanding of his social functions, conceptualization of himself as the subject of historical process. [26] [27] [28] [29] [30] [31] [32] [33] [34] [35] [36] [37] [38] [39] [40] [41] [42] [43] [44] [45] [46] [47] [48] [49] [50] [51] [52] [53] [54] [55] [56] [57] [58] [59] [60] [61] [62].

b) "external" nature of the Man's existence determinants in psychological conceptions.

Instinct as the "External" determinant of the Man.

Historically, the first theories of psychological determination were the theories of instincts. Decisive role in this direction of investigations belongs to the evolutionary theory of Ch.Darwin [63, p.47]. In Psychology of the end of the 19th c. the instinct was looked upon as the main factor, determining the Man's behavior. In particular, this point of view was shared by W. Jams [64, p.462]. Later, W.McDaugall modified W.Jam's model of instinctive determination. If W. Jams considered that the instincts act in a reflectory(reflex) mode, then W.McDaugall connected the direction of the instinct with the aim. W.McDaugall introduced the concept "motivational construct", primary in relation to instinct [63, p.50].

If W.McDaugall explained the Man's behavior by the availability of the limited number of instincts, then Z.Freud insisted that the energy of all human instincts possess the common source [63, p.48]. While W.Jams connected determination of behavior with the conscious decision-making, Z.Freud and his

followers considered the unconscious to be the central determinant of behavior. [65, p.52]. In his works Z.Freud asserted, in fact, the biological nature of the Man, because he connected the unconscious with genetically stipulated factors [66, p.72]. According to Z.Freud, genetics assigns equally both the behavior of the animals and Man [66, p.72].

Conclusion. Instincts is the *genetical program* of individual behavior formed in the evolutionary process. Individual man acts as an *object* of “action” of genetically assigned program of behavior as an “external” factor, stipulating his behavior.

Stimulus as an “external” determinant of the Man.

Theory of learning was founded as an alternative to the theories of behavior determination. They were based on hypothesis that the behavior can be explained by the principles of learning, not instincts [63, p.457]. The aim of the theories of learning was to prove, that any behavior can be explained either by principles of classical learning or by principles of instrumental (operant) learning [63, p.57].

According to S.Hall, drive activation, taking place as a result of external stimulus, leads to the random behavior. As a result, the organism produces the random reaction, leading to weakening of the drive. When it happens the behavior (reaction), which has lead to weakening of the drive, fixes. Compared to Z.Freud, who believed that instincts bring about the ideas of aim, S.Hall considered that the aim is found out only in the course of random behavior. [63, p.57].

B.F.Skinner’s theory of strengthening. B.Skinner, as distinct from S.Hall, supposed that there is no need in weakening the drive for learning. His research showed that the people can learn even without weakening of the biological drive. In this sense, B.F.Skinner’s theory deviated, in many respects, from biological basis of behavior. In his opinion, the behavior exists under constant control of social reinforcements. [63, p.58]. B.F.Skinner thought that it is possible to build an ideal state, but for this reason the people should give up such concepts as de-

mands for freedom and feeling of their own dignity, and then to delegate the control over their behavior to a loyal superpower [63, p.59].

The behaviorists remarked that experimental Psychology studies, in fact, the demands and drives, possessing purely physiological nature. Behaviorists themselves explain the behavior through the scheme “stimulus-reaction”, considering an irritant as the factor, determining the reaction of the organism. They reduce the problem of psychological determination to the study of behavior conditions, stipulating respective reactions of the organism. [65, p.50]. Biologists, physiologists and psychologists – behaviorists accepted the external stimulus as the main determinant (I.M.Sechenov wrote that the first reason of any human action lies outside him) [67, p.57].

Conclusions. *Stimulus* is the *external natural* (innate and social factor), determining individual behavior (individual reactions) formed in the process of nature and socium evolution. Individual man acts as an object of action of the stimulus as the “external” factor of determination of his own behavior.

The need as the “external” determinant of the Man.

Great thinkers of antiquity – Aristotle, Geraklit, Democritus, Lucretius, Plato, Socrates – laid foundation for investigation of the need–related determination of human behavior. They mentioned “the need” as the teacher of life. Democritus viewed the need as the main driving force. He considered that without needs the man couldn’t have got out of his wild state [67, p.9]. Geraklit considered in detail propulsions, drives and needs. In his opinion, the needs are identified by the life conditions [67, p.9]. Socrates wrote that needs, desires and strivings are peculiar for everybody. But, however, the main thing doesn’t consist in fact what the Man’s striving are, but what place they occupy in the Man’s life [67, p.9]. In Plato’s teachings needs, drives and passions form the “delightful” or “the lowest soul”, which is similar to the herd and demands the control on the part of “sens-

ible and generous soul” [67, p.9]. In Lucretius’ s opinion, the source of will are desires, rooted in needs [67, p.10]

The theoretical base of the need–related theories of the Man’s existence determination is the thesis that the energy, targeting and stability of behavior are determined by needs. Once there was the suggestion that people are born with a limited set of needs, which can be changed in the process of learning [63, p.51].

In psychology the issue of needs, as the determining factors of human existence, started to be discussed in the first quarter of the 20th c. Thereby, the need as the experience of need, was considered both as demonstrations of emotions and as instincts. The very first work, especially devoted to the need as psychological determinant, was, apparently the book of L.Brentano (1921). He defined the need as “any negative feeling, combined with the striving to remove it with the help of removal of dissatisfaction causing it” [67, p.21].

In the 20s of the 20th c. and later, there appeared in Psychology the need–related theories of human existence [K.Levin, G.Allport, etc.]. Here, along with organic needs, the secondary (psychogenic)needs are singled out, which appear as a result of education and upbringing (G.Murray). They included the need for achieving success, affiliation and aggression, need for independence and counteraction, for respect and protection, for dominance and attracting attention, the need to avoid fails and negative impacts, the need of self-actualization (A.Maslow) [67, p.11].

In the 20th c. the concept of “psychological determination” remains to be closely connected with the concept of “need”. Thereby, need-related theories were opposed to the theories of behaviorists, according to which the behavior is determined in the limits of the scheme “stimulus-reaction” [67, p.11]. The works of H. Murray deserve special attention [66, p.77]. From H.Murray’s point of view, the need is the psychic force, generating the organized action. The concept of the need is different

from the concept of drive because needs don't always direct the action in direction of weakening the tension. [64, p.463]. H.Murray showed that people's behavior may be described using a limited set of needs.

One of the well-known advocates of the need-related nature of human behavior determination is McClelland. His more than forty year old contribution into this theory is the substantiation of the need for achievement as well as the need for affiliation or the need for power [63, p.53].

First, many psychologists considered that people are born with the concrete set of the fundamental needs. These needs can be socially intensified by means of rewards. It was considered that needs are some inclinations towards actions, but the system of rewards can turn them into stable needs [63, p.54].

Subsequently, the combination of two ideas – the idea of need and idea of reward - brought about the appearance of a new idea, exactly the idea of social environment, as the factor influencing the formation of psychological determination of the Man. This idea was supported by many psychologists, who believed that learning plays the most important role in the process of needs development. [63, p.54].

It was historically worked out that the shortage of need-related determination theories motivated the creation of conceptual alternatives. In the middle of the 20th.c. large achievements were made in this sphere due to works of D.McClelland and D.Atkinson. Starting out from H.Murray's conception on need for achievement, D.McClelland formulated the theory, distinguishing three basic moments: achievement, affiliation and power. From the point of view of D.McClelland, the motives are acquired, mainly being the result of childhood experience and processes of socialization [64, p.464]. As a result, there was suggested the hypothesis that there exist the needs, which, practically, are fully stipulated by the social environmental impact. The work of McClelland, devoted to the study of achievements motive, was fully based on this hypothesis. He insisted that

children, who receive rewards for their achievements, grow up, consequently with a highly developed motive of achievement [63, p.55].

Similar approach to achievement motives was suggested by D. Atkinson, who added to the theory of psychological determination two significant moments. First, having analyzed the works of his predecessors, he founded the conception of expectation of significance : the man acts only in the case , if he expects that he will manage to achieve the desired goals, which he perceives as subjectively significant. Thus, D. Atkinson introduced into Psychology the concept of subjective evaluation, having replaced the notions of objective capabilities and benefits. As distinct from the theory of drives, his model of significance expectation reflected such qualities of human motivation as purposefulness and orientation at future. Second, D. Atkinson admitted that action usually reflects the sensible compromise between positive and negative stimuli and expectations. Risk is followed by either success or failure [64, p.465].

As a result of the research it was established that, classical theories “expectation - significance” suffer from a drawback, which as Psychology advances, are becoming more and more evident. Theory of D. Atkinson and other theories of “expectation - significance” of his epoch (e.g.: H. Heekhausen) were cognitive in that sense, that they analyzed subjective ideas and dynamic psychic processes. But they, as a rule, didn't pay attention to concrete mechanisms of information processing, by means of which expectations are formed and modified [64, p.467].

Another shortcoming of “expectation - significance” theories is that they emphasize the importance of expectation in relation to the environment and pay relatively little attention to the Man's ideas of his own “I”. Man's expectations in relation to possible events depend, to a large extent, on whether he is capable of achieving results worth of rewards. Modern approaches to

the problem of psychological determination make a significant accent on the idea of "I" [64, p. 467].

In further study of needs, as the behavior determinants, the question was raised, whether there exists a limited set of *basic needs* (dispositions) in the basis of numerous variety of needs. There was an attempt to receive an answer to this question with the help of factor analysis. As a result, R.Kettell suggested the well-known sixteen factor model. After him H.Eysenck suggested three factor model. Quite recently (1992) five factor model was worked out [63, p. 55].

R.Kettell created "dynamic frame of drives". He singled out motivational dispositions of "ergs" type, in which he saw sort of biologically stipulated drives and "n-grams" the nature of which is not in biological structure, but in the life history of the subject [65, p. 51]. Nowadays, research data afford ground to the advocates of need-related theories of determination to assert, that any behavior of the Man can be described through 5-7 basic needs (or dispositions), and that every need can be correlated with corresponding biological structures [63, p.56].

Need for self-actualization as the "external" determinant of the Man.

Humanistical Psychology emerged as an alternative to behaviorism and possessed the evident anti-Darwin character. From the point of view of humanistical Psychology, though the Man is biologically determined, he possesses the inborn potencies, which reveal in the process of maturation. In connection with this, Humanistical Psychology denies the decisive role of biological determinants of the human behavior and affirms the need for axiological self-actualization [63, p.56].

Nevertheless, the humanistical psychologists recognize the natural source as the main source of psychological determination of human existence and theorize on the admission that the good is genetically laid in people, and that they possess the inborn (biological) aspiration for growth and improvement [63, p.64].

In accordance with A.Maslow's hierarchical model, the highest needs are timely only under the condition of satisfying the needs of the lower level. Beginning with the lower steps, the Man passes from the striving to satisfy psychological needs to the striving to satisfy the needs in safety, love and belonging to a certain social group, as well as self-respect. At last, the man, who has achieved the highest step of the hierarchy, is guided by his need for self-actualization, i.e. the need to realize himself and his potency. [64, p.464]; [63, p.53].

***Integral System of Needs as the "external"
Determinant of Human Existence.***

The well-known theory of field worked out by K. Levin is an attempt to describe human determinants not as single factors, but as an integrity [66, p.225]. Specific features of the field model of determination are, first, its actuality ("here and now"); second, homeostaticity, reflecting the idea of adaptivity [66, p.227.]. Insufficient clarity of the mechanisms of psychological determination emergence in K.Levin's field theory makes it possible to define it as descriptive. [66, p. 239]. Besides, the lack of possibility of predicting the Man's behavior, proceeding from its theoretical foundations, leads to the fact that the whole theory is reduced to the mere statement of facts [66, p.227].

Conclusion. The *need* is a *natural* or *social factor*, which gives energy, direction, and stability to the Man's development, forming itself in the process of biological or social evolution. The individual Man acts as an object of the need action, which is an "external" factor, stipulating his own behavior.

Cognitive Image as an "External" Determinant of the Man.

Theoretical foundations of cognitive theories were developed in the works of the psychologists, who made a research into the problem of learning (E.Tallman), psychologists, who made a research into the problem of personality (K.Levin), and psychologists who made a research into the problem of development. (J.Piaget). Though traditional theoreticians (J.Watson,

C.Hall) considered that any behavior may be explained through the principle of strengthening of habits or associations, without resorting to the idea of images, at last, however, there prevailed the point of view that psychic (cognitive) images play the central role in behavior determination [63, p.66]. W.James, already in the end of the 19th c., singled out several types of decision-making (formation of the intention, striving for action) as the conscious deliberate action. He referred to the objects of thought, preventing the final action or favoring it, as foundations or motives of the given decision [65, p.51] [67, p.12].

Later, in the second part of the 20th c., there appeared motivational conceptions of J.Rotter, G.Kelly, H.Hekhausen, J.Atkinson, D.McClelland, for which it was characteristic to recognize the leading role of consciousness in determination of the Man's behavior. The so-called cognitive theories of motivation were followed by creation of new concepts in scientific terminology: social needs, cognitive dissonance, values, expectation of success, fear of misfortune, level of pretensions [65, p.51] [67, p.12].

Cognitive theories are based on the idea that people can form psychic images, reflecting specific features of the environment, and use them for controlling their own behavior [63, p.69]. Their specific feature is that they don't concentrate on the environment changes. From the point of view of cognitive theories, it is considered that it is impossible to change the environment. The best way out of this situation is to change ideas and opinions on the environment. This idea is not new; many centuries ago it was declared by the *Mark Aurelius*, the Roman Emperor: "...if something causes you pain, its source is not inside, but in the way you look at it. You can review your opinions just now..." [63, p.109].

The statement, that the development of cognitive structures is connected with psychological determination, underlie practically all cognitive theories. Thereby, determination is treated as the discrepancy between what the man can understand at the present

moment, and what he must understand in order to study out the changes, taking place in the environment. In accordance with cognitive theories, what the man sees or feels, depends, in many respects, on his convictions, aims, values, implicit theories.

Cognitive theory of attribution. The way people explain their previous successes and failures makes a significant impact on the character of their future determinants. Analyzing the mechanisms of the impact of attributional processes on the processes of determination, Weiner considers subjective judgments on the causes of one or another action as the motivational forces. Results call forth the search for the causes. Judgments on the causes of events stipulate the character of psychological determination [64, p.468]. One of the serious shortcomings of the attribution theory is that it makes accent on retrospective judgments in counterbalance to the Man's aims and his thoughts about the future. Deci insists that this peculiarity makes the attribution theory "look more like the theory of inclinations rather than cognitive theories of motivation..." [64, p.469].

Cognitive theories of probability estimation.

The idea that people form psychic images emerged in the 50s of the 20th .c. One of the varieties of psychic images is the expectation (probability), in other words, the judgment founded on the previous experience and permitting to estimate the probability, that certain actions will bring about certain results. Expectation, as it is, is not the determining factor. But it forms the combination with the determining factor, which is estimation (evaluation). Theories of estimation are built on supposition that people not only model expectation in relation to what may happen, if they act this or that way, but estimate the probability of the events development. [63, p.67]. Theories of estimation are hedonistic in their essence. They are also referred to as theories of cognitive choice or decision-making theories [63, p.65].

Cognitive control theory. Cybernetic theory (control theory) of self-regulation model is the integral system in the limits of which it is possible to consider processes of psychological de-

terminants formation (Carver and Shiever, Powers, Viller, Galanter and Pribram). Control theories pay attention not to the retrospective judgments of an individual on causes of events, but to informational and processual mechanisms, by means of which the Man regulates his actions. Control theory similarizes self-regulation to some feed-back system like a thermostat [64, p.469].

Socially–Cognitive self-Determination Theory.

According to this theory, the Man possesses needs for competence, autonomy and relations with other people. Autonomy facilitates the inner-motivated behavior. If such behavior is destroyed by rewards from outside, internal motivation weakens or disappears at all. To stimulate motivation, the Man must be given a blank cheque. Besides, it is necessary to encourage *interiorization* of the group values. People oriented at success are distinguished by the sense of subjectiveness (Bandura). H. Murray, who laid foundation for investigation of achievements motivation, defined the achievement need as a desire or tendency “to overcome obstacles, demonstrate force, strive for doing something difficult and do it as soon as possible”. Interestingly, that investigators of achievement motivation haven’t still managed to reveal biological links between achievement motivation and a certain centre in the brain or a neurotransmitter [63, p.581].

According to R.White, the tendency towards investigative behavior is stipulated by the integral motive (efficiency motivation). This motive is directed at understanding the surrounding world and world order. Efficiency sensation emerges when the Man realized his ability of influencing the surrounding world [63, p.581].

Many investigators think that the transformation of purposeful behavior into the automatized one is necessary. But a number of alternative studies showed that *one must live conscientiously*. Life on the conscious level demands a lot of time and forces, but these additional efforts, however, are more than

compensated. Successful life is a conscious life (Damassio; Langner; Ornstein) [63, p.623].

The subjective side of "I" is autonomous and demands control. If it is allowed to develop skills and competence by means of mastering the surrounding world, the Man acquires the feeling of self-determination. Subjective side is responsible for the active integration of information (not its absorption) and also for *generating the rules and principles governing our actions*. [63, p.627]. The majority of contemporary theorists of motivation consider that in order to achieve success, one should concentrate on the process, rather than the aim. Many authors, writing about motivation, insist that the main satisfaction from the achievement is connected not with achieving the aim as it is, but with the work oriented at approaching it. [63, p.640].

Reflexion is generated by curiosity or desire to understand oneself. This leads to personal growth and creativity. Reflexion is more particular for the people, who are absorbed with action and live animatedly. Investigations point to the fact that, in order to strengthen reflexion and weaken rumination, one should concentrate on action. In this case not only reflexion strengthens, but compulsive negative thoughts weaken [63, p.641].

Albert Bandura's socially-cognitive theory of determinants. Two basic postulates of socio-cognitive theory run as follows: 1. personal functioning implies connected interrelation of a personality, behavior and socio-cultural environment; 2. the Man can influence his own life. In other words, his cognitive abilities let him direct the source of his development. [64, p.521].

This theory is the most integral conception of socio-cognitive mechanisms and self-regulation. According to socio-cognitive theory, motivational tendencies are mainly explained from the point of view of human ability of anticipation. The Man's behavior in the situation "here and now" depends on his ideas about the future. Expectations in relation to the result imply the estimation (evaluation) of consequences of his actions.

Socio-cognitive theory of cognitive estimation. According to this theory (Deci and Ryan), difficulty of the task and sensation of one's competence facilitates the interest in solving it. This approach is different from socio-cognitive theory, mainly because this approach considers the sensation of self-determination as the basic human *need*. As distinct from this opinion, the perceived self-efficiency in socio-cognitive theory is not a motive or need, but cognitive estimation. The Man doesn't strive for the accurate or high estimates for their own sake. He acts in order to receive an external reward or achieve the feeling of pride for his results, and the estimation of his efficiency is the mechanism of regulation of efforts directed at the achievement of these aims (Bandura). Thus, the perceived self-effectiveness is a system of ideas, resulting the actions directed at the achievement of certain aims [64, p.472].

Socio-cognitive theory of the planned behavior. (Ajzen). According to these theories, the direction of behavior is identified by three factors: the Man's aim in relation to certain behavior; his perception of social need to behave or not behave in a certain way; the perceived behavior control, defined as the perception by the Man of how difficult or easy to behave in a certain way. The theory of the planned behavior also recognizes that the perception of control may produce the immediate influence on behavior, i.e. the influence, which is not mediated by behavior intentions [64, p.473.].

Three differences can be distinguished between the theory of planned behavior and socio-cognitive theory. First, socio-cognitive theory views the self-estimating reactions as a motivational mechanism. Second, the theory of the planned behavior proceeds from the multiplicative model of motivation (expectancy-significance), while socio-cognitive approach supposes that human thinking and actions cannot be fully characterized with the help of mathematical formulas. Third, theories are somewhat different, depending on how they treat the idea of control. The advocates of socio-cognitive theory refuse to define

the ideas of control from the point of view of the perceived difficulty, as the perception of the difficulty itself depends on the Man's estimation of his own efficiency. The perception of one's own efficiency is a stronger determinant of behavior [64, p.473].

Socio-cognitive theory of a goal setting. Some theorists (Lacke, Lahtman) believe that people themselves can motivate, setting future goals. [64, p.469]. A number of critical remarks were volunteered in relation to Bandura's socio-cognitive theory and conception of target-setting mechanisms close to it.

First. Some psychologists consider that this approach reflects mechanisms, by means of which the Man guides his own actions, but he cannot, however, answer the question "why the results or aims possess the motivational force", or the questions, so to say, of "energization of behavior". According to this idea, it is necessary to postulate a system of basic needs, energetically facilitating the actions, e.g.: the need for competence and autonomy [64, p.473].

Second. Socio-cognitive theories reestimate the significance of self-regulation of the rational, self-reflexive processes. Though A. Bandura and some other representatives of socio-cognitive orientation recognize that cognitive processes can automatize and go by outside consciousness, some data point to the fact, that external factors may influence the behavior by means of unconscious mechanisms, which haven't been explained precisely in socio-cognitive theory [64, p.474].

Information as an "external" determinant of the Man.

The main idea of social learning consists in the fact, that people can learn not at the expense of reward, but at the expense of modelling (observation) the behaviors of other people [63, p.60].

Theory of social learning differs from the theories of B. Skinner and S. Hall by two specific features: 1. the behavior is looked upon as independent from the influence of random factors of the environment; 2. an organism can acquire experience (habits) even without immediate experience or reward. Informa-

tion is the determining cause of behavior in the theory of social learning. Besides, human behavior is determined by information, which the man "registers" involuntarily. [63, p.61].

B.Skinner and S.Hall were the most influential advocates of behaviorism. But, while S.Hall insisted that biological drives determine human behavior, B.Skinner gave up the idea of biological factors being the main determinants of behavior. The deep meaning of social learning theory consists in the fact, that the Man can change the forms of his behavior. But this doesn't mean at all, that the Man can voluntarily change his reactions for stimuli. The supposition, underlying all behaviorist theories, consists in the fact that learning, in its essence, is passive, involuntary [63, p.61].

From the point of view of psychological determination theories under discussion, the people are motivated by the *drives, needs, instincts and conflicts* rooted in their childhood. This means that we are doing not what we want to do, but what we were learned to. [63, p.62].

Theories of motivation for the growth and acquiring the mastery.

Theories of motivation for the growth are based on the idea that people are motivated by the need for successful interaction with the environment (Dember, Earl, Piaget, White). The sense of the basic thesis of the growth theory lies in the fact, that people are not born with developed abilities. Successful adaptation and adjustment require the development of these abilities. All these theories contain the idea, that people must process the information and acquire skills, in other words, to develop craftsmanship [63, p.62]. Theories of growth describe the mechanism of psychological determination as the divergence between where the individuum is at the current moment, and where he must be for the adaptation to the environment to be successful. Such divergence creates internal tension. In order to make it weaker, it is necessary to reduce this divergence by developing skills and intellectual abilities [63, p.62].

Here, the tension is the determining factor, reflecting the idea that the negative affective state is immediately connected with divergence, reminding unpleasant feelings of hunger and thirst. This divergence, exactly, determines human actions and deeds. As the tension is connected with the lack of essential information, then, according to J.Piaget, it is necessary to develop cognitive structures, permitting to process large volumes of it [63, p.62].

Theories of motivation growth became the alternative to the theories of learning, which asserted that all behavior is learnt. But there is another basic admission in the theory of growth: people possess Biological disposition for implementation of successful interaction with surrounding social environment. This disposition is fully coordinated with evolutionary approach, the essence of which lies in the fact, that our abilities don't depend on the chance, but are stipulated by our biological peculiar properties.

Conception of "internal" determination of human existence.

These conceptions are of special interest, because purely instrumental understanding, reducing, eventually, the behavior only to serving the organism, which is bound to restore the destroyed homeostasis, have always caused objections, especially when the data received in the work with animals were fully transferred to the Man [66, p.717]. The second attack directed at the extrinsic understanding of behavior, followed in the 50s. of the 20th c., when, due to works of S.Hall and B.Skinner, explanation of the behavior by, exceptionally, external strengthening reached heights [66, p.718].

There are a lot of problems in psychology of motivation. Among other things, up to now there is no unity of opinions on the difference between externally and internally motivated behavior. At least six different conceptions can be distinguished.

Their only common feature is understanding the internally motivated behavior as happening for the sake of itself and for the sake of goal states closely connected with it, and not merely

as means of achievement of the goal, alien in relation to such behavior [66, p.718].

First conception. Drive without reduction of drive. This conception asserts that internally motivated behavior is not directed at satisfaction of psychological needs such as starvation, thirst or avoiding pain. Along with this, additional drives are postulated (investigative, manipulating, etc.), which don't obey the principle of restoration of the destroyed homeostasis by the organism [66, p.718].

Second conception. Freedom from God.

Considers as internally motivated any seemingly aimless activity, without postulating drives or motives, peculiar only for this activity [66, p.719]. White considers "motivation by efficacy" as basic for such type of activity. Thereby, sensation of effectiveness is motivational, and the result of activity is the extension of different types of competence [66, p.719].

Classification of McReynolds, in which the instrumentality of behavior is used as the criterion for differentiation, corresponds to this understanding. In accordance with this classification, only those forms of behavior are internally motivated, which are implemented only for the sake of progressing the action itself. All, that is directed at achieving any final state or aim, is externally motivated [66, p.719].

Third conception. Optimal level of activation or decoordination. According to this conception, any behavior is considered to be internally motivated in the presence of regulation directed at support or restoration of a certain optimal level of functioning [66, p.719].

Fourth conception. Self-assertion. Presented in the works of de Charms. Similar to White, he perceives the primary motivation in sensation of one's efficacy, feeling oneself the source of changes in the surrounding world. This striving to be the cause of one's own actions is not any specific motive, but a certain guiding principle, which spreads on different motives [66, p.720]

Fifth conception. Joyful absorption by the action. The significance of such criterion as emotional feeling, accompanying the action, connected not with “I” (as subjective causality), but with the action, is rising more and more. In this case, internal motivation means that the Man is joyfully absorbed in what he is doing, and that he is fully plunged in the emotional experience of action, advancing ahead. Csikszentmihalyi in his work “beyond boredom and anxiety” suggested a certain emotional state – joy from activity, as a characteristic feature of internal motivation [66, p.702].

Sixth conception. Uniformity of action and its goals.

Raises a question on whether the pithy and inseparable interrelation between action and goal, or its *basis*, is reflected in emotional experience of the subject, if yes, then – to what extent. Thus, the question on motivation self-attribution is raised here. The action is considered to be internally motivated, when the means (action) and goal (goal of action) are topically interrelated, in other words, when the goal is topically homogeneous with action in such a way, that the latter is implemented for the sake of its own content. In particular, the action of achievement is internally motivated, if it is undertaken only for the sake of the result, which must be achieved, because in this way either the task will be solved, or the estimation of one’s abilities will be implemented [66, p.722].

Conclusion. Cognitive image is the informational factor, acting as the means of necessary change of behavior caused by the change of the environment. Cognitive image forms involuntarily in the process of interrelation of the Man with the environment. Individual man acts as an object of influence from external nature or social environment, mediated by cognitive image as the “external” factor stipulating his own behavior.

Need as the “external” determinant of the Man in Domestic Conceptions.

In domestic Philosophy, Psychology and Sociology the problem of psychological determination was touched upon by many

investigators, but even the most famous ones only outlined the circle of phenomena, which must be, in their opinion, the subject of research: S.L.Rubinshtein (needs, interests, ideals), A.N.Leontiev (the subject of need, material of ideal), D.N.Uznadze (goals), I.S.Kon; I.Ya.Yadov (social goal), P.V.Simonov (needs, drives on the basis of specific morpho-physiological substratum), P.K.Anochin (functional needs on the basis of *hormonal* and metabolic processes.), V.N.Myassishev (the highest social needs as interiorized social relations) [64, p.49]

Among domestic psychologists at the beginning of the 20th c., who raised questions on human existence determination, one should mention, first of all, A.F.Lazursky, who in 1906 published a book “An Outline of the Science of Characters”. The book discussed the questions connected with desires and drives, fight of motives and decision-taking, stability of decisions (intentions and ability of internal delay of stimulating impulses) [65, p.53] [64, p.13].

Drives, desires and “wishes” of the Man, in connection with the question about the will and volitional acts, were discussed in the works of the famous domestic psychologist N.N.Lange. In particular, he suggested his own understanding of the distinction between drives and “wishes”, believing that the latter are drives, transforming into active actions. From Lange’s point of view, “wish” is a quick (active) will [65, p.53] [67, p.13].

In the 20s of the 20th c. and later the problems of behavior determination nature were studied by V.M.Borovsky, N.G.Voitonis [67, p.13].

L.S.Vygotsky in his works also studied the problem of human behavior determination. In his study guide “Pedology of a Teenager” [68] he paid significant attention to the question of the essence of interests and dynamics of their change in adolescence age. L.S.Vygotsky considered that the problem of correlation of drives and interests is the key to understanding the tee-

nage psychic development, which is stipulated, first of all, by the evolution of interests of a child behavior and change of direction structure of his behavior. In his other work [16] L.S.Vygotsky pays large attention to the question of “fight of motives”. He was the first among domestic psychologists to differentiate between motive and stimulus and started speaking about arbitrary motivation [65, p.54].

Systematic experimental study of needs and motives was started in domestic Psychology by A.N.Leontiev and his pupils (L.I.Bozhovich, A.V.Zaporozhets, etc.) in the 30s of the 20th c. It was carried out in Kharkov, and then it was resumed in Moscow [69, p.146]. According to A.N.Leontiev’s opinion, which for many years ahead determined the attitude of many domestic psychologists to the problem of motivation, the motive is an object, which acts as the means of satisfying the need. With one and the same need, different objects may become the motives of the observed behavior. Dynamics of the need leads to its objectification and emergence of the motive [65, p.58].

L.I.Bozhovich put forward the hypothesis that the integral structure of the personality is determined, first of all, by its targeting(direction). According to her point of view, the basis of the personality targeting is founded by the stable dominating system of motives, which emerge in the process of Man’s life and upbringing, and in which the main leading motives, subjecting all the rest, characterize the structure of motivational sphere of the Man. Emergence of such hierarchical system of motives provides for the highest personality stability [65, p.61].

As a result of numerous psychological investigations, L.I.Bozhovich came to conclusion that an incentive to action always proceeds from the need, and the object which serves for its satisfaction, only determines the character and direction(targeting) of the action. In connection with this, changes of objects, which embody the needs, do not constitute the content of the need development. They are only the indications of this development. Investigation and revealing the Psychological

content of the needs development process is still in prospect [68, p.155].

In the 40s of the 20th c. psychological determination from the position of the “goal theory” was studied by D.N.Uznadze, who also considered that the source of activity is the need [67, p.13].

V.N.Mayssishev pointed to the fact that the concept of the motive has a double sense: first, it is the motivational driving force of behavior and emotional experience; second, it is the basis of the thought, decision, and opinion. He saw the origin of psychological determination of socialization of the individual in interiorization of social relations [65, p.58].

Not all domestic psychologists recognized the need as the initial basis of psychological determination. In 1956 A.V.Vedenov was the first who came out against this opinion on the pages of the journal “Questions of Psychology”. He criticized sharply those psychologists, who connected the problem of human consciousness activity with the problem of needs, and he expressed the opinion that one mustn't set the determinants of human behavior in dependence on the needs [69, p.139]. As a result of scientific discussions, which followed, it was stated that in Leontiev's conceptions, as well as in the positions of other psychologists, the process of needs development proper happened to be drawn out of the brackets [69. p.140].

As a result, many purely psychological questions remained open: why the aims put forward consciously in some cases fulfill their motivational function, in the others –do not; due to which psychic mechanisms the Man can act against his immediate drives (motives), but in accordance with his consciously accepted intention; what the will is from psychological viewpoint, etc. The absence of the answer to all these concrete psychological problems is explained by the fact, that till nowadays the question of the genesis of specifically human behavior determinants has still been unsolved [69, p.143].

Along with Leontiev's position concerning the dynamics of consumption and its transformation into a motive, there exists

another point of view, which consists in the fact, that the need immediately drives the individual to activity, directed at satisfaction of his needs. Thus, it is an internal stimulus for his behavior and action. The need cannot be identified with availability of objectively existing penury. The need, which is not reflected in the respective emotional experience, doesn't become an incentive for behavior. The needs, nevertheless underlie all other drives of behavior, including the highest, characteristic only for the Man [69, p.170].

Nowadays, contemporary psychological research fulfilled at Novosibirsk State Pedagogical Institute (Yu.A.Sharov) raised the questions on the sources of human consciousness activity and correlation of material and spiritual needs of the Man.

In his article the author comes to conclusion that the problem of birth of ideal drives of a personality has still been unclear and demands the most serious research. Yu.A.Sharov refers to biogogizers all psychologists who try to understand the emergence of the highest spiritual needs of the Man from the qualitative transformation of more elementary, primary needs [69, p.144].

In accordance with B.F.Lomov's point of view, the motive is the component of motivational sphere of personality, which is understood as the whole aggregate of motives formed and developing during the life time of a certain individual. This sphere may change under the influence of life situations, but, at the same time, some motives are rather stable and form the "core" of motivational sphere, manifesting itself in the personality's targeting [65, p.58].

V.S.Merlin suggested classification of motives, which in their content coincide, in many respects, with the category of motivation. All motives are subdivided into two groups. The first group includes the motives common for both the Man and animals, they are determined hereditarily. The second group includes specifically human motives [65, p.61].

Psychologists, sharing the biological viewpoint on the nature of basic human determinants, consider that the power of motives is determined by the intensity of motivational excitement, which, in its turn, depends, as K.V.Sudakov remarks, on hypothalamus, which comes to the state of excitement from the shortage of some substance in the organism. Hypothalamic – reticular centers make an ascendant influence on the cerebral cortex. Thus, hypothalamus acts as the generator of energy, necessary to form the drive to action [67, p.135].

V.K.Vilyunas suggests concentrating attention on more distinct designation and description of separate phenomena, accepted as an incentive for activity [65, p.56.]. He considers that in psychological analysis the more expedient and productive approach is the one which takes one's mind off the substantive distinctions in motivation and concentrates on the problem of what formations of individual psyche reveals it, which impacts provide for its formation and actualization, what the regularities of these processes are. All, such questions are targeted at, may be summarized as mechanisms of motivation [69, p.3].

Proceeding from the works of L.S.Vygotsky, V.K.Vilyunas suggests considering the way of developing the human motivation proper as motivational mediation [70, p.65] [71, p.296]. This means that the formation of new motivational relations takes place as a consequence of attempts to connect the phenomena, for which these relations are worked out, with other phenomena, which arouse such a relation [70, p.73].

Similar to L.I.Bozhovich, V.K.Vilyunas is critical to the mechanism of objectification of the needs, suggested by A.N.Leontiev. He suggests his own mechanism of dynamics of the need and turning it into the motive. He thinks that if the need actualizes in the absence of the respective object, the specific state of motivational goal is formed, which represents the potential readiness for active reaction in case of its emergence. When such an object emerges, there appears emotional relation to it, which opens to the subject the need-related significance of it (in

the form of positive or negative immediate estimation), and motivates to target his activity at it (in the form of desire, drive, etc.). Connection between motivation and emotions expresses the definition of emotions as a subjective form of existence (manifestation) of motivation. [70, p.7.].

Some psychologists, studying the target forms of human behavior determination, remark directly, that targets of human actions and their formation possess biological background (O.K.Tichomirov, T.G.Bogdanova) [67, p.15].

V.E. Milman's research holds a specific place in this respect. In his opinion, there are two types of determination in the personality structure: productive and consuming. *Productive determination* (in the form of values) stipulates creative development of a personality and facilitates integration of the Man into the socium. This type of values orients the Man at the future; they contain the background for objective substantial development of both a separate individuum and the society as a whole. Productive determination, proceeding from its essence is creative, because it promotes the generation of socially significant material and spiritual values. *Consuming determination* is targeted at supporting the subject's vital activity and is stipulated by his natural needs [65, p.55].

A.M.Matyushkin, when speaking about contextual cognitive need, mentions that it originates when, in the course of achievement of the assigned task, there appears the disturbance of existing stereotypes of action. New conditions generate cognitive need (how to achieve the aim) and invoke searching activity, targeted at detection the unknown, which acts as a new originally unknown target of the cognitive need. This means, that approaching the action, the Man doesn't know yet, what he will find or choose [67, p.78].

In domestic psychology recently, the concept of the need has undergone drastic changes. Remaining the basic determining factor, the need practically lost is original biological or social nature and acquired absolutely new forms. For instance, from

philosophical point of view, the essence of the need consists, on the one hand, in the absence of the good (V.S.Magun), on the other hand, it is the relation between a personality and the surrounding world (D.A.Leontiev) [67, p.21].

From D.A.Leontiev's viewpoint, the need is the objective relation between the subject and the world. He believes that understanding the need as generating from poverty, generally accepted nowadays, involves the residual content of biologized predecessors of this concept (instinct, drive), which causes a number of problems in understanding its essence and role.

From this point of view, there appears a boundary, which cannot be crossed without changing outlooks. It is necessary, he thinks, to elevate from psychological level onto the philosophical one, from the position of the needy consumer into the position of external observer. D.A.Leontiev considers that the need should be determined through the forms of action, in which it is realized, and it should be considered as the need in action, not in objects [67, p.30].

Conclusions. In domestic Psychology there prevails "need-related" viewpoint on the Man's nature. With the exception of some psychologists (A.R.Luriya, A.V.Vedenov, Yu.A.Sharov, etc.), domestic psychology of motivation acts in the limits of need-related paradigm of the Man, developed in the 30s.

Different theoretical shades, which distinguish some psychologists, don't have an impact on the conviction of majority of them concerning strategic significance of research into needs as basic determining factors. Even the most contemporary conceptions only witness that the need-related paradigm has a lot of supporters. Modern analysts mention that, despite all distinctions, the majority of psychologists have much in common: almost all of them recognize in the need the function of the Man's activity drive (behavior, action) [67, 21]. There still has been a popular belief, that the need is the absolute source of action and deeds [67, p.78].

2.1.2. The Nature of the Adaptive Man, Mediated by the Social Past, in Reflectory(Reflex) and Culture-Historical Conceptions.

Nowadays, it is possible to speak about two world-view positions, represented in modern Psychology and subdividing all psychological conceptions into two types.

First type of conceptions is founded on the natural scientific picture of the world, which is the system of its interrelated components. In this world picture the Man is one of the specific components of the world, specifically integrated into the chain of cause-and-effect interactions. In such world picture the whole is the result of initial interrelation and represents the components of nature (objective world) interconnected by interrelation processes.

Social world is a system of special (social) components, obeying the common laws of cause-and-effect interrelation. The Man as the intermediate link is integrated into the “gap” between cause and effect and with the help of his consciousness and action assigns awareness and predictability to the originally spontaneous cause-and-effect interaction.

The primary for individual man and his psyche emergence is the external (social) impact, as a result of which his internal social nature is revealed and integrated into formation processes. The sense of the reflectory(reflex) Man’s existence is to be the ontological centre of the world, reflect and express the essence of the whole objective (subjective) world and, consequently, turn spontaneous and elemental processes of the natural world into the conscious and controlled processes of the social world.

Second type of conceptions are based on culture-historical world picture, which presents producible (deducible) from a single source system of the integral system of components, possessing common nature and foundation. In this world picture the Man is the specific source of production (origin) of the world, acting on the basis of target determination.

In such world picture the whole is the initial (primary) moment of the Man's action and it represents the concrete components of human nature (human objective world) deducible from the common foundation, generated by the same source. Culture –historical world is the integral system of special (culture-historical) components, generated on the basis of common law from the common initial foundation. The Man as an intermediate link is integrated into the “gap” between culture and objective world, and by his consciousness and action reproduces himself and reproduces the objective world of culture.

The initial for the individual Man and his psyche emergence is the external social relation, as a result of which his internal culture-historical nature emerges (produced) in the process of cultural development. The meaning of the culture-historical Man existence is reproduction (recreation) of objective(subjective) world of culture at the expense of turning the ideal form of culture into its objective reality, expanding the sphere of cultural reality at the expense of turning natural objectivity(subjectivity) into cultural objectivity(subjectivity).

All modern psychological conceptions, to a greater or lesser degree, express (reflect) these two polar world view opinions, and, in a varying degree, concretize them. For foreign psychological conceptions natural science world-view position is a more characteristic feature, while domestic Psychology shares both world-view positions equally.

It is traditionally worked out that foreign psychological conceptions pay more attention to psychological phenomenology and less attention – to psychic mechanisms analysis. As compared to them, it is peculiar for domestic psychology to search for fundamental (basic) mechanisms as the means of deducing the whole secondary psychological phenomenology. This concerns both reflectory (reflex) psyche paradigm, worked out most fully and in detail in socio-reflectory(reflex) psyche conception (S.L.Rubinshtein, etc.), and culture-historical psyche conception (L.S.Vygotsky, etc.).

We think that it is more productive to conduct the analysis of these two fundamental paradigms on two main domestic psychological conceptions, the degree of their fundamental nature and concreteness of development, as compared to foreign conceptions, makes it possible to conduct the fullest analysis.

Considering social nature of the Man as the initial postulate is traditional for domestic psychological conceptions [36, p.251]. Methodological basis for domestic conceptions is K.Marx's thesis on the Man's social nature, which was previously correlated explicitly (and nowadays is correlated implicitly) with understanding of the Man's essence as an aggregate of social relations [72, p.201] [73, p.32].

This position is represented, most fully and concretely, in two leading and most well-known domestic conceptions, fundamentally worked out and representing two diametrically opposed opinions on the nature of the Man and his psyche. These are the socio-reflectory (reflex) conception of psyche of S.L.Rubinstein (I.M.Sechenov, V.M.Bechterov, K.A.Abulhanova-Slavskya, A.V.Brushlinsky, A.M.Matyushkin, etc.), and culture-historical conception of psyche of L.S.Vygotsky (A.R.Luriya, A.N.Leontiev, L.I.Bozhovich, A.V.Zaporozhnetz, P.Ya.Galperin, M.I.Lissina, D.B.Elkonin, V.V.Davilov, etc.).

a) Socio-mediated nature of the Man in reflectory(reflex) conception of psyche

Initial methodological position of subjectively-action-related conception of the human psyche ontogenesis is Marxist view on social nature of the Man. S.L.Rubinstein's psychological position on the question of social essence of the Man and social nature of the individual Man's determinants consists in the transfer of the accent from culture, from socium in general, to the concrete socium (literally, to concrete group, to concrete community of people) as to the immediate factor of social determination. From the point of view of socio-reflectory(reflex) conception, the Man in the process of his individual development forms not

is the common culture-historical situation “everywhere and always”, but in the concrete social situation “here and now” [24, p.52]. This means that he forms not as the universal culture-historical man, but as a concretely social man.

From the point of view of reflectory (reflex) conception, social determination is not only external, but also internal. This position proceeds from the position on social nature of an individual Man, because all parameters of vital life are essentially determined by the type of communal relationships, all mechanisms and means of integration of an individuum into society, his relationships with other people, his needs and drives are socially stipulated. Social determination on the individual level also has the essential character, as the driving forces of life and behavior of people represent social causes [74, p.45]. With respect to the Man, both the external and the internal represent originally indivisible interrelation of the natural and the social (Rubinshtein) [24, p.86].

Social determination of the individual way of existence are not the external conditions the Man adapts to. The fact, that the social manner of existence is internally inherent in the Man, is achieved by the mechanism of social necessity, which represents the social way of the individuum drive to social action [75, p.223].

On psychological level the internal nature of social determination is expressed in the ontological nature of human consciousness, which is demonstrated in the phenomenon of emotional experience. Just as any emotional experience (as the phenomenon of consciousness) is the evidence of not only the existence, which is its object, but also the subject itself, so the consciousness reflects the existence of the object and expresses the life of the subject in its relation to the object (S.L.Rubinshtein). This second component of consciousness (relation) is referred to by S.L.Rubinshtein as “practical consciousness”. This means that social determination of consciousness proceeds not from the

“outside”, but from the “inside”, from the social way of the Man’s existence as the subject [75, p.223].

From the point of view of socio-reflectory(reflex) conception, the Man and his psyche should be looked upon as the derivate from the concrete social (not universal) forms of social existence [75, p.248]. Social nature of psyche is connected with social stipulation of natural, reflectory(reflex) action of brain and is expressed in availability of the second signal system, interacting with the first one [76, p.65]. In the historical process of development of the cooperative action of people the social mediates, transforms and develops the natural in the Man and, at the same time, is mediated by it [24, p.175].

The social acts as the means of development of the natural in the Man, not as the quality opposing the natural [77, p.138]. Methods of actions are worked out by the humankind and mastered by the man in the process of socializing, education and upbringing. These socially worked out means of action are integrated into natural abilities of the individuum as they become stereotyped and turn into the generalized system of the reflectory(reflex) links fixed in the brain. Thereby, natural Man’s abilities themselves act as the product of social development [78, p.196].

From this point of view, social stipulation of thinking is expressed in the fact that its development is implemented in the process of assimilation by the individuum of the knowledge, worked out by the humankind in the process of socio-historical development [79, p.244].

Social nature of the Man is expressed in the fact, that the internal world of the Man represents his initially internal (natural) nature transformed by the external (social) influence [76, p.65]. Therefore, the Man is the natural creature, acting in a social way [25, p.293].

Just us the social determination is supported by relation “Man – concrete social structure” [74, p.39], so the real exis-

tence of the personality is fully identified by its social relations it is actually integrated into [73, p.639].

Thereby, social nature from the viewpoint of reflectory(reflex) conception consists in immediate dependence of the Man on the concretely shaped social structure and his role in this social structure. This means that the Man is the “individual organ” of social life [74, p,49]. The Man is identified, stipulated and determined by social relationships in the sense that he happens to be stipulated(assigned) by the place in the society, he occupies,and the social role,he fulfills.[74, p.49].

The socially set course of the Man, stipulated by his concrete social position, means that individual life initially represents social life, but taken on the individual scale [74 p.36]. It represents the projection of social life on individual conditions. Therefore, individual Man is the Man, whose possibilities, including the content of individual consciousness, are determined, pre-set by his position in social relations [74, p.49].

In socio-reflectory (reflex) conception the social nature of the man acts as his social *boundedness*. [74, p.49]. In this sense, the man’s position in social relations, considered as a criterion of his constructive capabilities, is the factor of deterrent of his own development and development of the whole socium.

Ultimately, internal subjectiveness of the Man is determined by the subjective sociality [74, p.50]. In the quality of such objective determinant the social structure serves as the source of Man’s individualization , which can be implemented only as a result of desobjectification and appropriation by him of social essence [77, p.117]. Thus, proceeding from social nature of the Man, all his limits are determined and set not by himself, but by the concrete type of social relations [77, p.129].

Social nature of the Man implies the necessity of integrating him into society. But the ways, the Man is integrated into society are objective, i.e. don’t depend on the Man himself, but on his position in the system of social relations [75, p.192]. This leads to the fact, that individual consciousness is set and determined

by peculiarities of the social structure, the Man belongs to, and into which he is immediately included [80, p. 199].

Social relations, identified in socio-reflexory(reflex) conception with the social nature of the Man, possess the objective, i.e. independent from the Man's consciousness and, therefore, external in relation to him character, i.e. unregulated and not produced by the individual Man [75, p.191].

Peculiarity of understanding the social nature of the Man in socio-reflexory(reflex) conception consists in the fact that the concrete forms of social existence, rather than universal forms of social existence (culture), act as the determinants of his existence. [75, p.248]. Thereby, social determination is looked upon not only as initially external, but, simultaneously, as internal [75, p.223], as determining the human individual consciousness and existence from inside [75, p.223].

At the same time, being simultaneously "external" and "internal", social determination remains only "external" according to the means of its origin, i.e. not produced by the man himself, but experiencing its action, being the object of social determination. On the strength of his, the Man is only the participant of social processes, social actions, etc., who cannot in principle embrace with his individual consciousness all that became the heritage of social consciousness. [77, p.198]. Both the position of a personality in social relations and its position as part of a social subject are only two limits of the Man's social activity. These limits are, socially, the boundaries of possible Man's activity [74, p.50]. The personality's position is changed objectively (socially) rather than by itself. Consequently, the Man's subjectivity, reflecting and realizing this position, possesses the objective (external) nature [74, p.50].

b) Socially-mediated nature of the Man in culture-historical psyche conception.

Methodological basis of culture-historical psychology was formulated by L.S.Vygotsky, who considered that the Man's relation to nature can be explained only on the strength of his

social nature [16, p.81]. For L.S.Vygotsky the society (socium) is the only determining factor of an individual Man development [16, p.85].

Viewing the culture as the product of social action, he considered that psyche as the transformed culture, being individual, has always remained quasisocial by its nature [81, p.145]. Mediation of the Man's existence by culture is embodied in instrumentality of the human action. Culture is accumulated, exactly, in tools(instruments), mastering methods of usage of which, the Man masters his own cultural ways of existence.

These general opinions were a characteristic feature of the whole cultural approach, which was spread in the beginning of the 20th c. in different countries. It was accepted not only in Russia. Similar opinions were shared by leading German, French, British and American scientists (J.Dewey, I.Shtern, L.Levi, Bruhl, etc.). From the viewpoint of cultural approach, the Man is the creature, which creates itself at the expense of turning the nature into culture [82, p.137].

A.N.Leontiev, proceeding from the Marxist thesis on social nature of the Man, insisted that the relation between the Man and society is fundamental for the Man's relation, determining his "external" and "internal world" [83, p.244]. Thesis on social nature of the Man underlies all investigations conducted in the limits of culture-historical school [P.Ya.Galperin, A.V.Zaporozetz, D.B.Elkonin, V.V.Davidov, L.L.Bozhovich, M.I.Lissina, etc.]. These investigations were based on the idea that, in order to transfer the means of action from one generation to another, it is necessary to have models (samples) [84, p.251] [85, p.39].

Culture-historical psychology understands social nature as its dependence on social experience of the mankind fixed in the cultural means. The ideal form is the main phenomenon of culture, which accumulates the whole human experience and presents it to the individual Man. Social nature of the Man is expressed in the fact that the human individuum becomes the

Man (cultural Man) only if he is able to control his behavior, build his behavior arbitrarily, depending on a changing situation.

From the viewpoint of culture-historical conception, the possibility of control of the Man's own existence is facilitated by cultural means (signs). Ideal forms of social action represent their meaning. The specific feature of culture-historical conception is that an individual Man doesn't produce, doesn't create, doesn't generate the ideal forms, he takes them ready-made from the culture, appropriates them, and makes them individual means of his own existence.

From this point of view, the ideal form acts as the main determinant of human existence, and appropriation of the ideal form, i.e. turning it from the social (cultural) into individual form, is the process of cultural development, the appropriated ideal form itself being its determinant. From the view point of culture-historical conception, the social nature of the Man is expressed in the "external" character of target determination by cultural ideal form, setting, determining and predicting maximum abilities of an individual man, despite his active, action-related and independent character of appropriation (assimilation).

"External" character of determination is substantiated by the fact that the cultural ideal form, acting as the main determinant of individual development, is not produced by the Man himself, it is the object of appropriation (assimilation). Thereby, the external character of human existence *target determination* in culture-historical concept pre-sets the externally stipulated character of any individual development. Culture-historical conception of the psyche proceeds from its main thesis: the source of development lies outside the child, in his social environment [86, p.188]. The whole conception is built on the thesis on the social nature of the Man. The term "social" has a significant meaning for the culture-historical conception. In the widest sense this means that all cultural is social. Culture is the product of Man's

social action. The sign as the means of cultural development lies outside the man, alienated from him and serves as the social organ (means).

All highest functions were made up neither in Biology, nor in the History of pure phylogenesis, but the mechanism itself, which underlies the highest psychic functions, is the copy of the social. All highest psychic functions are the interiorized relations of social order, the basis of personality social structure. The composition, genetic structure, way of action – their whole nature, in general, is social. Even being transformed into psychic processes, it remains quasisocial. Even in private, the Man preserves the functions of intercourse (communication) [16, p.145].

The essence of social nature of an individual Man is determined by real relationships among people. It treat myself the way, people treat me [16, p.142].

L.S.Vygotsky as well S.L.Rubinshtein proceeded from the same K.Marx's thesis, i.e. the psychic nature of the Man represents the totality of social relations, which were transferred inside and became the functions of a personality and forms of its structure [16, p.146]. From the point of view of culture-historical conception of the psyche, the source of arbitrary behavior is applying social relations to oneself, transfer of social form of behavior to one's own psychic organization, rather than creation of one's own forms of behavior [87, p.33].

For the Man the "external" socium is his source, the main determinant of his individual development. Social determination is implemented first, as external and second, as initially compulsory. Compulsory ("external") character of social determination is set in the individual psyche social nature itself. In the beginning of its usage the sign doesn't have any meaning for a child, therefore, it is nothing but the external stimulus. The sign usage operation, existing in the beginning of development of each psychic function, initially bears, by necessity, the character of external action. In the beginning the sign is an external stimulus,

the meaning to which may be attached later [87, p.16]. But with the first steps a child acts, orienting at the actions of an adult, rather than at the meaning of the sign.

Every highest psychic function emerges as the form of psychic cooperation and only then turns into the individual way of behavior. Initially, the sign acts in a child behavior as the means of a social link, then becoming the means of appropriating (assimilating) his own behavior. The sign only transfers the social relation to the subject inside the personality. Initially, every symbolic action is the social form of cooperation and preserves the social means of functioning forever. The history of origin of the highest psychic functions is the history of turning social means of behavior into individual means of behavior. [87, p.56].

Conclusion. Acceptance of Marxist thesis on social nature of the Man, as methodological basis of psychological conception of the Man development, led, actually, both L.S.Vygotsky and S.L.Rubinshtein to recognition that the human individuum is the product of the socium, the product of the social relations system, which as the “external” determinants (causal or purposeful) fully pre-set and determine individual existence and development of the human individuum [87, p.56] [78].

This opinion is especially vividly demonstrated in the theories of education, worked out in these schools, in the basis of which, despite different understanding of education and development links, lies the process of appropriation (assimilation) of the externally set cultural models, which in the quality of determinants, possessing social nature, determine individual existence of the Man.

2.1.3. Adaptive Man as the subject of appropriation(assimilation) of “external” determinants of development.

a) Adaptive man as the subject of appropriation (assimilation) of social causes.

Education as the cognitive process (process of education and upbringing) is recognized in socio-reflectory(reflex) conception as the main factor of ontogenesis. The central theoretical position of this conception is the position that individual development in ontogenesis may be implemented only under conditions of education and upbringing [13, p.130]. For S.L.Rubinshtein individual development is the function of a certain cognitive content, which a person acquires in the process of education. This position has a decisive meaning for organization of individual development. [13, p.339].

Education plays the leading (determining) role in the process of child psychic development. Internal conflicts between existing forms of cognitive actions and new content they acquire are the driving forces of development. In the course of this action child development both reveals and accomplishes [73, p.158].

S.L.Rubinshtein understood the process of education as the process of appropriation(assimilation) by a child of the accomplished system of scientific knowledge. S.L.Rubinshtein considers as principle the fact that in the process of education the human individuum doesn't create the knowledge he masters, he turns scientific knowledge, already existing in culture, into means of his individual vital activity. The system of scientific knowledge forms in the course of socio-historic development. For the pupil it acts as the objective reality, which he finds ready-made as the social property, existing independently from him. He must appropriate this objectivity as a result of his cognitive action. In the process of education as the socially organized cognition the system of scientific knowledge, in the course of historical development, appears before the individuum as the object of appropriation (assimilation) [78, p.31].

From the viewpoint of socio-reflectory (reflex) conception, education can possess only culture-consuming character, as in the course of the whole period of school education the child faces the ready-made, accomplished system of knowledge, open and worked out by the mankind in the course of its previous history. Appropriation of historically accumulated wealth of knowledge demands from the child large thinking efforts, serious mental work, despite the fact, that the masters the ready-made system of concept [88, p.41].

Process of education is built as the bilateral process of knowledge transfer and appropriation (assimilation) [11, p.375]. Proceeding from culture-consuming essence of the education process, the main content and task of education is mastering knowledge and skills [12, p.84] [13, p.505].

Emphasizing peculiarities of the teacher's action, S.L.Rubinshtein singled out its major function - transmission of information (cultural models of knowledge) and granting this knowledge to pupils [12, p.84]. Therefore, the educator, the teacher is the transmitter of a certain material, which he communicates to pupils [13, p.505].

b). Adaptive man as the subject of appropriation (assimilation) of ideal forms.

From the viewpoint of culture-historical conception, individual development represents turning of socio-cultural norms into individual norms. These norms, appropriated and turned into individual development determinants, become system-forming factors of individual cognition (consciousness) [89, p.16] [90, p.49]. As a result of appropriation (assimilation) the child psyche acquires the human content and specifically human structure [91, p.92].

Culture-historical psychology attaches significance to the process of appropriation (assimilation). It is connected, first of all, with the external (social) nature of human psyche. From this point of view, a child must be considered a subject of appropriation (assimilation) of socio-cultural norms, not the creator. This

means that in the process of education socio-cultural models are not constructed anew. Their universal content is set externally and can be only appropriated (assimilated) [92, p.35].

Culture-historical psychology understands the human individual as the projection of socio-cultural sphere on the individual, whose psyche represents the functioning of historically developed forms of the society action [84, p.249]. In this sense, the child always acts in accordance with those socio-cultural models (norms) of action, which he has appropriated (assimilated), not produced. Production of social norms is the prerogative of the socium as independent and alienated from the individual, specific overindividuum reality [84, p.272].

The main moment of education, from the point of view of culture-historical psychology, is appropriation of normatively approved means of action in the form of knowledge. Thus, a child forms the idea of the action structure, which he later uses in practice [93, p.123].

In culture-historical psychology socio-cultural models appear, in fact, as limits and boundaries of individual consciousness and action, and boundaries of transmission of consciousness and action models [94, p.100]. In our opinion, the problem of self-development should be solved by means of understanding the Man (child) as the subject of constructing the determinants of his own development, and not trying to deduce his active position from the situation of appropriation of socio-cultural determinants, a priori existing in culture and not being constructed by him [95, p.54].

2.2 Mediation by internal conditions as the mechanism of appropriation of external social causes.

2.2.1. Main positions of socio-reflexory(reflex) conception of development.

2.2.1.1. subject-objective interaction of cause and result as the source of reflexory (reflex) development.

Cause-and-effect interaction of the Man and existence.

Central concept of the reflex (reflexory) conception of development is the concept of ontological subject. Proceeding from this concept, ontological structure of existence represents historical processes of subjects formation as a system with ever-increasing degree of freedom. The degree of freedom is understood as the abilities to more fully reflect the world and influence the world. According to S.L.Rubinshtein, subject formation means emergence of existence reformation centers. Therein is the meaning of activity of ontological subjects and their special ontological role of existence. The principle of action subject expresses the fact that the ability to reform existence is inherent in the subject [24, p.27].

Ontological subject is a certain existence understood as the interaction of qualities lying in the cross-point of endless abilities, individual result of continuous and endless interactions [25, p.318]. S.L.Rubinshtein applies the concept of subject not only in relation to the human, but, in general, to any level of existence development. He applies it to the qualitative peculiarity of the method of organization and method of development of any level of existence [75, p.173].

In this meaning, to exist means to live on that level which corresponds to the given level of existence, given manner of existence [25, p.280]. To exist means to act and be subjected to influence, interact, be real, i.e. efficient, participate in the endless process of interaction as the process of self-determination of the existing, mutual determination of one existing by another [25, p.279].

Existence is inseparably connected with the process of determination in the sense of objective determination of the properties of one existing in its interaction with another [25, p.280]. This means that existence is the continuously happening interaction of the existing, their interrelation and mutual resistance [25, p.276].

Conservation laws act as the basis for the chains of causation, as substantiality and stability in the process of causal changes. The causation itself acts as the transfer of action along the chain of causation [25, p.288].

The world, on the whole, represents the organized hierarchy of subjects with different manner of existence, interacting with each other. In the human world the determinative is human social manner of existence [25, p.264]. S.L.Rubinshtein took as a basis for his reflectory(reflex) conception of psyche development the concept of the Man's essence as the totality of social relations, formulated by K.Marx [25, p.346]. Such definition gives opportunity to consider the Man as a part of existence, as such ultimate existing, which is the mirror of the Universe, the mirror of the whole existence. The Man as a subject represents such a reality, which ideally represents the matter, which exists outside it. Since there is an objective relation of the human existence reality to the reality of existence on the whole, there emerges the subjective relation of the Man to the world on the whole [25, p.345].

Fundamental characteristic feature of the human way of existence in the world is availability of consciousness and action. This means that the Man, integrated into the chain of causes and effects not only depends on life conditions, but life conditions depend on the Man, on his action [25, p.341]. Action and activity suppose effects, change of reality, generation of objectified product (of material or spiritual culture), which enters into the social circulation [11, p.206].

Social manner of existence is characterized by *self-determination*. According to S.L.Rubinshtein, self-

determination is first, absence of initial fixed determination; second, freedom of the subject to change direction, regulate the character of the psyche process current; third, self-regulation; fourth, special determination not only by the past and future, but exactly by he present [24, p.187].

Attitude to oneself as to the source of determination, as to the cause of the following significant changes of reality, on the basis of the conscious anticipation of their consequence, permits the subject to regulate his actions long before they have accomplished [24, p. 128].

Reflectory (reflex) action as the method of providing cause - and-effect interaction.

The psyche, psychic phenomena emerge in the process of interaction of the subject with the objective world, which starts with the influence of the thing on the Man [78, p.27] [88, p.176].

Inherently, the psychic phenomena are integrated in causal interrelation of existence, simultaneously, both as stipulated by the action of life conditions, and, at that, they stipulate the behavior [25, p.359].

Each psychic process is the reflection of objective reality [73, p.12]. In this sense, cognition is the ontological objective process of cause-and-effect interaction of the cognoscitive and the cognizable, which always supposes the real sensational contact of subject and object [25, p.410].

Psychic phenomena act first of all, in relation with brain. Psyche is originally connected with brain. Psychic phenomena emerge and exist only as the function (action) of brain. Existence as action (process), as the brain action is the primary way of psychic existence [78, p.6].

Reflectory (reflex) brain action, stipulated by the external causal effects is the “mechanism” by means of which the connection with the external world of the organism, possessing nervous system, is implemented [78, p.118]. Reflectory action is the action, which is always determined from outside [78, p.9].

Cognitive connection of psychic phenomena and objective reality of the external world takes place only when the psyche is understood as the revoked action of the brain, which begins with the external world impact on it. But brain is only the organ of psychic action, not its source. The source of the psychic action is the world, producing the effect of the brain [78, p.7]. Psyche is the product of brain, and brain is the organ of psyche [73, p.93].

The spread of the reflectory (reflex) principle on the psychic action as the brain action, in the quality of the psychic, means that psychic phenomena emerge not as the result of passive reception of mechanistically acting external causal effects, but as a result of provoked brain action stipulated by these effects. Brain action serves for implementing the interaction of the Man as the subject with the external world [25, p.410]. Psychic action and higher nervous activity constitute the same phenomenon, the same reality [24, p.178].

The psychic as the process is the initial and most important psychological reality out of which, in the course of the Man's interaction with the world, all psychic phenomena, functions, states, qualities, etc. are formed [88, p.344]. As a result of the psychic processes, as the brain action, there emerges a certain psychic formation: sensational image of the object, thought about it, etc [73, p.35].

The Man's psychic action of the brain represents a new quality, because it participates in the regulation of his action, expressing his needs and interests, his tendencies and relation to the world [78, p.168].

Singularity of the psyche consists in the fact that it is both the real side of existence and its reflection (the unity of real and ideal). But characteristics of the psychic as the ideal refers only to the product (result) of the psychic action, not to all psychic as a whole [73, p.10].

Consciousness as the factor mediating cause-and-effect interaction.

Human existence represents such unitary, which involves the whole world, all existing, the whole humankind. Transcendence of the unitary situation is implemented through consciousness [25, p.345].

The Man acts as a part of the existence and existing, who apprehends, in principle, the whole existence. The apprehending means embracing the whole existence, comprehending it by contemplation, penetrating into it by thinking. The Man is the part, embracing the whole. In this consists singularity of the Man, his place and role in human Universe [25, p.314]. With emergence of the Man the Universe is the apprehended, meaningful Universe, which changes by means of the Man's action in it [25, p.330]. The world apprehends itself through the Man. Distinctive feature of the Man is his determinacy through consciousness. This means that with the emergence of the Man cause-and-effect interaction becomes mediated by his consciousness, because his own action is mediated by his consciousness [25, p.358].

The meaning of Man's life consists in his being the centre of turning the elemental forces into conscious forces. Integrating the Man, subjectively reproducing his life, into the chain of causes and effects can change and even interrupt the current and direction of cause-and-effect process. The Man changes this process not only because he possesses the will and consciousness, but because, notwithstanding his will and consciousness, he integrates into the totality of causes and effects and mediates their connection. This manifests the objective nature of the subjective [77, p.105].

A new type of determination appears on the level of Man's conscious existence. Now the external causes are represented as social conditions of communal life, which act due to their *meaning* for individual Man [25, p.291].

Meaning of the objects and phenomena and their “senses” for the individual Man is the factor, which now immediately determines his behavior [25, p.368].

Development as transition to the more mediated forms of cause-and-effect interaction.

S.L.Rubinshtein’s reflectory (reflex) conception of development is based on the principle of the subject’s ability to shape in the action, i.e. on the principle of the reverse effect of the subject’s activity on himself.

The man development is implemented under condition of continuous causal interaction of subject and object, which supposes the simultaneity of the change of object by the subject in the action process, and the reverse effect of this change on the subject development [24, p.34].

Continuity of cause-and-effect interaction supposes the continuity of psyche as the means of regulation of this interaction. This quality of psyche is expressed by the concept “the psychic as the process”, which means that in the course of continuous interaction of the subject with the object, in the course of permanent reformation of the object, new content is “scooped out” of it. The psyche enriches with this new content and, therefore, it develops and fulfills such an important role in behavior regulations [88, p.373].

The Man’s conscience development takes place in the process of his real action, due to the fact that the Man, driven by his needs and interests, generates the new and more perfect products of his labor, in which he objectifies himself. As a result, he forms and develops much higher forms of consciousness [73, p.643].

The process of development is understood as the process of extension and strengthening of real significance of the highest steps of consciousness. This means that without losing anything in their naturalness, the needs themselves, not only ideal forms building over them, increasingly turn into manifestation of historical, social, originally human essence of the Man [73, p. 643].

In the course of psychic development, shifting to increasingly more mediated forms of reflection, the Man increasingly stands out from his closest surrounding and is increasingly deeper connected with much wider sphere of action [13, p.77].

Reflectory(reflex) conception of the Man psychic development sees its essence in increasingly deeper reflection and change of reality, as distinct from culture-historical conception of the Man psychic development, perceiving its essence in the usage of symbols and signs [13, p. 78].

Thereby, from thee viewpoint of reflectory(reflex) conception, the Man development is not the product of interaction of different external factors, but “self advancement” of the subject, integrated into the varied interrelations with the others [13, p. 133].

2.2.1.2. Psychological content of the concept of reflectory(reflex) development.

The initial thesis of socio-reflectory (reflex) conception is the thesis on the objective character of development. Objective logics of individual development, set by the system of social interrelations, can be neither created, nor changed by the Man [75, p.200].

Therefore, individual development, understood as development by the Man of the whole social essence, accomplishes not as self-perfection, but as a result of the Man’s participation in objective process of social vital activity [77, p.128] [75, p.198]. Thereby, each Man solves the task of creation of his individual “trajectory” *inside* social life [80, p.17].

The character of individual development is determined by the change of the Man’s way of life,rather than immanent self-development [73, p.159]. Different periods in personality development are determined by difference of way of life, forms of its existence, which are different for a baby and pre-underschool age child and a school pupil, etc.

At the same time, individual development is not the product of interaction of external factors, but “self-advancement” of the

subject integrated into the varied interrelations with the surrounding world [11, p.184] [13, p.133].

Individual development is the life of a personality [73, p.162]. Thereby, the higher the level of development, the greater role internal conditions play [11, p.147] [13, p. 97].

Three qualitatively different stages (steps) are distinguished in individual development. Each step represents the relatively homogeneous whole [13, p.72]. In development the leading significance belongs to reformation, the change of the main type of action (play, learning, labor), rather than the formation of separate functions and processes [12, p.7] [73, p.436].

The process of individual development is the change of main types of action. The dominant role of playing, then learning and, at last, labor action is a characteristic feature of different steps of development. Difference of main types of action means different attitude to the surrounding world, which characterizes the consciousness of a developing man [73, p.159].

The lives of developing personalities cannot have common regularities, because each life is individual and represent an individual personality history [80, p.6].

Each child has his own way of development. Different children not only have different tempo of development, but they also pass individually different stages of development [11, p.189] [13, p.137].

The main content of psychic development is an increasingly deep reflection and change of reality. The common logics of psyche development consists in transition of immediate forms of the psyche to its mediated forms [13, p.310].

The highest stage (form) of the psyche doesn't oust, but reorganizes the forms developed earlier. In connection with this, there appear various and situationally changing relations between the "lowest" and "highest" forms. At the expense of this, individual development acquires variability. As a result, the development of each concrete child is distinguished not only by

the tempo, but also by a concrete way it follows [73, p.161] [13, p.137].

The psyche as a process develops (forms) unconsciously, e.g., the main initial psychic mechanism (analysis through synthesis) is implemented unconsciously. But on a personal (action-related) level of the psyche the Man consciously (with the help of reflection) regulates the flow of these processes. But such apprehended self-regulation may be insufficient to successfully solve the task. In this case a lot depends on the quality and level of the psyche as a process, on its intuitive, unapprehended components, which are only implicitly, partially and very indirectly subjected to the conscious control in the course of action [24, p.165].

Fundamental quality of the psychic as a process is the continuity of unapprehended and apprehended. At the expense of such continuity there takes place the “transition” from the process to the development, i.e. the psychic process, because of its limited dynamism and changeability, starts its development with the need. And then the psyche as a process turns into psyche as ability [24, p.163] [88, p. 188, p. 290].

The main thesis of socio-reflectory(reflex) conception of development is the thesis that the genesis of action and genesis of consciousness is a single process in which different levels of action correspond to different levels of consciousness [13, p.11]. From the viewpoint of socio-reflectory (reflex) conception, conscience as knowledge and relation of the Man to objective reality and to himself emerges as a result of individual development [78, p.168] [78, p.176]. But the psyche process itself, as a result of which the object is apprehended, is not apprehended. [24, p.164].

2.2.1.3. Functional (horizontal) character of reflectory (reflex) development

“Functioning” is the central category of the reflectory (reflex) conception of individual development. It permits to under-

stand the continuity of qualitatively different stages of psyche development of animals and the Man [12, p.262].

The main principle of reflectory conception is functionally-genetic. It permits to integrate both stages of psyche development – of animals and the Man. Functional aspect of Man's psyche concretizes through his action [73, p.654]. This means that the sequence of stages and structures of development depends on the type of functioning (type of cause-and-effect interaction). The sequence of Man's development, in particular, depends on the character (structure) of the implemented action. [12, p.261] [24, p.54] [73, p.653].

The essence of reflectory (reflex) development is subject-object (cause-and-effect) relation, which is expressed in fundamental principle of unity of action and consciousness. This means that manifestation of consciousness in action is simultaneously the development of consciousness through action. Thus, in reflectory (reflex) conception the development is identified with functioning [73, p.653] and presents the formation, i.e. *functional ("horizontal") development*.

Qualitative changes of the psyche on each stage of development depend on the character of the Man's functioning, on his activity as the subject of the action [73, p.653].

Stability and steadiness of forms of functioning are not their fixedness and invariability. Stability and steadiness are not manifested in functioning, which contains limitless abilities of variability. Dynamics of psyche formation is connected with immanent ability of emergence of a new concrete type of behavior in a new concrete situation [73, p.656].

Stages of development depend not on a child age, but on the content he acquires in the process of his reflectory (reflex) development. In relation to different contents not only different children of the same age, but one and the same child may be at different stages of development. Therefore, different stages don't overbuild externally one upon another and don't change

each other in a once for all predetermined succession, but coexist [73, p.161].

Reflectory (reflex) development differs in the fact that for each child it accomplishes not only in different tempos, but passes individually different steps of development. Logics of development is the logics of formation from the unitary to the common. This is the common regularity of development, which is not determined by the age peculiarities, it determines them itself [73, p.162].

Individual development is not only stadial, but also hierarchical. Structures of the highest level modify the manner of functioning of the lowest one and fit together [12, p.264]. The ways of functioning of “underlying” levels, which are a part of “overlying” levels, do not change themselves, but conditions of their functioning change. According to S.L. Rubinshtein, this means that with the appearance of new levels of existence, all underlying levels act in a new quality [24, p.184].

Thus, the reflectory (reflex) conception of individual development is functionally-genetic conception. It is based on four fundamentals positions: first, the psyche develops in the processes of its own functioning; second, the character of the accomplished psyche immediately depends on the objective content on which it is formed; third, individual character of the psyche depends on the character of social relations of the group, the Man belongs to; fourth, mastering the culture content takes place in the process of learning, mastering the system of social relations - in the process of upbringing [73, p.150].

2.2.1.4. Appropriation of social causes as the means of origin of determinants of reflectory development.

Psychic development in ontogenesis, as compared to historical psyche development, is effected in specific conditions of upbringing and education. In accordance with differences of conditions, the course of development in one (historical) and the other (ontogenetic) cases also differ [11, p.182]. In connection

with this, there takes place the problem of correlation of the educational process and historical process of cognition development. According to S.L.Rubinshtein, there exist two alternative points of view on its solution. The first one is based on the theory of identity (theory of recapitulation). From this point of view, the problem of correlation of learning and historical way of cognition is solved at the expense of their identification. This being said, it is considered that education must reproduce (recapitulate) the course of historical development of cognition. The second proceeds from admission of the independent process of learning and process of cognition. From this point of view, the problem of correlation of learning and historical way of cognition is solved by the target to proceed from the child. Both points of view proceed from the abruption of the logical and the historical [73, p.494, p.497].

From the viewpoint of socio-reflectory (reflex) conception, there exists the third solution. It consists in admission of unity (not identity) and difference (not complete homogeneity) of the process of learning and process of cognition [73, p.497]. Exactly, the historical logics of cognition development forms that universal, which unites both historical cognition development and the process of learning [73, p.497].

Correlation between the development of an individual Man and historical development of humankind is regular, because the development of individual consciousness is mediated by mastering the objectified products of culture, which is created in the process of humankind historical development. Foundation for this correlation is one and the same regularity of development of the objective content in the process of science history and regularities of mastering this objective content by an individual Man in the process of education [11, p.183].

But unity of historical and ontogenetic ways doesn't mean their identity. Logics of the object forms in the process of historical cognition development, depending on its concrete historical conditions. Logics of the object is mastered in the process of

individual development in the process of learning, depending on concrete historical conditions of individual development. The difference of concrete historical conditions of historical and individual development, under the condition of unity of logics of the subject, makes the process of learning and the process of historical development of cognition different [73, p.497].

Besides, the distinction between historical and individual processes of development consists in the fact that the objective content in the process of historical development is created, and in the process of individual development is mastered (appropriated). This means that in the process of individual development increasingly more perfect abilities are formed on increasingly complex objective content. In their turn they stipulate the possibility of mastering increasingly complex content. The logics of objective (subjective) content development and the logics of abilities development are mutually stipulated [11, p.183].

Advancement of children from one level of psychic development onto another takes place in the process of education [73, p.41]. The psychic development of the Man is a single process, inside which qualitatively different stages are differentiated. Each stage prepares the next one. These stages depend not on the age, but concrete content, which is mastered by a child in the process of his development [13, p.137].

Maturation and education are the main factors, stipulating individual development [13, p.124] [13, p.127]. However, education not only overbuilds the development as maturation creates readiness for it, but itself stipulates the course of maturation and development [73, p.151].

From the point of view of socio-reflectory conception, learning is a formative educational process - development [12, p.39]. In other words, the process of learning is simultaneously the process of child development [13, p.501] [12, p.79].

Thereby, in real learning (through which a child passes, developing) and development (which implements in the process of learning) there takes place both mastering of a certain system of

knowledge and development of a child's abilities [13, p.502] [12, p.79]. This means that the child doesn't first develop and then educated and upbringing, but he develops, while learning and learns, while developing [12, p.78] [13, p.501].

A child doesn't first mature and then educated and upbringing. He matures, simultaneously being educated and upbringing. His upbringing doesn't follow his development. He develops simultaneously being trained and upbringing. In this the main law of child psychic development consists [13, p.128].

The unity of learning and development means their interdependence and interpenetration in a single process, where cause and effect continuously change each other [12, p.176] [73, p.151].

From the point of view of socio-reflectory (reflex) conception, individual development is the formation of individuality and takes place as the Man goes through his individual life journey. In the process of his development the Man masters the content of culture (objective – in the process of learning, social – in the process of upbringing), and, then, changing the reality by his action, he changes himself [73, p.162].

The thesis that learning must outstrip development (nip on ahead) is right, according to S.L.Rubinshtein, only in that obvious sense, that the child is taught what he hasn't yet mastered. But learning must correspond to development. If learning indeed starts "nipping on ahead" of child development, such learning won't lead to development; it will be only technical drilling [11, p.177].

The leading role of education in the process of psychic development, in which the child acts not only as an object, but also as a subject of culture appropriation, consists in creating the conflict between the actual level of cognitive action development and potentially new content, due for appropriation. This conflict is the driving force of development, which in the child development action not only manifests itself, but also accomplishes [73, p.158] [11, p.184].

From psychological point of view, learning as mastering (appropriation) is the implementation of mental action (analysis, synthesis, abstraction and generalization) [96, p.233]. Such learning must correspond to the child's possibilities on a given level of development. Realization of possibilities of the development actual level in the course of learning generates new possibilities, thereby, the previous level of development passes into the following one as a result of realization of possibilities of the previous level of development [11, p.177].

The main method of teaching, which is based on the idea of emergence of new possibilities, as a result of actual possibilities realization, is the problem (research) method (T.V.Kudryavtzev, I.Ya.Lerner, A.M.Matyushckin, M.M.Machmutov, L.V.Putlyaeva, R.T.Sverchkova, I.S.Yakimanskaya, etc.). This is the method of organization of independent decision of adequate for student problems at the expense of rendering assistance on the part of a teacher [88, p.93].

The stages of mental development of a child in the forms of observation, speech, thinking depend on both content, which a child acquires in the course of learning, and on the form of intercourse (form of pedagogical effect), under conditions of which this development accomplishes [73, p.151]. From this point of view, the characteristic feature of an elementary student is the development of empirical (discursive) thinking, and of a secondary school student – development of theoretical (rational) thinking [11, p.432].

On the whole, the main idea of socio-reflectory (reflex) conception of individual development consists in the fact that, proceeding from the social nature of the Man, each new generation appropriates (assimilates) the ready-made social models and stereotypes of social life. These models and stereotypes, being appropriated in the process of learning, act as social determinants of individual development. The characteristic feature of the Man individual development is that he can overcome these stereotypes individually. This means that individual develop-

ment in socio-reflectory conception is the final process. Transcendence over social serotypes can take place only socially, not individually, first in the society as a whole, and only then in the heads of individual people [80, p.200].

2.2.2. Mediation by internal causes (conditions) as the mechanism of reflectory development.

2.2.2.1. Mediation by internal conditions as the mechanism of cause-and-effect interrelation.

From the point of view of socio-reflectory conception, the principle of causative determinism lies in the very basement of existence [25, p.360]. It expresses the stipulation of all future events by the past events [33, p.401].

From the point of view of causative determinism, to exist means to act and be subjected to action, to be efficient, to take part in the limitless process of interaction, which represents the process of self - and mutual determination of one existing by the other [25, p.279].

Interaction as existence is loosely connected with the process of determination as an objective determination of qualities of one existing by the other. Thereby, causative determination (mutual and self-determination), as the most significant factor, is integrated into the content of the existence concept not only as relation, but also as a process [25, p.280]. This means that causative determination is inseparably connected with the existence itself and its restoration [97, p.28].

From this point of view, the existence is represented as an act, process and action process. Existence acts as causation in relation to oneself. Action of the cause, thereby, acts as the process of its action. The process of the action accomplishes not only externally [in the effect] but also inside the cause itself. In this case it represents the internal “inertia” understood as maintenance of its existence. In this sense, processually efficient cause represents the cause of itself, or “reflexion” of the cause in itself [25, p.287].

The process of action of the cause in itself represents the internal movement of the cause, providing self-protection of the cause as the qualitative certainty [25, p. 288].

From this point of view, the unique process of causative determination may be considered as its both internal and external part in relation to the cause itself. On the one hand, the internal process as the movement of the cause in itself, on the other hand, as an external process of causation of the effect, separating from the cause, differentiating from it [97, p.28].

The process of causative determination is generation of the effect, separated from the cause. This means that causation is the transcendence of the internal determination process outside the limits of the cause itself. Any object is characterized by such internal movement, which makes the foundation of its qualitatively determined fixed state. In this internal movement the object time and again reproduces itself [97, p.28].

Cause and effect represent the unitary system, the general state of which is changed by the effect. This change stipulates a new character of action of the initial cause. The reverse action of the effect on the cause changes with the change of the effect, which, in its turn, changes with the change of the cause provoked by this effect [25, p.290].

Processes of caused determination are the processes of transition of the causes structures into effect structures. Causation means reproduction of the cause structure within the effect structure, isomorphic reflection of the cause structure within the effect structure. The fact of translation of the cause structure into the effect structure lies in the basis of reflection quality, peculiar for the materia.

Reflection means the establishment of the special objective relation between the cause and the effect, due to which each component of the reflection relation becomes the representative of the other, becomes the bearer of information about it. *Structures*, carried over the chains of causation, act as information.

Therefore, the chains of causative determination are simultaneously the chains of transmission of information [98, p.372].

Energy preservation laws act as the substantial (fixed) foundation of cause-and-effect determination. Thus, cause-and-effect determination acts *as transmission of the action* along the chains of causation [25, p.288].

Methodological peculiarity of the socio-reflectory conception is integration of the internal factor into the principle of causative determinism, as determining the character and result of the causative interaction. S.L. Rubinshtein suggested the fundamental formulation, according to which “the external is mediated through the internal” [36, p.198].

Proceeding from this formulation, both the process and the result of interaction are determined, depending on both external and internal factors, and the Man’s activity is understood as depending on interaction of the subject with the objective (subjective) environment [99, p.47].

Internal conditions, forming under the influence of the external ones, don’t represent their immediate mechanistic projection. Being built and changed in the process of development, internal conditions themselves stipulate the specific circle of external influences, which the given phenomenon can be subjected to. According to S.L.Rubinshtein, original decision of the problems of development and education, development and upbringing must proceed from this [100, p.297]. Along with the formulation of determination principle, Psychology integrated the factor of causation, which was referred to as the ability for self-development. In such understanding the internal cause as the internal (essential) characteristics of the Man acts as the cause of itself (*causa sui*); as the means and method of regular, objectively necessary reproduction of its specific manner of existence in its essential qualities; as the means of “self-advancement” [25, p.407].

Thus, the opinion, that the result of action depends on internal properties of the object, means that any determination

represents determination by the other, the external and self-determination (self-determination as determination of internal qualities of the object) [25, p.359]. The role of internal conditions in interaction consists in self-determination, devotion to itself, but not only subjection to the external [25, p.382].

Integration of the Man, subjectively reproducing his life at the expense of internal conditions, into the chain of causes and effects changes the current and direction of the natural interaction process. The Man as the subject changes this process because he, possessing consciousness and will, objectively mediates the external cause-and-effect relation by his internal world [74, p.150].

2.2.2.2. Mediation by internal conditions is the mechanism of determination of the reflectory (reflex) action.

The principle of determinism (external causes act through internal conditions), applied to the process of cognition, becomes methodological foundation of the theory of reflectory reflection (cognition) [101, p.72]. Cognition is the ontological, objective interaction of cognoscitive subject and cognizable object. This has always supposed the immediate sensational contact of subject and object [25, p.410].

The psychic phenomena emerge in this immediate contact, in the process of interaction of the subject with the objective world, which begins with the influence of a thing on the Man [78, p.27]. The foundation of all psychic phenomena is the psychic action, representing the action of reflection of cognitive action [101, p.71] [88, p.171].

In implementing the cognitive action, the function of the psyche consists in revealing the objective convergence of action logics and object logics. The action must be adequate to the object in order to reform it in accordance with the object logics [75, p.237].

The initial moment of reflectory reflection process is perception (sensation). To perceive means to integrate into the process of interaction with existing reality, to become involved (to be-

come ontologized) [25, p.283]. Only in perception the cognizable object is given as existing [25, p.313].

Socio-reflectory conception based on the action of external causes through the internal conditions, which form themselves, depending on external influences, is the application of the principle of determinism to the psychic action of the brain [78, p.9].

It is considered, thereby, that the connection of the psychic action with the objective reality of the external world takes place only when it is viewed not as the internally determined exercise of the brain, but as its reciprocal action. This reciprocal action starts with the influence of the surrounding world on the Man's brain. But brain is only the organ of the psychic action, not its course. The course of the psychic action is the surrounding world, influencing the brain [78, p.7]. Reflectory action of the brain has always been the action determined from outside [78, p.9].

Therefore, the reflectory action of the brain, stipulated by external influence, is the mechanism through which the connection of the organism (the Man) with the external world is implemented [78, p.118].

Thus, the psychic action, in accordance with its nature, is immediately connected with the brain. Existence as a process (brain action) is the initial manner of existence of all the psychic [78, p.6].

In its nature, the psychic action (psychic phenomena) is integrated into the causal interconnection of existence, simultaneously both as stipulated by the action of the Man's life conditions, and as stipulating the Man's behavior [25, p.359].

The distinguishing feature of the psychic process (reflectory action) is the way of its determination. It is determined by the subject himself not before the beginning, but immediately in the course of the psychic process and is implemented at the expense of continuously and involuntarily built determining factors. This peculiarity of the psyche determination as a process gives

ground to speak about socio-reflexory conception as the existential conception [73, p.664].

Continuous determination leads to the psychic processes developing into psychic development (development of abilities). This takes place as a result of involuntary generalization by the cognositive subject of the cognizable object and means of cognition [88, p.205].

Involuntary generalization leads to the fact that at the expense of reflexory action there appears the image of a thing in the brain, under its influence there emerges reflexory action. This image represents its subjective ideal form, as a result of reflection [101, p.68].

The only source of human cognition, leading to appearance of ideal forms, is sensation [13, p.283], which along with perception and cognition represents the images of the external world [101, p.65].

All kind of thinking starts with the analysis of the empirical data, represented in sensations. It cannot start with anything else. [102, p.250]. Through sensation the ideal form of things (logics of things), objects of thoughts, integrates into the psyche of an individuum by the determining beginning and is reflected in his thinking [73, p.174]. From this point of view, all personal motives of people are psychological means of subjecting the Man to the objective logics of things in the process of action in revealing objective logics of the tasks solved by them [12, p.42].

Consciousness as any other psychic function has always supposed cognitive attitude to the object, existing outside consciousness [101, p.243]. In psychological plan consciousness acts as the process of realizing by the Man of the surrounding world and himself. Realizing as one's own means supposes a certain totality of knowledge, correlating with which the surrounding is realized [101, p.245]. Consciousness as a result of realizing is the knowledge, functioning in the process of realizing the reality [101, p.245].

Therefore, to realize means to reflect the objective reality by means of socially worked out generalized meanings, objectified in the world [101, p.244]. But the psychic process itself, as a result of which the object is realized, is not realized [24, p.164]. Availability of knowledge with the Man means that in the process of his life, intercourse there was built such a system of generalized knowledge, objectified in the world, with the help of which, as the means, he can cognize the surrounding and himself, realizing the phenomena of reality through their correlation with this knowledge [101, p.245].

In connection with this, reflexion as the content of consciousness acts as internal conditions, integrated into the interaction of external and internal conditions of the cognition process [97, p.79].

2.2.2.3. Mediation by Internal Conditions as the mechanism of Determination of Reflectory Development.

Socio-reflectory conception of development is based on K.Marx's methodological thesis that the formation of the Man's psyche is mediated by the products of his action and is implemented in the process of this action [76, p.27].

The immediate consequence of this thesis is the principle of unity of the action products and its subject, which was put by S.L.Rubinshtein into his conception of historical and individual development of consciousness [13, p.128].

This principle expresses the essence of development, which takes place in conditions of subject and object interrelation. Interaction is implemented as the unity of the processes of objectification (objectivation). Objectivation as the transition "of subject into object" is the process of subject manifestation in actions. Subjectivation as the transition of object into subject is the development of the subject under the influence of the results of these actions [36, p.25].

The dialectics of objectivation and subjectivation includes the essence of socio-reflectory (reflex) conception of the subject development [24, p.20]. The unity of personality manifests itself

the dialectics of objectivation – subjectivation. The subject in the acts of his creative independent actions doesn't only reveal and manifest himself, he is created and determined in them. In creative activity the creator himself is created [103, p.148-154] [104, p.101-107].

The essence of development in socio-reflective conception reveals through interaction of subject and object. Manifestation of consciousness in the action is simultaneously its development, i.e. formation [12, p.261] [24, p.53].

Creation (development, formation) of the acting subject under the influence of the products of his own action is provided by the fundamental mechanism “external causes through internal conditions”. However, internal conditions act as the foundation, main determinants of individual development [105, p.345].

In socio-reflectory conception of development the Man is represented as the integral system of internal conditions through which all external influences refract (including pedagogical). Internal conditions are formed depending on the previous external influences. Thereby, refraction of the external through the internal means mediation of external influences of the whole history of the Man development. This history contains evolution, history of living beings, and history of the humankind, and history of the Man development. Therefore, the internal conditions represent the unity of general, special and single. The more the universal is represented in individual deflection, the more significant the personality is [73, p.663].

The Man development happens as decision of the problem situations. The problem consists in the conflict between the explicitly given and implicitly set in the situation of interaction. Solution of the problem consists in explication of the implicitly set. Such reformation of the object takes place at the expense of singling out in it of the essential (universal) as a result of changing it by one's own actions and leads it to coming out across its limits, i.e. development [25, p.362].

In the course of continuous reformation of the object by the subject, as a result of their continuous interaction, the new content is “scooped out” from the object, which increasingly enriches the psyche, therefore, it develops [9, p.373].

The common principle of unity of the subject of action and the products of its action is embodied in “analysis through the synthesis” as the universal mechanism of development. Due to it, the previous products of the action enter new relations, and, by this, the continuous succession of the whole psychic process in historical and ontogenetic development is provided [88, p.320].

The succession means that development in socio-reflectory conception is determined by its past, and future stages of development are determined by the previous stages of development. But at the same time, the development crosses the borders of its past, and each new stage is qualitatively different from the previous one. Thereby, the development continuously crosses the boundary of each model (criterion) fixed earlier [88, p.200] [88, p.205]. Criteria of development emerge in the process of development itself, but not before its beginning [88, p.203].

Succession and irrelativeness to the previously fixed criterion represents the main contradiction of each development. The essence of succession consists in the fact that each following stage emerges from the previous one, which is its internal condition. Therefore, all stages are continuously interconnected genetically. Succession of the process regularly manifests itself as the development of this process and, consequently, the principle of determinism develops into the principle of historicism, into the universal principle of development [88, p.205].

The conflict between succession and irrelevance is solved by the subject’s prediction of his future decision. The process is the only possible form of development, in which the given conflict may be solved [88, p.205] [88, p.206]. Thereby, the final stage of the development process is not only the logically-objective characteristics of the cognizable object. First of all, it involves those

psychic new formations, which emerge and form themselves in the course of development, in the process of much deeper cognition of the object [88, p.213].

The thesis on the psychic as the continuous process means that its determinants are formed only in the process itself, not before its beginning. Only ontogenetically first external impacts (e.g.: on the newly born) and inherited preconditions precede the emergence of the psychic process, but later they only change in it [88, p.166].

This means that the essence of the principle of consciousness and the action unity consists in the fact that the psyche doesn't emerge (isn't generated) in the action, but is only formed [9, p.362].

This means that interiorization leads not from external action, devoid of internal psychic components, but from one manner of existence of psychic processes (as components of external practical action) to the other manner of existence (relatively independent from the external material action) [106, p.368].

In interiorization there is no question about the emergence of the psychic process (psychic action) from the external, material action, but the question is about transition of one form of action into its other form; about transition of one form of existence of psychic processes (as components of external, practical action) into the other (as theoretical, mental action); about the transition of psychic processes of one level to psychic processes of another (highest) level and, in connection with this, about transition of one form of existence into the other form of existence. Thereby, interiorization is not the "mechanism" itself by means of which this transition is implemented, but only its resultative expression, the characteristics of direction, in which this process is going on [107, p.368]. That's why the fact of interiorization doesn't express the emergence, but one the stages of the following psyche development [24, p.167] [88, p.163].

In socio-reflectory (reflex) conception of development the emergence of the new formation and, moreover, new types of

functioning depend on the character of action functioning, i.e. on the character of subject and object interaction. In this consists the simultaneity of manifestation and formation of consciousness in action, depending on the activity of the subject of action. Manifestation of consciousness in action is, at the same time (not in succession), the consciousness development through the action, its formation [12, p.261] [24, p.53].

Thesis on simultaneity of manifestation and development of consciousness proceeds from more general thesis on the fact that every manifestation of the human essence leads to the change of this essence itself [25, p.383]. Another result of this fundamental thesis is the principle of unity of structure and function, which underlies functionally the genetic conception of reflectory (reflex) development. It means that each new level of development opens much wider possibilities, and realization of this possibilities forms new structures [73, p.655].

Thus, individual development (development of capabilities) accomplishes like the torsion movement, where realization of the available capabilities, expressing the abilities of the given level, opens new abilities for development of capabilities of the higher level [100, p.293].

Mechanism of such development is based on the principle of unity of manifestation and development, formulated by S.L.Rubinshtein in his book "The Principle of Creative Self-Activity". The peculiarity of this principle consists in understanding the action simultaneously both as the means of changing the object, and the means of its self change [24, p.34].

This principle expresses the universal mechanism of development, acting on every level of the material. It consists in the fact that any action, which gave rise to the internal change of the system and led it to a new state, will be changed itself, because the new state of the system (the result of the previous action) changes the conditions in which this action took place, and, consequently, changes the character of the action itself [108, p.51].

Thereby, the Man by his actions continuously changes the situation, in which he is placed and, at the same time, continuously transcends over himself [25, p.344].

The principle of the subject and his action presents the mechanism of historical development: changing the nature by his action, the Man changes himself as a result of the revoked impact of the nature changed by him [13, p.123]. In historical process of interaction with the developing object the subject develops himself [88, p.201].

The specific feature of socio-reflectory conception is the simultaneity of the direct *change by the subject action* of the *object* perceiving this impact, and the reverse change of the *acting subject* himself by *the impact of the changed object*. This scheme represents the scheme of self-development, as the development of the subject is caused by his own influence, which changed the object and, as a result of this change, developed, in its turn, the acting subject itself [24, p.34].

Thus, the Man as a subject possesses the ability of not only changing the object, the flow of events, but, simultaneously, changing himself. Therefore, the relation of the Man as a subject is two-way: on the object (another man, situation) and on himself. But if the change of the object happens voluntarily (consciously), then the change of the subject itself happens *involuntarily* (unconsciously) [74, p.127].

The Man as a subject is the totality of internal conditions through which all internal impacts refract [88, p.199]. Various types and levels of the subject activity form the integral system of internal conditions through which different external causes act, like through the development foundation [105, p.344]. From this point of view, the Man's existence is looked upon as his action, as his self-causation [25, p.279].

Self-causation is supported by availability of the internal causability (internal conditions) and is understood by S.L.Rubinshtein as self-advancement, self-development. In this understanding internal conditions act for the Man as the cause of

himself (causa sui), i.e. as reproduction of the specific manner of his own existence in his main qualities [25, p.407].

The ability for self-advancement, in the course of which the living being reproduces itself, is the characteristic feature of the activity subject. To be the subject means to reproduce oneself, to be the cause of existence in the world [106, p.176] [109].

Realizing himself as the source of determination, as the cause of the following changes of reality, permits the Man to regulate his action before they have accomplished on the grounds of the realized prediction of their results [24, p.128].

Mechanism of action of external causes through internal conditions determines the understanding of ways of development, the Man's formation [100, p.297]. Being built and changed in the process of development under the influence of external causes, internal conditions stipulate the external influences, the Man may be subjected to. Solving the problem of development and education, development and upbringing must proceed from this law [100, p.297].

Significant results of socio-reflectory conception are that not each external cause may evoke development, and only the one, which is adequate to internal conditions [79, p.274].

2.2.2.4. Mediation by Internal Causes (conditions) as the Mechanism of Social Causes Appropriation (assimilation)

The system of scientific knowledge, which forms in the course of socio-historic development acts as the object, influencing the subject in the course of his learning. It acts for the individual thinking as the "objective reality", which he finds ready-made as social heritage, existing independently from him, and which he must appropriate in his cognitive actions. In the process of education as the socially organized cognition of the Man, the system of scientific knowledge, accomplished in the course of historical development, appears before the Man as the object of appropriation [101].

From this point of view, learning consists in appropriation of knowledge and skills, worked out a result of historical develop-

ment [11, p.77]. This takes place in the process of learning action of the student, mastering in the process of learning the knowledge already obtained by the science [11, p.202]. From the point of view of socio-reflectory conception of development, the process of sound knowledge appropriation represents the central part of educational process [11, p.84].

Educational activities (learning) is the central component of the unitary educational process, social in its essence, which is the bilateral process of communication of information and knowledge appropriation [11, p.375] [12, p.84].

The educator (teacher) acts as the transmitter of a certain material, which he/she communicates to a pupil [13, p.505]. The main link of work is presentation of the material [11, p.88].

His work is built on the basis of fundamental principle of demonstratives, which is not only the external didactic method in teaching but it has the deep gnoseological and psychic foundations in the nature of the thinking process [11, p.384].

Fundamental bases for the sound appropriation (mastering) of knowledge are preset in initial perception of the material. Soundness of knowledge depends on the method of providing new material to the pupils. Soundness of appropriation and memorizing is substantially stipulated by the character and quality of presentation, in which the material is provided to the pupils (teacher's lectures, manual) [12, p.87].

Character and role of the perception of educational material, as the first stage of education, changes significantly at different stages. In elementary school age the proportion of such perception is very large. In the system of elementary education special significance is applied to the principle of demonstrativeness [20, p.92].

Knowledge appropriation supposes certain internal conditions for their acquisition and leads to the emergence of new internal conditions for acquisition of further knowledge [100, p.292]. Knowledge acquisition and thinking development

represent the dialectical process in which cause and effect continuously change places [79, p.244].

In this sense, every Man is not only the object but also the subject of upbringing [100, p.301]. And when another Man becomes the object of pedagogical influence the task of the teacher is to call him forth to independent existence through the influence, overcoming his estrangement and negative independence. To achieve this, it is necessary to affirm his existence, breaking either in the conditions of his existence or in himself what distorts his human essence. This is the type of existence, which realizes his own essence, but he obtains it through the teacher. Hence, there arises the necessity of creating Pedagogics of a different type: formation of the Man through the attitude towards him, through the influence on him [24, p.27].

Under conditions of teaching the socially marked out knowledge acts in the form of language words meaning. As a result of education, these meanings, appropriated by pupils, become the means of apprehension of the reality [101, p.245]. Apprehension as generalization is accomplished as the educational mediated action towards appropriation of concepts and general ideas, created by previous historical development and fixed in the word, scientific term [11, p.382].

From this point of view, motivation of human behavior on the whole and motivation of educational activity in particular, represents subjective determination of the Man by the world mediated by his reflection. Meanings of objects, phenomena and their subjective "senses" act as the factors immediately determining their behavior [25, p.368].

Specific features of educational activity consist in the fact that the act of appropriation of a new level of knowledge, on the one hand, supposes the corresponding level of thinking as its internal conditions, on the other hand, determines conditions for appropriation of new knowledge. In the process of acquisition of elementary system of knowledge as cultural means, fixing in it the objective logics of the object, the Man forms subjective log-

ics of thinking, which acts as internal conditions for acquisition of knowledge of the higher level. Man development is implemented in this spiral process of interaction of developing thinking with the objective content of the system of socially worked out knowledge [79, p.244].

In educational process, when a pupil cannot solve the task without the teacher's help, the teacher mustn't announce at once the ready-made solution or make the pupil learn the ready mode of action. Presenting to the pupil the separate components, only those which he can do independently, the teacher can, by doing so, drive from the deadlock and put in motion independent actions of the pupils. This must be done by the educator who wishes not only to provide formal knowledge of form, once and for all, the knowledge and fixed skills of stereotyped tasks solution, but "to teach them thinking" [24, p.144].

As the method of organization of such teaching the problem-investigative method is used (T.V.Kudruavtzev, I.Ya.Lerner, M.A.Matyushkin, M.M.Machmutov, L.V.Putlayeva, R.T.Sverchkova, I.S.Yakimanskaya, etc.), which is directed at placing the pupil before the need of solving the can-do tasks and problems. Thereby, the role of the teacher consists in setting tasks for the pupils and rendering help in required cases [88, p.93].

Additional to the problem-investigative method is the "prompting method". It is based on the fact that the prompt, provided from inside, can determine the process of thinking only through its internal conditions, already formed at the given moment and demonstrating themselves in interaction with such prompt [88, p.240].

Conclusions. Socio-reflectory conception of the Man development proceeds from the understanding of the whole as the totality of interacting objects. The world as the historical whole is the multistrata (multilevel) formation, where each stratum (level) is the specific subject with the manner of existence characteristic for it.

All subjects (past, present and future) are united by common reality of the existence - cause-and-effect interaction and its common mechanism: internal causes act through the external conditions. The difference of these subjects consists in the manner of implementing the cause-and-effect interaction. The qualitative difference of the means of implementing this interaction stipulates the qualitative difference of the subjects themselves.

On each level the world as a whole determines each individual object. The nature of unicity of a separate (individual) object is determined by impossibility of it as it is, as the discreet and spatial to be a participant of interaction acts. Therefore, the integrity as resulting integral (integrating) characteristics of the objective world can be the resulting property only of a limitless totality of interaction acts of interacting objects, but it cannot be initial quality of the separate individual object.

Unicity of a separate object is determined by discreetness of the quality, inherent in it, in relation to the continuity of the cumulative plurality of objects. The total plurality of objects acquires the property of continuity because only the total plurality represents all possible different peculiarities of the property, common for all interacting objects, as the common means of their interaction. The separate individual object in its nature may be the bearer of only a separate differentiating peculiarity of a property and separate differentiating peculiarity of a separate interaction.

Existence is the movement, change, and such a change may be only causally determined, causally stipulated. As determination of the change of the object may be only external, by the other object, which, thereby, happens to be stipulated (determined), the existence is only possible as the mutual existence and only under conditions of interaction. Interaction as mutual influence of the objects one upon another is the reality of their existence, because only under such conditions of interaction the object exists, i.e. reveals (demonstrates) its essence, its manner of change (existence).

Any subject (object) of the objective world forms itself as a result of generalization and spread of a qualitatively determined type of interaction on all possible objects of this type and all possible space of their interaction.

Thereby, “the natural aim” of interaction is ordering the objective world, applying qualitative determination to it as a result of generalization and spread of a qualitatively determined type of interaction on all interacting objects and all space of interaction.

The Man as the object and the subject of objective world emerges simultaneously with qualitatively determined type of interaction, characteristic for it - social (social reality; social reality – efficacy of social interaction). Reflectory process of reflection (psyche as the reflectory process) as the ability to possess the image of the operating cause and reflectory process of responsive influence (reflectory action) as the ability to integrate this image into social reality, become the main properties of the Man, necessary for him to become participator of social interaction (mutual actions, social actions).

Together with the emergence of the Man in the structure of objective reality there appears subjective reality, inseparable from the Man, participating in social interactions. The content of subjective reality is the subjective ideal form of the socium as total external cause, reflecting and expressing the integral character of external social influences and integral (invariant) character of reflectory action (deed).

Subjective ideal form is on the one hand, generalized by reality of social relations (reflecting the reality of social interaction), on the other hand, by internal conditions, which reflect the invariant character of the Man, his generalization.

Due to internal conditions, the endless plurality of social interactions acquire subjective reality, generalizing them, not only the reality of plurality of objective interactions. The presence of the ideal reality of social interactions, representing the social whole (generalized plurality of social interactions) gives oppor-

tunity to participate, in an involuntary manner, in social interactions, but build them in a voluntary manner, anticipate and bear responsibility.

Special peculiarity of the Man, as the object of social influence and subject of social action, consists in the fact that, possessing consciousness and action, he in a voluntary manner (purposefully) calls forth the influence on himself, which is necessary for him, due to which, he becomes the creator, becomes the cause of himself the creator of his life.

Peculiarity of psychological components of reflectory action is determined by the causal mechanism and peculiarity of the reflectory brain action, supporting it. As the causal determination is determination by the social past as an individual feature, all psychic images and processes, including the processes and images of reflection, internal conditions and subjective ideal forms, are results of the previous (past) influences.

From this point of view, the goal of the reflectory action represents the subjective image of the previous results of social object influence, acting as its external causes, called forth by the reflectory action of the social subject. Similar to any psychic image, the goal of future action is also the trace of the past, acting as the expected future.

In other words, the aim in the reflectory conception of development is the image of the past results of the past action preferred (desired, expected, supposed) in the present in the quality of the future result of the future action. The future is the past preferred in the present.

At the same time, proceeding from the total nature of any type of interaction, the Man is determined in the social system of interaction, is determined in the total (social) way; he is the “projection” of social relations, the type of which he himself, by his own behavior doesn’t change and in the limits and boundaries of which he has to exist and find the possibility to build his individual life.

From this point of view, the existence (development) of the Man is fully determined by social reality, he doesn't build the determinants of his development (doesn't create them proceeding from his consciousness and his will). Social determination of the Man possesses "external" nature.

In the limits of socio-reflectory conception, based on the mechanism of externally-internal causal determination, the problem of self-development as generation by the Man of the determinants of his own development hasn't even been raised, therefore, it cannot be solved.

2.3. Sign Mediation as the Mechanism of Ideal Forms as the Determinant of Cultural Development.

2.3.1. Main ideas of culture-historical conception of development.

2.3.1.1. Subject-objective interaction of ideal and real forms as the source of cultural development.

Instrumental mediation as the central idea of culture-historical approach.

The main idea of culture-historical approach - the idea of instrumental mediation – was peculiar not only for Russian culture-historical psychologists. It was also central in the ideas of J.Dewey, whose works are well-known in Russian Pedagogics and Psychology. He considered that the tools of labor and works of art are initially natural things, which were put in a different shape for the purpose of implementation of a certain type of behavior [82, p.132].

In Russia the main ideas of culture-historical Psychology were formulated by L.S.Vygotsky. His main idea is the idea of mediation of the human psyche. He insisted that the psyche cannot be observed, and it can be revealed only by the method of mediation. L.S.Vygotsky suggested the theory of double mediation, of "ingrowth" of the Man into culture (social reality). He saw the key to the study of the Man's psyche in investigation of the means of such "ingrowth" (tools and signs).

At the same time, he believed that application of tools in the process of individual actions forms only the simplest (immediate) psychic functions. And only the application of signs makes the Man and forms his consciousness [110, p.131].

Recognition of instrumental nature of the Man's psyche meant that the psychic action is the same action as well as another action, and that its efficacy depends on its means [111, p.165]. L.S.Vygotsky considered that in itself the fact of application of tools, creating absolutely different determination of the Man's psyche, is not new. The new culture-historical conception is in investigation in the development of psychic system, determined by application of tools, which the animals don't possess [16, p.32].

Analyzing peculiarities of the instrumental actions, he came to conclusion that the basis for analogy between the sign and the tool is their mediating function. Therefore, from psychological point of view, they can be referred to the same category [16, p.89]. As tool application reconstructs the natural action of the body organs, transition to the sign mediating action reconstructs drastically the whole psychic action. L.S.Vygotsky proposed to call the reconstructed psychic action "the highest psychic function" [16, p. 90].

The essence of mediating activity, based on the signs application, consists in the fact that the Man determines his behavior with the help of signs, in accordance with their psychological nature [16, p.89].

As the culture is the product of social life and the Man's action, the problem of cultural development is the problem of social development. The sign (the same as a tool) exists outside the Man, is estranged from him and serves the social means (social organ) of the human behavior management [16, p.145].

Mediation by ideal form (sign mediation) as the essence of the Man's psyche.

L.S.Vygotsky considered that the Man possesses two type of psyche, "each of them corresponding to its own system of me-

diating stimuli, distinguishing feature of the human psyche is simultaneous availability of the system of stimuli given to the Man by the nature, and the system of stimuli created by the Man” [16, p.78].

L.S. Vygotsky understood the development as unfolding of psychic process and behavior in time, as transition to a new principle of their generation. For him the model of such transition from natural (immediate) to cultural (mediated) forms of behavior became sign mediation [112, p.13]. He understood as signs any artificially created means, which are intended to influence behavior [16, p.81]. The sign is any stimulus, artificially created by the Man, which is the means of acquisition of behavior (someone else’s or one’s own) [16, p.78].

Sign organization is the most important distinctive feature of all highest psychic functions [87, p.55].

In the structure of highest psychic function the sign and method of its application are referred to as the determining whole [16, p.116]. Any symbolic action is directed at organization of practical operations by means of creating the stimuli of the second order (signs), which make it possible to plan the Man’s own behavior [87].

In the process of individual behavior a child acquires the forms of his behavior, acquiring the stimuli (signs). The system of stimuli (signs) is the social force, given to the child externally [16, p.154]. Sign mediation of human behavior and his possibility, in connection with this, to manage his behavior (to generate the forms of his behavior) gives ground to speak that subjectiveness of the Man is in the centre of culture-historical theory of L.S.Vygotsky [112, p.15].

Social nature of mediation by the ideal form.

The main idea of culture –historical psychology is that historical development of behavior from animals to the Man brought about the emergence of a new quality [16, p.57]. This means that the society, rather than the nature must be looked upon as the Man’s determining factor [16, p.85]. One can un-

derstand the active adaptation to nature, its change by the Man only from social nature of the Man, not from the natural links [16, p.81].

Only culture creates special forms of behavior, it reshapes the action of psychic functions; it overbuilds new stages in the developing system of Man's behavior [16, p.29].

Methodological foundation of this opinion is the rephrased idea of K.Marx that the psychic nature of the Man is the totality of social relations transferred inside, which became the functions of a personality and forms its structure [16, p.146].

The driving force, determining the beginning of cultural development, launching the mechanisms of *maturation*, pushing ahead along the path of development is laid outside the man, not inside [13, p.133]. The major significance of this L.S.Vygotsky's thesis is that before him all the psychic was considered initially internal. He said what nobody else before him dared to say, it was a breakthrough in Psychology because in relation to the highest psychic functions, at least, it was recognized that they come from outside [111, p.165].

Exactly the circumstance, that in L.S.Vygotsky's theory *consciousness* and *subjectness* exist outside the individuum, makes it possible to speak about it as a non-classical psychological theory [112, p.16].

Proceeding from external nature of human psyche, individual behavior of the Man represents the product of development of a wider, social system [87, p.56]. For child development the environment acts not as the situation, not as the condition for development, but as the source of development [113, p.15]. This means that all the child must have already exists in the society, including needs, social tasks, motivations and even emotions [14, p.10]. L.S.Vygotsky considered socio-historical experience of the humankind the source of psychic development, and acquisition of this experience – the main form of development [86, p.155].

The sense of cultural mediation (mediation by the ideal form) consists in accumulation of the action of previous generations in the present (in cultural ideal forms). Social world acquires special significance for child development, because only the other people can create necessary conditions for this development [82, p.168].

These special conditions are necessary for communicating to a child of the system of stimuli (signs), which is the external social force in relation to him [16, p.154].

L.S.Vygotsky supported the point of view, shared by many psychologists of that time, that the Man is born a biological creature, and he becomes a personality in the process of ontogenesis, by means of acquisition of socio-historical human experience [114, p.31]. The overwhelming majority of psychologists till nowadays see the main factors of psychic development in acquisition by a child of socio-historical experience [86, p.188].

Mediation by the ideal form as the essence of cultural development.

The idea of cultural mediation goes back to Plato. Even at that time the ideal form, which was interpreted as the soul, that existed eternally before and was independent from the real world, acted as the significant factor, which mediated the real (material) world and by this mediation generated it. The soul (ideal form) was initially the source of integrity generated by it, but neither the soul, nor the reality generated by it were considered by Plato as developing.

Many generations later, this idea was laid into the basis of developmental theory, where the Man's soul was supposed to develop as a result of cognition through the cognition of absolute soul (Hegel). Absolute soul (ideal form) was understood as the initial foundation of the Man's and the whole world integrity, generating all its real manifestations. Developmental process was represented as striving for the absolute (the highest ideal form) and was a characteristics feature of only the individual Man, not of the absolute ideal form.

Hegel believed that the world had generally come to its end. Therefore, the grown up Man creates only what already exists. According to Hegel, wisdom is the combination of subjective action with its world. Subject is identity with itself. The truth, knowing itself, is the whole truth [115, p.378]. Hegel didn't deny the progressive movement of the world, but he considered that it happened only due to the action of large quantities of people and became noticeable only when a lot was created [115, p.378]. In this sense, the process of the Man development, due to his gradual inclusion into absolute ideal form is initially pre-set the same as the result of development. At that, it has no influence on either ideal form, or the world, where this development takes place.

The ideas of cultural (social) mediation of the Man continued developing in the 20th c. In France E.D.Durkheim and his pupil L.Levy-Bruhl insisted on the primacy of social life in generation of specifically human forms of consciousness. They centered their attention on mediation by common cultural symbols [82, p.48]. In Germany the culture-historical approach received the highest development. The German culture- historical thought became one of the sources of ideas for the Russian culture-historical school [82, p.251] (Psychology of L.S.Vygotsky, particularly, is fully based on the German idealistic epistemology) [82, p.13].

In the 30s. of the 20th c. culture – historical approach existed in different countries. It was shared by leading German, French, British and American scholars of those years (e.g., J.Dewey, V.Shtern, L.Levy-Bruhl, etc). Culture-historical idea generated history of the Man, making tools and creating himself, turning the nature into the culture [82, p.137].

Ideal form as the source of cultural development.

The problem of ideal form in domestic Psychology was initially worked out by L.S.Vygotsky, then by D.B.Elkonin in connection with the problem of organization of the act of development [3].

According to L.S.Vygotsky, the world of the ideal (highest) forms, the world of culture is the source, from which the child draws the model images. The child compares these ideal images with his own actions. This comparison is the source of development. The source of development for a child is the environment, because exactly here the ideal, highest forms “live”. The ground-up is the intermediary between the child and the world of the highest, ideal, cultural forms. He assigns the models of action which the child acquires in his developmental process [3].

Fundamental novelty of L.S.Vygotsky’s idea of the ideal form consists in the fact that the social environment, culture were understood by him as the source of the psychic development, rather than the condition or one of the factors of development [2, p.94].

According to L.S.Vygotsky, the ideal form of cultural behavior represents the product of historical development of the mankind. Any product of human culture, which emerged historically, accumulates (deposits) the universal human abilities formed in the process of creation of this product [2, p.94].

These universal abilities, in accordance with opinions of L.S.Vygotsky and D.B.Elkonin, are assigned to the child in the ideal form as social models. The idea of the assigned character of the cultural development content (universal abilities) and its form (ideal form), anticipating and directing the real one, are the foundations of the theory of cultural development [116, p.122].

The starting point of culture-historical developmental theory is the idea of interaction of real and ideal forms. The ideal form, interacting with the real one, initially exists in individual development of the Man and fully assigns its character. With the first steps of the child development the cultural ideal form determines the accomplishment of all forms of the child’s psyche [2, p.94].

According to L.S.Vygotsky, real forms are natural (immediate) forms, natural properties of the Man, representing the or-

ganic foundation of the development of the highest psychic properties. “Natural” (immediate) psychic functions transform in the course of development into “cultural” (highest) psychic functions. The highest psychic functions are the new formations of the individual development, despite the fact that they already exist in culture in the form of cultural models of a child psyche [2, p.94].

Due to the fact that the area of research of L.S.Vygotsky was the Psychology of consciousness [117, p.5], he considered that the driving force of the psyche development is the interaction of the child’s consciousness and the consciousness of the adult [P.Ya.Galperin], but not initially practical action of a child (how it takes place in theories of S.L.Rubinshtein and A.N.Leontiev) [24, p.87].

L.S.Vygotsky considered the concept a unit (the “cell”) of consciousness and, therefore, he saw the way of investigating child consciousness in concept development [118, p.241]. Internal component of the words, its meaning, is the reality of a concept, indecomposable unit, which contains all properties inherent in the speech thinking as a whole and consciousness as a whole [119, p.6].

Therefore, according to L.S.Vygotsky, exactly the speech, (speech sign) acts as the main psychological means of development. With the help of speech the child’s behavior integrates into the sphere of objects available for the child’s transformations. With the help of speech a child can master his own behavior, regarding himself from outside, considering himself an object. Speech gives opportunity to master one’s behavior as an object at the expense of its preliminary organization and planning [87, p.24].

As a speech sign is a socio-cultural means, accumulating the universal human experience, specifically human highest psychic functions are rooted in the forms of the speech intercourse among people. The highest psychic functions develop in the process of learning, i.e. the joint action of a child and adult.

Therefore, training, both organized and non-organized, is the common channel of the psychic development, and the psychic action is the derivative from the external *objective* action, and the process serving it. They are the central theses of L.S.Vygotsky's culture-historical conception [118, p.25].

Social situation of development as the form of transformation of immediate psychic functions into mediated ones.

The notion "social situation of development" is connected with two important characteristic features: social environment and relation of a child to this environment. In connection with the idea of correlation of the ideal and real forms, social situation of the development may be understood as the removed form of the source of development determination. This discourse goes back to the main definitions of the development act [B.D.Elkonin].

The contrast of "one's own" and "the other", present and ideal, includes the content and driving forces of the development: not only and not so much the environment on its own, but the attitude towards it, its selective perception by a child is the key to understanding the age. Social situation of the development is the child's attitude to the social environment [3].

L.S.Vygotsky considered that the human psyche represents two genetically connected systems of immediate (natural) and mediated (the highest) functions. Therefore, in his opinion, Psychology must solve two tasks: to reveal the lowest in the highest, and to reveal maturation of the highest from the lowest [16, p.140].

Any psychic function, any behavior may be understood only through their history (P.P.Blonsky) [16, p.133], through the history of cultural development, the process of cultural development consists in the shift from the lowest form of psyche – to the highest, which is more complicated in the genetic and functional respect. The boundary, dividing these two forms, is the relation of the stimulus and reaction. Determination of the behavior by the external (natural) stimulus is significant for the low-

est form. Self-determination, at the expense of creation of artificial means and determination with their help of one's own behavior, is significant for the highest form [16, p.77].

The law formulated in his time by P.Janet acts as the fundamental law of cultural development: in the process of his development the child starts to apply in relation to himself those forms of behavior, which the others initially applied in relation to him. The child himself acquires social forms of behavior and turns them into the means of his own behavior organization. Correctness of this law is especially evident in the sign application [16, p.144].

With transition to the operations the Man passes to the psychic processes of the highest complexity, withdraws from the field of natural history of the psyche and enters the field of historical forms of behavior [87, p.62]. Peculiarity of human behavior is stipulated by the fact that the Man interferes actively into his relations with the environment and through environment changes his behavior, subjecting it to his power [16, p.86].

Genetic law of cultural development of a child may be formulated in the following way: each function emerges twice. First - from outside, between the child and the adult, as the social category (interpsychic), then - inside the child, as the psychological category (intrapsychic) [16, p.145].

As cultural development of a child, according to L.S.Vygotsky, is the adaption to the external (social) environment, from the very first days this adaptation is achieved by the social means, through the people, surrounding him. The path from a thing to child, and from a child to a thing lies through another Man. And if the transition from biological path of development to the social one is the turning point in the history of a child behavior, then the path through another Man is the central direction of cultural development [87, p.30].

Relations among the highest psychic functions have been initially real relations among people. I regard myself in the way the people regard me [16, p.142]. That's why any symbolic ac-

tion of a child is initially the social form of cooperation, and it preserves on the way of its development the social manner (structure) of its functioning. Therefore, the history of the highest psychic functions is the history of transformation of social means of behavior organization into individual means of behavior organization [87, p.56].

The sign initially acts in a child behavior as the means of social connection, becoming then the means of his own behavior acquisition. The sign only transfers the social relation to another man inside a personality [87, p.56]. Autostimulation with the help of the artificial means may emerge only after the similar means have already been created for the stimulation of the other [87, p.62].

As the sign is initially the means of intercourse and only then becomes the means of human behavior organization, then the cultural development is based on the signs application. Integration of signs into the system of behavior flows in social (external) form [16, p.142].

This means that the source of intellectual action of the child and control of his behavior is not the invention of any purely logical act, but application of the social attitude towards himself, the transfer of the social form of behavior into his own psychic organization [87, p.33].

According to L.S.Vygotsky, withdrawal of operations inside, interiorization of the highest psychic functions, connected with changes in their structure, is the “ingrowth” [87, p.71]. All highest psychic functions are interiorized social relations, the foundation of social structure of the Man. The highest psychic functions have social nature. Even turning into psychic processes they remain quasisocial. Being alone with himself, the Man retains his functions of intercourse. The mechanism, lying in the basis of the psychic functions, is the copy from the social [16, p.145].

The mechanism of interiorization (the mechanism of transformation of the external into the internal) opened in the French

social school, acted for L.S.Vygotsky as the mechanism of transformation of culture into the world of personality, as the mechanism of formation of the child's cultural forms of behavior. He believed that each cultural form of behavior emerges at the beginning as the form of cooperation with people, as imitation of the others or the appeal to an adult. Only at the next stage this form becomes an individual function of the child himself [2].

According to L.S.Vygotsky, teaching is the organized process of influence on the child. To explain the internal connection of teaching and development L.S.Vygotsky introduced the concept of zone of proximal development. The zone of proximal development is determined by those tasks, which the child can solve independently or with the help of an adult. The concept of zone of proximal development acts simultaneously as concretizing of the mechanism of interiorization: external (social) form of the psychic processes composes the zone of proximal development; the internal (psychic) composes the zone of actual development [2].

Social situation of development is the initial moment of all changes in development during the given (age-related) period. It determines the forms and means of acquisition by the child of the new properties of a personality, which he finds in social reality as the main source of his development. This is the path on which the social becomes the individual [7, p.258]. From the point of view of cultural development, the task, which the child is capable of fulfilling, is the development of yesterday. And the task the child is capable of fulfilling in cooperation is the development of tomorrow. The zone of proximal development consists of the processes which haven't yet matured, but are maturing [7, p.264].

Two contemporary conceptions of the zone of proximal development deserve special attention. From D.I.Feldstein's point of view, social situation of development is the form of organization of "social organization of an individuum". One of the main

regularities of this development is the change of social position of a personality [2]. From the point of view of A.V.Petrovsky, the social situation of development is the form of the personality development organization, the leading factor of which is the action-mediated type of relations, which the child builds up with the group referential for him at this period, rather than monopoly of the concrete action [2].

The meaning of contemporary approaches for understanding the social situation of development consists in the fact that they permit to clearly distinguish between generally psychological and personal development. This, in its turn, gives the opportunity to differentiate between the “psychic” and “subjective” [2].

Action as the means of turning real forms of the object into its ideal form. Action as the universal relation.

A.N.Leontiev in his theory introduced the concepts of action and subject already on the level of the living organism. Therefore, treating the psyche as a superstructure, providing adaptation and survival of the organism in the environment, he takes the similar position with biologists (Severtzov, Shmalgauzen), developing similar idea of priority development of the action over the psychic reflection [120, p.18].

According to A.N.Leontiev, pre-history of human action begins with acquisition of objectivity by the life processes. This takes place when the elementary forms of psychic reflection emerge, when irritability turns into sensibility, into ability to feel [121, p.85].

Though A.N.Leontiev didn't deny the qualitative difference of the human psyche and psyche of animals, objective action, in his opinion, acted as the universal category, expressing all forms of life relations of an organism with the environment [38, p.523]. As a result, A.N.Leontiev spread the principle of unity of consciousness and action on the animals psyche.

In general this principle looks like the unity of the psyche and action [122, p.487]. Taking all this into account, it is possi-

ble to say that A.N.Leontiev looked upon the action as equally inherent in both the Man and animals [123, p.129].

The action as the human property (relation)

Like L.S.Vygotsky, A.N.Leontiev proceeded from the social nature of the Man and his psyche. He also considered that the basis of the Man's personality is the totality of his social relations towards the world. But he interpreted these relations as the aggregate of various actions of the Man [124, p.201]. Therefore, consciousness is not given to the Man initially; it is not generated by the nature, either. Consciousness is generated by the society; it is produced by the society [124, p.151].

A.N.Leontiev proceeded from the main theses of L.S.Vygotsky's conception on instrumental mediation of human psychic functions, but he interpreted them as the theses on instrumental structure of the Man's action and its integration into the system of interrelations with the other people [124, p.150].

The main sense of the category "action" consists in the fact that the psychic reflection is generated not by the influence of external objects (as it is considered in socio-reflectory conception) but by *deliberate* practical actions with the objects, which are subjected and adapted to the properties of these objects and to the properties of the objective world on the whole.

As a result of these objective actions, there takes place the transition between interrelating subject and object. This transition is implemented, on the one hand, as a result of objectivation of the datum targets, which determine the action of the subject and, on the other hand, as a result of desobjectification of the object, as the *transition of real forms* of the object into its *ideal form*, into its subjective image.

Objective determination of the action is possible due to its particular quality – universal plasticity, assimilation to the properties, connections and relations of the objective world (V.V.Davidov).By this narrow understanding of objectivity, culture-historical conception of the psyche (L.S.Vygotsky, A.N.Leontiev) differ significantly from naturally-scientific

“non-objective” conceptions (S.L.Rubinshtein, B.G.Ananyev, B.M.Teplov, etc.) [125, p.24].

From the view point of the concept “objective action”, cognition is the product of development of the cognositive Man in the objective world [121, p.20] [126, p.140]. Action is a developing process of the transition of the reflectable into reflection [127, p.137]. Therefore, exactly the action taken in relation to the psychic reflection of the world by the Man, becomes the subject of Psychology [127, p.148].

Having based on the concept of the objective action, A.N.Leontiev was the first to suggest the three component scheme of the psychic reflection functioning: “*subject-action-object*” [93, p.124]. He considered that in its nature the psychic reflection already in its initial forms is the objective reflection, i.e. reflection of the environmental properties in their connections and relations [125, p.22]. The nature of the psychic sensational images consists in their objectivity, in the fact that they are generated in the process of the action, practically connecting the subject with the external objective world [124, p.178].

Despite the fact that the psychic images are generated as a result of objective action, the act of cognition, in its essence, doesn't coincide and cannot coincide with the act of generation of the cognizable object itself [89, p.168]. Therefore, such generation should be understood as the penetration into the deep and natural basis of the things themselves [128, p.65]. In this sense, generates means “understands” one and the same objective thing, but in its internal regularity, not in the chaos of random regularities [128, p.65].

Any act of human action is mediated by the production and usage of instruments. The manner of application of the tool of labor is socially fixed (socially objectivized) means of its action. Thereby, the tool fixed the experience of the kin, so it is possible to use the tool to produce a new one only having acquired (preliminarily) this experience. That's why the instrumental relation is simultaneously the intercourse relation. And production

of the forms of intercourse is provided by a certain type of objective action [129, p.20].

From this point of view, the objective (subjective) cognitive action is the means of desobjectification of socially significant tools (or wider - socially significant items of culture), i.e. transformation of the real form of the object of culture into the ideal form of the objective (subjective) action. Therefore, cognition is, in its essence, the formation and development of the cognitive practically transforming action [130, p.129]. The objects, created with the hands of the Man, involve the type of their application [131, p.132].

The psychic form of the ideal (the ideal form of action) is secondary in relation to the natural form of the real object (E.V.Ilyenkov). The psyche of an individual Man (the ideal form of objective action) is formed in the process of acquisition of the humanized objects at the expense of transformation of the natural form of the ideal; into its psychic form [19, p.32].

More detailed analysis of the ideal form genesis makes it possible to say that Psychology distinguishes different phenomena of the psyche. The psyche should be viewed in two aspects: the psyche as an image and the psyche as a process [127, p.145]. On the basis of A.V.Zaporozhcz's position, that the manner of action is a lively reflection of the object [132, p.17], it is possible to draw a conclusion that any image as a psychic formation is nothing else but the curtailed process of action with the object [127, p.145], the objective scheme of action.

The presence of the objective scheme makes it possible for the organisms, possessing the psyche, even before facing the other objects, to anticipate and take into account their properties. This is possible because the psychic reflection of the objective world has already fixed the things; the organism is only going to meet [118, p.48]. Action development is the transformation of the real form of the object of culture into the ideal form of action

Generation of the ideal forms (reflection) as the development

As distinct from L.S.Vygotsky, A.N.Leontiev under the content of social relation understood the relation of reflection. In connection with this, cultural development, as the transition from natural forms of life to the cultural ones, is understood in psychological theory of action as the transition from actions with things to the reflection of their essence by the Man as the subject of cognition [112, p.32].

Proceeding from this, A.N.Leontiev considered that Psychology is the science of the emergence and reflection by the Man of the reality, which takes place in his life, and which, mediating it, fulfills the determining role in it [121, p.224]. He viewed the initial duality of the Man's relations with the world, their double mediation by the objective action and intercourse, as the internal driving forces of the action development process [26, p.217].

A.N.Leontiev believed that the concept of reflection involves the whole idea of development, which he connected with the existence of the level and forms of reflections [124, p.121]. The result of this is the conviction that there is no substantial difference between the reflection and psychic generation [127, p.124] [133].

The objective foundation of this thesis may be the fact that the concept of the object actually reflects the object. But if it is really worked out deeply enough, it becomes the artificial means of the adverse effect on the reality and starts remodeling it. Speaking globally, self-sufficient natural reality generates from itself the concept of itself in order to develop further with the help of this concept. Therefore, the origin of the sign and its eventual role in the objective world development are represented only as objective. But subjective (ideal) form is the subordinate phenomenon, which is necessary for the development of the objective reality itself [128, p.199].

Appropriation of ideal forms as the form of development

Social nature of the Man in the psychological theory of action is expressed by the statement that the main relation, which characterizes the Man's life, and from which everything depends, is the relation between a personality and the society [83, p.244], a separate individuum as the Man doesn't exist outside the society. He becomes the Man only as a result of the process of appropriation by him of the human action [121, p.36]. Therefore, the main principle of ontogenetic development of the Man is the principle of reproduction in the properties and abilities of the individuum of comprehensive properties and abilities, formed in the course of socio-historical process [15, p.119].

This reproduction of historically formed human abilities and functions takes place as a result of appropriation process. Thereby, appropriation is the process, due to which the Man in ontogenetic development achieves what the animal achieves due to the effect of inheritance, exactly in the properties of an individuum the achievements of the species development [15, 115].

Thus, what is achieved on the level of animals, due to the effect of biological inheritance, is achieved by the Man through the social inheritance, learning – the process which represents the process of humanization of the Child psyche [134, p.196].

As compared to animals, the whole psyche of the Man is assigned from outside and all its structures are subject to adoption [135, p.128-135]. The Man becomes the Man, appropriating the psyche as the property of the kindred, i.e. making his own what used to be the common heritage [84, p.338].

The difference between appropriation as social adjustment from biological adjustment consists in the fact that biological adjustment is the process of change of the species abilities genetically embodied in the organism, but appropriation is the process, due to which in individual development of the Man the genetic abilities are embodied in the individuum properties [15, p.115].

This gives ground to understand the process of appropriation as the mechanism of social “inheritance” [15, p.140].

Thus, the process of getting hold of the world of objects and phenomena, created by the people in the course of the society development, is the process of formation by the individuum of specifically human abilities and functions [15, p.94]. All this testifies to the fact that the psychic (spiritual) development of the people in the product of the appropriation process, which animals do not possess [15, p.114].

From the point of view of psychological theory of action, the process of appropriation is implemented not in the course of interaction of consciousnesses (as L.S.Vygotsky understood it), but in the course of development of real attitudes of the Man to the world. But these attitudes depend on the social conditions, in which he lives, and on how his life develops under such conditions, rather than on the Man (his consciousness) [134, p.217]. Acquisition as means of social inheritance (reproduction in new generation) of exactly the human image (or type) of life-sustaining activity as the system forming factor provides the unity and the integrity of all forms of human life-sustaining activity [18, p.45].

Proceeding from the social (external) nature of the Man, the Man who enters into life, meets the objective world, which has already been transformed by the action of the previous generations. However, this world of cultural objects, which embodies human abilities, has not been initially given to the child in this quality. In order to open this quality, this human side of surrounding objects, he must implement his own action towards them, not identical action, but adequate to that, which they have crystallized in themselves [134, p.195].

The child doesn't meet the natural world of undeveloped objects, but he faces the cultural world of human objects, bearing to him the peoples experience, crystallized and idealized (conceptual) [84, p.272] [136, p.306]. In this sense, objective means created by humankind act as the objective forms of expression

of cognitive norms and models, existing outside this individual. Appropriation by the individual of these norms, possessing social origin, permits them to function as structure-forming components of individual cognition [85, p.39].

People use these norms and models, cultural “patterns” for delivery of the types of action from generation to generation [84, p.251]. The child appropriates these patterns as a result of interiorization, which was understood by A.N.Leontiev as distinct from L.S.Vygotsky, as the means of formation of the internal plan of consciousness as a result of transfer of the external action “inside” [121, p.98].

The category of the objective action, introduced into Psychology by A.N.Leontiev, became a new step in culture-historical conception of development. If in the works of L.S.Vygotsky learning (appropriation) acted predominantly in the form of interaction of consciousnesses in the form of intercourse between an adult and child, then A.N.Leontiev showed that practical objective action underlies the development of consciousness, psyche and personality of a child, rather than interaction of consciousnesses or speech intercourse.

In connection with this, as distinct from L.S.Vygotsky, who considered that the effect of the word on the child’s consciousness is the driving force of the child’s development, A.N.Leontiev thought that the driving force of the child’s development is his own action, as a result of which (under the guidance of adults) the child appropriates traditional human abilities [2].

2.3.1.2. Psychological content of the concept of cultural development. Vygotsky L.S.

Dual stipulation of integrated process of development in ontogenesis.

According to L.S.Vygotsky, all theories of individual development may be reduced to two main types of conceptions. First type: development is the process of realization of inclinations, which doesn’t give rise to anything new. Second type: develop-

ment is the process of self-advancement, which gives rise to the new, which doesn't exist at the previous stages [7, p.247]. Culture-historical theory defines the development as the process determined by two indications.

First indication of development. In any change the substratum, underlying the developing phenomenon, remains the same.

Second indication of development. Integrity of the developmental process, existence of internal connection between the previous stages of development and new changes [16, p.149].

Proceeding from these two principles, the individual process of child development, according to L.S.Vygotsky, includes both types of psychic development, which are found in isolation in psychogenesis: biological and historical (natural and cultural) [16, p.30].

These two types of development are components of the integrated developmental process, which differentiated two main qualitatively particular lines: biological formation of elementary processes and socio-cultural formations of the highest psychic functions [87, p.66].

Specific feature of cultural development is that it accomplishes under the biological type conditions. On the one hand, cultural development lies over the processes of growth, maturation and organic development of the child and forms with it the integrated whole [16, p.31]. On the other, as the organic development takes place in the cultural environment, it transforms into historically- stipulated biological process. Cultural development, in its turn, accomplishes simultaneously and together with organic maturation. This means that the bearer of the cultural development is the maturing organism of the child [16, p.31].

This implies that the final vehicle of the cultured behavior, its energy basis and stimulus are the same instinct, the same material need of the organism, which also guides the animal. But with the Man the instinct exists in the concealed form, and his

behavior is connected with the change of its properties [16, p.153].

Mutual stipulation of natural and cultural types of development constitutes the basis of the genetic interrelation between the elementary and the highest psychic functions. L.S.Vygotsky considered that the earliest maturation of the most complicated sign operations is implemented in the system of purely natural forms of behavior and that the highest functions have their own “foetal period” of development, connecting them with natural bases of the child psyche. He referred to these two moments, history of the highest psychic functions development and their genetic connections with the natural forms of behavior, as the natural history of the sign [87, p.66].

Natural history of the sign points to the fact that cultural forms of behavior have their natural roots in the natural forms, that they are bound with them by thousand of threads, and they emerge, one way or another, on the basis of the latter [16, p.131].

The result of natural history is that sign operations are not simply invented by children or borrowed from the grown ups. They appear from something that isn't initially the sign operation, and it becomes the sign operation only after a number of qualitative transformations, each of them stipulates the following stage, having been stipulated itself by the previous one and connecting them as stages of the integrated, historical, in its nature, process [87, p.66].

Genetic ties between natural and cultural forms of the psyche is implemented on the basis of the main law of development, the essence of which is in evenness of maturation of the individual sides of a personality and its different properties [7, p.261]. This law is expressed by L.S.Vygotsky in the concept of “zone of proximal development” , which is underlain by the relation of the matured and only maturing psychic processes. Education adequate to the zone of proximal development permits to effectively organize the process of cultural development.

In the process of development each psychic function, at a proper time, crosses the borders of the system of organic activity, peculiar to it as a natural function and starts its cultural development within the cultural activity system. But, thereby, both systems develop jointly and together, forming the combination of two different in their essence genetic processes [16, p.34].

According to L.S.Vygotsky, the idea of development is the key to understanding all psychic processes and of emergence of the highest, qualitatively new forms. As a result he comes to conclusion that the highest psychic formations emerge from the lowest ones by means of development [87, p.67].

Singularity of transition from the animal system of activity to the human, which accomplishes in the individual child development, consists in the fact that the human psyche system not only changes the animals', but both systems continue developing simultaneously and jointly.

This means that the child doesn't pass to new system after the old, organically stipulated system developed all through, the child doesn't come to the usage of tools as a primitive Man, who has finished his organic development. The child crosses the borders of the biological system, when the system itself is still at the primary stage of development [16, p.33].

According to L.S.Vygotsky, specific features of human ontogenesis consists in the fact that it simultaneously represents both the organized system of biologically active and instrumental system of social activity, which are represented in phylogenesis separately and developed separately one from the other. System of the child psyche at each stage of development is simultaneously determined by both levels of his mastering the tools. Two different systems develop jointly creating a new third system, the system of special type. If in phylogenesis the system of human psyche is determined by the development of either natural or artificial organs, then in ontogenesis the child psyche is simultaneously determined by both. It appears from this that

in ontogenesis the development of the psyche system discovers the dual stipulation [16, p.33] [16, p.34].

Genetic bond of natural and cultural types of development.

In the history of cultural child development the concept of psyche structure is encountered twice. First, it appears from the very beginning of the history of cultural child development, being its initial point. Second, the process of cultural development itself should be understood as the change of the initial structure and emergence on its grounds of the new psyche structure. The initial represents the primitive, natural psychic whole, stipulated by biological specific features. Those emerging in the process of cultural development are referred to as the highest structures, because they represent more complicated and the highest form of behavior [16, p.115].

The psychic development of the child is represented by its two forms. The first form plays its role in the history of natural development. It is characterized by the fact that each new stage of psychic development, available in a contracted form at the antecedent stage, comes due to unfolding the internal potencies. The second form plays its role in the history of cultural development. Cultural development is characterized by the fact that each new stage emerges not from unfolding the potencies, involved in the antecedent stage but from the real clash of the organism and environment and living adjustment to the environment [16, p.137].

The ties between the natural child development based on maturation, and cultural child development present the ties of revolutionary, not evolutionary character. Thereby, the development is carried out as a result of sharp and principle changes of the development type itself, of the driving forces of the development process, rather than by way of gradual and slow accumulation of small properties [16, p.151].

Therefore, the history of development of each highest psychic function is not the continuation and perfection of the elementary function, but the drastic changes of the development direc-

tion and further movement of the process in a completely new plan. Each highest psychic function is the specific new formation [87, p.56].

Individual child development goes along the path of the deep change of child behavior structure. At each new stage the child not only changes the form of behavior but implements it to a substantial degree in a new way, attracting new means and replacing one psychic means by the other. The development moves, first of all, in the direction of mediation of those psychological operations, which on the first stages were implemented by means of immediate forms of adjustment. Complication and development of the forms of children's behavior is stipulated by the change of the attracted means and transformation of the psyche process [87, p.77].

Psychological peculiarities of cultural type of development.

According to L.S.Vygotsky, each development is the process of the formation and appearance of the new one [7, p.254]. Cultural development presents the "ingrowth" of the child into internal culture, accumulation of the internal experience and is the development of a different type, as compared to the human foetus development [16, p.292]. L.S.Vygotsky considered that there are all grounds to apply the concept of development to the process of the internal experience accumulation [16, p.150].

The main criterion of division of the individual development into separate ages is new formations. From this point of view the succession of age periods should be determined by alternation of the stable and critical periods [7, p.254]. As the child personality changes as the whole, and the laws of this change is the movement of each part, at each stage we always find the central new formation appropriate to it, which is the leading for the whole process of development and characterizing the transformation of the whole child personality on a new basis [7, p.256]. The most important and significant moment in determination of the age development dynamics on each age-related

stage is understanding the relations between a child and social environment as moveable [7, p.258]. According to L.S.Vygotsky, internal process of the development is the age structure [7, p.256]. Each age possesses its specific, single and unique structure. In transition from one stage of development to another the transformation of the whole age structure takes place [7, p.257]. At each age the previously composed structure passes to a new one. The new structure appears and builds up in the course of age development. So the dynamics of development should be understood as the aggregate of all those laws, which determine the period of emergence, change and cohesion of structural new formation at each age [7, p.258].

Up to beginning of each age-related period there builds up specific for each age interrelation of the child and social reality. This relation is referred to as social situation of development at the given age. The social situation of development is the datum time for the development as a whole during the given period. It determines from top to bottom those forms and that path, following which the child acquires new and new properties of his personality, scooping them out of social reality as from the main source of development, the way along which the social becomes the individual [7, p.258].

The relation between the child and social environment exists as *experience*. Experience combines in itself the personal (“my experience”) and environmental (“relation to something”) aspects. The experience shows what the environment is for the personality at this moment. Experience is the peculiar individual projection of social situation of development. In some respect, experience and social situation of development are synonyms (social situation of development is the unique, specific for the given age child’s attitude towards the environment, first of all, social. Experience is this attitude) [3].

Social situation of development, specific for each age, determines strictly regularly the whole way of life of a child, or his social existence in the limits of this age [7, p.259]. From the

child's life in this social situation, being formed toward a certain age and determined by characteristic relations between the child and the environment, there emerge and develop the new formations, peculiar for this age. These new formations, characterizing, first of all, the transformation of the child's consciousness are not the background, but the result (product) of the age development. Changes in the child's consciousness take place on the basis of a definite form of its social existence, peculiar for this age. That is why maturation of the new formations always belongs not to the beginning, but to the end of a certain age [7, p.259]. New formations, which occur in the child's consciousness, lead to the changes of the child himself. This cannot but have the most significant consequences for the further development. If the previous dynamics of the age development determines the way of direct movement from social existence of the child to a new structure of his consciousness, then the following dynamics determines the way of the reverse movement from the altered child's consciousness to the transformation of his existence. The new structure of consciousness, being acquired at the given age, inescapably means a new character of perception of a new action and the action in itself, a new character of the perception of life of the child himself and internal activity of his psyche functions [7, p.259].

With the appearance of this idea of new formations, another condition is introduced – the internal structure of the personality (structure of consciousness) (for L.S.Vygotsky both terms are synonyms). Thus, the development is determined by complex interrelations of the external and internal conditions – the composition of consciousness and social situation of development. These complex relations compose the internal logics of development about which L.S.Vygotsky constantly wrote [3].

In culture-historical theory the question of the consciousness origin is the principal one.

According to L.S.Vygotsky, the source of development is the environment (social environment, social situation of devel-

opment, ideal forms), therefore, the critical period is the act of development, in which the effect of the environment is crystallized in the forms of the new formations and becomes the special object of research. New formations, characterizing the structural transformation of consciousness, are not the background, but the result of the age development.

The change of the child consciousness is founded on the form of his social existence, peculiar for a given age. In crisis the dialectical return takes place: the formed type of consciousness itself changes the social situation of development – from the altered structure of the child's consciousness to transformation of his existence. The results of emergence of such a structure are enormous. This means the new character of perception of external reality and action in it, new character of perception of the internal activity of his psychic functions.

Thus, culture-historical theory reconstructed the deductive way of consciousness development: from the new conscience structure to the new perception of reality. With this view on the developmental process, it is possible to avoid mechanism and undimensionality. It is not the environment that forms the Man (existence determines consciousness), but it is more complicated: the environment provokes the shaping of the psychic psycho-channel.

The common scheme of the child's cultural development consists of four components. First, the other people act in relation to the child. Then the child enters the interrelation with the surrounding people. At last he starts affecting the others. In the end he starts acting in relation to himself [16, p.225].

The concept of cultural development (“the development of the highest psychic functions”) embraces two groups of phenomena, continuously connected, but never mixing. First, the processes of acquiring the external means of cultural development (language, writing, counting, drawing). Second, processes of development of the highest psychic functions (voluntary attention, logical memory, concept formation, etc) [16, p.24].

Cultural development of the child passes four main stages; following each other and emerging one after another: *instinct, conditioned reflex, intellectual reaction and cultured behavior*.

Taken as a whole, these stages describe cultural development [16, p.129]. At the natural (primitive stage) the child solves the task spontaneously. After solution of simple tasks he passes to the stage of using signs without realizing the mode of their action. Then comes the stage of employment of the external signs and, at last, the stage of internal signs [16, p.161].

Child development least of all reminds the stereotyped process, concealed from external effects. Here, in the living adaptation to the environment, there accomplishes the development and change of the child. In this process there appear new and new forms rather than the links of the previously formed chain, stereotypically reproducing themselves [16, p.137].

Each external action is the result of the internal genetic regularity. The cultured child can never adopt at once the last stage in the operation development earlier than he passes the first and the second ones. That is to say, introduction of a new cultural operation into the child psyche falls into a series of stages internally connected with each other and passing one into another [16, p.150].

Peculiarity of cultural development consists in the fact that the child in the last came to realization of the sign (e.g., this gesture). The meaning of the sign and his functions are initially created by the objective situation and then the people, surrounding the child. The sign (e.g. the pointing gesture), earlier, starts pointing by the real movement at what is understood by the others, and, only later, becomes the instruction for the child [16, p.144]. The fundamental conclusion from this is that cultural development brings about individualization, transformation of social relations in to the psychic ones, not socialization (according to J.Piaget) [16, p.146]. If in the beginning of development there exists the *deed, independent* of the word, then in the end

there is the *word, which becomes the deed*, the word which makes the Man free [87, p.90].

A.N. Leontiev.

According to A.N.Leontiev, the psyche ontogenesis is determined by its phylogenesis, as a result of which, the Man, in order to realize the achievement of phylogenetic development, must acquire them. Only as a result of this process the individuum can express in himself the truly human nature, i.e. properties and abilities, which represent the product of socio-historical development of the Man [15, p.114] [82, p.188].

This means that, the situation of the Man development reveals its abilities already at the very first stages. The main out of them is the character of the child's relations with the surrounding world, mediated by culture [124, p.215] [82, p.206]. From this point of view, the psyche as the infrastructure doesn't exist outside the social superstructure. The process of development is the movement "from top to bottom" [127, p.150].

Ontogenetic development "from top to bottom" is implemented as a result of interiorization, i.e. at the expense of transformation of external (objective) actions into internal (psychic) actions. The necessity of interiorization consists in the fact that the central content of the child development is his appropriation of the achievements of historical development of the human-kind, which, from the point of view of A.N.Leontiev, can only be achieved by means of interiorization [15, p.128].

Interiorization has a special place in ontogenetic development. Interiorization of actions as the gradual transformation of the external actions into internal, mental ones is the process, which is necessarily accomplished in ontogenetic development of the Man [3].

The individuum is born endowed with the needs. But the need as the internal force may be realized only in action. At first the need acts only as the condition, the background of the action. But as soon as the subject starts acting, the transformation takes place right away, and the need is no longer what it virtual-

ly was, “in itself”. The further the action development goes, the more this background turns into its result [124, p.205].

Interiorization of actions, i.e. reformation of the external (objective) actions into the internal actions (psychic) is actually the developmental process, the content of which is appropriation by the child of the achievements of humankind historical development [15, p.128].

The internal scheme of development is based on anticipatory development of the objective action content, which determines the development of psychic reflection following it, which, in its turn, regulates the action in objective environment [124, p.143] [121, p.85].

According to A.N.Leontiev, when deciding the questions of action development or formation, it is fairly enough to remain in the frame of determining the age through the leading action. But if there is the question of the sources of the leading action change, there emerges the necessity of expanding the frames of age description through the leading action and coming to a more common context. Then it is required to consider the child’s communication with the surrounding world, the system of relations, the place of the child in the system of social relations, the attitude of the child towards his place in the system of social relations, etc. [3].

New action formation is connected with the mechanism of emergence of new motives, with “the shift of the motive towards the aim”: actions being enriched more and more overgrow their circle, where they are realized and come into conflict with the motives they were generated by. As the result, the aim turns into a new motive, generating a new action [3].

In the tideway of the action theory the analysis of critical ages is hindered because in the focus of the investigator’s attention there have always been the mechanisms of leading actions, determining the development in the stable periods. The mechanism of action change, however has always remained on the periphery of scientific interests [3].

In A.N.Leontiev's works the stage of personality development (psychic development) is determined by two moments: the place of the child in the system of social relations and the leading type of actions. Having compared age determinations, we shall see that in the first case the age is determined by relation between the social situation of development and the new formation (conscience structure), and in the second case – by relation between the place of the child in the system of social relations and the leading action.

Thereby, if in L.S.Vygotsky's culture-historical theory the question is on correlation of the internal and external factors, then in A.N.Leontiev's theory the question is on correlation of two external factors, because neither the place in the system of social relations, nor the action are properly the intrapsychic form, properly subjective characteristics [3].

Elkonin D.B.

According to D.B.Elkonin, the psychic development of the child is implemented in the process of regular change of types of the leading action, when each of these types complies with its own new formations [137, p.11]. The conditions of psychic development are the growth and maturation of the organism. Social environment, ideal forms acts as the source of psychic development, i.e. what the development must come to in the end. Appropriation (mastering) is the form of psychic development. The driving force of the development is the contradiction between appropriation of objective and social sides of action [137, p.10]. This contradiction is expressed in the fact that the child comes up to each point of his development with a certain divergence between what he acquired from the system of relations man-man, and what he acquired from the system of relations man-object. The periods when these divergences are the largest are referred to as crises, after which there takes place the development of that side, which lagged behind in the previous period. Both sides prepare the development of each other. This is the

common law of child development. D.B.Elkonin called it the law of periodicity [137, p.59].

P.Ya.Galperin.

P.Ya.Galperin is more consistent in the assertion of culture-historical ideas. His point of view exactly expresses, to the fullest extent, the essence of culture-historical ideas in Psychology. As compared to L.S.Vygotsky and A.N.Leontiev, he denied categorically any possibility of existing of a biological (psychological) component in the human psyche. He insisted that the human psyche as a whole is appropriated as a culture-historical product, and the human psyche as a whole is the external phenomenon.

In connection with this, he repeatedly criticized any attempt for searching the psychic mechanisms in Psychology (including A.N.Leontiev's attempts) [111, p.160].

V.V.Davidov.

He considered that the main process, characterizing the child development, is the process of his appropriation of the previous generations achievements [138, p.4]. In his opinion, the basis of psyche development is the change of types of action, which determines the process of accomplishment of new psychic formations [139, p.58].

Each stage of the psychic development is characterized by the determined, leading at the given stage child's attitude towards reality. The indication of transition from one stage to another is the change of the leading type of action, the leading child's attitude towards reality [43, p.58].

The characteristic feature of V.V.Davidov's position is his thesis that the process of the child psychic development specifically reproduces naturally-historical logics of the ascent *from the abstract to the concrete* [116, p.126].

Along with the other representatives of culture-historical psychology, V.V.Davidov considered that the development as self-development is inherent only in the society, which forms the individual psyche. According to V.V.Davidov, an individual

man is not such a self efficient system. As a matter of fact, he is only an element of a really integrated whole the society represents. Self-development is only inherent in the society. It is not inherent in the Man as such [140] [141, p.42]. Therefore, the individual psyche changes on the basis of other mechanisms, not on the basis of the self-development mechanism.

2.3.1.3.. Functional (“horizontal”) character of cultural development.

Development as the process of history in the limits of one age.

L.S.Vygotsky considered that the nature of the highest psychic function can be revealed only as a result of the special genetic analysis. The object of such analysis should be processes (not things) and causal connection and relations (not separate external indications) [16, p.100]. L.S.Vygotsky’s conception is based on the hypothesis that in each age period of development consciousness represents the special structure of psychic processes. Proceeding from the fact that one of these processes during the corresponding age becomes the leading process, the object of the genetic analysis for him became the age period of development of the corresponding process (e.g., thinking) [137, p.21].

The criterion for distinguishing age periods is the specific new formation, representing such psychic and social changes, which appear for the first time at the given age period and then determine the course of development at the given age period [7, p.248]. At each age-related period the development is determined by the relation between a child and social reality. This relation forms at the beginning of each-related period and represents social situation of development for the given age-related period [7, p.258]. Therefore, appropriation of any new operation is the result of the developmental process in the limits of a certain age [16, p.150].

Each age, each age-related period has its own structure, representing internal structure of developmental process [7,

p.256]. The driving forces, responsible for the change of social developmental situations, provide for the child development during the whole age-related period and, in the end, lead to the turn of the previous social developmental situation. This leads to the end of the given epoch of development and transition to the next age-related epoch.

Analysis of the texts of L.S.Vygotsky himself and his followers testified to the fact that the object of research in culture-historical psychology became one of two main types of development. This development is understood as the psyche change within each concrete age and represents functional development (horizontal type of development). “Vertical” type of development, which is understood as the transition from one age to another, and psychic mechanisms of this transition were not given special attention to in Psychology.

Imitation as the mechanism of functional development.

Thinking that cultural development has the dual determination, L.S.Vygotsky came to conclusion that adoption of any new form of cultural experience depends on prehistory of developmental process. He believed that the subject of adoption of cultural experience is the organism, which assimilates this experience, depending on the stage of the psychic development he belongs to. This means that adoption of any form is the result of pre-history of the process of development expressed on its actual developmental level [16, p.149].

According to L.S.Vygotsky, the adoption processes are facilitated by the mechanism of imitation, which has a special meaning for the cultural development [16, p.131]. Imitation is one of the main ways of the child cultural development [16, p.31]. Imitation is the main mechanism of the personality development [16, p.143].

The main ways of emergence and development of cultural forms of behavior of the Child consist in imitation under conditions of cooperation, under conditions of communications with adults [2].

As compared to J.Piaget, L.S.Vygotsky didn't consider imitation only as the form of sign symbolic action, but he considered it as the mechanism, through which any social experience of the humankind is adopted [95, p.68]. Imitation is the main form which implements the effect of education on development. Education is to a large extent built up on imitation. That's why, exactly, the zone of proximal development, determining the area of possible changes of the child, expresses the unity of education and development [119, p.250].

Imitation, which has a rational form in culture-historical conception of L.S.Vygotsky, acquires the immediately-sensational form in action-related conception of A.N.Leontiev, and correlates with the assimilation to the cultural form of the object. A.N.Leontiev understood assimilation as reconstruction in the action of the properties (relations) of its object. This reconstruction, exactly, which is adequate to the object, builds initially its sensational image and then - the concept of the object. Action-related conception of the development started considering reconstruction of the object at the expense of assimilation as an action-related mechanism of appropriation [112, p.30]. Later, the idea of objectivity and assimilation as the mechanism of appropriation led A.N.Leontiev to the corresponding understanding of meaning and ideal form [112, p.31].

The imitation reveals in following any example, model by means of its reconstructing. The imitation acquires the main meaning in the process of individual development of the Man [123, p.150]. The most important role of communication in the psychic development of children consists in the fact that under conditions of communication the child has the possibility to watch an adult's action, where he disclosed the models for imitation [142, p.28] [143, p.106].

The imitation, being the main mechanism of development on all levels, changes its concrete character, depending on the level of development. For instance, the object of the first form of imitation is the full method of solving the tasks. The object of the

second form of imitation is the common principle, uniting different fragments of the method of solving the tasks. The object of the third form of imitation is the method of solving the tasks, exceeding the limits of the age. The object of the fourth form of imitation is solving the task, exceeding the limits of his age [7, p.264].

L.S.Vygotsky considered that a child in imitation of the other actions can outstep the limits of what he is able to do in his independent actions [7, p.263]. In connection with this, it is possible to speak about the existence of two logics in the process of formation of the objective actions: logics of fulfilling the action “according to meaning” (fulfillment of the common scheme of the object usage, which forms as imitation of the method of action show by an adult) and the logics of operational adoption of the action pattern. The first way can be referred to as the logics of revealing of the action method as the special reality of meaning, the second as the logics of its implementation [12, p.73].

The essence of human imitation consists in the ability to imitate “according to presentational model”. Significant peculiarity of imitation according to presentational model consists in the fact that the coincidence of re-creative action with re-created idea of the pre-set model acts as the strengthening, rather than any irritant. Due to this, the imitation acquires a new function, which lies in the fact that a child’s imitation, as compared to an animal’s, can overstep the limits and create new abilities and form absolutely new types of actions [15, p.126].

Pre-history of age-related development determines the process of functional development.

Aprioristic understanding as the condition of imitation ability.

Upbringing is considered to have an effect on the child development with completion of two conditions. 1. The educator must know the place of a child in the system of his relationships with adults and other children and 2. The educator must know the level of accomplishment of the child’s appropriation action

[18, p.147]. It is important to know these two factors because the child cannot perceive and adopt that in relation to which he doesn't have necessary schemes of action. The psychic development goes exactly along the time of these schemes formation [87, p.153].

These schemes emerge at the expense of imitation. L.S. Vygotsky, however, referred to the field of imitation all that the child cannot fulfill independently, but what he can learn under the guidance or in cooperation with the help of elaborative questions [7, p.263].

The child can imitate only that, which is in the zone of his own intellectual abilities [119, p.248]. Only that education is good in childhood, which can nip on ahead and lead the way. But the child should be taught what he is already able to learn. Learning is possible only there, where there is a possibility of imitation. Possibility of learning is defined by the zone of proximal development [119, p.250].

Imitation is a complicated process, which requires preliminary understanding [16, p.132]. More than that, imitation is possible to that extent and in those forms in which it is followed by understanding [16, p.133]. The process of initiation itself supposes the familiar understanding of the action of another person [16, p.132]. The Man cannot simply imitate if he doesn't know sufficiently the process or course of thoughts [16, p.132].

In real pedagogical practice this phenomenon reveals in the fact that teachers suppose that children already know in advance what they are going to be taught, and this is the preliminary condition of emergence of their understanding [82, p.210].

Imitation, which is considered in culture-historical conception to be the main mechanism of development, is, in fact, only the mechanism of functional development. Culture-historical theory considers the non-psychical mechanism of maturation to be the mechanism of age-related development.

2.3.1.4. Appropriation of ideal forms as the means of origination of the determinants of cultural development

Learning as the appropriation of social experience.

According to the positions of culture-historical approach, the Man never starts thinking “from the fact”, or “wiping the slate clean”. One cannot see the fact without initial thought in his head (I.Pavlov) [144, p.141]. The Man always starts the analysis of empiric facts not with the “empty” consciousness, but from the point of view of some or the other concept [144, p.140].

In general, the culture-historical Man acts and produces things in accordance with those concepts, which as the norms are available in the society in advance. The Man doesn't produce these concepts himself, but borrows them, acquires from social reality [84, p.272].

From the point of view of culture-historical approach, the specific feature of human ontogenesis lies in the fact that its main role belongs to the appropriation of the social experience (sensational and rational), accumulated by the antecedent generations [91, p.92].

The process of appropriation of scientific knowledge by school children is schooling [84, p.369]. In educational actions, under the guidance of the teacher, the schoolchild acquires the scientific knowledge, but, proceeding from its objective nature, this scientific knowledge doesn't depend on the schoolchild action [137, p.145]. Schooling, representing the main factor of the emergence of children's knowledge, is immediately connected with its adoption and learning [119, p.205]. Scientific knowledge as the historically formed content of human experience is generalized and fixed in words. Therefore, schooling, which is understood as the conscious reflection, supposes the transfer and appropriation of scientific concepts in the form of word meanings. The formation of meanings in the child's consciousness is the necessary background of schooling [15, p.127]. This being said, any scientific concept has two sides: objective (meaning) and subjective (sense). Therefore, communication of the con-

cept to a schoolchild (the content of schooling) from its psychological side acts as the unity of two interconnected processes: communication of meanings and communication of senses [145, p.21]. The specific feature of culture-historical conception of teaching lies in the fact that acquaintance with particular (concrete) knowledge follows the adoption of common (abstract) knowledge. Particular (concrete) knowledge must be deducted by schoolchildren themselves from the abstract as from its single basis [18, p.167].

This means, that teaching should be started not with the acquaintance of the school child with the empiric facts, but with adoption of such genetically initial (abstract) notion, which would potentially contain the whole system of concrete concept, describing the object under study [146, p.67].

Schooling as the universal form of development

The specific feature of culture-historical schooling process is that at the moment of adoption the process of individual development doesn't finish, but only begins [119, p.294]. The process of appropriation starts the process of development and represents the form, under conditions of which there takes place the development of the Man as the social creature [15, p.193] [134, p.77] [142, p.17]. Psychic development of the Man is implemented through appropriation of the previous social experience (culture), sign-symbolic system being the content of it [95, p.6] [147, p.137] [139, p.55].

As schooling determines the developmental processes, education (upbringing) is the leader in the developmental process, always goes ahead of development [119, p.243] [113, p.17].

Proceeding from the leading role of schooling, "development from schooling" is the central fact of pedagogical activities [137, p.9]. Many domestic psychologists share L.S.Vygotsky's point of view on the leading role of schooling in psyche development [86, p.154] [148, p.10]. Schooling is an internally essential and universal form of organization of the process of development of historical peculiarities of the Man in a child [139,

p.46] [149, p.31]. The result of educational activities, during which the appropriation of scientific concepts takes place, is, first of all, the change of schoolchild himself, his development [150, p.45]. Education (upbringing) is the universal form, under conditions of which the cultural development of schoolchildren takes place.

The collective form of schooling as the initial form of individual development

Schoolchild development takes place under the conditions of special task of appropriation of socially preset abilities. This action is implemented from the very beginning under the conditions of the child's communication with the grown ups. If the ability as the generalized action becomes the object of the appropriation action, then there appears the upbringing proper as the universal form of development [18, p.150].

The content of psychic development are the qualitative changes, taking place in the structure of the action (e.g. in transition of one of its type of another), and in the structure of the appropriated abilities (e.g., in one type of action the child appropriates the ability of imagination, in the other – the ability of theoretical thinking). Specific feature of appropriation abilities is that it is implemented by the child in his communication with the adults or in the cooperative action with the other children [139, p.47].

The child can fulfill the act of development, make something new only after he fulfills it in cooperation with the others. A new psychic function (new ability) emerges as “individual continuation” of its fulfillment in the group action, schooling being the method of its organization [149, p.31]. Communication is the necessary condition of the process of appropriation by schoolchildren of the achievement of socio-historical development of the humankind, which is initially implemented in the form of cooperative action or in the form of speech communication [134, p.196].

The psyche development takes place by means of appropriation of the historically formed patterns of the social forms of action. Such development is implemented as the transition from the internal, curtailed, individual forms of its implementation. This transition is the process of interiorization, i.e. transformation of the *interpsychic* into *intrapsychic* [18, p.150]. In the process of appropriation, reproduction of the cultural means of action the child, in communication with the people, acquires the wealth of the genetic human culture and, in the process of such acquisition, develops as the Man [137, p.8].

In the process of development the child changes drastically the role of the collective. It lies in the fact that any highest functions are first realized in the collective life of children and only then lead to the development of behavior of the child himself [16, p.141]. The fundamental role of the immediate emotional communication with adults consists in appropriation by the child of the need of human communication itself [146, p.9]. Appropriation is only possible in the form of communication, as only an adult is the bearer of the cultural images of objective knowledge, social relations and action.

The unity of schooling and upbringing.

According to the culture-historical theory of L.S.Vygotsky, the processes of schooling and upbringing don't immediately develop the child in their own right, but only when they have action-related forms and possess the relevant content. Between schooling and psychic development of the Man there has always been his action [151, p.37].

Appropriation of the values of material and spiritual life is implemented in the course of the child's own action, reproductive action and abilities of ancestors with the help of whom these values emerged and developed [151, p.37]. The result of this process is reproduction by the Man of historically formed human properties, abilities and ways of behavior as his own [138, p.4].

In the process of education and upbringing each man appropriates (turns into the forms of his own individual activity) those means and types of thinking, which in their time were created socially, by the society [84, p.333]. This or that orientation in a concrete situation is not initially given to the Man. First, the relative objective actions must be formed, then “the sizing up” is possible. These transitions are carried out by means of schooling [84, p.337].

Upbringing and education are oriented at child’s formation of integral types of action and their relevant abilities [139, p.49]. Appropriation by the individuum of the historically formed types of ancestral human action is the basis of his stage-by-stage psychic development [137, p.8].

On the one hand, there emerges and forms the special “re-productive action” of the child, on the other hand, he appropriates (reproduces) on its basis different concrete abilities. These two processes constitute the universal form of the child’s psychic development [139, p.47].

Upbringing has always been the learning of the methods, norms and rules. Upbringing doesn’t resort to the processes of learning, but it is impossible without these processes, either, because they constitute one of the most important mechanisms of the Man development. The concept of learning belongs to both the sphere of education and the sphere of upbringing, as it involves the significant indications of individual experience formation under certain conditions of controlling the behavior.

In the sphere of upbringing learning of norms and rules, control over their adoption and application in life depends on the character of strengthening the actions and behavior motivation [114, p.30].

Upbringing as appropriation of cultural forms of action

Social nature of the Man supposes that in any society, each of its members appropriates beginning with his birth, certain models of abilities and relevant norms of social action [118, p.43].

Appropriation by the individual of socially elaborated abilities is special action, the objective task of which is reproduction in his individual abilities of the historically formed abilities of the humankind [18, p.146].

Human abilities are not simply given to the Man, in the objects of material and spiritual culture; they are only preset in them. Appropriation represents the practical action of the Man himself in relation to the objects of human culture. This action should be adequate to these objects of culture. But such adequate action is not formed in relation to these objects themselves. The child doesn't face the social world, surrounding him, alone. In order to appropriate these achievements and make them his individual abilities, the man should treat these objects practically, through other people, communicating with them. Only communicating, the man can learn the adequate action. According to its social function, such process is upbringing [134, p.422].

Appropriation of adequate means of action with a socially functioning object is possible only under the condition of integrating the child into the lively communicative ties with the other people and adults, who teach him his human methods of application of things, created by the Man. And by this form his cultural targets and norms, including the models of cognitive and other types of action, are formed. [85, p.40]. Therefore, the personality upbringing cannot be reduced to learning only as appropriation of scientific knowledge. Personality formation supposes the development of the process of aim formation and, consequently, development of the child action of the expense of enrichment of his actions, overgrowing the initial circle of actions, realized by them [124, p.217].

Development takes place in the process of learning. Therefore, the communication of the teacher with schoolchildren and schoolchildren with the teacher is necessary, at first, to acquire the special system of means and methods of educational activity organization (sign system), which will help, first of all, to ade-

quately perceive the models of action, shown by the teacher during his presentation [150, p.26].

As the cultural form of action, in its nature, happens to be the result of “ingrowing” of psychological device (sign), the first stage of learning (beginning of “ingrowing”) is the real communication of the child and the adults under the conditions of which the adult delivers “stimuli-means” to the child [112, p.18]. The special significance for the action transfer has the most complicated and most important initial action formation stage, when the joint action (communication) presents action of the adult by the body of the child. Such action has its sense only when it is transferred to the child as the kind of abilities and boundaries of his own action. Orientation of the other man’s action as the condition of appropriation builds up in the form of delivery by the adult of his action to the child [112, p.111].

Elementary school has its specific features of action formation. The child who came to school hasn’t yet had educational action. All is done by the teacher: he puts the educational tasks, presents its full operationally objective composition, suggests the models of implementation of each separate operation and their order, controls the process of fulfillment of each action and operation and assesses the fulfillment of the learning task by each schoolchild. The formation of educational activity is the process of gradual presentation of fulfillment of this action isolated elements to the schoolchild himself for its independent implementation without interference of the teacher. It is necessary for the teacher to work out the operationally-objective structure together with schoolchildren. In this case the models of action appear before schoolchildren not as assigned from outside, but necessary and compulsory [150, p.53].

Further educational activity formation is the process of gradual presentation of fulfillment of individual elements of this action for independent implementation without interference of the teacher. But the thing is that the question of how to form educational activity, in what succession to present its isolated

elements for independent decision hasn't yet, been solved [152, p.22]. But in any case, educational action formation, supposes, first of all, the drill of each component of educational action by the schoolchild [153, p.22].

Proceeding from the common logics of cultural development, in the system of developing schooling there appears on the foreground, first, the situation, acquainting the child with the very problem of transition to a new action, demonstrating its advantages in comparison to the action adopted earlier; second, the situation of demonstrating the integral action model [138, p.49].

Later, every method of action is adopted first by full uncoiling of all operations, included into it and, if possible, fulfilled materially, i.e. in such a way that the correctness of their fulfillment can be immediately observed. Here, pedantry is necessary. One cannot pass to another operation until the previous operation is fulfilled accurately and in conformity with the rules. The fuller the scope of operations is presented in the method of action, the more elaborately each of them is drilled, the better it is adopted [150, p.51].

Each stage of educational action formation fulfils the "drill" of the desired properties constituting the action: rationality, generalization, consciousness, measure of adoption etc. This drill may be of different continuance, depending on the character of previous experience, its content, volume and quality [154, p.7].

The formation of educational action is understood as formation of the child as its subject, as his self-transformation. Such formation coincides with transformation by the child of the circumstances with are external in relation to him. The real process of change of the circumstances is the process of the man formation, as the change of human action, his self-change. All this makes it possible to speak about upbringing as the universal form of personality development [18, p.24].

Education (upbringing) as the method of creation of the zone of proximal development.

Internal ties between schooling and development are expressed in the concept “zone of proximal development”. L.S.Vygotsky’s hypothesis supposes the transition of one into another [137, p.39] [149, p.31]. Education and development don’t coincide immediately, but present two processes, which exist in complicated relations. Education is good only when it goes ahead of development. Then it awakes and calls to life a number of functions in the zone of proximal development. This is the most important role of education in development [119, p.252].

Education processes awaken in the child the processes of internal development (“maturation”), awaken in the sense that they call them to life, launch them and give start to these processes. Education creates the zone of proximal development [155, p.132-135].

According to L.S.Vygotsky, education rests on the maturing, rather than matured processes. The whole area of the maturing processes is embraced by the zone of proximal development of the child. Optimal time periods for learning are set at each by its zone of proximal development [7, p.266]. If scientific concepts assign the section of development which is not passed by the child, if the adoption of scientific concept nips ahead (flow in such a zone, where the relevant child’s possibilities haven’t yet matured), then teaching scientific concepts can play a significant and decisive role in mental development of the child [119, p.264].

The idea of zone of proximal development consists in the unity of natural and cultural stages of development [156, p.267].

Culture-historical conception understands the education as the process of acquisition by schoolchild of the culture-objective experience, which starts with the acquisition of the maximum abstract concept. Culture-historical conception understands the upbringing as appropriation by schoolchildren of cultural ac-

tion-related experience, which starts with appropriation of actions and composing out of them the structure of cognitive action.

Appropriation implemented in education (upbringing) at the expense of interiorization represents transformation of the interpsychic into the intrapsychic, transformation of the zone of proximal development into the level of actual development, constituting the essence and course of psychic changes of the child development [2].

2.3.2. Sign mediation as the mechanism of cultural development.

2.3.2.1. Sign mediation as the mechanism of interaction of ideal and real forms.

From the point of view of culture-historical approach, the “internal” of the man as the integral, as the means of his existence is revealed in mediation. The essence of mediation as origination of the whole is in transition between the present, the past and the future [139, p.109].

Temporary field, created for the action with the help of a sign, stretches not only backward, but also forward. Anticipation of the following moments of operation in symbolic form makes it possible to integrate into actual operation the special stimuli, the task of which resorts to implementing in the actual situation the moments of the future action and implement their real integration in behavior organizations at the present moment.

Integration of symbolic functions into action brings about not only prolongation of the operation in time, but creates the conditions for the absolutely new character of connection of the elements of the present and the future. Typically perceived elements of the present situation are integrated into the single structural system with the symbolically represented elements of the future, create the absolutely new psychological field for action, leading to the appearance of functions of intentions formation and the target action, planned beforehand [87, p.49].

From this viewpoint, the instrumental and symbolic actions represent different means of human existence, as the nature of the tool and action are different, these mediation actions are distinguished as “external” (the object) and internal (one’s own behavior) [16, p.90].

The psyche, which is understood as the “internal” action of behavior mediation, scoops its instruments (signs) from culture, looked upon as the system of artifacts, which is the overindividual reality [82, p.167].

Sign is the natural object, embodying in itself the social target and social action and, due to this, acquiring the meaning. This meaning is its ideal form [82, p.141].

According to L.S.Vygotsky, the ideal form exists as culture, acts (determines the behavior) as the element of culture (as a sign). Natural forms of behavior, built up sort of independently from the acting man, are reconstructed and objectivized by means of this sign. The man adopts his behavior, generating its cultural forms [112, p.15].

In L.S.Vygotsky’s school meaning was understood as the generalized reflection of the reality, emerging from the action with this reality [112, p.41]. According to A.N. Leontiev, beyond meanings there lies the system of operations (actions). Therefore, investigation of meanings as the reality of concepts, conducted by L.S.Vygotsky, is, in fact, the method of implementing operations (actions) [127, p.146].

To adopt the meaning of the cultural object (sign) is to adopt the means of possible action with the cultural object (A.N.Leontiev). In a wide sense of a word, meaning can be understood as the ideal form of existence of the objective world, socially expressed relation to it [157, p.173].

Social environment is the source of origin of all specific human properties of a personality, acquired by a child; the source of cultural development of a child, which is implemented in the process of real interaction of the ideal and actual forms [7, p.265]. According to L.S.Vygotsky, the ideal form already ex-

ists in the child development and interacts with the real form. This opinion was shared by all representatives of L.S.Vygotsky's school [112, p.13].

Transformations of the natural forms of behavior into the cultural ones don't take place in a natural, evolutionary way as a result of the organic maturation. The formation of purely human forms of behavior is only possible under the conditions of interaction of the individual with the ideal forms under the concrete socio-historical conditions of his life [2].

According to culture-historical conception theory of development, his highest and final forms are assigned in the ideal form as social models. From this point of view, the process of psychic development takes place "on the top", by means of interaction of the ideal form and the developing process. This supposes the necessity of relation of the child and the society and, consequently, the special process - appropriation. In the course of appropriation the child adopts the ideal form of content. Appropriation of the ideal is the universal form of psychic development [137, p.29].

L.S.Vygotsky and his followers admitted silently that the ideal form (objective meaning) exists only as images of the perfect (correct) means (models) of behavior. Each implementation of these methods under real (material) conditions and in actions - is already not ideal [112, p.35].

In the process of appropriation (development), objective meanings adopt personal sense, and this makes it possible to implement the process of their appropriation [121, p.145]. The system of objective links of the world, represented in objective meanings, finds its reflection in personal senses (Shmelyov) [157, p.178].

A.N.Leontiev showed that the realities of meanings are sensational images, which represent the universal form of psychic reflection generated by the Man's action. But sensational images of the Man acquire meanings, which become the most important "forming" of human consciousness [124, p.175].

According to L.S.Vygotsky, the cultural development is implanted as an interaction of the real and ideal form as a result of sign mediation [112, p.13]. Thereby, implementation of cultural development is the attachment of ideal life to available existence: mediation is the universal means (mechanism) of cultural development.

2.3.2.2. Sign mediation as the mechanism of determination of the reflection action.

Sign mediation as the relation between the external and internal forms of objective action

The main thesis of culture-historical psychology is the thesis that the original sphere of psychic life is not the special autonomous internal world, but the objective action. Thereby, the internal form of objective action (psychic action) is the apparatus of its external form. This point of view is contrary to the other one, which insists on the autonomous nature of the “internal” (psychic) world in relation to “external” objective world. In initially proceeds from separability of “external” and “internal” worlds and is expressed in the principle of the “unity of consciousness and action”, connecting them (S.L.Rubinshtein) [11, p.165].

Culture-historical psychology understands the action as the objective action, the main and original form of which is immediately sensational, external practical form. Its internal form (psychic activity) is the derivate from the “external” form of action, generated by the action of psychic reflection [124, p.244].

The main idea of L.S.Vygotsky’s doctrine consists in the fact the “internal” (psychic) form of action is built according to the model of its “external” practical form [118, p.25]. This means that the “internal” (psychic) form of the objective action is mediated by its “external” form. Mediation of the human psyche is the main methodological position of culture-historical psychology. In this case mediation of the psyche as the “internal” form

of the objective action by its “external” form indicates the “external” nature of the human psyche.

This means that inside (in human organism, in human brain) there take place only psychological processes. There is no any psychic action in the sense of the highest psychic functions there, and there can no be any. The highest psychic action (as compared to the psyche as the reflectory brain action) is in its nature the “external” action [11, p.163].

The “external” (practical) and “internal” (psychic) forms of the objective action don’t oppose each other. They represent the organic whole: one - as belonging to the world of extent; the other – as belonging to the world of psyche [127, p.138]. “External” and “internal” forms of the objective action possess similar construction, common structure. Commonness of their construction is one of the most important laws of culture-historical psychology [124, p.152].

The commonness of “external” and “internal” structures of the objective action means that the psychological action is built according to the models of the “external” form of the objective action and represents its special variety. It is integrated into “external” form of the objective action, and is the factor, governing and organizing its “external” form. The psychic action borrows its possibilities from the “external” form of the objective action (in particular, the possibilities of instrumental mediation), depends in both function, and development on the place in the structure of this “external” form of objective function [158, p.27].

In culture-historical psychology it is considered that genetically initial and main form of the objective action is its “external” sensorially-practical form [124, p.145]. This means that the real meaning of the objectiveness principle consists in the fact, that consciousness (the psyche as a whole) doesn’t have its own construction, its own internal integrity, its own logics of development, apart from the construction, integrity and logics of development of the “internal” form of the objective action, the

“internal” form of which is the psyche (consciousness) [11, p.29].

Sign mediation as the mechanism of determination of the reflection action.

From the point of view of culture-historical psychology, the real foundation of the Man’s personality lies neither in genetic programs preset in him, nor in the depth of his natural inclinations and attractions, nor, even in the knowledge and skills acquired by him, but in the system of cognitive action, which is realized with application of these knowledge and skills [124, p.202]. Under the conditions of learning any concept given from outside (objective ideal form of the object) is formed as the “internal” concept to that extent, in which it becomes the result of the schoolchildren’s cognitive action [92, p.35], to that extent, in which it determines the independent cognitive action of the schoolchild.

Under the conditions of upbringing, in the process of appropriation of the objective ideal form of human action the child himself must implement the cognitive action, adequate, but not identical to it [138, p.4]. This is possible only when the cultural ideal form acts as the determinant of the child cognitive action. To acquire the cultural models of the social action, to adopt them, to be able for their implementation and creative transformation, in other words, to become the subject of cognitive action means to treat the cultural models (ideal form) as the determinant of one’s cognitive action [123, p.250].

From this point of view, subjectiveness as the “internal” quality of the Man, which cannot be disclosed as a result of watching the “external” behavior, which represents his essence, the way of existence (L.S.Vygotsky) is the cognitive action, the sign and its meaning being its determinant [112, p.15].

Subjectiveness takes place only when for the Man himself the transition from natural to cultural forms of his behavior is objectivized and given as the object of his cognitive action. The means of such objectivation is the sign, which acts as the deter-

minant of his cognitive action and, due to which, the Man is able to draw his behavior outside and fix it internally as an object of appropriation and transformation [112, p.16].

Generating his behavior as a result of appropriation of the ideal form, the man becomes its subject [112, p.15].

Inclusion of the sign (ideal form), as a result of its determination by the meaning of cognitive action and its appropriation, into initial structure of the action changes this structure and creates the absolutely new psychological structure, facilitating the appearance of functions of the formation of intentions and the planned target action [87, p.49].

In the genetic plan the operation of sign application exists in the very beginning of development of each highest psychic function, and in the beginning it has the character of external action. In the beginning of its development the sign represents the external secondary stimulus, the external means of self-determination, transforming as a result of implementation of the cognitive action, into internal means [87, p.16].

The sign as the social means of determination is the “trace” of the past real action of one man in relation to the other (assistance, control, etc.). This connotational action in the sign (means of action) is the internal content of meaning. In this sense sign is the means, pointing to how (by what means) the real action was implemented [112, p.22].

Determination of the cognitive action by the object of culture (sign, meaning) is possible only in that case, when this object has a sense for the Man, appropriating it. Only the object, possessing the sense for me, is the object, acting as the object of cognitive action (A.N.Leontiev) [157, p. 173].

In the sign mediation the natural forms of behavior become the object of a change as a result of determination of cognitive action by the ideal form (meaning) of the sign. As a result of mediation, the internal mechanism of which is the cognitive action, natural functions are overcome as inartificial. As a result

they become artificial, i.e. conscious and arbitrary. This means that the Man adopts his behavior, controls his behavior.

The sign is a psychological instrument, the object of influencing the structure of behavior or psychic process to the extent, in which it becomes the determinant of cognitive (mediating) action. The sign is the means of psychological effect on the behavior, to that extent, in which it launches the cognitive action as the mechanism of mediation. In this case it becomes the internal means of adoption of one's behavior [2].

2.3.2.3. Sign Mediation as the mechanism of determination of cultural development.

The essence of cultural development consists in the clash of the developed (cultural) forms of behavior, which a child faces in social environment, and undeveloped (natural) forms, which characterize his own behavior [16, p.137]. Social environment is the source of emergence of all specific human properties of a personality the child acquires, the source of his cultural development, which is carried out in the process of real interaction of "ideal" and actual forms [7, p.265].

According to culture-historical theory, the highest (final) forms of development are not given initially, they are only pre-set. They exist objectively in ideal form as social models. The process of psychic development takes place as if "on the top", by means of interaction of the ideal form with the developing process [137, p.29]. The culture already involves the ready-made forms of behavior, abilities, personality qualities, which are to emerge in the course of individual development of a child. The child will never develop specifically human qualities in him without interaction with cultural ideal forms [2].

The singularity of cultural development consists in the fact that at the very first moment, when the initial form of development takes shape the final (ideal) form already exists. In this sense exactly, one must understand the opinion that the environment plays the role of the source of child development, rather than the scenery. Interaction (mediation) of the real and

ideal forms represents the internal content of cultural development [3].

From the point of view of culture-historical conception, the psychic development is the variety of forms of the sign-symbolic mediation, “enculturation of a personality” [2].

Critical periods (critical ages) possess the special significance for cultural development. Specific feature of development in the critical age lies in the fact that at the beginning of the crises the child reveals his new ideal form and its relation to the real one presents the new social situation of development [3].

Crisis of development is simply the change of the social situation of development or its leading action. This is a specific psychological space, where the act of development accomplishes as a result of the fact, that the situation of the action changes and the subject acquires a new vision of the situation of action [3]. The analysis of the critical age was conducted by L.S.Vygotsky on the basis of the thesis that the structure of the age of transition is the reflection of the dynamics of mutual transitions of real and ideal forms.

He supposed that changes in the child’s experiencing the environment, i.e. the emergence of a new impulse for development, is stipulated by discovery of a new form of development, taking place at the moment of the age transition. Critical periods are a maximum sharpening of the implicitly existing real and ideal forms relation. Crises are the moments of the boundary “phenomenon” between real and ideal forms [3].

L.S.Vygotsky suggested the subdivision of the crisis ages into three phases: pre-critical, critical proper and post-critical. In pre-critical age there emerges the contradiction between that real form, in which the child lives, and the idea of new ideal form. In the proper critical phase the emerged contradiction achieves its highest sharpening. Here, the subjectivation of a new ideal form by means of the trial action takes place. In the post-critical period a new social situation of development is created. Here, the transition of “ideal-real” into “one’s own –

the other” finds its accomplishment. (B.D.Elkonin). The child accepts the new forms of cultural translation of the ideal form (new leading action). There takes place the search for the “significant other”. The new ideal form is realized [3]. By this the type of mediation changes.

Testing the mechanism of the formation of sign mediation.

In the crisis period development starts with mobilization of the most primitive tendencies, with their natural application. Then the phase of learning starts, due to which under the pressure of external conditions, the natural psychic process changes its structure, becomes more complicated and cultured. At this time a new form of behavior is being built with the help of the whole number of external devices. In the end a new stage comes, when the secondary external devices become useless and organism acquires the new forms of behavior [3].

It may be said that the stage of mobilization of the natural application tendencies implements an attempt at constructing a new behavior in a primitive way, nonspecific for it. In the phase of learning the conflict appears in the structure of crisis, which sharpens the need of the behavior transformation. The phase of learning is the transition from the conflict to the reflexion, as a result of which a new form of behavior is born in post-critical phase [3].

The act of development is fulfilled at the expense of appropriation (subjectivation) of a new ideal form. Subjectivation demands testing of the ideal form in the situations, new in relation to situations of its appropriation. Before the crisis all actions of the child are directed at the object. Under the conditions of crisis targeting of the action at the acting himself comes to the foreground [3].

Subjectivation of the ideal form supposes the maximum expressiveness of the action vector, directed at the acting himself, transformation of the objective action from objective into subjective. In order to make the action subjective it's implementing

(practical) vector should be suspended. Exactly this property is typical for the *testing form* of the objective action [3].

In testing action its resultative part curtails, the Man acts without changing the object of action. It is necessary in order to have the possibility of the test recreating. If in the full objective action two sides are singled out – the one, directed at the object, and the other, at the acting itself, then in the test, as the form of objective action, the second is represented to the maximum, the first one is curtailed [3].

The analysis of testing action has the direct relation to the question of the development crises. In the crises the moment of action sensation and elaboration of its meaning for the acting comes to the foreground. This provides for subjectivation, the test becomes the mechanism of subjectivation of the objective action.

Simple recognition of possibility (or necessity) of destruction of the old schemes will demand recognition of the fact, that at the moment of destruction a certain psychological vacuum appears. It is possible to avoid this by having supposed the appearance of a new system of reference, new “vital meaning” (A.V.Zaporozhnetz), which represents both the old, being destroyed, and the new, being recreated. This system must become the uniting link of what is happening; prevent the mere disassociation of connection [3].

The stable period builds the full action, possessing both components – orientation and performing part. In the crisis period the orientation act comes to the foreground. On the boundary of two ages the child discovers a new ideal form, what awaits him in the next age. This situation is projected at the child’s behavior. The child’s action for constructing the new behavior destroys the old situation of the action. As the result of this destruction the old situation is revealed. Thereby, the discovery of a new situation of action becomes the condition of development in the critical period. Such discovery takes place at

the expense of reaction of the action situation itself. It resists to the destruction [3].

The stable period performs the real action of the child, the ideal forms, which assign the direction of his development, and certain mediating links, the means of translation of ideal forms into the action reality. Critical period is unique due to the fact that there is no any connecting link between the real and the ideal in it. The relations of the reality and the ideal become immediate. This means that the mediating link, the form of the ideal translation into reality is missing [3].

2.3.2.4.. Sign mediation as the mechanism of ideal forms as the determinant of cultural development.

Education consists in the fact that the child must desubjectify the world of spiritual and material culture, recreate and appropriate those means of action, which have been realized there in the ideal form [159, p.138]. This means that the appropriation process is determined by the ideal form.

Desubjectification of culture as adoption of the ideal form content takes place in the process of education (appropriation). Appropriation is determined by the final forms of development, which are ideally assigned as the social models and facilitate the interaction of the ideal and real forms of the developmental process [137, p.29].

The main condition of the psychic development of the child consists in his adoption of human means of action objectevized in the ideal forms of instruments and signs [2].

The child develops in the education process itself, but doesn't finish the development cycle.

The educational process itself is always carried out in the form of cooperation of the child with adults and presents the particular case of interaction of the ideal and actual forms as one of the most common laws of the child cultural development [7, p.266].

Education is a specially organized process of producing effect on the child, implemented as mediation of its individual real

form by the culture ideal form. Education is the process of mediation of a child's behavior by the cultural ideal form, organized by the adults [137, p.37].

At the stage of learning the ideal form subjects the school-child action. Mediation by the aim, means and methods of action, concluded in this ideal form, is the central moment in the formation of the psychological system of action [93, p.124]. But the child cannot reveal the function and method of application of the culture objects independently.

The mediator (the guide) is always necessary in order to make these ideal forms open in their human content, to become familiar with them. For L.S.Vygotsky such mediator is the sign (natural language, artificial sign system, symbols, myth, etc.).

Exactly through the sign the cardinal transformation of natural (real, available) psychic forms into the highest (ideal cultural) forms takes place [2].

The ideal form exists as the culture, functions as a sign (the element of culture) by means of which the forms of behavior, built up as if outside the acting man, reconstruct and objectivize. The Man, mediating his behavior by the sign (ideal form), adopts his behavior generating it anew [112, p.15].

The meanings of the signs also act before the Man in their existence, independent from him, i.e. as the objects of his consciousness and, at the same time as the method and "mechanism" of perception, i.e. as the instruments of the objective reality reflection [151, p.147]. The objective meanings represent the ideal form of existence of the objective world transformed and curtailed in the sign material, its properties, connections and relations [151, p.141].

Objective nature of meanings expresses the fact that meanings are not created by an individual Man. The Man only adopts and learns the meanings of cultural objects of his epoch, his society and close surrounding. He learns what he finds in his birth, it, certainly, doesn't abolish the fact that the sign is produced by individual people, and each individuum can make his small con-

tribution into the meaning development, but this contribution is similar to grain of sand thrown to the Sahara desert [160, p.101].

In the process of education the meaning is implied to the means, because the meaning cannot be the property of a thing itself. Attribution of meaning takes place only in the social (interpsychic) form and cannot happen in any other way. From the point of view of culture-historical conception, the act of attribution – acceptance of the meaning is implemented as mediation and is the internal content of the whole educational process, determining the cultural development [12, p.21]. Mediation as the initial means of “transfer” of the ideal form is the internal mechanism of education [112, p.54].

Conclusion. The culture-historical conception of the Man development proceeds from understanding the integral world as the common way of origin of the variety of singular realities of its manifestation. The world as the historical integrity is the multilevel reality, each level of which is the concrete historical whole with its characteristic manner of origin of the variety of singular realities of its manifestation. Every historical integrity (past, present, and future) is reproduced by the objective action, which has the target mechanism of determination in its basis.

The difference of all historical integrities consists in the difference of the means of objective action (means of mediation). Qualitative difference of the mediation means stipulates the qualitative differences of culture-historical subjects and historical wholes, reproduced by them. On any level the world as a whole determines each singular reality of its manifestation.

The nature of an individual singular reality of the whole object (individual object) is determined by one and the same means, similar to the variety of other singular realities of manifestation of the whole. Therefore, the whole as the initial integral characteristic feature of the objective world is the essential quality (essence) not only of the endless total of its singular manifestations (singular objects), but the property (essence) of each separate singular individual object. The universal character

of a separate “cultural” object is determined by the fact that it is the sign, the meaning of which is expressed by the singular meaning of the universal means of origin of the variety of objects. A singular discreet object acquires the property of continuity, because its meaning (singular ideal form) represents the common means of origin of the variety of the objects. An individual object, in its nature, is the bearer of the universal form of existence of the variety of objects.

Existence is the movement, change, and such change can only be determined, stipulated. So far as the determination of transformation of the natural object into the cultural object can be only external (ideal form), the transition to the ideal form of the cultural object is only possible under the conditions of the objective (subjective) action. Objective action as mediation of the natural object by the ideal form of reality is the reality of existence of the cultural object, as only under the conditions of the objective action the cultural object exists, i.e. reveals (acquires) its essence, its ideal form, its cultural means of existence.

Every object of cultural world forms as a result of implementation of a qualitatively new type of mediation, in the same way as all possible objects of the given type in the whole cultural space.

The Man as the subject of culture appears simultaneously with his ability for cultural mediation. The psyche as the mediating objective activity represents such an ability to produce the ideal form by means of objective action as a result of which the ideal form is embodied into the reality of the objective culture. Mediating action is the main property of the culture-historical Man, which is necessary for him to be a participant of the joint objective action, which is the universal form of emergence of the psyche as the mediating activion.

With the emergence of the culture-historical Man the structure of objective reality is subdivided into the real and ideal objective realities. The ideal reality (ideal form) is estranged from

the Man, participating in cultural mediations, and is fixed in objective meanings. The ideal form expresses the integral nature of all cultural mediations and the integral nature of all objective actions.

The ideal form, on the one hand, is initially the common source of all possible cultural mediations as an objective content of every objective action, on the other hand, is the target of each objective action, which expresses the integrity and universal character of the culture-historical Man.

Due to the presence of the target, the continuous variety of possible cultural mediations acquires the subjective reality, generating them. The presence of the target gives the opportunity not only to build at will cultural mediations, but anticipate future results of the actions and bear responsibility. Special specific features of the Man as a subject of objective action consists in the fact that possessing consciousness and action he projects arbitrarily (purposefully) the objective cultural form on himself, due to which he becomes the creator of his culture-historical life.

Psychological specific features of the objective action is determined by its target mechanism and peculiarities of its meditative action, supporting it, as far as the target determination is determination by the cultural past as the *individual future*, all psychic images and processes, including the processes and images of reflection, internal conditions and subjective ideal forms – are the result of the previous (past) social mediations as the future result of individual mediations.

From this point of view, the target of the objective action represents the subjective image of the past cultural ideal forms, acting as the internal determinant of the objective action. As any other psychic image, the target is the trace of the cultural past acting as the expected individual future. In other words, the target is the image of the past cultural ideal form, which is supposed in the present as the future result of objective action. In-

dividual future of the culture-historical man is the supposed social past as the individual future.

At the same time, proceeding from the total nature of any type of cultural mediation, the man in the cultural system of mediations is determined by the total cultural image. He is the “projection” of the cultural form, which he himself doesn’t change by his own objective action, and in the limits and boundaries of which he has to exist and find the possibility to build his own individual life. From this point of view, the development of the culture – historical man is determined by the cultural ideal form, he doesn’t construct the determinants of his action and doesn’t generate due to his consciousness and will, and cultural determination of the Man has the external nature.

Consequently, in the frames of culture-historical conception, based on the mechanism of the target determination, the problem of self-development as generation by the Man himself of the determinants of his own development has not been stated, therefore it cannot be solved.

2.4. Conclusions to 2.

Both groups of conceptions understand the psychological means of development as the ideal form. For both groups of conceptions of development the central is the problem of origin of the subjective ideal form as the “internal” means, facilitating the possibility of development. Exactly, the question of the ideal form origin concentrates the whole problem of traditional Man development as the subject of action. Exactly, the solution of this problem is the solution of self-development problem.

“External” nature of the subjective ideal form in the reflectory (reflex) conception of the development.

The psychological content of the problem of reflectory development is the problem of origin of the subjective ideal form as its determinant.

In reflectory conception the possibility of development is stipulated by the adequacy of external causes and internal conditions. The possibility of development is stipulated by the possi-

bility of transformation of the objective *real form* of the affecting external cause into subjective *ideal form* of the reflectory action.

Any cause-and-effect interaction presents the genesis of consequence, the source and generating origin of which is the cause: “ ... causality – the genetic connection of the phenomena, in which one phenomenon – the cause produces, generates the other phenomenon – consequence (or action)... ” [98, p.370]. Peculiarity of the consequence genesis consists in the fact that it represents the process of translation of the cause form into the consequence form. Genesis of the consequence represents the process of transposition (translation) of the form from the cause reality in to the consequence reality: “... the fundamental line of causation processes is the transfer of the structure from the cause to consequence, i.e. reproduction of the cause structure in consequence structure within the accuracy of isomorphism (reflection)...” [98, p.372].

Particularity of the human development from the point of view of the reflectory psyche conception, consist in the fact that in the quality of the reflectory Man causes act the artificial (ideal) forms (meanings) of the objects (their properties and indications) rather than the natural forms:... on a certain level the material systems acquire the ability to react on the *relations*, not only on the substrate side of the effect. This means that in such system there takes place the *functional* separation of *relations* from the properties of things, their usage in certain functions. The concept of the ideal is usually connected with the highest level of separation of relations and operating with them. Here, a new type of socio-informational causality emerges...” [161, p.29].

The meaning of the reflectory Man is that determining factor which stipulates the psychic determination (motivation) of the reflectory development.

Reflectory development is determined by meaning: “... determination of human behavior is the subjective determination

of the human behavior by the world, mediated by the process of reflection. The meaning of the objects and phenomena and their “sense” for the Man is that, what determines the behavior...” [25, p.368]. “... Determination through motivation is determination through the significance of the phenomena for the Man...” [25, p.291].

The object which is adequate to the internal conditions is meaningful for the Man. Thus, the meaning is the relation of adequacy of the external causes and internal conditions, and in the quality of the determinant acts the object, which is meaningful for the Man, i.e. exists in the relation of adequacy with the internal relations.

In the quality of the “external” causes there act the social objects as the results (products) of the previous actions, in which the generalized forms, immanent to the psychic processes, are objectivized (objectified). “...According to S.L. Rubinshtein, thinking as the psychic involves the logical structures, which possess in relation to the individuum the “relative independence”, the status of the culture norms, social consciousness...” [161, p.44]. “... though the ideal forms are imposed on the individual thinking as if form outside, because they possess the socio-objective manner of otherness, in their nature they are immanent to individual thinking. The material otherness of the ideal forms is the result of objectivation of the logical forms, immanent to thinking...” [161, p.58].

In the quality of internal conditions there act the subjective ideal forms (“pure” forms) as the images of possible results of the impact, existing as the images of reflection of the variety of interactions of social objects: “... the impacts of the external world on the man are imprinted in his head, reflected in it in the manifestations, in short – in the form of “ideal aspirations”, and in this form they become “the ideal forces (F.Engels)...” [161, p.62].

The process of development of the reflectory action of the inductive reflection starts with the impact of the real form of

cultural object as the external cause of the man: "... S.L.Rubinshtein considered the category of the ideal in its relation to the concept of the psychic. "Ideality" characterizes the idea, image as they, being objectivized in the word, being integrated into the system of socially worked out knowledge, which is a certain "objective reality" given to the individuum, thus, acquire the relative independence as if separating from the psychic action of the individuum..." [161, p.43]. The objective real form of the previous results of the reflectory action, objectified in the cultural object, desobjectifies, i.e. turns into the objective real form of the reflectory action of inductive reflection, which, in its turn, transforms into the subjective ideal form of the results of the reflectory action of reflection: "the subjective reality means the "providedness" to the subject of certain "relation", "structure", "content", while their substrate bearers are eliminated for the subject. This functional interpretation of the *ideal*, or the one close to it, is shared by A.M.Korshunov, A.G.Spirkin and other authors, including us..." [161, p.30].

The subjective ideal form of the inductive reflection of the reflectory (reflex) action results act as the subjective ideal form of possible future results of the reflectory action (as a target of the reflectory action) and becomes the psychological determinant of the reflectory action. As a result of the reflectory action implementation, the aim of the reflectory action turns into its results (consequence), which has a new real form. Consequence acts as a new cause and starts a new cycle of development of the reflectory action.

Such succession implements the development act (formation) of the reflectory (reflex) action of inductive reflection: "... the *ideal* cannot be transferred beyond the limits of the psychic, because only the *material* exists there. Knowledge as information can exist in the form of objectivized (objectified) reality. In the course of desobjectification this materialized knowledge transforms into the ideal form of its existence..." [161, p.60].

But this happens only in the case when the objective form of cultural object is adequate to the subjective ideal form of the reflectory action. If the relation of adequacy between the external and internal forms is absent, the development doesn't take place. If the relation of adequacy between the external and internal forms takes place, the development takes place.

Thus, the problem of development in the reflectory(reflex) conception resorts to the problem of origin of the subjective ideal form of reflectory action.

In relation to the past impacts, the subjective form has the objective nature and represents the integral results of all past impacts and exists as the reality of the integral (integrative) image of reflection (as the reality of generalized – “pure” form):”... in gnoseological relation of the image to the object, idea to the thing psychic phenomena act as the ideal (S.L.Rubinshtein)...” [161, p.44].

In ontological relation to the psyche as the function of the brain, psychic phenomena act as real. In relation to the present (actual) impacts, the subjective ideal form possesses the subjective nature, represents the criterion, determining the possibility of the impact and exists as the generalized image of the possible future results of impact. The essence of differences between the social-reflectory and culture-historical conceptions is concentrated in the opposite treatment of the nature of the ideal (ideal form). This question concentrates the main theoretical contradictions between these two conceptions, their opposite world-view orientors.

The reflectory conception of development proceeds from the supposition about the objectivity and reality of the objective world (nature). In connection with this, there is a sharp contrast between the “external” (that exists outside me) and “internal” (that exists inside me). Objective reality exists outside me; subjective reality exists only inside me: “... K.Marx argued sharply against the confusion of what exists “inside me” (subjective re-

ality) and what exists “outside me” (objective reality)...” [161, p.19].

From this point of view, the ideal is the subjective (belongs only to the subject, unestranged from him) reality, possessing the functional nature. The result of this is the contradictory (dualistic) treatment of the psyche. In gnoseological plan the psyche represents the ideal reality. In ontological plan the psyche represents the real reality: “ the ideal is the subjective reality and it has the functional nature. Consciousness is the ideal only in gnoseological aspect, but material in ontological aspect...” [161, p.31].

From the point of view of the reflectory conception of development, the ideal form is the subjective, not objective reality [161, p.57]. The ideal form is inherent only in the psyche, not in objective reality. The ideal form is the reflection of the reality, but it exists only in the individual psyche as the special property of the highly organized material systems, as the function of the brain [161, p.57]. The ideal has the subjective nature, unestrangible from the Man and doesn't exist outside the psyche of real people [161, p.54].. The ideal doesn't exist outside the head and outside the people's consciousness [161, p.40].

At the same time, possessing “geographically” “internal” disposition, in the structure of the reflectory system, in the structure of the brain, the subjective ideal form has the “external” nature, according to the manner of its origin.

In the reflectory conception of the development the only source of the human subjective world is the external socium, acting for an individual Man in the quality of meaningful for him “external” determinants (social causes).

“External causes through the internal conditions” as the universal mechanism of development (origin of the internal world) assigns the preformistic character of the reflectory development and the secondary character of the subjective ideal form, due to the preformistic character of the cause – and – effect interaction, representing the method of translation of the form of the exter-

nal cause, mediated by internal conditions and, thereby, ultimately, the forms of internal conditions (subjective ideal form) mediated by it.

In the reflectory conception of development the reflectory action is not objective in the sense that it is not the means of recreation of the ideal form, but it is objective in the sense that it is the means of embodiment of the real form of the affecting external cause in the real form of the resultant consequence.

The important in the reflectory conception of development is that the ideal form as the determinant of the reflectory action is not the object of the random construction of the man, but it emerges as a result of involuntary translation of the form of the affecting cause, which is not the object of the Man construction either.

In the reflectory conception the man is an active subject, choosing at random the social causes, affecting him and voluntarily calling forth the external affect on himself, as a result of which there forms unvoluntarily the ideal form of his voluntary reflectory action. But neither objective (real) form of the external cause, nor the subjective ideal form of the reflectory action become (and cannot become) the object of the random construction by the reflectory man.

The subjective ideal form (subjective target) of the reflectory action doesn't become in the reflectory conception of development the object of random construction of the Man and, therefore, always has the "external", derivative, subordinate nature, which stipulates on the whole the external character of the reflectory development.

External nature of the objective ideal form in culture-historical conception of development.

In *culture-historical* conception the possibility of development is stipulated by the adequacy of "external" and "internal" ideal forms. The possibility of development is stipulated by the possibility of transformation of the objective ideal form of the

cultural object (motive) into the subjective ideal form (aim) of the objective action.

Objective action stipulated by the aim is the result of the deductive reflection action, the source and originating beginning of which is the objective ideal form. Peculiarity of the deductive reflection action consists in the fact that it represents the process of translation of the objective ideal form of the cultural object into subjective ideal form of the objective action. The objective action is the process of transformation of the subjective ideal form of action into the real form of the cultural object.

Peculiarity of the human existence from the point of view of culture-historical conception of the psyche consists in the fact that the artificial (ideal) forms (objective meanings) act as the aim of the objective action of the culture-historical man, rather than natural forms of the objects (their properties and indications). The meaning of the cultural object for the culture-historical man is the determining factor, which stipulates the psychic determinations (motivation) of culture-development [162] [163, p. 219-227].

In this regard, the cultural development is determined not by the objective meaning of the cultural object as it is, but by its meaning for the Man (the sense). Significant for the Man (possessing personal sense) is the cultural object, the objective ideal form of which is adequate to the subjective ideal form of its action (aim). Thus, the sense is the relation of adequacy of the objective ideal form of culture (motive) and subjective ideal form of action (aim). Therefore, only that cultural object can act as the determinant of the objective action, which has the personal meaning for the man, i.e. exists in the relation of adequacy with his subjective ideal form (aim).

As the motives of the actual objective actions act the ideal forms of cultural objects as the results (products) of the previous objective actions, in which the universal forms of the results of social actions are objectified. In the quality of the targets there act the subjective ideal forms as images ("simple forms") of the

future possible results of objective actions, existing as the images of reflection of objective ideal forms (objective meanings).

The process of deductive reflection starts with the practical action of the Man, the immediate object of which is the real form of the cultural object. In this process the objective ideal form, objectified in the real form of the cultural object, desobjectifies, i.e. as a result of the cognitive deductive action it estranges from the real form of the cultural object and fixes in relation to it.

Subject to the existence of personal sense between the object and action, the objective ideal form of cultural aspect transforms into the motive of the objective action, and its subjective ideal form - into aim, which becomes the immediate psychological determinant of the objective action. As a result of accomplishment of the objective action, the aim of the object action determines its result, which generates a new cultural object, possessing the initial ideal form. The new cultural object acts as a new object of action and starts a new cycle of development of a new objective action. In such succession there implements the act of development (formation) of the objective (subjective) action.

But this happens only in the case when the objective form of the cultural object is adequate to the subjective ideal form of the objective action. If the relation of adequacy between the “external” and “internal” forms is missing, the cultural development doesn’t take place. If the relation of adequacy between the “external” and “internal” ideal forms takes place, the cultural development takes place.

Thus, the problem of development in culture-historical conception resorts to the problem of origin of the subjective ideal form of the objective action. The essence of differences between the social-reflectory and culture-historical conceptions is concentrated in the opposite treatment of the nature of the ideal (ideal form). This question concentrates the main theoretical contradictions between these two conceptions, their opposite world-view orientors.

If the reflectory conception proceeds from the supposition of the objectiveness of the real world of culture, the culture-historical conception proceeds from the fundamental supposition about the objectiveness of the ideal world of culture: "... ideality is the characteristic feature of the substantially fixed models of socio-human culture, i.e. the formed means of socio-human life activity, opposing the individual with his consciousness and will as a special "supernatural" objective reality, existing with it in the same space and, exactly, because of this is often mixed up with it (E.V.Ilyenkov). However, it is impossible to compare the "objective reality", whatever special it is, with the material reality, because this is one and the same. When the ideal is referred to as the special (supernatural, social) objective reality, it is, by that, represented by the type of the material. Here, certainly, one should speak about the social objective reality, as compared to purely natural objective reality, rather than about the ideal [161, p.36].

In connection with this, from the point of view of the reflectory conception, the ideal (ideal form) cannot have the objective manner of existence and represents the internal singularity of the singular, unseparated from the individual man (his individual psyche), inherent only in him. The subjective form is ideal only from the functional point of view (from gnoseological point of view), but from the ontological point of view, it is real. It is formed non-voluntarily under the influence of the external social causes.

From the point of view of culture-historical conception of the development, the ideal (ideal form) has the objective manner of existence and represents the separated from an individual Man (from his individual psyche) external reality of the universal ("external"), inherent in all people: "... the ideal was determined by E.V.Ilyenkov as the *universal form* and the law of existence and changes of the manifold, empirically sensational singular phenomena, given to the Man..." [161, p.35]. Thereby, the objective ideal form is ideal both functionally, from the point of

view of gnoseology, and ontologically. It represents the objective reality of the meaning existing before and independently from the individual consciousness of the Man. It is formed unvoluntarily as a result of the system of social actions.

At the same time, possessing “geographically” “external” disposition, the objective ideal form has the “external nature” in a manner of its origin.

In culture-historical conception of the development, the singular source of the human subjective world, the subjective ideal form is the external socium, acting for the individual man as the objective meaning of the cultural object: “... the ideal is revealed and fixed only in the historically built forms of spiritual culture, in socially meaningful forms of its expression...” [161, p.35].

“Interiorization” (sign mediation) assigns the preformist character of cultural development (origin of the internal world) and stipulates the secondary character of the ideal form. This takes place due to the preformistic nature of the objective action, representing the means of translation of the objective ideal form of the cultural object on the subjective ideal form of action. “... modern culture-historical investigations still remain on the preformistic positions in relation to the development, still understanding it as socialization. This distorts the idea of L.S.Vygotsky, which consists in the fact that not only the individual child develops, but the integral system “child-grown-up”. From acceptance of this idea there unavoidably proceeds the admission of the necessity of the dialog of the ideal forms of the child and grown-up. But even in the latest investigations on the discussed problem such an admission is missing and the monologism still triumphs in interpreting the zone of proximal development (see B.D.Elkonin)... [116, p.32] E.V.Ilyenkov limited the category of the ideal by exceptionally those spiritual phenomena, which possess the qualities of universality and need. In his opinion, determination of the category of the ideal is incompatible with the sensationally-concrete, singular and casual;

therefore it is useful to apply this definition to particularly individual states of the individual Man psyche at the given moment ... ” [161, p.35].

In the culture-historical conception of development the objective action is objective in the sense that it is the means of recreation of the objective ideal form in the reality of the objective culture.

The central in culture-historical conception is the fact, that the subjective ideal form (aim) as the determinant of the objective action is not the product of the voluntary construction of the Man, but emerges as a result of translation of the ideal form of the cultural object, which is not the object of the individual Man construction either.

In culture-historical conception of development the Man represents himself as an active subject, voluntarily choosing the object of action and voluntarily projecting the objective ideal forms on himself, as a result of which the subjective ideal form (aim) as the determinant of his voluntary objective action forms: “...” ideality” acts as the law, governing the consciousness and will of the Man as the objectively–willful action [E.V.Ilyenkov]...” [161, p.46]. But neither the objective ideal form of the cultural object, nor the subjective ideal form of the objective action becomes (and cannot become) the object of voluntary construction by the objective (subjective) Man.

Subjective ideal form (aim) of the objective action doesn't become in culture-historical conception of development the object of the voluntary construction of the Man and, therefore, always possesses the “external” nature, which stipulates the “external” character of cultural development: “... one cannot avoid naturalism in the child psyche development, even if the concept of ideal form is adopted, but, thereby, the position of genetic preformism still remains. In this case, at once, the insurmountable barrier for decision of the problem of self-determination as the universal form of development determination, is erected.

Eventually this leads to the rejection of the idea of development ...” [116, p.123].

“Internal” nature of the ideal form as the research problem.

Two fundamental theses can be singled out as the main theoretical conclusions of the long-standing research in the frames of domestic Psychology.

1. The driving force of the psychic development is the child’s own action, in which he recreates and acquires historically formed human abilities.
2. Education and upbringing as the means of appropriation of the ancestral human abilities, objectified in culture, are the universal forms of the Man psyche development

From the point of view of both groups of conceptions of development: both reflectory and culture-historical – the Man becomes the subject of development as a result of desobjectification (as a result of his own action) of the ancestral human abilities objectified in the culture [77, p.117]. But educational practice and modern scientific theories testify to the fact that each man possesses his own threshold of (desobjectification) , without overcoming it he cannot become a subject [115, p.306].

This means that the problem of psychic development may be reformulated as the problem of thresholds of desobjectification.

It is evident that any educational conception of development and any conception of the psychic development suppose a certain theory of education [11, p.179].

Nowadays, in Psychology there are three types of connection between education and development, represented in three types of conceptions. The first group of conceptions identify developmental and educational processes (E.Thorndike, W.Jams, S.L.Rubinshtein), etc. The second group asserts the dependence between education and development (A.Gessel, Z.Freud, J.Piaget, etc). The third group of conceptions asserts the leading role of education in the psychic development (L.S.Vygotsky, D.B. Elkonin, P.Ya.Galperin, V.V.Davidov, etc.) [137, p.38] [149, p.29-30].

Despite the substantial distinctions among these three groups, they have common understanding of first, “external” nature of development and, second, education as the appropriation of socio-cultural experience. Therefore, neither of these groups of conceptions can be used for creation of the conception of self-development as the “internally” stipulated development.

Solving of self-development problem lies in understanding the education (training) as the situation of the construction of abilities for self-development as a result of reconstruction and construction of the culture development history as means of self-development.

This means that the problem of the psychic self-development transforms into the ideal form genesis problem. In connection with this, two main spheres of research of the problem of the ideal genesis can be singled out. They hardly ever contact between each other.

The first one is connected with understanding of consciousness as the property of the highly organized materia and as the highest form of reflection. In the focus of interest here is the classical problematic of the correlation of spiritual and corporal, consciousness and brain processes, genesis of the psyche, interaction of thinking and language. There arises the problem of explaining the essence of the ideal in gnoseological and ontological aspects, the basis of which is scientific knowledge. In this sense the problem of the ideal is worked out by V.S.Tyuchtin, V.N.Sagatovsky, S.Petrov.

The second one is connected, first of all, with explaining the nature and functions of social consciousness, cultural values, and spiritual production. Here, the ideal is looked upon through the light of social action, the dialectics of objectification and desobjectification. In this sense, the problem of the ideal is worked out by E.V.Ilyenkov, V.S.Barulin, etc. [161, p.4].

But the distinction of these two spheres of research of the ideal is to certain extent conventional and is assigned to emphasize the difference in direction of investigation on the prob-

lems of the ideal formed in our science; one of them is oriented at scientific knowledge, the other at humanitarian. This is the reason of the categorical dissociation of scientific and humanitarian approaches, which stipulates the extremely weak conceptual connection between these two directions [161, p.5].

The important problem consists in the fact that both directions consider the origin of the subjective ideal form as the externally stipulated process of development and in this question they express the same position, which cannot become the theoretical basis for working out the conception of the internally determined development (self-development). Therefore, it is possible to assert that modern Psychology is naturally-scientific, because initially it suggests natural (independent from an individual man action) nature of the ideal form which as a result of his own action, is projected on the Man.

From this point of view it is possible to assert that the object of modern scientific psychology is the projection of available sociality onto the Man, rather than the Man as the subject of sociality generation [18, p.77].

The essence of the problem lies in the fact that both groups of conceptions (reflectory and culture-historical) are based on the same psychological contents of the concepts “education” and “development”.

Both groups of psychological theories of development understand education as the system of socially-organized situations of translation of the social experience with the aim of its appropriation by an individual Man. Both groups of psychological conceptions understand development as the change of internal world of an individual Man, taking place as a result of the projection of the external social experience on him. In both cases the source and main determinant of the individual development is the socium as the internal factor in relation to an individual Man, which stipulates the “external”, objective character of the individual development.

Both groups of conceptions rest on such theoretical (methodological) backgrounds, which exclude any possibility of the externally determined development (self-development). The important is the suggestion of the “external” (social) stipulation of an individual Man (social nature of an individual Man) and supposition of the origin of the internal world of the individual Man as a result of appropriation of the external social experience.

In both groups of conceptions the social mediation of the individual Man acts as the mechanism of development. This mediation is implemented as the projection by the Man as the subject of psychic action of the external social world onto his internal individual world. As a result, the external world is appropriated and through its projection (internal individual world) becomes the determinant of human actions. The distinction of these two base groups of conceptions lies in different understandings of the mechanism of social mediation (projection of the external environment on the internal one).

In the reflectory conception the projection of the “external” on the “internal” takes place according to the mechanism of mediation of the “external” objective reasons by internal subjective conditions.

In the reflectory conception acquisition and development are connected immediately and present two aspects of one the same reflectory process. Appropriation is the transformation of the external causes into the internal conditions as a result of the inductive process of reflection, but development (formation) is the adoption by the reflectory process of reflection of the fixed form in the process of transformation of the external causes into internal conditions. Education and development are two aspects of a singular process.

In the culture-historical conception the projection of the “external” on the “internal” (appropriation) takes place according to the mechanism of mediation by the “external” objective ideal forms (objective meanings) of the “internal” subjective ideal

forms. Objective ideal forms, being the product of the previous objective actions, act for the new objective actions as the criteria of adequacy of the subjective ideal forms. Therefore, such subjective ideal forms, which are adequate to objective ideal forms, act as the determinants of behavior.

In culture-historical conception appropriation and development are connected indirectly and represent two different processes. Appropriation is the transformation of objective meanings into subjective aims as a result of deductive process of reflection, and reflection is the transformation of the ideal form of objective action into its real form. Development follows education.

The mechanism of the causal mediation (translation of information as recreation of the form of cause in the form of result) is the mechanism of transformation of the less common form of the internal conditions into their more common form as a result of implementation of the reflectory action of brain, determined by the “external” cause.

The mechanism of sign mediation (“imitation as recreation of the form of cultural object in the form of objective action”) is the mechanism of turning the “external” form of the objective action into its “internal” form as a result of implementation of the objective action of the man determined by aim.

Both mechanisms represent the “functional” or “horizontal” development. This type of action is characterized by the improvement of the available quality (content), rather than the emergence of the new quality (new content). The improvement is implemented as implying to the available content of a more adequate form at the expense of generalization of the form in the logics from “the singular to the common”

At the same time the true development in a full sense of its word is the change of content, the movement from content to content [164, p.263].

In the reflectory conception the maximum possible quality (the content) of the appropriated form is assigned by the quality

(content) of the internal conditions. In the culture-historical conception the maximum possible quality of the appropriated form is assigned by the quality (content) of the objective ideal form.

In the regime of functional development the available content is formed, i.e. changes the degree of commonality of its own form. But in the process of its formation the content doesn't change its quality. Therefore, this type of development is referred to as "horizontal" ("functional").

Both the mechanism of "external causes through internal conditions" and mechanism of imitation represent the mechanism of functional development.

In Psychology the psyche mechanisms as mechanisms of the "vertical" ("age-related") development are not studied, only their psychological mechanism of *maturation* is pointed at.

All psychological conceptions of development proceed from the supposition on the "external" nature of determining factors (and development itself) and appropriation as the means of transformation of "external" determining factors into the "internal" ones. But as the appropriation is only possible under the conditions of adequacy of the "external" determining factors and the "internal" world of the appropriating man, these suppositions implicitly contain in themselves the functional character of development, which is connected with the formation (improvement) of the already available quality of this internal world, rather than the emergence of a new quality of the Man's internal world.

In connection with this there exists the problem of creation of such psychological conceptions of development, which would solve the problem of emergence of a new quality of the Man's inner world, not only his improvement at the expense of the formation. This problem can be solved only at the expense of creation of such models of development, which anticipate the construction of the determinants of one's development by the developing Man himself.

The main psychological problem consists in the “external” nature of the subjective ideal form. The “external” nature of the subjective ideal form stipulates the “external” (objective) character of the individual development. One can change the “external” (objective) character of the individual development into the “internal” (subjective) character only having changed the “external” nature of the subjective ideal form into the “internal”.

This means that the subjective ideal form must be understood as the “internal” means of generation of the integral “external” world by the objective action of the man, rather than the projection of the “external” objective world on the “internal” subjective world of the Man.

From this point of view, the development as the qualitative self-change of the objective world is, first of all, the genesis of a qualitatively new subjective ideal form, which becomes the means of production of the external world by the objective action of the Man. Thus, the main problem of any research into the self-development is the problem of the genesis (origin) of the ideal form as the “internal” means of generation of the “external” objective world by the objective action of the Man.

3

3. Creative Mediation as the mechanism of Production of the “Internal” Determinants of Development.

3.1. The Man as the subject of production of “internal” determinants of self-development.

3.1.1. The Man as the source of his own development (self-development).

The classical solution of the question of relation of the Man and the socium is acceptance of the socium as the external source of the Man development. [165, p. 37-50]. Empirical basis for such solution is the social practice, which testifies to the subordinate, derivate character of the Man’s existence and compelling to its laws, reproductive character of existence of the total socium.

As it follows from both conceptions (e.g. Abulchanova-Slavskaya K.A. [80]; A.N. Leontiev [126]), due to the immensity of the total socium, due to the precipitance of the renewal of social reality, the Man is assigned a part of the statistical singularity, whose sense of existence is participation in the amplitudinous social changes, but his personal contribution into these social changes is negligible, due to negligibility of his singular possibilities, as compared to amplitudinous possibilities of the gigantic socium.

The life of the total socium is subjected to the statistical laws of large numbers, and, therefore, as the socium advances the man can influence the social reality in a lesser degree, he, to a larger degree, estranges from the impersonal socium. The sense of the Man’s individual existence is to a larger degree imitate the spontaneously emerging social models, and to a lesser degree to be the creator of these models.

But this social dynamics, the indications of which are more and more noticeable in our modern life, is not, as a matter of fact the only possible. As K.Marx showed, the tendency towards suppression of the individual man by the total socium emerge as

a result of estrangement of the product of individual action from the producer of these products – the Man. In this case, the Man, producing the social products, doesn't determine his existence. The products of his individual action, estranged from him and turned into social norms, become the determinants of his existence [166, p.81-93] [167] [168. p.5- 12].

The nature of social means of existence is expressed in the tendency of the social system towards stability, globalization, recreation and reproduction of itself. In the social society the Man is in contradiction between his creative essence as a historical creature and the adaptive concrete historical social form of existence, imposed on him [18, p.77].

Nowadays, this contradiction sharpened to the lowest notch, generating the negative social phenomena, unknown earlier and, as a matter of fact, became the internal source of destruction of the social means of the very existence. This happens because the Man is not a concretely- social, but the universal entity, who is able to generate and overcome all forms of sociality [18, p.75]. From this point of view, the social Man has the “external” nature, which represents the products of the previous social action, estranged from him and acting as social models for future generations. As the Man is able to go beyond the concrete sociality, he is universal [18, p.74]. The universal Man has the “internal” nature, which is expressed in his generative action, he himself being the product of it.

Internal nature of the Man is stipulated by his historical distinction, its special position and special role in the history of development of nature and culture [169. p.133].

But this special role of the Man and special features of his existence can be revealed only with the help of a relevant method. Such method may become the historical method, the global object of which is the nature as the subject of its own historical development. The historical method views History as the process of transformation of historical action of the Man as the source of such transformation. From the point of view of histor-

ical method, the Man is the universal entity, who, as a result of his generative action, can turn from one historical form into another.

From the point of view of historical method, the objective world as the subject of self-development is the historical whole, developing at the expense of its own resources. The history of self-development is the succession of transitions of one type of integrity of the objective world to another type of integrity.

On this path the objective world passes several “critical” periods (the periods of vertical development, the periods of emergence of a new quality of integrity) and several “lytic” periods (the periods of “horizontal” development, the periods of a new personality quality formation). Lytic periods correspond to the periods of the formation of the types of objective world.

With each transition to a new type of integrity, the mechanisms facilitating its origin and formation are built up. The transition takes place as the means of solving the internal contradiction. As each development is the transformation of ability into reality [170, p.270] [170, p.271], the self-development must take place first, as “reproduction” of new abilities and, second, as transformation of new abilities into reality. In pre-human reality of the objective world the emergence of a new ability and its transformation into a new reality, i.e. self-development, takes place unvoluntarily and spontaneously.

Conceptions of a new type are necessary to view the Man as generating himself and the whole “external” integrity of the nature, socium and culture, in order to form the image of a creative Man [171]. Marxism could become such a conception, because the true aim of K.Marx was the spiritual emancipation of the Man, his liberation from the economical dependence, resurrection of his personal integrity, which would help him to find the way to uniting with the nature and the other people. As a matter of fact, the philosophy of K.Marx was aimed at full implementation of individualism, i.e. the aim, followed by the whole West-

ern social thinking since the Renaissance and Reformation till the middle of the XIX th.c. [172, p.377].

Creative Man [173] occupies a special position and plays a special role in nature, as compared to all other objects and phenomena of the natural world. If all other objects as parts of nature represent the “external” phenomena of the “internal” sources, generating them, the creative man is “inside”, is the “internal” force, generating himself, objects and phenomena of the objective world, at the expense of the fact that he is “inbuilt” between the reality and possibility the objective world. Due to such special position of the creative Man, the objective world acquires a new ability – arbitrariness. Historical objective world, having produced the creative Man, is able to produce new possibilities with his hands. Such world can be renewed only from inside the Man [174, p.482], and only the Man himself, not somebody or something outside him, can imply sense to his life [175, p.176].

Subject-objective (cognitive) reflexion as the psychic mechanism of “horizontal” (functional) vector of development.

The creative man is the subject of generation of the possibilities of the objective world as his own. Due to the creative man, the objective world starts to relate to his possibilities, become the reality reflected into itself, i.e. the subject [9, p.11]. As the relation to one’s own possibilities is arbitrariness, the nature of arbitrariness as the capability to produce new possibilities is included into the reflexion [176, p.152]. Reflexion is the central “internal” phenomenon of the Man [177, p.136]. It is the central phenomenon of human subjectiveness, human internal world [123, p.78]. As the problem of the reflexion genesis is simultaneously the problem of conscience genesis [123, p.139], the reflexive consciousness is the boundary, separating the Man from animals and other object and phenomena of the objective world [123, p.18].

Nowadays, in Psychology the reflexion is commonly understood as the ability of consciousness to concentrate on itself, to

make itself an object, possessing its specific stability and its specific meaning, representing the ability not only to cognize, but to cognize oneself, not only to know, but to know what you know [177, p.136]. Reflexion in its traditional Philosopho-psychological understanding is the ability to occupy the position of the “observer”, “researcher” or “controller” in relation to one’s actions, one’s thoughts [178, p.10]. In socio- psychological plan, reflexion is the ability to occupy the position of researcher in relation to the other “personage,” his action and thoughts [178, p.10]. In the cognitive plan, reflexion is not only the action in production of knowledge, but it is also the action in reproduction of thinking individuum as its subject [179, p.83]. Reflexivity is the awareness of reflection (knowledge, understanding) of content of the subjective reality available action – image, emotional experience, internal incentive, subjective symbolics, etc [161, p.85]. The highest form of reflexion is the one as a result of which the man can not only elevate over his biological, psychic and social determinants, but he is even able to overcome himself [180, p.11].

The psychological content of reflexion is such a subject- object (cognitive) relation [25, p.410], in which the subject coincides with the object [181, p.277], but as the result of cognitive reflexion the Man can change neither the object of his knowledge, nor himself as the learned and cogniscitive subject. But the cogniscitive Man is able to improve himself in his abilities and, thereby implement the “horizontal” (functional) development. Two types of existence are connected with the subject-object reflexion. If the reflexion is “external”, the Man is positioned as if “inside” his life, and his existence doesn’t overcome the boundaries of his immediate bonds and relations. His every possible relation is the relation to separate life phenomena, not to the life as a whole. “External” reflexion forms the phenomenal stratum of individual consciousness, consisting of products of collective consciousness, cognized as the content of one’s own “I” [123, p.200].

If the reflexion is “internal”, it interrupts the continuous current of life and draws the Man outside his boundaries. The genesis of “internal” reflexion is connected with axiological comprehension of life. This way of existence is connected with the interruption of immediate ties and relations and resurrection of them on a new basis. Exactly, in this method, for the first time, there arises a problem of knowledge of one’s own consciousness as the problem of a new consciousness experience (experience with the consciousness) [123, p.200].

Reflexion is the main ability of the Man, specific and fundamental mechanism of human method of life [123, p.200]. Therefore, the problem of reflexion is the problem of determination of one’s method of life [123, p.200]. Reflexion as the subject-object relation is the mechanism of transformation by the Man, as the subject of cognition, of the method of the object existence into his own method of existence. In this case the Man borrows the possibilities of his existence from the reality of the object–nature existence and with his action transforms them again into reality of object-nature existence [169, p. 133].

The Man acts as the subject of his cognitive action, “inbuilt” between the possibility and reality of the total object-nature, and with his action forming it and forming himself at the expense of generalization and perfection of the objective possibilities he possesses. The manner of such Man’s existence is the subject-object reflexion, and the sense of existence is to become the ontological centre of the world, transforming the elemental forces of nature into the conscious forces, which are necessary for harmonization of the initially elemental and unharmonious nature as a result of its rationalization (S.L.Rubinshtein).

The fundamental manner of the Man’s existence as the subject of cognitive action is adaptation to the object-nature at the expense of cognition of its objective essence and turning it into his own subjective essence. The Man as a subject of his cognitive action is able to produce the knowledge, he is able to repro-

duce the forms of existence of the object-nature, being reproduced as the cogniscitive subject.

The Man is able to reproduce the object-nature according to his laws, he is able to make these objective laws the laws of his existence, he is able to reproduce himself as the subject of cognitive action. But being the subject of cognitive action, the subject of cognition he cannot produce new forms and contents of nature. [182, p.411]. Such man cannot be the source of nature development, can not fulfill the historical mission to be the internal force, facilitating the development of himself, socium and nature.

Subject-subjectivet (creative) reflexion as the psychic mechanism of "vertical" (age-related) vector of self-development.

As the Man in the frames of subject-objective scheme is always limited by the object and is not the subject of generation of his new possibilities; as he finds his possibilities,ready-made, in the object opposing him and exiting before him and appropriates them as a result of the cognitive (subject-objective) relation, the theory of reflection cannot be used as the theoretical instrument for decision of the problem of self-development (the problem of the Man as the subject of his own possibilities) [169, p. 156] [169, p. 133]. This problem must be cardinally rethought, and the scheme of reasoning must be changed from the subject-objective into subject-subjective.

First of all this means that it is necessary to view the objective(subjective) world as the subject of its own history, as the subject of self-development. From this point of view, the objective world must be understood as the historical objective world, as the developing aggregate natural reality, as the history of change of the natural world types.

Development of objective world is implemented as self-development as a result of self-determination. This means that the objective world acts in its history as a subject of self-development. It takes place in the direction of two vectors: in

direction of the vector of production of new possibilities and in direction of the vector of a new reality formation.

The vector of origin of new possibilities (vector of vertical development) is the vector of production of new forms of the objective (subjective) world. The vector of formation of a new reality (vector of horizontal development) is the vector of objectification of new possibilities in the process of production of a new reality of the objective (subjective) world.

The vector of “vertical development” expresses the subject-subjective relation, the essence of which is in the genesis of the forms of the developing objective world. The ability of the objective world for genesis is expressed in the Man’s ability for self-development. The mechanism of self-development in ontogenesis represents the unity of historical and creative reflexion, which emerges, composes and forms under the conditions of the Man’s self-development as the subject of his own possibilities. The boundaries of the cognition and existence possibilities are revealed as a result of historical reflexion and are surmounted as a result of creative reflexion [146, p.21]. Creative reflexion is the method to productively regard the world and oneself. Due to creative reflexion the man is able to surmount himself [180, p.11]. As a result of creative reflexion, which is responsible for “vertical” development, self-development takes place - transformation of the Man from one historical form into another [123, p.364].

3.1.2. The Nature of a Creative Man Mediated by Historical future. Mediation as the Way of Existence of the Objective world.

Man’s nature is determined by the nature of his determinants. Adaptive Man is determined by the social (cultural) past, which acts as the “external” determinant of his formation (“horizontal” development). Creative Man is determined by historical future, which he constructs himself as the determinant of self-development. The “internal nature” of the creative Man consists in the fact that he himself creates the determinants of his devel-

opment and doesn't find them in a natural way, existing in the "external" natural, social and cultural world. The ability of a creative Man to produce the determinants of his development expresses the universal essence of the historical objective world and gives opportunity to the Man to overcome all external and internal limits (i.e. to self-develop).

The creative man is mediated by his historical future. The "internal" nature of a creative man consists in the following: first, he himself produces his future, it is the product of his own creative action; second, the future is the result of constructing relation between the past, the present and the future.

The history of self-development of the objective world may be looked upon as the history of change of forms of its existence. It is possible to speak about four forms of the objective world existence: spontaneous, regular, systemic and historical.

In pre-human world existence is the revelation and manifestation of the essence (manner of existence (Rubinshtein S.L.)). Revelation and manifestation of the manner of existence of one object takes place under conditions of his mediation by another object. Mediation takes place under conditions of interaction. Interaction is the reality of mediation. Mediation is the mechanism of the existence of individual objects and the objective world as a whole.

Interaction due to its objective nature cannot be the mechanism of the genesis of objects and new type relation. Therefore, the history of natural forms of the objective world represents the succession of the accomplished, emerged forms of the objective world, which are characterized by the accomplished, emerged types of interaction, implementating and revealing already emerged entities (manners of existence).

Natural history of the objective world forms is the history of formation of the emerged entities, but not their history of the new entities. Only with appearance of the Man, the history of objective world starts as the history of origin, as the history of the genesis of new entities.

Mediation by the past as the mechanism of “horizontal” development of objective world

Cause is the factor which mediates the interaction. The specific feature of causal mediation is that the cause acts as the result of the past interactions. The form of the cause is the property, which integrates the results of the interactions in the past. Interaction is the mechanism of integration of interacting objects at the expense of reflection of the whole multitude of interacting objects in each of them. The common form of interacting objects is their generalizing factor.

The form is both the result and the datum time, facilitating the possibility of interaction. In order to be perceived, the operating cause must possess the same form as the object which is affected. Interaction is turning the cause form into the result form. Availability of the form, which is common for all interacting objects and which is generalized in interaction, integrates them and makes them the objects of the same variety.

The form acts as the possibility of interaction. Only those objects, which possess the common form (common nature), can enter interaction. The objects, possessing different forms, won't interact. The results of the past interactions, accumulated the form, determine the future results. The form acts as “the past prototype of the future result of interaction”.

But as the form, being the possibility of interaction, represents, on the one hand, the past result of already accomplished acts and, on the other hand, serves as the prototype of future results of interaction, the mechanism of the causal mediation is the mechanism of mediation of the future result of interaction by the past result of interaction. The present as the actual reality of interaction is the reality of translation of the past into the future.

The mechanism of causal mediation develops in the process of the objective world development. Natural history of objective world includes four types of mechanisms of causal mediation:

physical mediation, chemical mediation, biological mediation and social mediation.

Mediation by the future as the mechanism of “vertical” development of objective world.

All four mechanisms of casual mediation are the mechanisms mediated by the past (natural, social and cultural) and serve as the mechanisms of externally determined and, therefore, final development. Neither of them expresses the creative essence of the historical objective world or creative essence of a self-developing man as the source of self-development of the historical objective world.

In fact, these four mechanisms of mediation are the mechanisms of formation (mechanisms of “horizontal” development). The problem of contemporaneity lies in the fact that the objective world exists between the two epoch of involuntary, elemental, unintentional development, when the transition between the historical forms of the objective world were neither fixed, nor objectified, but were fulfilled spontaneously and didn't become the object of special construction and and the epoch of the arbitrary development, when the transitions between historical forms of the objective world are fixed and objectified in the ideal forms of the cultures history.

Creative action, the psychic mechanism of which is the creative mediation, acts as the manner of existence of the historical objective world. Creative mediation is the means of transformation of the ideal form of the previous objective action. The mechanism of such transformation is binary: historical reflexion, as a result of which the history of the objective action is reconstructed and the historical logics of the ideal forms origin are formulated and the creative reflection as a result of which a new ideal form is created.

Here, mediation by the future is mediation by the future ideal form of the objective action, which is the product of the creative action.

3.1.3. Creative Man as the subject of production of internal determinants of self-development.

Creative Man as the subject of production of ideal forms of objective action.

Self-development is the transformation of the objective (subjective) action of one historical type into objective (subjective) action of another historical type. A new ideal form of the objective(subjective) action, serving as the determinant of self-development, becomes the psychological means of self-change of individual consciousness.

In creative psychology the pupil is looked upon as the subject of socio-cultural norms generation, not as a subject (object of their appropriation). This means that in the process of culture-generative education the socio-cultural models are created by the schoolchildren, because their content is assigned historically and can only be produced, not appropriated.

In creative psychology the Man is looked upon as the source of origin of socio-cultural sphere, and his psyche represents the means of generation of ideal forms of the social action. A schoolchild by means of his individual action produces social models (norms). The production of social norms is the function of an individual man as the source of origin and functioning of over-individuum (social) action.

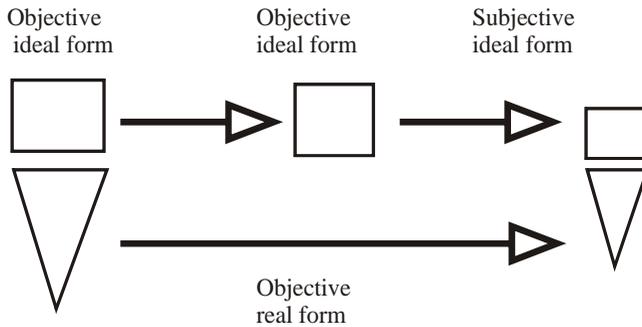
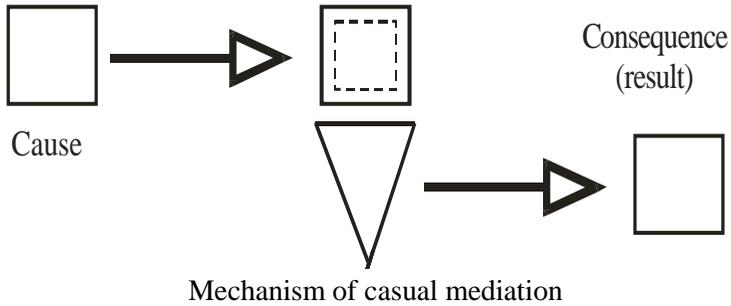
In creative psychology socio-cultural models act as the object of creation, which serves as the means of solving the self-development problems. This means that the schoolchild is viewed as the subject of creation of the ideal forms of objective action.

3.2. Creative mediation as the mechanism of the production of ideal forms as the “internal” determinants of self-development.

3.2.1. Creative mediation as the mechanism of the production of ideal forms of the objective action

As it shown above, the mechanism of casual mediation and the mechanism of sign mediation represent the mechanisms of

transmission and formation of ideal forms. The figures depict them in the following way.



Mechanism of sign mediation.

In their nature both mechanisms (causal mediation and sign mediation) are mechanisms of translation (transmission) of the ideal form. The result of both mechanisms action provides for

the process of formation of the “internal” subjective ideal forms (targets and personal senses) with the help of “external” objective ideal forms as psychological means.

In case of causal mediation, implemented according to the mechanism “external cause through internal conditions” (“the internal from the internal”), the internal conditions (subjective ideal forms) serve as the criteria for selection of the external objective forming causes, and the formation becomes possible only in the case of adequacy of the forms of objective cause to the subjective ideal form (internal conditions). This expresses the method of inductive formation, implemented in the logics “from the singular – to the universal”.

In case of sign mediation, fulfilled according to the mechanism of interiorization (internal from the external), “internal” subjective ideal forms (subjective targets and personal senses) serve as the criterion for selection of the external forming ideal forms of culture. The formation becomes possible only in the case of adequacy of the “external” objective ideal form of culture to the “internal” subjective ideal form (targets and personal sense).

Despite the substantial difference between the mechanisms of mediation and their results, both mechanisms are mechanisms of translation of the ideal forms, the compulsory condition of which is a priori knowledge. Exactly, a priori meanings (internal conditions; targets and personal senses) serve as a means, facilitating the possibility of formation under the conditions of translation.

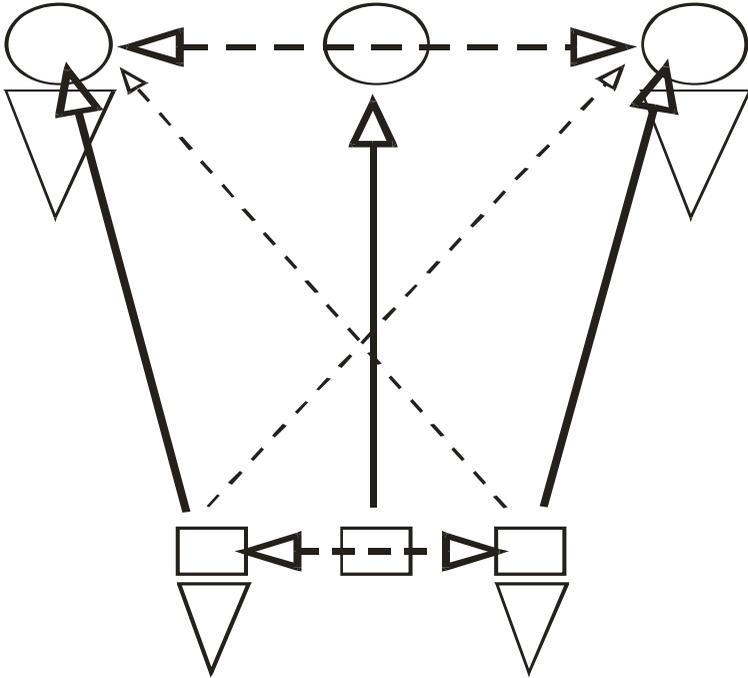
This means, that at the expense of these two mechanisms, it is possible to fulfill the individual development of only one, “horizontal” type, i.e. the formation. Despite the fact that in both cases a priori knowledge plays the decisive role in organization of individual development (its “horizontal” vector), in both socio-reflectory conception, and culture-historical conception the origin of a priori knowledge itself is neglected, in fact, the problem of its origin is neither raised, nor discussed. As a matter of

fact, this is the most important problem, the decision of which is necessary for ontogenetic self-development organization.

Both mechanisms of individual development provide for only “horizontal” vector of individual development, and a priori knowledge, the problem of origin of which is impossible to decide in the frames of these conceptions, acts as the means of it. Consequently, it is necessary to have the conception, which would explain the origin of a priori knowledge and suggest a mechanism which, would provide the generation of subjective meaning as the means of self-development, rather than translation of ideal forms with the help of a priori knowledge as the means.

Such mechanism is the mechanism of creative mediation [183], which, as distinct from the “horizontal” structure of mechanisms of causal and sign mediation, possesses the “vertical” (historical) structure. This mechanism provides for the possibility of the production of meanings of a new historical type (new meanings), at the expense of transformation of meanings of the previous historical type (old meanings). Historical logics of ideal forms generation, representing the meaning of the historical logics of complication of culture objective reality, acts as the psychological means.

Intersubjective ideal form of the resultant type



Intersubjective ideal form of the initial type

Mechanism of creative mediation.

Thus, the means of existence (essence) (S.L.Rubinshtein) of the Man is produced by himself as a result of creative mediation [184]. Creative mediation is the mechanism of self-development as the transition between the historical past, present and future.

Historical perspective of creative action, created with the help of historical logics as the psychological means, embraces both historical past and historical future. Forestalling in history as the sign of future ideal forms of objective action, as a result

of historical reflexion of its past ideal forms, makes it possible to create the creative action and virtually build at present the transition from the actual objective action to the future objective action [179, p.33].

Framing the historical logics, as the ideal form of creative action, creates conditions for the transition between the present and future objective (subjective) actions as means reproduction of the present and past objective(subjective) cultures. Virtually existing real objective action integrates into a single structure with the ideally existing future objective(subjective) reality. Such structure creates the psychological field of self-development, which is supported by creative action like a space, in which ideal forms are created to become the means of objective action development.

The history of objective culture as a special sign, the meaning of which is historical logics of the objective culture origin, becomes the psychological means of creative action organization. The factor, determining creative action, is historical sense, the psychological content of which is historical logics of the objective (subjective) action origin.

Historical logics of the objective form origin acts as a source of origin of a new ideal form of a new objective (subjective) action and, thereby, determines the origin of a new objective(subjective) action. New ideal forms of objective action are created by means of historical sign at the expense of its transformation into new ideal forms.

Formal meanings represent the means of reproduction of objective action [127, p.146] Historical senses are the means of objective (subjective) action production. To produce new meanings (new ideal forms) means to produce new objective (subjective) actions.

To adopt the meaning of an object of culture (objective sign) means to adopt the method of an objective action, reproducing the cultural object (A.N.Leontiev). Objective meaning may be understood of the objective world of culture, socially expressed

attitude to it [157, p.173] To adopt the historical sense means to adopt the ability for creative action, producing the cultural object (sign). Historical sense may be understood as the ideal form (logics) of the production of the objective world of culture, historically expressed in relation to it.

Creatively thinking [185] and acting Man is the source of origin of all his specific properties, the source of his own self-development which accomplishes in the process of creation of new ideal forms as the means of construction of new objective actions. The ability for creative action emerges in the intersubjective environment, created by the subjects of self-development themselves for solving the problem of their development.

In ontogenesis the ideal forms of new objective action are created by schoolchildren themselves. Therefore, the process of self-development takes place from inside, by means of production by the schoolchildren of the ideal form, determining their self-development. This supposes the necessity of organization of intersubjective relations [186, p.92] as the form of the special process – production. In the course of production the child creates the ideal form of objective action. Production of the ideal form is the Universal form of self-development.

In the process of production the constructed concrete transitions from one type of objective action to another acquire historical sense, which gives the possibility to carry out each concrete historical process of generation as universal. The universal relation of the objective world culture genesis, fixed in historical signs, finds its reflection in historical senses [115, p.105].

3.2.2. Creative Mediation as Mechanism of Determination of Creative Action.

The main thesis of self-development conception is the thesis that the genesis of psyche is supported by the genesis of objective action as a result of creative action. Genesis of objective action takes place as the genesis of its ideal form, facilitating the formation of its real form.

Psychology of self-development understands creative action as the means of production of ideal forms of objective action. The main idea of self –development conception is that the source of production of the new ideal form of the objective action is the history of development of objective culture. The process of production of the ideal form of objective action is the leading one. It mediates the process of formation of the real form objective (subjective) action.

Mediation of the human psyche (consciousness) history by objective culture history is the main methodological position of self-development conception. Mutual mediation of the conscience history and history of objective culture means “external-internal” nature of the human psyche.

The commonness of objective action genesis and objective culture genesis means that the creative action is the factor providing for the factor which generates, operates and organizes both genesis processes. Creative action transforms the possibilities of the objective culture genesis into the possibilities of objective(subjective) action genesis.

From the point of view of self-development conception, the real foundation of the man as the self-development subject lies in the creative action as the ability to produce new types of objective actions, rather than genetic programs assigned in him, depths of his natural inclinations and attractions, the acquired knowledge and skills; the accomplished objective actions, which are realized with the usage of these knowledge and skills.

From this point of view, creative action as the subject-subjective historical relation of the Man to himself expresses subjectivity as the internal “quality of the man, his essence, manner of his existence. Framing the processes of his development with the help of the ideal form (logics) of history, the Man is the subject of history.

Subjectivity takes place only in the case when for the Man himself the transition from one type of objective action to another is objectified, assigned as the object of his creative ac-

tion. The means of such objectivation is history as a sign, which serves as the determinant of his creative action and due to which the man is able to carry his existence as a subject of objective action out of himself, and fix it outside as the object of generation.

As a result of creative mediation [187], as the “internal” mechanism of which is creative reflexion, the previous ideal forms of the objective action are surmounted as the self-development limits. As a result, they become specifically-historical, i.e. generated by the Man as the subject of self-development and purposefully (voluntarily) surmounted by him. This means that creative Man is able to generate any ideal form, control and frame his own history of development.

History as a sign becomes the means of production of a new structure of the objective action to that extent, at which it becomes the determinant of creative action as the mechanism of its creative mediation.

According to the conception of G.S.Batishev [115], the subject actualizes in objective action, in creation of his own existence. Realizing himself as the entity, generating himself in the creative action, the historic Man generates an new objective situation. The Man generates himself through the creative action. But generation of the objective situation and self-generation don't coincide. This thesis differentiates the conception of G.S. Batishev and K.Marx. According to K.Marx, the people change themselves through the change of circumstances. According to G.S.Batishev, the people change circumstances by changing themselves [115].

3.2.3. Creative Mediation as the Mechanism of Self-Development Determination.

The essence of self-development consists in contradiction resolution between the need in new ideal forms of objective action, the child faces in a new objective situation, and the previous ideal forms of objective action, which characterize its actual level of development. The historical environment of objec-

tives culture [188, p.30-48] is a background of a schoolchild self-development, which accomplishes in the process of generation of new ideal forms of objective action.

According to the self-development conception, the ideal forms are neither assigned, nor preset (in the sense of culture-historical conception). They are constructed as the means of genetic problem solution. The process of self-development takes place from “inside”, by way of its determination by the ideal form, constructed by schoolchildren.

New ideal forms fix objective actions, produced by a child, as well as abilities and qualities, which emerge in the course of his self-development. The child will never develop in himself the specific human qualities of creative action outside the production of new ideal forms.

Peculiarity of self-development consists in the fact that at the very first moment, at the moment of the beginning of self-development process formation, the ideal form of the new objective action, as the determinant of self-development, is missing and the man creates it. Exactly in this sense one should understand the thesis that the Man is the source of his own development. Creative mediation by the ideal form of a new objective action is the internal content of self-development.

“Vertical” self-development takes place in critical periods (critical ages). The peculiarities of “vertical” self-development period consists in the fact that at the beginning of the crisis the child builds up a new form of objective action, and its relation to the available real form of the objective action assigns a new historical situation of self-development.

The crisis of self-development is a special psychological space, in which a new act of self-development is built and accomplishes as a result of change of the type of objective culture, and the Man has to overcome his previous possibilities and build a new objective action [18, p.51].

Critical age possesses three main phases: pre-critical, critical and post-critical. Pre-critical phase is characterized by the out-

break of contradictions between the actual ideal form of the previous objective action and a new objective action, demanding a new real form. Critical phase is the construction of a new ideal form as a result of creative communication: the transition “past ideal - new ideal” is carried out. Postcritical phase: the transition “past real- new real” is carried out as a result of determination by the transition “past ideal – new ideal”. The child constructs new real forms of the objective action. Historical type of the sign mediation changes .As a result, the act of self-development is practically realized.

In the crisis age self-development starts with application of the available possibilities by the former means. Then, there starts the phase of constructing new possibilities, as a result of which the previous type of psyche turns into a new one. This happens under the conditions of joint creative action, while creating a new type of objective action. In the end, another stage comes, when the joint creative action becomes useless for a certain period of time, and the man masters a new type of objective (subjective) action.

At the stage of application of the former possibilities an attempt is made to build a new objective action by the previous method, which is not typical for it. In the structure of self-development crisis the conflict arises, which initiates the need for transformation of the objective action. This is followed by transition from the conflict to historical (retrospective) reflexion [2, p.161], which transforms into creative (perspective) reflexion, as a result of which a new ideal form of objective action is accomplished.

The act of self-development accomplishes at the expense of creation of a new ideal form of objective action. Before the crisis the objective action of a schoolchild is directed at the object. Under the crisis conditions the objective action itself becomes the object of creative activity.

The psyche mechanism of a new ideal form construction is creative reflexion as the internal content of creative communica-

tion. As a result of creative communication, a new ideal form is created, which then becomes the psychological means of constructing the new objective action, generating the new objective culture.

Creative action is the “internal” relation of actions of different historical types. As the “internal” relation, creative action emerges as the method of solution of the contradiction between the former ideal form of objective action and its new real form.

The analysis of creative action is the analysis of self-development crisis. On the forefront of this crisis there is the feeling of a need of a new objective action, connected with historical value of self-development. This provides for the formation of the man’s relation to himself as the subject of his own development. Thus, creative activity represents the mechanism of the formation of historical subjectivity as the expense of the fact, that the Man becomes the self-target [21, p.110].

If to dwell on the need of destruction of the old schemes of the objective action, this will bring to the fact, that at the moment of destruction of the previous scheme of objective action the psychological vacuum must arise, historical bond of the past and future must break. This may be avoided, having supposed that the act of destruction of the former schemes is simultaneously the act of origin of a new scheme. The relation, allowing to bind together the acts of destruction and the acts of origin of the objective action schemes, is the historical sense, which includes both the old, being destroyed, and the new, being created. Historical sense is a uniting link, which binds with historical bond the destruction of former schemes of objective actions and the synthesis of new schemes of objective actions.

In stable periods the objective action, possessing the ideal and real forms, is reproduced, being formed, and ameliorated. In crisis periods the objective action is reproduced and becomes the object of creative action.

The stable period is characterized by the fact, that there exist simultaneously both the real form of the schoolchild’s objective

action and its ideal form, which determines the “horizontal” development of the objective action and objective signs as the mediating means of translation of ideal forms into the reality of objective action.

Critical period is characterized by the fact that it doesn't possess either a new form of the objective action, or a sign as a mediating link between the former real and the old ideal forms of objective action, or a history –sign as the means of generation of a new ideal form of the objective action.

3.2.4. Creative Mediation as the Mechanism of Production of Ideal Forms as the Determinants of Self-development.

Culture-generation consists in the fact that a child must turn the “natural” objective world into the objective world of inter-subjective culture, “objectify” in its ideal form his methods of action. This means that the process of self-development is determined by creation of a new ideal form of culture.

Creation of a new ideal form of culture takes place in the process of culture-generation. Culture-generation determines the logics of self-development, which is constructed in the problem genetic situation and serves as a psychological means of determination of the real process of self-development. The main condition of the schoolchild self-development consists in his own construction of the new human methods of actions objectified in the ideal forms of instruments and signs, constructed by him and serving as the means of his real actions [112, p.54].

The schoolchild self-develops in the process of culture-generation. The process of culture-generation itself is always accomplished in cooperation of the child with other children, organized by adults, and represents the production of ideal forms of objective action as one of the most common laws of the child self-development [189].

Culture-generation is a specially organized process of independent creative action of the child, implemented as creation of a new ideal form of objective action, mediating the transformation of its former real form. Culture-generation is the process of

self-change of the school child, organized by the adult, which is mediated by the ideal form, created by him [190].

At the stage of culture-generation the ideal form is the product of creative communication of schoolchildren. Production of targets, means and methods of the future objective action, representing the content of this ideal form, is the central moment in the formation of psychological system of the objective action.

The ideal form is the ideal form (meaning) of the objective means. Real instrument, the ideal form of which later separates (estranges) from it and fixes as the independent reality in the ideal means (signs), serves as the initial objective means. Exactly through the construction of the ideal means (signs), there takes place the transformation of certain historical forms into its other historical forms.

The ideal form is produced in the process of culture-generation, works as the sign, by means of which the transitions between objective actions of different historical types are constructed. The schoolchild, mediating his self-development by culture-generation, makes his objective action the object of transformation, creating its new real forms as his real future [110, p. 130].

Origin of meanings depends on the Man. They serve as the object of creative reflexion and, thereby, as the means of self-development. Historical senses, as the means of production of meanings, represent the transformed and curtailed into the history-sign ideal form (historical logics) of self-development of the objective world [10, p. 161]. The universal nature of historical senses expresses the fact that they are built by the Man and represent the product of his creative action. The Man constructs historical senses of history. He creates the things, which he doesn't create at his birth.

As a result of culture-generation, the new means, possessing the new meanings are constructed. Production of meanings takes place in intersubjective (L.S.Rubinshtein) form of creative

intercourse. The act of production of meanings, carried out as the creative mediation [191], is the internal content of the process of self-development. Creative mediation, as the means of the ideal form production, is the internal mechanism of culture-generation (meanings generation) [163, p.219-227].

3.3. Theoretical and Methodological Foundations of Self-Development Conception.

3.3.1. Approaches to elaboration of self-development concept in Pedagogics and Psychology.

Despite the fact that the need in self-development conceptions has always been felt, nowadays, it is possible to speak only about some ideas, on the basis of which elaboration of the self-development concept will be possible in future.

Among the specialists in Pedagogics these ideas have been worked out by G.K.Selevko and V.G.Maralov, and among psychologists by G.A.Tzukerman and, to a certain extent, by V.I.Slobodchikov, V.T.Kudryavtzev and B.D.Elkonin.

In the basis of *G.K.Selevkos's approach* [192] there lies the idea of the need to decide the problem of educational and cognitive motivation, which, according to his opinion, is most sharply revealed after children finish the elementary school. According to G.K.Selevko's opinion, this problem isn't solved and cannot be solved in the frames of well-known conceptions of the developing teaching, to which he refers the conceptions of D.B.Elkonin–V.V.Davidov, L.S.Zankov, I.P.Volkov, G.S.Altshuller, I.P.Ivanov [192].

G.K.Selevko doesn't reveal the term "self-education" on the conceptual level, but he reveals it, using the components of the well-known A.Maslow's pyramid of needs. From this point of view, according to G.K.Selevko, the highest spiritual needs in cognition, self-assertion, self-expression, safety, self-determination, self-actualization are the strivings towards development and perfection of oneself, i.e. self-development, self-improvement [193].

It is necessary to create respective conditions for the man to satisfy his needs, which are the foundation for his self-development. Exactly, to provide for the freedom of will development, the space for creative actions, social comfort [194]. The mechanism of the needs satisfaction is cognition, testing and realization of abilities, i.e. socialization, self-development. Besides, the processes of self-development are spontaneous, self-induced [195].

Technology of a personality self-development involves all essential properties of developing technologies, but according to G.K.Selevko, it has a fundamentally new quality. Exactly, the child action is organized not only as satisfaction of his cognitive needs, but a number of other needs of self-development (self-assertion, self-expression, safety, self-actualization). The whole school educational work, including the club sphere, socium, all educational institutions, is directed at satisfaction of these needs, for realization of self-development. The technology of self-development of the personality contains three interconnected subsystems: subsystem "Theory", subsystem "Practice", subsystem "Methodology".

In the limits of "Theory" subsystem, the educational course "Self-improvement of Personality" is carried out. In the limits of subsystem "Practice", the development of independence and skills of self-improvement of schoolchildren takes place in the enlarged centers: "study centers", "open university of self improvement", "scientific society of the students", "student government". In the limits of "Methodology" subsystem, the educational process acquires the following features: implying the main priority to educational guidance by means of self-education and self-improvement of the student; the shift of emphasis from instruction to teaching; application of the whole need-related sphere of students in addition to cognitive; accent on the independent and creative action of the students; activation and stimulation of apprehension of the teaching process, occupying by the student the reflexive position; the shift of

gravity centers of pedagogical process towards the formation of self-governing mechanisms of the personality; systematic and consistent formation of the common educational skills. [196].

V.G.Maralov's approach is based on the subjective approach, which was worked out by such domestic scientists as L.S.Vygotsky, S.L.Rubinshtein, B.G.Ananyev, A.N.Leontiev, B.D.Elkonin, etc. It is considered that V.I.Slobodchikov and E.I.Issayev were among the first in domestic Psychology to determine self-development and substantiate its distinctive features. In their opinion, self-development is the fundamental ability of the Man to become and be the true subject of his life, to turn his life-sustaining activity into the object of practical reformation [197. p.65].

V.G.Maralov considers that the main characteristic feature of self-development is life-sustaining activity as the continuous process of definition of objectives actions and behavior of the Man. Exactly, in the limits of life-sustaining activity the process of self-development accomplishes [197, p.66]. But the Man becomes the subject of self-development only when he puts forward aims for self-assertion, self-improvement, self-realization, i.e. defines the perspectives of what he is moving to, what he is achieving, what he desires and, vice versa, what he doesn't want to change in himself. [197, p.66]. The second characteristic feature, according to V.G.Maralov is the activity of the personality. Social activity is considered to pass four-levels in its development: normative, normatively-personal, personally-productive and productively –creative.

As it considered that the normatively-personal level of development of social activity is peculiar for teen-ages and adolescents, exactly, therefore, teen-ager can become the subject of not only his life-sustaining activity, but also self-development [197, p.67]. Ability for manifestation of social activity determines the ability for making personal choices, i.e. develops the tendency towards personal freedom [197, p.67].

The third characteristic feature of self-development is the level of self-cognition development, ability for self-cognition. The developed ability for self-cognition with its mechanisms (identification and reflexion) is organically integrated into the process of personality self-building, defining the perspectives and means of self-development [197, p.68].

According to V.G.Maralov, the unit, the “brick” of self-development is the act of self-building of the personality. Self-building is a process, carried out by means of self-building in a concrete situation. Its essence consists in the following. The Man is able to construct, at the expense of mechanisms of self-prediction, the “model of real I”, i.e. to project himself, the close future, a limited number of situations. This “model I” embodies into “real I”. As a result, the Man chooses the strategy of self-building: reproduces himself in the former quality, or reproduces himself in a new quality. But the author doesn’t describe the mechanisms of such self-building, (“What was I?”, “What did I achieve?”, “How did I live through it?”, “What am I now?” etc.) [197, p.76].

From V.G.Maralov’s point of view, self-development is fulfilled in three most important forms: in the form of self-assertion, in the form of self-improvement, in the form of self-actualization (according to A.Maslow) [197, p.86]. As the psychic mechanism of self-development V.G.Maralov proposes to consider self-acceptance and self-prediction. Self-acceptance is understood as recognizing the right for existing of all aspects of one’s own personality, as well as the personality on the whole. Self-prediction is understood as the ability for anticipating the events of external and internal life, connected with solution the task of future action and self-development. Self-prediction, in combination with self-cognition, makes it possible to determine the perspectives of personal development, single out that ideal image of I, that system of requirements, to which the personality would strive and at which it will orient in the close or more distant time [197, p.90].

Self-prediction makes it possible “to see” oneself, in one’s limits, in future, up to one’s new reactions in new situations, i.e. as if in advance to build in mind the personality, the Man will try achieve during a certain period of time. This determines the perspectives for self-development in its different forms [197, p.91].

At the same time, self-prediction rests on the results of self-cognition, including its final result – self-acceptance. The strategy of the personality self-development will be determined, exactly, by the singularity of the combination of self-acceptance and self-prediction, as the basis for working out the strategy of self-development, which is determined, to a large extent, by the level of the personality self-acceptance, not the other way round [197, p.91].

It is supposed to accept as optimal the strategy, when the man, accepting both positive and negative qualities in himself, however, sets, by means of self-prediction, the real tasks of personal growth and change, bearing stable and permanent character. Without denying himself, he asserts himself. Without denying himself, he improves himself. Taking into account all circumstances of his life, he realizes himself completely, creates such an image which, as a matter of fact, reflects his true essence, rather than the visibility [197, p.93].

G.A.Tzukerman’s approach is based on the point of view that transmission of culture ceases to be the foundation of education. The author thinks that we mustn’t transfer to the future what we received from the past (at least, not quite that). Therefore, exactly, the author insists that we find ourselves in the extreme difficulty, feel confusion in the face of new pedagogical situations [146, p.14]. In other words, due to this, exactly, the education is in crisis. Therefore, the shift from the child development set to the pedagogical value of the child and the teacher self-development – is the formula of a new, emerging Pedagogics [146, p.14]. For this reasons it is necessary to understand the

logics of subjectivity development and build the self-development pedagogics only on this basis [146, p.16].

Independence, responsibility, creativeness - all these qualities are indispensable conditions for self-development. To a greater or lesser degree, they are peculiar for children. But children's independent, responsible, initiative actions exist like small islands in the ocean of the adults' worries. The situation changes drastically in juvenile age [146, p.18]. The mentioned qualities become the characteristics feature of the integral personality of a teenager.

The author thinks that the birth of the subject of self-development, the author of his own biography is possible in transition from curtailing, ingrowth of one's externally preset human nature (biological, social, cultural) into the point "I" - to the unfolding of "I" from the potential into the embodied universality. Psychology usually connects this turning point of development, the culmination of which is the revelation of one's own I, with the juvenile age [146, p.21].

The author suggests the following system of notions, expressing the essence of the concept "self-development". Selfhood is such behavioral text, which I create involuntarily, not knowing what I am doing. It is read and interpreted by the others. From them I learn about the existence of my selfhood, its content, the means of its creation and interpretation. The moments when my selfhood hits my consciousness are the flashes of my consciousness [146, p.25].

Self-consciousness is the knowledge of my consciousness. Consequently, self-assessment, acceptance and self-respect are the assessment, acceptance, respect for my selfhood. But who is "I", knowing about my selfhood, assessing it, accepting or rejecting it? "I" is the selfhood, reflected and assimilated. Self-development is the conscious change and (or) equally conscious striving to preserve my I-hood unchanged. [146, p.26]

The approach of V.I.Slobodchikov is based on the point of view that it is necessary to sharply distinguish between the con-

cept “development” (genes) and origin (gonos). The author considers that all existing develops. What doesn't exist - takes place [2, p.144]. Besides, origin is a mystery, which may open, and with which you may become familiar. It is suggested to differentiate between functioning and development. In this sense, development is the process of origin of a new qualitative state of the object, which serves as the total change of its structure and mechanisms of functioning. As an example, the author presents the process of turning a larva into a propula then propula – into butterfly. The point of breakthrough, turning one into another is the situation of development [2, p.145].

The author shows that the development of the Man, his subjectivity, the whole psychological formation is simultaneously both the natural and artificial process, i.e. the process of development may be presented in two ways: on the one hand, according to the process scheme (as the natural temporal succession of stage, periods, steps, possessing causal determination; on the other hand, according to the action structure (as the totality of methods and means of “development”), where the succession one after another possesses the purposeful, rather than causal determination. In connection with this, the first (causal) type of development unfolds in conformity with the nature essence, the second (purposeful) – in conformity with the socium essence [2, p.146].

In author's opinion, alongside with these two ideas on development, it is necessary to introduce another one – the idea of self-development, i.e. development by the man of his own selfhood. The author considers that Psychology must deal with the man's essence, with self-development as the fundamental of the Man to become and be the true subject of his life, to turn his own life sustaining activity into the object of practical reformation. This means, that the Man development is determined by another factor – axiologically-rational. This means that the Man development represents the aim, value and sense of his own life [2].

V.T.Kudryavtzev's approach rests on the viewpoint of the individual Man development as the mechanism of history, however, the mechanism that cannot be replaced and which fulfils its unique function in culturegenesis. The author considers that the main destination of the concretely-historical method consists in revelation of the original, culture-generative, creative possibilities of individual consciousness in historical perspective [116, p.23].

V.T.Kudryavtzev considers that dissolution of the historical in abstract social structures leads with logical inexorability to crossing out the problem of the man as the author and subject of culture [116, p.25]. Besides, reduction of the historical to the social was to a large extent peculiar for the Soviet Psychology. It rested on the confidence that the social is "having become" historical. And, consequently, the first is the embodiment of the second. Sociological trends in psychology, though criticized, were, not infrequently, identified with historical [134, p.354].

The author shows that for theoretical analysis the fact of the Man's sociality is significant only because within the limits of the social way of life the truly universal and free type of development (in the image of the Man as the subject of history) for the first time originates and accomplishes – the type of development, characterized by creative trend. From this point of view, history appears as the form of the active acquisition of the Man by his own essence, which is not initially given to him. This essence is not predetermined by either the laws of "pre-defined harmony of the world" (G.Leibniz), or by available forms of sociality as they are. It appears and accomplishes in the process of historical reformation of the world by the man into the World of the Man, and, consequently, it develops itself. History of mankind is the history of change of the action-related human being (and in this sense - self-change of the Man) in the course of collective creation by the people of the objective body of civilization, which crystallized in itself the universal abilities of its creators. This determines the initial reflexivity, *self-*

aspiration of the subject of historical process and historical cognition [116, p.26].

Developing in the context of historical culture, and he himself developing it, “The Man... doesn’t reproduce himself only in one determinacy, but he reproduces himself in all his integrity, he doesn’t strive to remain something accomplished and exists in the absolute movement of formation ” [116, p.27].

In the author’s opinion, the most important in historical (and anthropological) conception of K.Marx is advancement and consistent development of the thesis on the universal creativity of the Man as the ancestral and individual subject in relation to the sphere of culture and history [116, p.27].

From the author’s point of view, the idea of historicism aims the psychologists at the search for specific methods of integration of the individual as the bearer of action, consciousness and, even more – personality, into the process of production of the new forms of historical culture. Psychologists from P.Janet to A.N.Leontiev traditionally emphasized the dependence of the formative individual consciousness on its socio-historical determinants. The fact of this dependence is indisputable. However, theoretical absolutization of this dependence led to effacing the singularity of the specifically human way of development, which was emphasized by the classicists of German Philosophy (I.Kant, I-G.Fichte, F.Shelling, G.Hegel, L.Feuerbach and then K.Marx.). This singularity consists in the fact, that it is peculiar for the Man to freely consider, produce and reconstruct the determinants of his own development, including socio-historical determinants [116, p.30].

In conclusion it is important to note that such classicists of genetic psychology as P.Janet and L.S. Vygotsky, didn’t accept “historicity” of psyche as the “given” and tried to derive it, i.e. to construct the theory of psyche development as the history of consciousness development. These attempts can be treated differently, but they have no analogues, they are the only ones in their own way [116, p.32].

B.D.Elkonin's approach rests on the viewpoint of unfolding the psychic processes and behavior as a whole as the transition to a new principle of their generation. The model of such transition is sign mediation. In sign mediation the naturally built stereotypes of behavior themselves becomes the object of change and, therefore, they are overcome as natural. They become supraliminal and arbitrary (i.e. the man adopts his own behavior) [198. p.8].

The man adopts his behavior, generating it anew. The man, generating his behavior, becomes its subject. It is possible to say that the "point of contact" of the ideal and real forms is specific and notional by the fact that the subject and behavior emerge in it. Pointing at the subject and subjectivity supposes the formation of reciprocal transitions of the real and ideal forms [198, p.9].

The subject exists, is revealed when the transition itself is expressed and objectified, the transition from the natural to cultural form, to transformation of its behavior into the object, to the usage of means of detection and observation of one's own behavior, outside oneself [198, p.10].

The conducted analysis of transition rests on the private assumption of a certain special efficacy of the sign. It was conducted on the assumption that the sign works, i.e. with its help the behavior is organized and reoriented, its naturally built stereotypes are surmounted, new forms are built, etc. But why and at what expense does it happen? It is possible to say that the sign is efficient to that extent, at which it is transmitted and accepted in a definite function, status, in the meaning of stimulus-means, to that extent, at which this meaning is implied to the stimulus-means. [198, p.15].

The meaning of the means is, exactly, imparted it cannot be the property of the thing itself. In this consists "cultural sensitivity" and significance of the stimuli-means, their affectation. Imparting the meaning takes place in the interpsychic form and it cannot take place in any other way. In the act of imparting –

acceptance of their meaning, i.e. how and at what expense it is imparted and accepted, the mystery of mediation is concealed – the main question in culture-historical conception and its branch – action-oriented theory of psyche. The mystery doesn't consist in how the stimulus, which becomes the means, works and how it worked before. The question is in the formation itself, in the structure of the “interval”, where the transformation of the stimulus into the means takes place, of even wider, where the thing acquires the meaning. This “interval” is the point of contact of the real and ideal forms. Exactly, here is the problem of origin of the action subject, i.e. the problem of development, or, to be more exact, development as a problem [198, p.15].

The position of B.D.Elkonin is aimed mainly, at the future, at building the possibility of solution of the developmental problem (in fact, self-development). Certainly, this is the most interesting and perspective and heuristic position, which has a lot ahead. But now the “subjective” “fabric” of the development act is a nearly undeveloped area and therefore, when speaking about it, the more appropriate is hypothetical, rather than resumptively – resultant pledge [198, p.30].

Conclusions on 3.3.1. Complexity of the problem and absence of necessary theoretical means for its solution often lead to the attempt to solve this problem with the help of eclectic combination of meaningfully unconnected alternative positions. In our opinion, the appeal to eclectic (or polyparadigm) [199] schemes is caused by the weakness of theoretical foundations and indifferenatation of methodological and psychological discrepancies. In our opinion, eclectism, which now, not coincidentally, finds a growing number of supporters, as the method is only able to aggregate the external, accidental properties of the subject of research. But, certainly, it is not able to penetrate into the essence of the matter and solve the problem of origin.

The pedagogical position of G.K. Selevko is especially notable for its eclectic character, because, for illustration he uses different theoretical positions of the alternative, often incompat-

ible psychological conceptions, without revealing the psychological content of “self-development” concept. In fact, understanding self-development as self-improvement, G.K.Selevko regards as the theoretical foundation for his position the well-known A.Maslow’s pyramid of needs and illustrates the term “self-development” with the help of hierarchical needs suggested by him. Pointing directly at psychological conceptions of the developing education, as his theoretical basis, G.K.Selevko emphasizes the novelty of his approach by the fact that he connects self-development with organization of satisfaction of not only cognitive needs, but also the other needs. Thereby, the idea of self-development consists in independent usage of the means appropriated under the conditions of developing technologies for one’s improvement. But the technology of self-development, according to G.K.Selevko, represents the system of additional extracurricular actions, in which a schoolchild has the opportunity to independently satisfy all his needs.

It appears that in methodological and theoretical plans the approach of G.K.Selevko doesn’t present anything interesting, he simply repeats under the new conditions the experience of the well-known educationalists of the past.

V.G.Maralov’s position is not independent. It is a collection of viewpoint of the well-known culture-historical psychologists. The conceptual foundation of V.G.Maralov’s position is the definition of self-development proposed by V.I.Slobodchikov and E.I.Issayev. In his discourse V.G.Maralov proceeds from identification of self-development and self-improvement. Basing on A.Maslow’s pyramid of needs, he, the same as G.K.Selevko, considers that self-development is fulfilled in three main forms: self-assertion, self-improvement and self-actualization. From V.G.Maralov view point, the psychic mechanisms of self-development are the mechanisms of self-acceptance and self-prediction. The author doesn’t disclose the psychological content of these mechanisms, but from the context of the book it is evident that, according to V.G.Maralov, the sense of self-

development consists in the same as the sense of self-development of G.K.Selevko, exactly self-actualization, i.e. in full revelation of the potential, preset by the nature. But how it is fulfilled, is not clear.

G.A.Tzukerman doesn't reveal the psychological content of the concept of self-development, either. But it doesn't belittle her most important idea that the transmission the culture ceases to be the basis for education. She thinks that education should not deliver, at least not deliver what now the object of delivery is. But definition of self-development proposed by G.A.Tzukerman invites some questions . She proposes to understood self-development as the conscious change or equally conscious striving to preserve in the unchanged form my I-selfhood. Aims, trends and means of these changes I determine myself. In our opinion, there is the evident contradiction here. The author, at least, doesn't reveal the psychic mechanisms and doesn't reveal the peculiarities of the situations, where the change of selfhood becomes possible.

From the viewpoint of V.I.Slobodchikov, self-development is the fundament ability of the Man to be the true subject of his life and transform his own self-sustaining activity into the object of practical reformation. V.I.Slobodchikov makes emphasis on the concept of "subjectivity", which in his opinion, is the ability to make oneself, one's essence the object of practical reformation. V.I.Slobodchikov and E.I.Issayev don't analyze the concept of development in their work, that's why it is not completely clear, what these authors understand under development. But their thesis, that only what already exists is liable to development, gives ground to speak that they mean the "horizontal" type of development. Taking into the account the fact that V.I.Slobodchikov considers imitation (and reflexion) the mechanism of development, it is possible to say that he, most probably, understands self-development as the development (improvement) with the help of the means appropriated (assimilated) earlier in the process of education.

V.T.Kudryavtzev doesn't discuss the problems of self-development directly. But the logics of his argument, which is connected with regarding the child as the subject of nature generation, leads to understanding the child as a self-changing entity. He considers that reflexivity and self-determination, as basic abilities, characterize the man as the subject of the historical process and historical cognition. At the same time, reflexion and self-determination may serve as mechanisms of culture-generation, the subject of which is the child. This underlies the perspective strategic approach to look upon the child as the subject of history, creating the social history by his individual action.

B.D.Elkonin doesn't speak directly about the self-development, either. But the spirit of his work testified to the fact that, exactly, self-development is the true subject of his research. Following L.S.Vygotsky, he considers that subjectivity of the Man is central in culture-historical psychology. It appears when the Man adopts his behavior. The means of behavior appropriation, according to B.D.Elkonin, is meaning which is imparted to the delivered means. The peculiarity of B.D.Elkonin's conception of the ideal form, in our opinion, consists in the fact that the ideal form may be delivered to the child only when he himself is able to recreate, to reproduce it. Exactly, recreation and reproduction of the ideal form expresses the idea of self-development, which is discussed by B.D.Elkonin as the problem of the man formation as the subject of his own behavior. The author doesn't discuss specially the mechanisms of self-development, but the general context of the work gives ground to make the conclusion that under such mechanism he understands imitation. This means, in our opinion, that self-development, according to B.D.Elkonin, unfolds as the "horizontal" vector of development.

3.3.2. Psychological Content of the Self-development Concept.

The psychological content of the concept of self-determination must be worked out basing on methodological thesis that the development is the transformation of possibility into action. [170, p. 271] [170, p.271]. But if in nature the self-development takes place spontaneously [170, p. 271], then the Man self-development takes place as the intentional production of his new possibilities and creation with their help of new realities of objective action as psychological means. The source of man self-development is the history of objective culture, and the ideal forms of objective action, reproduced by the man, serve as new possibilities (self-development determinants).

The main category, on the basis of which the construction of self-development concept is possible, is the category of subject-subjective relations. The content of subject-subjective relations is the creative relation of the Man to himself, which is expressed in production of new historical forms of the objective action as his own essence of the subject of self-development [2] [198].

From this point of view, Man subjectivity must be understood as the ability to make himself (his action-related essence) the object of production, i.e. the object of its transformation from one historical type into another.

In its nature the subject-subjective relation, understood in this way, is internal, i.e. stipulated by the Man himself. “Internal” form of subject-subjective relation emerges in the “external” form of subject-subjective (more exactly, intersubjective relation, according to S.L.Rubinshtein) relation. However, the “internal” subject-subjective relation, as the relation to oneself, emerges, when the other becomes the aim of my creative action, and I, in its turn, become the aim of the creative action of the other [200] [101] [115] [201] [202] [203] [204] [2].

Intersubjective (creative) intercourse is the means of conflict solution between the former ideal form of the objective action and a new level of complexity of the objective situation. As a

result of the creative intercourse fulfilling, the “internal” subject-subjective conflict [9, p.88] is resolved at the expense of transformation of the old ideal form of objective action into its new ideal form. As a result of his creative intercourse the man overcomes his possibilities (the former ideal forms of objective action) [205, p.106].

The concept of “self-development” correlates immediately with the view on the Man as the subject of the objective culture generation. According to his historical nature, the Man is a creative entity, making the history of objective culture the object of his generative action. In connection with this, nowadays the main problem of psychological science is the conflict between the “external” (socio-cultural) determination of the social man existence and “internal” determination (self-determination) of the historical Man existence [206, p.199] [123, p.76]. This conflict is especially noticeable in the system of education, which has lately, turned from the factor stimulating the formation of the man as the subject of generation of new possibilities, into the factor preventing it. The socium has turned from the factor, facilitating the upbringing of the Man as the subject of development, into the factor resisting it [207].

This problem resolution may be found in the change of emphases in relation to “social-individual” from the social to individual.

And, exactly, the scheme of transformation of social possibilities into individual ones, as the methodological foundation of culture-consuming education, must be replaced by the scheme of the Man’s generation of his individual possibilities and their transformation into social possibilities, as the methodological foundation of culture-generative education [123, p.76].

Theoretical means of his conflict resolution is the concept of “self-development”. Self development as the psychological concept is based on the production by the Man of his individual possibilities as social possibilities [208]. Therefore, self-

development is the means of production by the Man of himself and socium [82, p.134].

As the “internal” source of self-development is the relation of the man genesis as the subject of generation of objective action [112, p.118], self-development is always the transcendence over actual possibilities, as a result of creation of new ones. Self-development has always been the surmounting [209, p.6].

The Man develops himself [21, p.67], and he is the only source of development of social and cultural reality [18, p.140]. Only the individual Man produces the new social forms, new ideas and models of human behavior [210, p.193] [211, p.296].

The need of subject-subjective (generative) relation, as the psychological content of self-development, assigns new requirements to the system of education. Therefore, the Man universality must become one of the most important priorities of culture-generative education [116, p.119].

The perspective of culture-generative education consists in the fact that, as a result of it, schoolchildren acquire the methods of creation of the new cultural objects (new objective cultures), because, as a result of culture-consuming education, only the methods of application of available cultural objects (objects of culture), are acquired [116, p.27]. Therefore, entering the world of culture, the schoolchild must acquire the universal ability for self-development as the ability to create new cultural objects (objective cultures), rather than master the available methods of action with cultural objects [116, p.27].

3.3.3. Self-development as the Transition onto a New Level of Mediation at the Expense of Cooperative Creative Action.

Construction of self-development logics rests on the hypothesis on individual development as the individual form of historical development [212]. The theoretical foundation of self-development logics construction in ontogenesis understands history as the change of historical types of the objective world of culture. Concretely-historical type of culture corresponds to

the concretely-historical type of objective action [213]. However, the objective (subjective) action should be understood not as practical intentional relation of the Man to the external in relation to him objective culture, but as the practical intentional relation of the Man inside the objective (subjective) culture, i.e. as the means of practical transformation of subjects inside the objective culture, in other words, as the means of reproduction of objective culture.

From this point of view, objective action is the genetically initial “internal” essential relation of the Man to objective culture, expressing the genetically initial “internal” relation of the objective culture reproduction.

Objective action represents the interconnected ideal and real realities. Ideal reality mediates its real reality and, on the contrary the real reality of the objective action mediates its ideal reality. The action of the reflexive consciousness serves as the mediating relation. Thus, the objective action is the real reality externally mediated by its ideal reality with the help of reflexive conscience action. The real forms (processes and results of transformation of cultural objects into each other) serve as the real reality of objective action, the ideal forms (aims and methods of action) serve as the ideal reality of objective action.

The criterion of distinction of the types of objective action can be singled out on the basis of conceptual synthesis of the two significant ideas of socio-reflectory and culture-historical approaches. The conceptual synthesis of the idea of culture-historical approach on the mediated essence of the Man, and mediation as the essence of human development (L.S.Vygotsky, B.D.Elkonin), and the idea of socio-reflectory (reflex) approach towards the development as the successive change of types of mediation (S.L.Rubinshtein), makes it possible to formulate the idea of ontogenetic development as the successive change (succession transition) of the historical types of mediation of objective action. The type of objective action is determined by the

type of mediation (type of reflexive consciousness), which lies in its basis [214].

On the other hand, the history of objective culture development represents the unity of two vectors: “vertical” and “horizontal”. The “vertical” is the vector of origin (vector of emergence, production) of a new content of objective culture. The “horizontal” is the vector of formation of the emerged (produced) as a result of the “vertical” vector of a new content of the objective culture [20, p.56].

History of objective culture development is the unity of periods of origin and formation of its new content. Periods of origin are the periods of transformation of the previous quality into a new quality. Periods of formation are the periods of imparting the adequate form to the emerged quality. Thus, the history of development is the unity of genesis and formation of the objective culture. As the history of objective culture development is carried out as a result of joint action, it may be represented as the history of joint action. (S.L.Rubinstein, P.Ya.Galperin) [158, p.205].

There is the tradition to regard the Man’s existence (human existence action) as human action, i.e. the intentional relation of the Man to objective world [135, p.128-135] [11, p.11] [215, p.31] [216, p.303] [9, p.331] [9, p.394] [87, p.85] [66, p.45] [123, p.181] [9, p.172].

Action is the basic unit of human psyche [11, p.194] [11, p.192], therefore, the object of analysis must be the basic unit of psyche [82, p.366] [12, p.199].

In connection with this the following may be formulated as the main conception of self development:

1. New objective action is created by schoolchildren as a result of resolution of historical conflict between the former objective action and new objective situation.
2. The method of creation of a new objective (subjective) action is the joint (cooperative) creative action, because only in

joint creative action there emerges historical reflexion of individual objective action.

3. The means of organization of joint (cooperative) creative action is the meaning of a new objective form. The means of production of the new meaning is creative intercourse, because only in creative intercourse there emerges the historical reflexion of the objective forms meanings.

4. The new object becomes the means of intercourse (communication), when the new objective form acquires the meaning of the new form of the joint objective action.

5. A new meaning is created at the expense of transformation of meanings of the previous objective forms into the previous form of the joint objective action; the previous form of the joint objective action into the new form of the joint objective action ; the new form of the objective action into the meaning of joint objective action. After that the new object becomes the sign as means of organization of a new joint objective action, and his psychological meaning becomes the meaning of the word as the means of intercourse organization.

6. In this situation the teacher doesn't transmit any meaning for acquisition, but organizes the history of the genetic problem situations and their independent solution by schoolchildren. The universal psychological means of genetic problems solution is the internal logics of vertical growth of the objective situations, under the conditions of creative intercourse, acquiring the meaning of the logics of vertical growth of objective action. The task of the teacher is to create the history of genetic objective situations, continually creating the problem situation for the pupils, to motivate them to the reflexion of historical logics of the objective action development.

To substantiate periodization of the Man self-development in ontogenesis, the essence of which is objective action, we should consider the history of the intercourse as the psychological content of the forms of objective world of culture. Then the history of development of the culture objective world may be

represented as the succession of epochs of change of the intercourse types. Historical logics of the change of types of intercourse may be laid into foundation of ontogenetic law of change of objective action types. It is possible to speak about the following types of historical intercourse: emotional, intuitive, rational, creative.

As the internal logics of objective action development is the logics of change of its historical types of mediation, it is possible to single out the following historical types of mediation, which are adequate to corresponding historical types of culture (magic, mythological, rational, historical) [217] [218] [219] [220] [221]. Historical types of objective action correspond to these historical types of culture: *Sensory-mediated*, *perceptionally-mediated*, *symbolically-mediated*, *historically-mediated*. The vector of change of historical types of action is the “vertical” vector of self-development, the vector of formation of historical types of action is the “horizontal” vector of self-development [20, p.58].

Sensory-mediated objective action is the totality of separate sensory actions, transforming the initial reality into a qualitatively new well-ordered variety of subjects, possessing the common property.

Perceptionally-mediated objective action is the structure of perceptive actions, transforming the initial reality into a quantitative well-ordered variety of objects, possessing the common structure of properties.

Symbolically-mediated objective action is the system of symbolic actions, transforming the initial reality into the formal classes of objects, possessing the common objective forms.

Historically-mediated objective action represents the history of generative actions, transforming the initial reality into qualitatively substantial classes of objects, possessing the common logics of origin of objective forms.

As self-development is the method of change of the initial historical type of mediation, at the expense of creation of media-

tion of a new historical type, transitions between the stages of development are implemented by the schoolchild himself at the expense of implementation of the creative action. If the objective action is the method of recreation of objective culture, then the creative action is the method of production of the history of objective actions. Sensory-mediated objective action is the subject of creative action. Perceptionally-mediated objective action is the object of creative operation. Symbolically-mediated objective action is the object of creative action. Historically-mediated objective action is the object of creative life-sustaining activity.

Each historical type of objective action, created under the conditions of “vertical” vector of development after its emergence, forms under conditions of “horizontal” vector of development. Besides, the form of objective action, which emerged earlier, doesn’t disappear at the next stage of its development, but integrates into the structure of objective action of a new type with the account of a new historical quality. Taking the above-mentioned into account, the common conceptual scheme of self-development stages, as the production of objective actions, may look in the following way.

- 1.1. Sensory form of sensory-mediated action
- 2.1. Sensory form of perceptionally-mediated action.
- 2.2. Perceptive form of perceptionally-mediated action.
- 3.1. Sensory form of symbolically-mediated action.
- 3.2. Perceptive form of symbolically-mediated action
- 3.3. Symbolic form of symbolically-mediated action
- 4.1. Sensory form of historically-mediated action
- 4.2. Perceptive form of historically-mediated action
- 4.3. Symbolic form of historically-mediated action

The periodization of self-development, presented above, is the expression of a well-known dialectical spiral of development. Here, each “horizontal” coil adds a stage of the action formation. This takes place because on each step of “vertical”

development a new mediating form emerges, which builds over the previous ones and changes their qualitative determination.

“Vertical” development takes place as a result of creation of the ideal form of the objective action of a new historical type. The new ideal form emerges at the beginning as the singular. In the process of horizontal development, in the process of formation, it becomes generalized and adequate to its content. When the ideal form as a result of its generalization (formation) coincides with its content, horizontal development accomplishes, and a new cycle starts, but already on a new qualitative level.

The logics of “vertical” development represents the logics of the production of a new mediating form of the objective action, expressed in the succession of the following steps.

First step. The construction of a new objective form at the expense of correlation of the perception image of a new objective form and the reflexion of history of the objective forms development.

Second step. Imparting the meaning of the form of objective action to a new objective form as a result of testing of the form of objective action in the process of building up relations between the form of objective action and objective form.

Third step. The meaning of the objective form is fixed in a word meaning as means of communication. *Fourth step.* The meaning, fixed in the word, serves as the psychological means of “horizontal” development (formation) of a new objective action.

The logics of “horizontal” development is the logics of the production of a new structure of the objective action with the help of meaning of a new type as psychological means, expressed in the succession of the following steps.

First step. To realize the problem of one’s own action.

Second step. To realize the need of changing the old way of action for a new one with one’s own forces. *Third step.* To formulate the definition of a new form of objective reality. *Fourth step.* To formulate the definition of a new form of objec-

tive action. *Fifth step.* To formulate the criteria of the objects, possessing a new form. *Sixth step.* To formulate the method of adjustment of the objects, possessing a new form. *Seventh step.* To formulate the method of the formative action. *Eighth step.* To formulate the methods of control and assessment of the results of the formative action. *Ninth step.* To formulate the criteria of control and assessment of the results of the formative action. *Tenth step.* Joint creation of means and methods of the joint formative action. Joint distribution of the tasks of individual formative actions. Mutual check of results of individual formative actions. *Eleventh step.* Joint creation of joint result from the results of individual formative actions. *Twelfth step.* Mutual assessment of results of formative actions. *Thirteenth step.* Joint assessment of the result of the formative action. Joint creation of the model of the formative result. Joint assessment of methods of individual formative actions. Joint assessment of mutual assessments of methods of individual formative actions. *Fourteenth step.* Application of the model as the means of mutual assessment of individual formative actions of schoolchildren. *Fifteenth step.* Joint analysis of the aim of formative action. Coordination of individual action processes. Individual assessment of one's own assessment of the other's individual action. Joint assessment of joint self-assessment of joint action. *Sixteenth step.* Joint formulation of the aim of the formative action. Individual creation of means and methods of formative action. *Seventeenth step.* Individual self- assessment of one's individual action in joint action. Individual assessment of joint action. Individual assessment of one's own self-assessment. *Eighteenth step.* Individual creation of means and methods of formation action. *Nineteenth step.* Individual creation of the model of the result of formative action. *Twentieth step.* Individual analysis of the aim of formative action and formulation of tasks of formative actions. *Twenty first step.* Individual formation of the aim of formative action.

Specific feature of all available conceptions of development in modern psychology (and one of the main problems in modern psychology) is that all of them are the conceptions of “horizontal” or (“functional”) type of development [213]. The analysis of the fundamental psychic mechanism, which underlie these conceptions and serve as the mechanisms of acquisition of social experience, may become the proof for this assertion. There are two basic mechanisms: the mechanism of causal mediation and the mechanism of sign mediation.

The mechanism of causal mediation (“external causes through the internal conditions”) (S.L.Rubinshtein) in their nature are not the mechanisms of origin of a new quality (new content). The essence of the mechanisms of causal mediation is the translation of the form along the chains of inductive reflection [213].

The leading component in the mechanism of causal mediation is mediation of the external causes by internal conditions.

Internal conditions of all historical types of interaction (physical, chemical, biological, social) serve as the main criterion, stipulating the possibility of interaction and mutual reflection. Proceeding from this, only those objects can enter interaction, which possess the adequate forms (only those object which possess physical form, may enter physical interaction; those, possessing chemical form, enter the chemical interaction; those, possessing biological form, enter biological interaction; the objects, possessing social form (subjects), enter social interaction).

This means that the possibility of causal mediation, as the mechanism of interaction, is determined by the form of the cause and the object. If these forms are inadequate, the mutual reflection doesn't take place and interaction is not implemented. Any interaction is the mutual effect of the form of cause on the form of the caused object, as result of which the form is generalized.

In the process of causation and inductive reflection stipulated by it, which facilitates interaction, new forms are not produced

(don't emerge). The forms, which existed before interaction, and served as the criteria of interaction possibility, are generalized, i.e. they acquire the more generalised and more adequate form. Consequently, causal mediation as the mechanism of internal reflection, representing the mechanism of transmitting along the chains of causation, cannot be regarded as the mechanism of "vertical" development (as the mechanism of origin of new forms). It represents the mechanism of inductive formation, as a result of which the initial subjective form (internal conditions) is more and more generalized in the logics "from the singular to universal". Such formation is referred to as "horizontal" (or functional) development.

The mechanism of sign mediation (mechanism of mediation of the objective ideal form by the subjective ideal form), in its nature, is not the mechanism of new forms production, either. The essence of the mechanism of sign mediation is the translation of the objective ideal form on the subjective ideal form of the objective action in the process of deductive reflection at the expense of imitation [213].

This means, that the possibility of sign mediation as the mechanism of deductive reflection is determined by the relation of adequacy of objective and subjective ideal forms. If the ideal forms are inadequate, deductive reflection won't take place, and objective action won't be fulfilled. If the ideal forms are adequate, deductive reflection takes place, and objective action is fulfilled.

In the process of objective action, implemented by a mechanism of deductive reflection, new forms are not produced. Subjective ideal form (personal sense), existing before the objective action and serving as the criterion of the objective action possibility, forms (generalizes) as a result of appropriation of the objective ideal form. Consequently, the sign mediation, as the mechanism of deductive reflection, facilitating the objective action implementation, cannot be regarded as the mechanism of vertical development (as a mechanism of new forms origination). It

represents the mechanism of the deductive formation, as a result of which the initial objective form (ideal form of culture) concretizes increasingly in the logics “from the abstract to concrete”. Such formation is also the “horizontal” (or functional) development.

Thus, neither imitation by a mechanism of inductive reflection, nor imitation by a mechanism of deductive reflection provides for the new forms production, but by their nature they are destined to reproduce the existing forms and, at the expense of either inductive or deductive reflection, to provide for their generalization, as a result of formation.

To resolve the problem of new ideal forms origin is only possible by having rejected the inner (social) nature of the Man and having accepted the thesis on the historical nature of the Man. If the social man is capable of appropriating the social possibilities and transforming them into the individual development determinants, the creative Man is capable of generating the individual development determinants and then, as a result of generalization, transforming them into social possibilities.

The Man, capable for self-development, can produce new forms of action. This means that in the single process of self-development, the production of new forms (“vertical” vector of self-development) is the leading, but the generalization of initial forms is the subordinate. The central theoretical problem of the development psychology is the problem of the new forms of action origin.

3.3.4. Production of Ideal Forms as the Means of Self-development Generation.

According to the main thesis of self-development conception, the man, in order to register the empiric fact, must, at first, create the adequate idea. The man, before coming to the production and analysis of new empiric facts, must rebuild his consciousness, create a new conceptual scheme, a new concept. In general, the Man as the subject of self-development acts and produces things according to those concept, which he constructs

in communication with other people. The man doesn't borrow these concepts, doesn't appropriate (assimilate) them from social reality, he creates them himself [211, p.269], because the required social reality hasn't yet existed, it must be built, constructed [116, p.27].

From the point of view of self-development conception, the main role in human ontogenesis belongs to creation by the man of a new social experience (sensational and rational), which is different from that, accumulated by the ancestral generation [210, p.193].

In the culture-generative education the process of the new social experience creation takes place as the process of generation of new meanings (knowledge) by schoolchildren themselves. In this sense, culture-generation is self-education. In his creative activity the schoolchildren under the guidance of the teacher create new knowledge, which, proceeds from the subject-objective nature, depends on the action of the schoolchild in a sense, that it must emerge only as a result of the generative action of child himself [222, p.83-96].

Self-education, representing the main means of origin of the new knowledge as a result of generative action of the schoolchild, is connected immediately with conceptualization of a new empiric situation and the following confirmation of the created conception. Self-education is understood as the independent creation by schoolchildren of new knowledge in the form of new meanings. Creation of new meanings by schoolchildren constitutes the essence of self-education (culture-generation).

Peculiarity of self-development conception consists in the fact that creation of new concrete knowledge is based on the preliminary created abstract knowledge. Concrete knowledge is deduced by schoolchildren from the abstract knowledge as its single basis, established in the form of hypothesis in a problem situation by schoolchildren themselves.

Therefore, it is necessary to start and further implement self-education (as culture-generation) from the problem situation,

from the conflict between new empiric reality and previous conceptual knowledge. As a result of the problem situation solution, the former abstract knowledge, out of which, as from the common foundation, the concrete knowledge is deduced, which provides foundation for a new empiric production, turns into new abstract knowledge.

Peculiarity of the culture-generative self-development process consists in the fact that, the process of self-development starts with setting a problem situation, the means of which are the produced new possibilities (new conceptual knowledge, new type of meanings). These new possibilities act as the determinants of self-development, taking place as the transformation of new possibilities of the objective action into a new reality. The process of new forms development is the central component of self-development and it represents the method of creation of self-development determinants of the Man as the creative entity. Man self-development is completed with creation of a new social experience, the content of which are the meanings of a new type, and the form are the sign systems of a new type [116, p.94].

Culture-generation is one of the main factors of pedagogical action [146, p.14] alongside with setting a problem situation, organization of independent creation of ideal forms, generation of new objectivity with the help of the ideal form as the means, etc. Culture-generation is the internally essential moment of organization of the process of self-development of the child's creative abilities of the historical Man. The result of the culture-generation action, in the course of which the production of new knowledge takes place, is the creation of the new determinants of its self-development [116, p.30]. Self-development is implemented under the conditions of special creative action for the new human abilities creation. From the very beginning this action is implemented under the conditions of special creative intercourse of schoolchildren organized by adults. If ability be-

comes the object of creative action, one can speak about self-education as the universal form of self-development.

The content of self-development is the qualitative changes, taking place in the structure of objective action in transition from its one historical type to another and in the structure of abilities, facilitating it. For instance, with the intuitive type of objective action the main ability is intuition, and with rational type of objective action it is reflexion. Peculiarity of creation of the new abilities is, that it is implemented by a schoolchild in his joint action with the other schoolchildren, organized by an adult. The schoolchild accomplishes the act of self-development, constructs a new type of his own consciousness only in cooperation with other schoolchildren. The new historical type of consciousness appears as the “intersubjective object” of the joint creative action, the culture-generation being its method of organization.

The main condition of the generation of social experience by the schoolchildren is creative communication. It initially emerges as the necessary and universal condition of joint creative action organization. The Man self-development takes place by means of creation of new historical forms of consciousness. Such self-development accomplishes as the transition from the previous historical form of objective action to its new historical form as a result of joint creative action. This transition is the process of transcendence over the previous historical form of reflexive consciousness as a result of creation of its new historical form [214].

In the process of production of new historical forms of objective action the schoolchild, in communication with people, creates new forms of human culture and in the process of such creation develops himself as a creative Man [116, p.22]. The role of commonness changes cardinally in the process of the schoolchild self-development. It consists in the fact that a new type of psyche is produced, in the beginning, in the intersubjec-

tive form, which is later transformed in the individual psyche of each pupil.

Creation of new historical forms of objective culture is carried out in the course of joint creative action of schoolchildren, the essence of which is production of the new forms of reflexive consciousness as the fundamental psychic ability [112, p.117]. The result of this process is the production of one's own abilities as the new universal human abilities.

In the process of culture-generation each man creates new means and methods of consciousness. The ability to creatively act in the problem situations is not given to the Man initially. Therefore, the creative action is formed simultaneously with a new type of reflexive consciousness. Only in this case it is possible to create a new objective reality of culture. These transitions are fulfilled by means of culture-generation.

On the one hand, there emerges and forms the special "self-creative" action of the child, on the other hand, he produces, on its basis, the new historical forms of the reflexive consciousness as his basic ability. These two processes constitute the common form of the child's self-development.

Creative nature of the Man supposes that each member of the historical society must prepare himself to be able to create new abilities and relevant new norms of social joint activity. Creation of socially meaningful abilities by the individuum is the special (creative) action, the objective task of which is the production of the humankind abilities in the form of the individual abilities production.

The reality of creative human abilities is the history of objective (material and spiritual) culture. Therefore, creation of new abilities is the creative action of the Man himself in creation of the new objective culture [116, p.28]. This action must be adequate to human abilities objectified in the new history of objective culture.

To objectify new abilities, to make them universal human abilities, the Man must become the creator of the objective culture,

and this is possible only through the other people, under the conditions of creative communication with them. Only in creative communication the Man can build the adequate creative action. Due to its function, such process is self-education.

The production of adequate methods of creative action for objective culture creation is possible only under the conditions of integrating schoolchild into a live communicative connection with the other schoolchildren and adults, who organize the culture-generation as the creation of methods of objective culture generation and, by this, facilitate the establishment of his ability to build and rebuild his own targets and norms.

As the creative action, by its nature, is the means of generation of psychological instruments (signs), the first stage of culture-generation (the beginning of generation) is the direct (real) communication of schoolchildren, organized by adults, under the conditions of which, the adult organizes the independent production by the schoolchildren of the very first, primitive signs.

Proceeding from the common logics of historical development, in the system of culture-generative education, on the foreground act, first, the situation which assigns the necessity of the child transition to a new historical form of the objective action, connected with the possibility to adequately act in the situation of a new objective culture, second, the situation of a new objective action creation.

The internal connection of culture-generation and self-development is expressed in the concept “historical space of possible self-development”. The main hypothesis supposes consideration of the culture-generation as the means of self-development.

Culture-generation is the factor, facilitating self-development, without which self-development would become impossible. Culture-generation, as the means of creation of new abilities (new ideal forms), is the factor of providing self-development with its determinants. As a result of application of

ideal forms of the objective action, created as a result of culture-generation as the means of self-development, the real form of objective action changes. It becomes adequate to the new objective situation, which makes it possible for the Man to effectively act under the conditions of the new objective culture. In this consists the fundamental role of culture-generation in self-development [223].

New ideal forms (new meanings) assign the historical space of possible self-development and act as new possibilities (determinants of self-development). Reflexive consciousness, turning the new possibilities of objective action into its new action, completes the qualitative self-change of the objective action, completes the act of the Man self-development [116, p.22].

From the point of view of self-development conception, creation of new ideal forms is supported by the processes of transcending [224].

The sphere of transcending processes sets the historical space of possible schoolchildren development. The optimal terms of culture-generation as creation of the new ideal forms are set by the historical space of possible self-development.

If the required (potential) ability to create new ideal forms exceeds the existing (actual) ability, then the necessity to create new ideal forms (new meanings) becomes the decisive factor in child self-development.

Self-development, implemented in the process of culture-generation as a result of transcending, is the transformation of the previous historical content of the psyche into its historical content. Transformation of the previous level of actual development into historical space of possible self-development constitutes the essence of self-development of the schoolchild [116, p.26].

The conception of self-development is the method of integration of the Man into the historical process of the objective world (nature) self-movement as its source. The conception regards the man as the internal force of nature, the internal source of its

self-movement. The Man with his creative action produces new possibilities and transforms them into the new reality. New possibilities of nature emerge as possibilities of the Man (human action) as a result of problems resolution. This gives ground to speak about the new creative psychology of self-development as one of the variants of the new fundamental psychology [225, p.153] [226, p.423].

The “vertical” (age-related) vector of self-development is the qualitative self-change (self-construction, self-forming) of the Man. Such self-change takes place at the expense of creation by the Man himself of his possibilities. Human possibilities exist as the ideal forms of his action. Therefore, the problem of origin of new possibilities is the problem of the ideal forms origin. Ideal forms, produced by the Man, are psychological means of self-development, the means of his qualitative self-change. Self-development is the self-determining development, i.e. the development, which takes place as a result of his own development.

Conclusions on the third part.

Creative mediation (creative reflexion) is the basic mechanism of the production of ideal forms as “internal” determinants of creative action, as the forms in which the Man self-development takes place.

Self-development is understood as qualitative self-change of the Man at the expense of his production of the new historical forms of objective action. The history of objective culture development serves as the means of self-development. All historical forms of objective culture (past, present and future) are united by the common manner of origin—creative action and the mechanism of creative mediation (creative reflexion).

The types of meanings, produced by corresponding objective actions (sensory type of meaning – sensory scheme, perceptive type of meaning – perceptive structure, symbolic type of meaning – the logics of the forms recreation, historical type of mean-

ing – the logics of the forms production) serve as the criterion for distinction of historical forms of the objective culture.

Integrity of the history of objective world culture is supported by the creative action as the universal means of self-development. Creative action as the universal ability of the Man is the essence of self-developing objective world and, at the same time, is the essence of the self-developing Man as the subject of creative action.

Universality of the Man as the subject of creative action is determined by the relation of the method of the individual subject self-development and the method of the objective world self-development. The Man, as the universal subject, acquires the property of universality because he produces the ability, common for the objective world and all individual subjects, which is the creative action at the expense of construction of the logics of culture-generation (historical sense of the objective culture history). Universal Man produces the common in the single form.

Determination of the objective world self-development as the transition from its one historical form into another may be only “internal”. Therefore, self-development is possible only under the conditions of the creative action, the essence of which is generation of new determinants (ideal forms) of creative action. The aim of creative action is the ideal form with the help of which, as the psychological means, the objective world of the new culture generates. Creative action is the means of production of new meanings and with their help, as psychological means, the production of signs.

The Man, as the subject of creative action, generates himself as the subject of the objective action as a result of the creative mediation. Self-development mediating creative action as the ability to transform the previous ideal form of objective action into the aim of creative action, is the main ability of the universal Man, required for his self-development. The Universal Man

by his creative action produces the historic reality as the integrity of subjective and objective realities.

The main peculiarity of the Man as the subject of creative mediation (as a subject of creative action) consists in the fact that, possessing historical consciousness, he produces the ideal forms, due to which he becomes the creator of his own history as the history of the objective culture, sociality and history of the objective world.

The Man as the subject of creative mediation is the producer of the ideal form, which he, himself, generates as a result of creative activity and, therefore, he is able to transcend its limits and boundaries.

From this point of view, self-development of the universal Man is determined by the ideal form, which he builds himself (creates, proceeding from his consciousness and his will), therefore, creative determination of the Man has its form. In this case the processes of self-development become the processes of the Man origin [82, p.134].

4

4. Theoretical and Methodological Background of Experimental Self-Development Organization.

4.1. Cooperative Educational and Cognitive Action as the Form of Ideal Forms Appropriation.

Modern Psychology views the individual development of the schoolchild in his reaction to education, which is implemented through organization of educational action of schoolchildren. Learning is understood as the acquisition of new possibilities which exist in nature as ideal forms. This point of view is shared by, practically, all academicians and practical workers in education, irrespective of their theoretical preferences and terms they use.

Irrespective of how the connection between education and development (if such connection is recognized) is presented, development has always been regarded as determined by the cultural ideal forms. Such thesis is typical for both the conceptions, asserting the leading role of education in the psychic development (culture-historical conception), and for the conceptions, which consider the education processes as coinciding with development processes (socio-reflectory conceptions).

Both points of view, including all possible psychological conceptions of development (education), proceeds from the fact that the Man adopts new possibilities, appropriating them from the social reality, or by mechanism of causal determination (reflectory conceptions of the psyche), or by the mechanism of target determination (culture conceptions of the psyche) [227, p.67] [228, p.580] [229, p.585] [230, p.13-36].

From this point of view, the educational action of schoolchildren is the method of appropriation by the schoolchildren of the objective ideal forms of culture organized by the teacher. Such scheme of subjective ideal forms origin sets (determines) a quite definite character of development. Exactly, the development, stipulated by education, based on the scheme of ideal

forms appropriation, as the determinant of individual development, possesses the “internal” nature. The “internal” nature of development expresses the way of origin of the development determinants and their nature, i.e. under the conditions of the “external” development the determinants of development are not produced by the schoolchildren themselves, they are appropriated by them.

In connection with this, the technologies of teaching, available in Psychology, represent the methods of organization of appropriation by schoolchildren of the ideal forms as the new possibilities and determinants of the “external” development and by their nature cannot be used for self-development organization. At the same time, the technology of self-development organization cannot be created without critical analysis of the available technologies of teaching. One of the most preferable and well-known modern technologies of organization of the “externally” determined development is the technology of developing education (D.B. Elkonin – V.V. Davidov).

In our opinion, the technology is the necessary initial moment for substantiation of the dynamic structure of cooperative creative action as the means of self-development organization. The analysis of dynamics of educational action structure as the object of technology of the developing education organization makes it possible to pass to the construction of creative action dynamics as the object of self-development organization technology.

The structure of the cooperative educational activity.

Can be deduced from the structure of the objective action [231, p.33], which serves as an object of appropriation under the conditions of culture-consuming educational process.

Logics of appropriation forms in the situation of necessity of a schoolchild’s “entering” the actually existing modern objective cultural environment. Thereby, the educational action, which provides for the stage-by-stage, step-by-step mastering of

all components of the objective action, serves as the method of appropriation of the normative structure of objective action.

At the first step, the ideal form, which represents the common method of objective action, is appropriated. This reveals the specific peculiarity of genetically-modelling (deductive) method, which is based on the projection of the abstract component of culture, as universal, on the singular individual action of the schoolchild.

The structure of Cooperative Educational Cognitive Action.

1. Creation of the problem situation by the teacher.
2. Formation by the teacher of educational-cognitive motivation of the schoolchildren.
3. Formulation by the teacher of the targets (tasks) of educational-cognitive action of schoolchildren.
4. Demonstration by the teacher of the ideal form, appropriated by schoolchildren.
5. Modelling by the teacher of the ideal form appropriated by schoolchildren.
6. Organization by the teacher of learning by schoolchildren of the model of the appropriated ideal form.
7. Formulation by the teacher of practical tasks for their solution with the help of the appropriated ideal form as the psychological means.
8. Organization by the teacher of practical solution of the class of tasks, which psychological means of solution is the appropriated ideal form.
9. Control by the teacher (on the basis of his/her own criteria) of the correctness and result of the solution of a class of practical tasks by schoolchildren.
10. Assessment by the teacher (on the ground of his/her own criteria) of correctness of the method and result of solution of the class of practical tasks by schoolchildren.
11. Control and assessment by the teacher (on the basis of his/her own criteria) of the degree of appropriation of the ideal form.

12. Teacher's conclusions

The structure of the cooperative educational-cognitive action is profoundly worked out in the conception of developing education (Elkonin D.B. – Davidov V.V.). In this conception the content, structure and the structure of educational-cognitive action is deduced from the thesis that learning is adoption (appropriation) of knowledge and skills. [232, p.145]. The concept of educational-cognitive action is the derivative from the concept of “education”, which is the method of translation (delivery) of the social experience of the former generations to the new ones. The main peculiarity of the developing education conception, stipulating its leading position among the modern psychopedagogical conceptions, is that the content of educational action is theoretical knowledge, rather than any social experience [232, p.145]

The peculiarity of educational-cognitive action in the conception of developing education is that it forms in accordance with the method of reproduction of theoretical knowledge, which represents the logics of the “ascent” from the abstract to the concrete, rather than in accordance with the method of their origin [232, p.151]. Therefore the educational –cognitive action is determined by theoretical knowledge as the product of social action, which exists “ready -made” (as “theoretically abstract”) as a *pripori* in the social experience.

The essence of educational –cognitive action is that school-children don't create these theoretical knowledge, but appropriate it [232, p.152]. Therefore, by its nature educational –cognitive action is culture-consuming, and education should be built in such a way, that it would reproduce the historical process, which leads to the emergence of knowledge [232, p.152]. From this follows that in the concept of developing education the educational–cognitive action is not the method of new knowledge production, but the method of its reproduction as a result of education.

In the conception of developing education the educational – cognitive action is the schoolchild’s *need* in *educational – cognitive action* (appropriation action). The *need* in educational –cognitive action turns into the *motives of educational actions*, the content of which are the methods of theoretical knowledge reproduction [232, p.157]. The action of *acceptance* from the teacher (or, at much later stages of educational action – independent target) of the *educational tasks*, which presets the character of the following educational actions, as a result of implementation of which the schoolchild development takes place [232, p.157] [232, p.158] [232, p.159] [232, p.182].

Action of transformation of educational task conditions. As a result of this action the universal relation of the object under study is revealed, which later becomes the content of the relevant theoretical concept. Peculiarity of universal relation consists in the fact that, on the one hand, it is the reality of the transformed objective situation, on the other hand, it serves as genetically- initial foundation (source) of all special peculiarities of the integral object. The search of this relation is completed as a result of mental analysis. Peculiarity of this educational action is that initially this analysis has the form of the real objective conditions transformation. Therefore, this ideal action is initially fulfilled in the real form [232, p.182]. *Action of modelling.* As a result of this action, the universal relation, singled out in the real form, expressing the external peculiarities of the object, is fixed in the ideal (objective, graphic and in letters) form, reflecting the internal peculiarities of the object. The educational model, initially acting as the product of thinking, later becomes the means of thinking.

The action of transformation of the model of relation for the study of its peculiarities in the “pure sense”. As the universal relation in the model serves in its “pure sense”, the schoolchildren(students), transforming and reconstructing the educational model, study the properties of the most universal relation (conceptual abstraction). Action of the *construction* of the system of

special tasks solved by the common method. As a result of this action, the students transform the educational task into the system of special tasks, which are solved by the common method, mastered as a result of implementation of the previous educational actions. Action of *control*. Consists in establishing the correspondence of the remaining educational actions to the conditions and demands of the educational task. As a result of control, the student builds up the connection of the operational composition of action with the conditions of the task and receive result. The control provides for the completeness of the action operational composition and correctness of its implementation.

Action of assessment. Helps to find out, whether the common method of solution of the given educational task is acquired or not acquired (and to what extent), and whether the result of educational task corresponds or doesn't correspond (and to what extent) to their ultimate aim. Fulfilling the actions of control and assessment facilitates the students' formation of continuous correlation of their own action content and the solved task (reflection). Thus, educational action is the method of the reflexive consciousness formation [232, p.160].

It follows from the abovesaid that in the conception of developing action (learning) there is the process of appropriation (adoption) of the common method, representing the principle of any action organization. Peculiarity of such educational-cognitive actions is that the solution of the practical task is implemented only after appropriation of the common method (principle) [232, p.184].

Under the conditions of educational practice the educational –cognitive action passes three main stages of its formation.

First stage. The students, adopting a certain practical action, transform the practical task into educational –practical. To form the educational task into educational – practical, a number of preconditions are needed: division of the action object and those elements, which determine the way of its action implementation. These preconditions don't change the practical character of the

initial task, but make it possible to put the students before the need to find out the connection between the conditions and methods of obtaining the result, i.e. to single out in the action the intermediate target (task). If this aim is supported by complication of the conditions of task implementation and if its achievement becomes the main object of control and assessment of the teacher, it acquires the relevant independence.

Thereby, the primary task turns into educational-practical and in the practical action of the students there appears a new (cognitive) action. Under these conditions the students single out and intensively master the main educational actions – transformation of the given task situation and modelling [232, p.170]. Transformation of the primary practical task into educational –practical is only possible in the process of cooperatively-distributed action of the students and the teacher [232, p.176].

Second stage. Culmination moment is singling out of educational actions proper - integration of concepts into the action. As the educational actions are singled out as the components of the formed practical skills, the special problem is, when and how the concepts may be integrated into this process [232, p.177]. At the second stage the concept is integrated into the situation of educational-practical tasks, which changes qualitatively the content and psychological structure. In order to solve a special practical task, the student needs to investigate its conditions from the position and with the help of the integrated concept: to single out in the object the relevant elements, analyze their relations, etc. In other words, it is necessary to carry out objectively-transformational sampling and modelling. The connections, established between them as the components of solution, transform the educational-practical tasks into educational-investigative [232, p.178].

Third stage. Connected with the transition to the concept analysis as the developing system. Investigating the conditions of systematically expanding system of practical tasks, the student must deduce the system of concepts, which means the se-

paration in the action of an *educational –theoretical task*. As soon as the methods of the concepts separation are mastered, the psychological conditions and mechanisms of educational action are reorganized [232, p.178].

Cooperative educational action as psychological concept.

Methodological foundation of the concept “cooperative educational action” is the Marxists concept “cooperative action” [233, p.88], which is founded by the genetically initial concept “interaction” [234, p.305]. Interaction supposes mutual effect on each other of the interaction participants [234, p.305]. Thereby, the main characteristic feature of any interaction is the activity of interaction participants [234, p.306]. Activity is considered to be the essential characteristic feature of the Man as the highest form of development of the live material [234, p.306].

The main indications of cooperative action are the following: presence of common target and motivation (incentive for working together), subdivision of action into the functionally connected components and their distribution among the participants, uniting the individuals and individual actions and their consistent implementation, the presence of management, including self-management, common ultimate results, and also the presence of common space and simultaneously of implementation of individual actions [233, p.93]. As for the question of psychological structure of the cooperative action, it is the least worked out nowadays [233, p.94].

As the main mechanisms, facilitating the interaction, the author illustrates the mechanisms of the psychic contagion, imitation, infusion and persuasion [233, p.112], as for educational action, it is well to bear in mind that till nowadays the concept “educational activity has remained quite ambiguous” [234, p.192]. In recent time, however, the educational action is treated, proceeding from the action of all participants of cooperative educational action, as subject-subjective interaction, forming the integral subject, characterized by the commonness of aim [234, p.309].

In psychology, elaboration of the problem of social interactions and their role in education is based on the hypothesis of L.S.Vygotsky, J.G.Mead and J.Piaget, that social interactions play the decisive role in thinking development [235, p.10]. According to J.Mead, formation of the human “I” takes place in the situation of communication, and interiorization of the dialogue constitutes the source of its thinking activity [235, p.12]. In the end of the 70s – beginning of the 80s of the 20th c. the experimental investigation of the social interaction problem and education is transferred into class and concentrates on the study of the effectiveness of organization of interaction of the teacher and students, studentss themselves [235, p.19].

According to V.V.Rubtzov, the active role of the interaction itself as the mediating factor in the process of cognitive development excludes the passive position of any of the participants of the “teacher-student” interaction, and it is not correct to consider the mechanism of imitation as the central mechanism of learning. [235, p.15]. The author considers that the children can develop,as the result of social intractions, only when the actual level of their development corresponds to it, taking into account, that the actual level of development itself is the result of the previous social interactions [235, p.15].

In the author’s opinion, we are the witnesses of working out o the idea of education as the process of assistance and cooperative action. This being said, the main mechanism of this process is the mediation of cognitive actions by means of interaction of the participants thanselves. Therefore, exactly, the main problem is not “what to teach”, but “how to teach”, i.e. the organization of effective cooperative forms of educational action [235, p.16]. Experimental data make it possible for the author to assert that the socially-cognitive conflict of viewpoints of the individuals is the mechanism of development, not imitation [235, p.17].

Basing on the results of his experimental investigations, V.V.Rubtzov considers that the well-known psychological

structure of education action (D.B.Elkonin – V.V.Davidov) must be complemented. It must include the integration into action different models of action and their mutual cooperation, mutual modelling of the patterns of cooperative action, assigned by an adult, as well as communication and mutual understanding in the process of assistance and search for new methods of cooperative work organization [235, p.24].

Among the unsolved problems of cooperative educational action, V.V.Rubtzov mentions the problem of correlation of the group and individual forms of education, the problem of staffing the educational groups, the problem of consideration of individual peculiarities of students and some other problems [235, p.25].

G.A.Tzukerman thinks that the child cannot open the sense and method of action with any human instrument if the child is not familiar with its patterns. He can master these patterns only in mutual action with the grown up, the bearer of these patterns. In her opinion, the method (mechanism) of the objectively-actual cooperation of the child and grown up is imitation (action according to the pattern) [236, p.13].

She thinks that it necessary to distinguish between two types of new formation in the individual development of the child: the ones connected with new objectivity and the ones connected with mastering the new form of cooperation [236, p.20].

From this point of view, the ability to study as the strategic aim of modern education is the new formation connected with mastering a new form of cooperation [236, p.21].

The author thinks that the basis of educational action is the situation of cooperative decision of educational tasks by the child and grown up. Such cooperation becomes possible only when the educational interaction of the child and adult is commonly objective, when they have common task and common system of relations [236, p.42]. The author points to the discussion as the initial form of educational cooperation, under the

conditions of which the point of view of the child becomes possible [236, p.144].

T.V.Gabay considers that educational activity is the cooperative action, in which one of its participants acquires the experience..., and others create favorable condition for it, i.e. implement the whole sum of preparatory components of learning [23]. Her point of view rests on the position of L.S. Rubinshtein on education as an inseparable single process, which implements the bilateral and social in its essence processes of transmitting, communication and adoption of knowledge [23, p.122]. In connection with this, S.L. Rubinshtein called the teacher as the “transmitter of certain material, communicating it to the pupil” [237, p. 607].

I.I.Ilyassov shares the similar opinion and uses the concept “action of translation of the social experience” under which he understands the transmission of the experience to the young generation of people.

The education, which is understood as the action of the teacher, is looked upon as the first subsystem. The second subsystem of the translation action is “educational action” (or “learning”). This action is fulfilled by the students themselves and consists in the change of the content of the experience, adopted by them earlier [23].

V.Ya.Lyaudis remarks that, in modern Psychology the categories of interaction and cooperative action of the teacher and students are the least worked out, despite their fundamental role [238, p.49]. She thinks that cooperative educational activity represents the acts of interchange by actions, operations as well as verbal and nonverbal signals of these actions and operations between the teacher and students and among the students themselves in the process of learning action formation [238, p.50].

According to V.Ya.Laudis, the basis of cooperation action is sense and targets, realizing them, which form the unique semantic field of cooperative learning [238, p.50]. The aim of cooperative educational action of teacher and students is the forma-

tion of mechanisms of learning self-regulation, the acquired objective action, the effects themselves and positions of a personality in them [238, p.52].

V.Ya.Lyaudis differentiates the adaptive and productive types of teaching organization. The productive type is provided for by a different logics of the construction of content of the acquired action. In this case the students are positioned in the situation of getting the socially-meaningful and culturally full-value product from the very beginning of a new action adoption. In this situation the student faces the objective need for cooperation with the teacher and other students, orienting here, first of all, at the semantic side of the action [238, p.54]. The author considers that in the situation of productive cooperative action there emerges the optimal zone of realization of all possibilities, included into cooperation of the teacher with students and connected with education and personality self-management [238, p.55].

The similar approach connected with the semantic regulation of education action is worked out by Dzhakupov S.M. The author considers that the efficiency of educational process is the integral characteristic feature of the system of means of influence on the Man, the aim of which is the change of his psychic properties in accordance with the requirements of the society at a concrete stage of historical development [239]/

S.M.Dzhakupov considers, that psychological content of education is the mutually dialogical cognitive action, which forms at the expense of transition of the teaching actions into a single psychological structure in the course of interaction and communication of the teacher and students [239, p.8]. Coupling and “binding” of the initial, individual and multidirectional by their form senses, motives and targets of the actions of teaching and learning are proposed as the mechanisms of the formation of the cooperative dialogical cognitive action [239, p.26]. Thereby, psychological content of these mechanisms is not revealed.

On the other hand, dialogue organization is understood as first of all, the relation “the teaching – the taught”, the relation “the taught-the taught” being on the second plan [239, p.25]. This being said, the teaching action is looked upon as consisting of two components. On the one hand, transmission to the “taught” of the knowledge meanings, on the other hand, formation of their subjective relation to this knowledge by means of transition of their sense [239, p.43].

Dzhakupov S.M. bases his research on definition of cooperative action as the organized system of activity of interacting individuals, directed at the expedient production (reproduction) of the objects of material and spiritual culture [240, p.367] [241, p.353]. One of the main indications of cooperative action is the existence of the singular, common aim faced by the students [242, p.189-200] [243] [244] [245] [246] [247] [248] [249, p.106-123] [250, p.26-42] [251] [252] [253] [254] [255] [235] [233].

The authors remarks that under the specific conditions of education the cognitive aim, which is necessarily included into both the action of teaching, and the action of learning, acts as the common aim of the “taught”. According to S.M.Dzakupov, it, exactly facilitates the formation of cooperative dialogical cognitive action at the expense of synthesis of teaching and learning actions, necessarily interacting in the process of education [239, p.64]. This process of formation of cognitive by its content and cooperatively dialogical by its form action is implemented in the course of coupling and binding the aims, senses and motives of individual actions [239, p.47].

Conclusions. The analysis of the concept “cooperative educational activity” existing in the post-Soviet Psychology gives ground to think that all of them rest on Marxist understanding of cooperative action and cooperation. The category “interaction”, the psychological content of which is the mutual impact of interaction participants as its subject underlie the analyzed concepts.

The analysis of interaction shows that its internal facilitating mechanism is causal mediation (including, “external causes through internal conditions”). The abovesaid analysis of the mechanism of causal mediation showed that the process, supported by it, is the process of “horizontal” development (formation) which represents translation of the form along the chains of causation. Under the conditions of interaction the subjects of interaction serve as subjected to causation, and the cause is “external” by its nature, the factor independent from the subject. Therefore, interaction is not that fundamental category, with the help of which the problem of self-development as production of its determinants can be theoretically solved.

The mechanisms, which are proposed by the authors of the analyzed concept “cooperative educational action” [*psychic contagion, imitation, infusion and persuasion (A.A. Zhuravlyov); dialogue interiorization (J. Mead), social relations interiorization (L.S. Vygotsky); mediacy of cognitive actions by the methods of interaction of the participants themselves (V.V. Rubtzov); imitation (action on the model) (G.A. Tzukerman); mastering (T.V. Gabay); translation of social experience (I.I. Ilyassov);] actions exchange (V.Ga. Lyaudis); coupling and “binding” of individual senses, motives and targets of the teaching and learning actions (S.M. Dzakupov), are, by their nature, the mechanisms of social experience translation, despite the fact how they differ from each other externally. As it was illustrated above, the possibility of social experience translation is facilitated by the a priori knowledge the origin of which isn’t discussed in the limits of the analyzed conceptions.*

This means that the existing conceptions of the cooperative educational action, on the basis of the “interaction” category, describe the processes of individual development under the conditions of learning (education) as the processes of appropriation (assimilation) of the “external” determinants of individual development translated by mechanism of causal mediation. Thereby, it is possible to make the conclusion, that the models of co-

operative action, existing if Psychology, cannot be applied for the solution of the problem of production of individual development determinants. A new concept is needed, which would become the theoretical means of the problem of production of the individual development determinants.

4.2. Cooperative Creative Action as the Means of Production of the Ideal Forms.

We need such detailed analysis of educational and cognitive action (action of appropriation) and stages of its formation for substantiation of the conclusion of its empirical nature. Conceptions of developing education lack theoretical foundation of origin of the educational action structure, the necessity of such components, exactly, and special features of its dynamics in the process of ontogenesis. Besides, the conception of developing education looks upon educational and cognitive action (appropriation action) as the leading one only at a certain ontogenetic stage of development. This means that from the point of view of the conception of developing education, the process of “vertical” (age-related) development loses its integrity, breaks at each transition between the age-related periods, and there is no any universal action, connecting the human life together along the entire length of ontogenesis (the whole human life).

On the other hand, educational and cognitive action (the action of appropriation) as the subject-objective (cognitive) relation cannot be accepted as the theoretical means of solution of self-development problem as the method of independent production of new possibilities. A new category is needed which would express the universal nature of “age-related” transitions and act as the universal form of self-development, which becomes on each transition increasingly universal and increasingly “general”. Speaking in terms of the action theory, such universal action must be looked upon as the “leading” at all possible “age-related” transitions of the “vertical” development (between the periods of “horizontal” development), as providing for such transition from one stage to another, among the ages, as

providing for the change of “ages” along the whole human ontogenesis.

The nature of such category cannot be subject-objective (cognitive, gnoseological), as the subject-objective relation – is the method of consuming (appropriation) of new possibilities, but not their production. Therefore, the category “educational and cognitive action” doesn’t decide the problem of self-development. The nature of the necessary category can be only subject-subjective (generative, historical). This being said, the question is about the universal action as historical (subject-subjective) category, representing subjective (productive) attitude of the Man to himself.

This subject-subjective practical self-relation (creative action) is the method of production of the Man by himself (his own history as a subject) [256]. The history of objective culture serves as the means and product of creative action. Thus, creative action as historical category is the means of production by the Man of history of his existence, the means of change by the developing man of the quality of his existence.

The category of creative action is laid in foundation of educational technologies of self-development as the means of production of new possibilities. The main peculiarity of such technologies is their productive (generative) character. Technologies of production (generation) of possibilities, as compared to technologies of consumption (appropriation) of possibilities, must organize the individual practice as the practice of production of a new social experience, new knowledge as the means of new action [257].

Psychological foundation of the creative action, underlying the educational self-development technologies, is the relation of genesis, i.e. transformation of the objective action of one type into objective action of another type. Creative action is viewed as the universal form of self-development in ontogenesis. It expresses the culture-generative (historical) character of the Man.

Creatively acting man is the product of his own creative action. The history of objective culture is the product of creatively acting Man. The history of objective world serves as the aim, result and means of the creatively acting Man. Creative action is the practical relation of today's Man to himself in the future. Creative action is the method of the man transition from one qualitatively determined existence to another qualitatively determined existence.

The internal relation, constituting the creative action, is the relation of the "historical aim" and "historical result". "Historical result" of the creative action is the new history of the real form of objective action. "Historical aim" of the creative action is a new history of the ideal form of objective action.

Structure of Cooperative Creative Action as the Structure of Self-development Process.

The object of creative action is, ultimately, the history of objective culture. Creative action is the way of transformation of the objective culture of one historical type into objective culture of another historical type [3].

As the subject of creative action is the history of the object of culture (history of a sign), creative action can be only cooperative. Creative action as the reality of cooperative production of the sign can be constructed only simultaneously with individual action. In the creative action the cooperative and the individual represent a single system of "externally-internal" reality, where the "external" and the "internal" are the mutual determinants of each other.

This position is based on the idea of origin of the individual psyche ("internal") as the component of integral system only in unity with intersubjective form of the psyche ("external"), but not "earlier" or "later". It differs from the position on interiorization as the method of transformation of the intrapsychic ("external") into intrapsychic ("internal") [3].

Creative action, the ideal form of which is the intersubjectivity [258] (internal dialogue, according to Bachtin M.M.,

depth communication according to Batishev G.S., existential communication according to Slobodchikov V.I., communication “I”- “You” according to Martin Buber, intersubjective communication according to S.L. Rubinshtein), representing (according to K.Marx) the “method of Man production” [21, p.142] is the method of culture-generation (production of a qualitatively new objective culture) [18, p.51] [112, p.157]. Under the conditions of culturegenerative education, the situation of the necessity of creating a new objective action is assigned by the necessity to adequately act in a new situation of the objective culture, characterized by a new type of the ideal form [112, p.95].

With the first attempts to act in a new objective situation, there arises the problem of incompatibility of the required new real form of objective action and its previous ideal form. This problem is followed by the crisis (“age-related crisis”), the means of surmounting of which is self-development. A new type of cultural object (new type of a sign), which is the product of the creative (culturegenerating) action, serves as the means of self-development [3].

The objective component of the problem situation is the history of objective culture. The relation between the systems of the “new” and “old” cultural objects has the objective character and fully determines (assigns) the structure of creative action [3].

History of objective (subjective) culture as a temporal sequence of the systems of “new” and “old” cultural objects is the first and initial component of the structure of cooperative creative action, out of which the whole structure lines up. It is necessary to start lining up the structure of cooperative creative action, first of all, with fixation of the relation between the history of objective culture and its historical logics. The primary form of such fixation is emotional experience (sensual form of consciousness), which is the foundation for lining up the historical structure of creative action. As a result of constructing the relation between history and historical logics, the history ac-

quires historical sense and becomes the history-sign, determining the creative action, creating the new types of the objective (subjective) culture.

History-sign becomes the means of projecting the transition between the “previous” and “new” types of objective (subjective) culture. Objectivation of the genetic relation in the history-sign transforms the genetic relation into the means of constructing creative action [112, p.134]. As a new type of objective (subjective) culture is created by creative action, but reproduced by objective (subjective) action, the history-sign is simultaneously the means of creative action for constructing new objective (subjective) action. [112, p.60] [112, p.94].

As a result of creative action, the internal world of each participant of cooperative action cardinally rebuilds, the sign system of a new historical type is created. Having produced as a result of creative mediation the new objective (subjective) action, as a result of which the new culture is reproduced [112, p.95], the creative action may be considered fully implemented as it achieved its historical aim (Psychology of Development).

The structure of cooperative creative action may be deduced from the structure of the transition between the types of objective (subjective) action. The new type of objective (subjective) action serves as the object of construction under the conditions of culture generation process.

The logics of constructing the new type of objective (subjective) action is formed in the situation of the necessity to act in the objective (subjective) environment of a new type (under the conditions of a new context) [259]. Thereby, the creative action, which provides for the systemic creation of the components of the integral objective (subjective) action, acts as the means of constructing the structure of objective (subjective) action of the new type.

At the first step, the ideal form [260] of the new historical type is created, which represents the common method of action with the objects of a new type. In this reveals the peculiarity of

the method of creative experiment, which is based on creation of the abstract component of culture and its formation as the universal, as a result of intersubjective communication of schoolchildren.

Proceeding from this scheme, it is possible to propose the structure of the creative action, which is constructed for implementation of the process of creation of the new type of action.

1. Cooperative students' creation of the problem situation
2. Cooperative students' definition of the problem
3. Cooperative students' shaping of the cooperative creative action.
4. Cooperative students' shaping of the targets (aims) of the cooperative creative action.
5. Cooperative students' formulation of control and evaluation criteria
6. Cooperative students' construction of the ideal form of an objective (subjective) action of a new type (formulation of meaning).
7. Cooperative students' modelling of the ideal form of objective (subjective) action of a new type (meaning).
8. Cooperative students' research into the model of the ideal form of objective (subjective) action of a new type.
9. Cooperative students' formulation of practical tasks for their solution with the help of the ideal form as a psychological means.
10. Cooperative students' solution of class of practical tasks with the help of the ideal form as a psychological means.
11. Cooperative self-control
12. Cooperative self-evolution
13. Cooperative analysis and conclusions

The resultant structure of individual creative action.

1. Individual student's creation of the problem situation
2. Individual student's definition of the problem
3. Individual student's shaping of the cooperative creative action.

4. Individual student's shaping of the targets (aims) of the cooperative creative action.
5. Individual student's formulation of control and evaluation criteria
6. Individual student's construction of the ideal form of an objective (subjective) action of a new type (formulation of meaning).
7. Individual student's modelling of the ideal form of objective (subjective) action of a new type (meaning)
8. Individual student's research into the model of the ideal form of objective (subjective) action of a new type.
9. Individual student's formulation of practical tasks for their solution with the help of the ideal form as a psychological means.
10. Individual student's solution of class of practical tasks with the help of the ideal form as a psychological means.
11. Individual self-control.
12. Individual self-evolution.
13. Individual analysis and conclusions.

4.3. Creative Experiment as the Method of Organization of Cooperative Creative Action

4.3.1. Universalism as the Ability for Self-development

In working out the inductive (socio-reflectory) and deductive (culture-historical) conceptions of the Man development, expressing the social (cultural) nature of the Man, the ideas of universalisms, freedom and creativity paled into insignificance and were not used as they are [116, p.27]. As a matter of fact, the Man is the universal creature, who is constructing with this action the universum of the objective (subjective) world [177, p.38]. It is no mere chance that today the universalism of the Man is gradually becoming the psychological and pedagogical priority [116, p.119].

We are witnessing the formation of a new, prefigural type of culture [261, p.39], where the adults learn from their children. From this point of view, the pupil should be looked upon not as

a culture-consuming creature, but as a culture-producing creature [116, p.94]. Therefore, entering the culture, the Man must acquire not the cultural models, but the ability to generate and develop his culture [116, p.26].

We share the point of view that all universal forms of culture develop individually [18, p.140]. Proceeding from this position, the conception of self-development embodies the idea that not the socium is the subject of generation of the new, but the Man is [211, p.269] [210]. This means, that the problem of self-development must be decided, basing on the vector “from man – to culture”, but not on the vector “from culture – to man” [116, p.28], taking into account that social history of people is only the history of their individual development (K. Marx) [19, p.47].

Social development accomplishes in the form of individual development, in the form of individual self-development [19, p.47]. This means that the external world renewal takes place from inside the Man. Such external world renewal is the result of internal self-renewal [174, p.482].

The universal man, capable for self-development at the expense of culture-generation has neither internal, no external boundaries of his development. Such man is the universal transcending creature [209, p.6]. In this case, not the natural factors (needs, social aims, etc) serve as the determinants of creative actions, but his own life, created by him [115, p.105].

Mechanism of universal Man development is historical analysis and historical synthesis [8, p.46]. Historical analysis (historical reflexion) is directed into the past of the Man’s own development. Its object is the previous Man’s history of development. Historical analysis is replaced by historical synthesis (creative reflexion), representing the transcending of the past history as a result of constructing of the future history of development. That very depth mechanism of self-development is the replacement of historical reflexion by transcending [205, p.106]. This being said, the deeper the historical reflexion, the more massive transcendancy is [123, p.364].

4.3.2. Creative Experiment as the Method of Self-development Organization.

While discussing the topic of self-development, there arises, quite naturally, the question on the method of study and organization of self-development [262, p.5-26]. There are three types of experiments in Modern Experimental Psychology: natural-scientific, based on the two-member behavioristic scheme - *stimulus-reaction*, natural scientific based on the three member nonbehavioristic scheme - *stimulus-psyche-reaction* and culture-historical, based on the three member scheme *stimulus-psychological means –reaction*.

Natural-Scientific experimental method.

The central for natural-scientific psychology is the postulate of observability [263, p.231]. Behavior serves as the material for research [263, p.224]. In the quality of fundamental conceptual constructs natural-scientific psychology uses the environment, the system, and interaction of the environment and the system. The oppositions “Man and World”, “individuum and environment”, “active subject-the surrounding”, “personality -situation” are the concretizing of the common relation – interaction of the system and environment [264] [265] [266] [267] [268, p.129-143]. In natural-scientific psychology the psyche is the explanatory principle, i.e. Psychology studies the interaction with the environment of such systems, for explanation of which the concept of “psyche” is needed [269, p.8]. Relation of the system to the environment is determined as impact, action, act, the peculiarities of which are determined by the psychic reality. The impacts of the environment on the system have the extrapsychic determination, excluding the case when the nature of the environment is identical to the nature of the system (“subject-subjective” interaction as communication) [263, p.234]. By his impacts the system (man) produces changes in the environment, and the environment- in the system. Thereby, the interaction reduces to the exchange of impacts [263, p.234].

The viewpoint discussed above, gives ground to make a conclusion that the natural- scientific methods rests on nonbehavioristic relations *stimulus-psyche-reaction*. As this relation is understood in natural-scientific psychology as interaction, which is founded by the mechanism of causal mediation, it is possible to assert that the object of research, under the conditions of natural-scientific experiment, are the processes of formation (horizontal development) [270] [271].

The direct methodological result of nonbehaviorist scheme of interaction is the position that under the conditions of natural-scientific experiment the subject of research is the accomplished forms of behavior, which actualize and form under the impact of determining factors.

Nonbehaviorist schemes of natural-scientific experiment rest on the inductive method of development organization, which represents the general method of organization of reflectory action of reflection [272]. Reflectory action is determined by the real form of the social cause, representing the previous result of social interaction. Reflectory action transforms the previous result of social interaction into the image of reflection (the image of the past). In education the inductive method represents the system of pedagogical effects, implemented with the help of social means (socially meaningful objects), with the aim of formation of the reflectory action of reflection and internal conditions (subjective ideal form).

The result of inductive method is the formation of the psyche as the process and internal conditions, representing the essence of the social man (social personality). The primary aim of the inductive method is the creation of such a system of pedagogical effects, which leads to the maximum effect in formation of the action and provides for the formation of internal conditions. On the whole, the inductive method of development organization is the scheme of reflection, as a result of which the psychic development is initiated by the system of external effects and

represents the processes of formation of the reflectory actions, determined by the internal conditions.

One of the main components of development organization is the practical reflectory action, which is the method of transformation of the subjective ideal form (internal conditions) into the real form of the social result. Transformation of the objective real form of the cause, as the result of social interaction, into the subjective real form of the result is the reproductive process of psyche formation (reflectory action), which brings about generalization. This enables the Man to predict the future results of the reflectory actions and act with responsibility.

The inductive method permits to organize the development as the process of continuous reproduction of the relation of the system of social causes and the system of social results. The scheme of the inductive method insures that the sense of the reflectory human psyche formation is building up the correlation between the system of social causes and the system of social results at the expense of formation of the reflectory action of reflection. Internal conditions, which represent the generalized image of the system of objective external social effects, are the secondary subjective reality, determined by them and destined to become the means of the man's effective action in the social situation.

This implies that the developmental problem of the qualitative self-change at the expense of production of the determinants of one's own development, in the limits of the inductive method, cannot be even raised. In connection with this, the scheme of the inductive method cannot be used as the scheme of self-development organization.

Experimental-Genetic (Instrumental) Method.

L.S.Vygotsky proceeded in his reasoning from the idea expressed by Francis Bacon: "Neither bare arm, nor the mind left to his own resources have the large force. All is performed by tools and auxiliary means [p.12 Bacon F. Works, in 2 volumes. M., 1978, v.2" [273].

Exactly, L.S.Vygotsky was the first to make an attempt to analyze the psychological experiment from the viewpoint of activity and a testee as the subject of experimental action [274]. He remarked that all psychological methodologies, contemporary to him, were formed by the same scheme: stimulus-reaction, which goes back to W.Wundt.

The normative structure of the experiment, contemporary to L.S.Vygotsky, differed from the schemes of the first experiments only by understanding and application of the included components, but not by the formal structure. L.S.Vygotsky pointed to the fact that the scheme “stimulus-reaction” views the psyche of the testee as reactive, and reactivity characterizes the lowest psychic functions. He considers activity as the property of the highest psychic functions, therefore he emphasizes that the experiment by the scheme “stimulus-reaction” is identical to experiments in natural science and adequate only to the lowest psychic functions. In other cases the so-called “instrumental method” must be applied, which supposes the active interference of the man into the situation, his active role, behavior, consisting in integrating of the new stimuli [274]. Thereby, L.S.Vygotsky introduces the three member model of the experiment [263, p.252].

The scheme, we propose, has the universal sense. Here, the question is on replacement of the two-member scheme of analysis, generally accepted in Psychology in the 20s, by a new, three-member scheme, where between the stimulus and reaction, there appears the third, intermediary, mediating component - stimulus-means, or the psychological instrument. The pathos of L.S.Vygotsky’s idea consists in the fact that the indivisible three-member scheme is that minimal unit of analysis, which preserves in itself the main properties of the psychic functions [273].

The instrumental method puts forward a new point of view on the relation between the act of behavior and the external phenomenon. Inside the general correlation *stimulus–reaction*

(irritant)-reflex, put forward by the natural-scientific method in Psychology, the instrumental method differentiates the dual relation, existing between the behavior and external phenomenon: the external phenomenon (stimulus) may serve, in one case, as an object, at which the act of behavior is directed and solves a certain task the personality faces (to remember, to compare, to choose, to assess, to weigh up, etc), in the other case – as a means, with the help of which we direct and carry out the psychological operations, necessary for the task solution (remembering, comparing, choosing, etc.). In both cases the psychological nature of the relation between the act of behavior and external stimulus is absolutely different, and in both cases the stimulus acts differently, in an absolutely peculiar way determines, stipulates and organizes the behavior. In the first case, it would be correct to regard the stimulus as an object, in the second – psychological tool of the instrumental act [274, p.105].

Instrumental method is, in its essence, historically-genetical. It introduces into the study of behavior the historical point of view: the behavior may be understood only as the history of behavior (P.P.Blonsky) [274]. The instrumental method is the way of research into behavior and its development with the help of revelation of psychological instruments in behavior and the structure of instrumental acts, created by them [274, p.108].

The abovementioned views give reasons to make the following conclusion: the instrumental (experimentally-genetic, genetic-modelling) method rests on the scheme *stimulus-psychological means reaction*. It is very important to mention that L.S.Vygotsky himself, as it was illustrated above, considered that application of the psychological means doesn't change the reflectory nature of the psychic process. The role of the psychological means consists in imparting of the artificial trend to the natural process [274, p.104].

In connection with this it is necessary to make three important remarks. *First*. Three-member scheme of the instrumental method, proposed by L.S.Vygotsky, is, in fact, a variant of the

new-behaviorist scheme with the intermediate member. *Second.* In this sense, the concept “objective (subjective) action” proposed by A.N.Leontiev, is also the intermediate component in new-behaviorist scheme stimulus-action-reaction (G.S.Batishev). *Third.* Culture-historical Psychology understands history as the history of formation, not the history of origin, i.e. initially culture-historical psychology was created as the system of knowledge, providing for the “horizontal” vector of development.

The direct result of methodological new-behaviorist scheme of interaction is the thesis that under the conditions of genetic-modelling experiment the subject of research is the accomplished schemes of application of psychological instrument, actualized and formed under the influence of “external” determining factors.

New-behaviorist scheme of the genetic-modelling experiment is based on the deductive method of organization of individual development, which is the system of organization of objective (subjective) actions, implemented with the help of special means (instruments and signs), reproducing the objective (subjective) culture. Objective (subjective) action is determined by the ideal form of cultural object, which is the prototype of its future result. Objective (subjective) action transforms the image of the future into its practical result.

The result of deductive method is the formation of mediative (psychic) action with the help of which the appropriation of the objective ideal form is carried out. The product of such mediative action is the object, possessing the cultural meaning. The primary aim of the deductive (genetic-modelling) method is such organization of the objective (subjective) action, which brings about the maximum effect in the formation of mediative psychic action and facilitates the appropriation of the objective ideal form.

The main criterion of adequacy of the objective (subjective) action organization, determining the development by the me-

chanism of the internal from the external (interiorization), is the socio-cultural experience (objective ideal forms of culture), with the account of which all objective (subjective) actions must be organized. The exposure of peculiarities of socio-cultural experience, organization of the actions, peculiar to it, constitute the essence of the deductive (genetic-modeling) method of individual development organization.

On the whole, the deductive (genetic-modelling) method is the common scheme of reflection, under the conditions of which the psychic development is initiated by the system of objective (subjective) actions, reproducing the reality of actual objective (subjective) action and is the process of formation of the mediative psychic action, determined by the external forms of culture.

One of the main components of individual development organization is the practical objective (subjective) action, which is the aim-mediated method of transformation of the objective ideal form of culture into the cultural object, possessing the ideal form.

Transformation of the ideal form of culture as the objective image of the future result of the objective (subjective) action (motive) into the subjective ideal form (aim) of the objective (subjective) action, and its successive transformations into ideal form of a new cultural object, is the reproductive process of the formation of psyche (mediating the objective action), which leads to its generalization. This enables the Man to predict his future results of the ideal objective (subjective) actions and act with responsibility.

The deductive method makes it possible to organize the individual development as a process of the continuous reproduction of the relation of the objective ideal forms of culture and the system of the objective real forms of cultural objects. It follows from the scheme of the deductive method that the sense of cultural development (formation) of the man psyche is establishing the correspondence between the system of the cultural ideal forms and the system of cultural objects at the expense of the

objective (subjective) action formation. Internal aims, which constitute the projection of “external” ideal forms is the subsidiary reality, determined by them and derived from them, destined to become the means of the effective practical action of the Man in the reality of objective (subjective) culture.

And the conclusion from this is that the problem of psychic development, as the qualitative self-change as a result of independent generation of one’s own development determinants, in the limits of deductive conception, cannot be raised. Thereat, the scheme of deductive method cannot be applied as the scheme of self-development organization, as the qualitative self-change at the expense of the Man’s production of the determinants of his own development.

Method of Creative Experiment.

The necessity in experimental-creative method of self-development ,as a whole, is connected with the fact that today the subject of scientific research becomes the outpacing knowledge of the objective (subjective) world as the qualitatively changing (self-productive) subject, rather than acknowledging the knowledge of the objective (subjective) world as the recreating (reproducing) objective reality. The strategic aim of science becomes the anticipation of such forms of the objective (subjective) world, which don’t exist nowadays [275, c.22] [276, p.53].

Neither inductive, nor deductive methods are able to solve this task. Such method is needful, which explains and practically provides for the production of new ideas, rather than represents the means of practical confirmation of the a priori idea. This means that the primary moment of such method is not the ideas as they are, but the means of production of the ideas, which are later proved out in practice [277, p.14].

The methods which are destined to confirm the a priori ideas, must be changed for a qualitatively new method [278, p.190-194], predestination of which is the production of new ideas and aims [279, p.52-60]. Neither inductive, nor deductive method are predestined for the solution of such a task. For this task solu-

tion the experimental-creative method is appropriate. Experimental-creative method expresses the idea that the Man can only develop himself, and only such development (self-development) can change the Man himself and the society as a whole [21, p.67].

The main destination of the experimental-creative method in Psychology of Man Development (foundations of culture-historical approach) [116]. Experimental-creative method is based on the idea of self-development as the direct self-change of the subject of development, which doesn't coincide with the way of change of objective situation. [115, p.105]. Experimental-creative method proceeds from the assumption that the human psyche is the relation between historical forms of the objective (subjective) cultures. This method represents the special action of the Man, generating the new ideal forms (meanings, senses).

Peculiarity of the psyche, understood in this way, reveals completely in the situation of genesis problems, because the research into the psyche genesis must be based on the concept of historical development of the objective (subjective) world of culture [280], mediated by the creative action of the self-developing Man. The human psyche must be looked upon as the means of production of the new historical forms of the objective (subjective) world of culture [214].

Experimental-creative method is the method of organization of the production of new forms of the objective (subjective) culture with the help of the produced ideal forms as psychological means [281]. The possibility of new ideal forms production is theoretically grounded, proceeding from the historical nature of the objective (subjective) world of culture, and the Man as the source of its historical development.

In the real research practice the experimental-creative method of organization of the construction of new ideal forms (new meanings) and, with their help, of the new historical forms of the cultural method as the method of planning and organization

of psychological research [282] is needful because of two circumstances.

First, due to the fact that the method of ideal forms production cannot be deductive, because the deduction as the priory method is based itself on the a priori knowledge, which is not grounded by deductive means of projection of the a priori knowledge on the reality of empiric objects.

Second, due to the fact that the method of ideal forms production cannot be the inductive method, because the induction as the a priori method is based on the a priori knowledge, which is not grounded by the inductive means, and represents the means of transfer of the a priori empiric knowledge on the other empiric objects. Experimental-creative method removes the problem of the deductive and inductive methods, at the expense of the fact, that it views the objective (subjective) world as transforming from one historical form into another as a result of the creative actions of the Man, producing the new ideal forms as the means of his own self-development.

Experimental-creative method is the method of production of the new historical forms of the objective (subjective) world of culture with the help of the new ideal forms, producing it, as the means of its generation. Peculiarity of the experimental-creative method is that it is simultaneously the method of hypothesis production and the method of production of the empiric reality, adequate to them. Here, both the hypothesis, and empiric fact are the product of one and same experimental-creative method. If the natural-scientific method rests on induction as the relation of transformation of the facts one into another (expansion of meaning without the change of its quality) [283, p.321], if the genetic-modelling method rests on deduction as the relation of transformation of the a priori hypothesis into facts (demonstration of the available knowledge) [283, p.321], then the experimental-creative method rests on abduction (the relation of transformation) of the fact into the hypothesis (discovery of qualitatively new knowledge) [283, p.321]. Therefore, exactly, the me-

thod of experimentally-creative overcomes the restrictness of both natural-scientific method and instrumental (genetic-modelling) method, because it synthesizes in itself both methods and represents their qualitatively new unity. Here, the creative deduction is responsible for the emergence of a new knowledge, and creative induction is responsible for the formation of a new knowledge, i.e. its transformation from one singular form into another.

5

5. Experimental research on Psychological Peculiarities of self-Development Organization (with reference to the elementary school age).

The problem of research. The contradiction between the “external” nature of the determinants of socially-organized individual development process and “internal” nature of self-development determinants.

The object of research. Educational setting as the space for the students self-development.

The subject of research. Mechanisms and conditions of the student’s production of ideal forms of action as the means of self-development.

The hypothesis of research . If to replace the mechanism of ideal forms appropriation by the mechanism of the ideal forms production, it becomes possible to change the externally stipulated development into the self-development.

Special hypotheses:

- 1) Determinants of individual development in modern conceptions of ontogenetic development possess the “external” nature;
- 2) The psychic mechanisms of ontogenetic development (of causal and sign mediation) are the mechanisms of appropriation of “external” determinants. In connection with this, modern conceptions of ontogenetic development present only one (“horizontal”) type of development (formation);
- 3) The mechanism of production of “internal” determinants of development (self-development) is creative mediation. Self-development is implemented at the expense of production of the ideal forms (meanings);
- 4) The method of creative experiment, based on abduction (transformation of the available facts into new hypotheses) may be applied as the method of self-development organization;

5) The main index of the result of change of the mechanism of appropriation into the mechanism of production is the change of learning motivation from negative into positive.

Aim of research. To work out the educational technology of self-development organization under the conditions of the educational setting.

Tasks of the research:

- 1) To substantiate the “external” nature of individual development determinants in modern psychological conceptions;
- 2) To substantiate representation of a single (“horizontal”) type of development in developmental conceptions;
- 3) To substantiate creative mediation as the mechanism of the internally determined development (self-development);
- 4) To work out the creative experiment;
- 5) To conduct the approbation of the worked out technology under the conditions of real school education and prove the change of learning motivation.

5.1. Psychological foundations of self-development organization technologies.

We understand the educational technology as the system of basic principles and forms of organization of cooperative creative action as the means of production of meanings as psychological means of self-development.

The aim of the self-development organization technology is the formation of ability for creating new ideal forms as the means of constructing the new objective (subjective) actions [284] [285] [286] [287].

The main idea of the technology of self-development organization consists in the fact that the creative relation to the objective (subjective) world of culture emerges and exists simultaneously with the creative relation to another Man. This thesis is the interpretation of the well-known thesis that “only in relation to another Man, Man exists as the Man” (K.Marx, M.Buber, M.Bachtin, S.Rubinshtein, G.Batishev).

Technology of self-development organization rests on the analysis of the history of genesis of the objective (subjective) world of culture and analysis of the history of the objective (subjective) action genesis. The main principle of analysis is the “principle of immediate incommensurability of historical forms of cultures” (Paul Feyerabend). The logics of change of the types of objective (subjective) cultures and the logics of change of the types of objective (subjective) actions become the subject of the genesis analysis.

Technology of self-development organization is the means of organization of the transition from one type of objective (subjective) action to another at the expense of transformation of one type of meanings into another. Technology of self-developing organization is based on the unity of two logics: logics of genesis of the objective (subjective) culture (logics of the object) and logics of genesis of the objective (subjective) action (logics of the subject). The means of generation (production) of the objective (subjective) action is the creative action. Under the conditions of culture-generative educational process self-development, as transformation of the objective (subjective) action of the previous type into the objective (subjective) action of the new type, is implemented by the following general scheme.

The student is introduced into a problem situation, the content of which is the contradiction between the actual level (type) of objective (subjective) action and a new type of objective (subjective) culture. The common method of resolution of this problem situation consists in reconstructing the history of objective (subjective) culture, revealing the internal logics of the origin of objective (subjective) culture of a new type, applying this logics to the objective (subjective) action and, as a result, creating objective (subjective) action of a new type.

Transitions between the types of objective (subjective) actions, which constitute the object of self-development organization technology, represent the periods of qualitative self-change,

serve as the conditions (possibilities) of culture-generation. Culture-generative educational process represents the qualitatively changing process. The quality of the educational process is determined by the psyche properties, emerging and shaping in its conditions, properties of ideal forms, serving as means and products of such formation.

In ontogenesis there are four such periods of change of educational process, and a certain specific methodical system, possessing certain specific means, corresponds to each of them. Thus, the integral technology of self-development organization represents the changing methodical system, which, at each level of its development, solving the concrete tasks of the corresponding educational stage, simultaneously decides one and the same strategic task of transforming the previous type of objective (subjective) action into the following one, at the expense of organization of creative action as the means of production of meanings.

The meaning is created by students as a result of creative communication organized by the teacher. The essence of creative communication is creation of meaning as psychological means of constructing objective (subjective) action of a new type. The objective (subjective) action of a new type is created by the students as result of their cooperative creative action, organized by the teacher. With the help of the meaning, created as a result of creative communication, the new cooperative objective (subjective) action of a new type is constructed. As soon as the meaning has been created, it becomes the psychological means of formation and reproduction of the objective (subjective) action, and the object of creative action becomes the sign of objective (subjective) action.

From theoretical point of view, the production of a new meaning is possible as a result of the following considerations.

First, the objective foundation of creative communication, as the means of transformation of the meaning of the previous type into meanings of a new type, is the objective history of origin of

socio-cultural meanings. *Second*, the subjective foundation of creative communication is the history of origination of subjective (individual) meanings. *Third*, the means of production of new meanings is the historical logics of the meanings origin. Historical logics of meanings origination is the product of historical reflexion.

The history of subjective (individual) meanings origination, constructed in creative communication, acquired historical sense only in that case, when it becomes adequate to the history of development of objective (socio-cultural) meanings. The new meaning emerges in the image of hypothesis, representing the supposed ideal form of a new objective (subjective) action. Creative communication is the means of production of hypotheses.

Cooperative creative action, as the means of self-development, is the method of production of objective (subjective) action of a new type at the expense of transformation of objective (subjective) action of the previous type. The objective (subjective) action of a new type serves as the object of creative action. The aim of creative action is the ideal form of objective (subjective) action of a new type. The result of creative action is the real form of objective (subjective) action of a new type.

Generally speaking, the cooperative creative action is the system of the following fundamental creative actions. *Action of problematization*. The aim of this action is fixation of contradiction. The primary means of such fixation is expressing the contradiction between the required objective (subjective) action and actual objective (subjective) action. *Action on taking decision on the need* of a new objective (subjective) action. The aim of this action is the intention (motive) to solve the emerging psychological problem. *Action of correlation of real forms* of the previous and the new objective (subjective) actions. The aim of this action is the reproduction of subjective history of objective (subjective) actions. *Action of transformation* of the history of objective (subjective) actions into their historical logics. The aim of this action is the hypothesis formulation, i.e. supposition

about the logics of origination of a new ideal form of objective (subjective) action. *Action of transformation of ideal form of the previous objective (subjective) actions*. The aim of this action is application of the formulated logics to the subjective history of meanings for creation of a new meaning (ideal form of a new type). *Action of construction* of a new objective (subjective) action. The aim of this action is creation of a new objective (subjective) action with the help of the constructed new meaning (new ideal form). As a result, we receive a new objective (subjective) action as the product of creative action. All these creative actions are carried out under the conditions of psychological *self-control* and *self-evaluation (self-assessment)*.

5.2. Main Principles and Basic Forms of Self-development Organization.

5.2.1. Main Psychological and Pedagogical Principles of Self-development Organization

Cooperative creative action, as practical self-generation, is not initially provided as the objectivized scheme of students' action organization, as the pattern (norm) liable to appropriation, it is created by themselves, proceeding from the structure of the problem situation. Organization of cooperative creative action is based on the following fundamental principles.

1. *The object of creative action* is the history of objective (subjective) action of a new type, the construction of which starts with the construction of a new natural form of the object of culture (new objective meaning). Its psychological meaning is the ideal (psychological) form of objective (subjective) action. The ideal form serves as the psychological means of formation of reflexive consciousness, the means of objectivation being the criteria formulated by the students.

2. *Principle of independence of creative action*. Its peculiarity is, first of all, that it asserts the independence in formulation of aims and tasks, practical realization of the assigned tasks, creation of means and methods, as well as criteria of self-control and self-evaluation.

3. *Principle of common decision.* The conception of self-development expresses the intersubjective (according to S.L.Rubinshtein and G.S.Batishev) nature of self-development. New individual possibilities, as the means of qualitative self-change, may be created only is cooperation, if we treat each other as the aim of our own action, not the means. Solution of the genetic problem, as the transition onto a new level of development, at the expense of creation of new possibilities, as its determinants, may be created only together, only under the conditions of cooperative action.

4. *The principle of collective responsibility.* Following this principle gives possibility to initially assign the need for cooperative work, receiving the common result on the bases of common criteria. The principle of common evaluation (assessment) assigns the necessary external conditions of internal organization of cooperative action on the basis of common aim, common methods and common criteria.

5. *Principle of common criteria* is fundamental and system-forming. Following this principle makes it possible to facilitate implementation of the main task: to make one's own consciousness the object of self-generation (the object of creative action). This takes place at the expense of objectivation of reflexive consciousness in criteria, which become the subject of independent construction, formulation and practical realization.

6. *Principle of historicity.* Self-development is the means of generation of a new objective (subjective) action as a new method of the construction of the objective (subjective) culture reality. The possibility of qualitative self-change consists in the unity of historical logics of creation of the new objective culture and historical logics of self-generation. "Internal" logics of self-generation is the "internal" side of single logics of generation of the human world, and "external" logics of the objective (subjective) world of culture generation is its "external" side. Historical objectivity is, on the one hand, objective condition of self-

generation, on the other hand, is a product (result) of the creative action of self-generation.

7. *Principle of equal possibilities* is the principle of organization of creative action as the means of creation of the objective (subjective) action of a new type. In the process of creation the new historical form of cooperativeness each student is equal in his possibilities with the others. As the internal mechanism of creative process is reflexion, creative action can be carried out only as the process of equal creation and equal “estrangement” of cooperatively created possibilities.

8. *Principle of equal rights* is the principle of organization of the cooperative creative action, expressing the sovereignty and the right of each student to act the way he considers it necessary. In the aggregate with the principles of cooperative decision, common evaluation and common criteria it constitutes the system of principles, providing for the indispensable right of each student for his position, point of view and perspective of the way of cooperative organization. It is realized in the form of discussion, persuasion and compromises.

9. *The principle of action beyond actual possibilities.* Expresses determination of the creative action beyond the scope of actual possibilities of the available type of objective (subjective) action and the striving for continuous surmounting of the limits of one’s actual possibilities. It is the principle of organization of problem situations, the essence of which is internal contradiction between the actually available and potentially required possibilities.

10. *The principle of personal interest.* Cooperative creative action as the means of self-generation, supported by creation of history of objective (subjective) culture, as one’s own means, represents the reality, existing only at the expense of self-change of each student. The new type of objective (subjective) culture serves, on the one hand, as the fruit of intersubject efforts, on the other hand, as the means of individual self-change. As the essence of the creative man is his self-change, which takes place

only as cooperative self-change, each student is a personality interested in the construction of cooperative action and in creation of a new objective (subjective) culture, new meanings and new knowledge as the means of his own self-change.

11. Principle of personal knowledge. Cooperative creative action acquires the personal interest. Knowledge and meaning acquire the personal character, as it is the fruit and product of cooperative action to the same extent, as the product of individual action. It depends on each student, whether compatibility, culture-generation, self-development will take place.

12. Principle of the minority right. Expresses the deep democratic character of intersubjective creative action, which is expressed in the fact that neither action is possible (neither intersubjective, nor individual) without regard to each individual opinion, without participation of each student. This principle expresses the right of each student on his own point of view, and the teacher must organize the educational process with regard to different (and even alternative) points of view. The only method of adjustment of the polar points of view is persuasion and practice.

13. Principle of the right of one's own point of view. Proceeds from the abovementioned principles and represents the norms of culture-generative educational process, taking into account the polar points of view and providing for the normal educational process with regard to the polar points of view.

14. Principle of freedom of speech. Expresses the key dependence of each separate student and attaches the norm of organization of the educational process, which doesn't allow the teacher (or the majority) to ignore the opinion of a separate student and obliges the teacher to create such comfortable conditions for each student, under which he, by all means, possesses his opinion (his own point of view). He must be provided with the opportunity to express it, irrespective of his individual peculiarities. But each opinion must be taken into account on a compulsory basis in organization of the educational process.

15. *The principle of self-development* is the fundamental, basic principle of organization of culture generative educational process, expressing the main idea of creative education. Underlies all forms of independent action, which are the object of self-development organization technology.

16. *Principle of out-of-limits complexity of educational tasks.* Expresses the idea of transcendence as surmounting actual abilities at the expense of construction of new abilities. Transcendence is possible in the adequate problem situations, the means of solution of which are the new possibilities. Genetic problems are the problems, the possibilities of psychological solution of which can be constructed by the students themselves for the transformation of the objective (subjective) situations.

5.2.2. Basic Forms of Self-development Organization.

1. *Acceptance of problem situation as personal.* The form of organization of the acceptance of problem situation as personal is the historical digression with the goal of acquainting the students with the historical situations of real humankind problems, ways of realization of which as problem situations, let alone their solution, the people couldn't find in those times. The students are acquainted with the causes of emergence of such genetic problem situations, with concrete social conditions of their emergence and with the level of science development and scientific means at that time. The students get acquainted with the scientists of those times, who tried to solve these problems, their biographies, motivation for these problems solution.

Acquaintance with the historical problems retrospective gives possibility to each student to feel himself the necessary participant of the historical process and evaluate the historical significance of his own individual experience.

2. *Constructive discussion.* The universal form, due to its democratic character and commonality, is applied at the key stages of constructing the cooperative creative action, which are connected with creation of coordinated schemes, criteria and means of their realization. Exactly, as a result of discussion, there must be

coordinated (or clearly differentiated) the individual points of view and cooperative strategy of further interaction. The main principle of discussion organization is to reveal the point of view of each student and, on the basis of this knowledge, to organize the independent acceptance of the common decision making. This being said, the teacher must not push students, hint or prompt the decisions. And, therefore, the discussion organization consists in the fact that each student should have his own point of view and express it. Each student should participate in constructing the common for the whole group decision (rule, criterion, norm). The more thoroughly the discussion is organized, the more effectively the educational process, on the whole, will be organized.

3. Independent formulation of the problem. The effectiveness of the problem solution and the self-development practice, on the whole, depends on how adequately the problem is formulated in the problem situation. The problem formulation takes place in the form of discussion, and the most important thing is how much precisely it will be formulated, how much actively each student will participate in the problem formulation, how much personally this problem will be perceived by each student, and how much precisely the general problem formulation expresses its understanding by each student separately. The problem is the source of the students' creative action, therefore, the success of the problem formulation determines completely the success of the whole campaign for the further construction of new possibilities.

4. Independent hypotheses formulation. Solution of the problem is the means of creation of new possibilities (new ideal forms), i.e. how the new possibilities, new ideal forms will be created, and how they will be applied in practice as the means of creation of the new objective (subjective) action for creation of the new objective (subjective) culture. Hypothesis is the supposition about the method of transformation of the actual ideal form into a new ideal form. The new ideal forms emerge as the result of

application of the historical logics to the previous ideal forms. Therefore, formulation of the hypothesis or the goal, in the form of discussion, determines, as a matter of fact, the success, concrete direction and concrete result of the cooperative creative action.

5. Independent goals formulation. The goal, as the ideal form of the result of creative action, is the result of application of historical logics to the previous ideal form. Historical logics is assigned in the objective form by the relation of the real forms of the previous and the new of the cultural objects (signs). In order to apply this relation to the ideal form, it must be subjecteized. Transformation of the objective form of the genetic relation into its subjective form takes place as a result of historical reflexion. Application of the subjective genetic relation to the primary ideal form transforms it to the new ideal form (hypothesis).

6. Independent formulation of the task. The method of creative action realization represents the system of interbound creative actions. The goal of the creative action is the new objective (subjective) reality. The structure of the creative action is assigned by the structure of transition between the previous objective (subjective) situation and a new objective (subjective) situation. Each intermediate relation in this transition structure is the specific creative action, which has its own task in the creative action. The composition of action and its temporal succession (the structure of creative action) are shaped by the students themselves. Being aware of the actions to be completed, in order to practically realize the self-change, at the expense of transformation of the primary objective (subjective) action into the new objective (subjective) action, it is very important to clearly formulate the intermediate tasks, which would ultimately lead to achievement of the creative action target.

7. Independent construction of self-control and self-evaluation(self-assessment) criteria. Criteria are the reality of the reflexive consciousness, reproducing the ideal and real forms of the human action. They are the key means of organiza-

tion of creating an action, constituting, as a matter of fact, the whole creative action, imparting to it the integrity, cohesion and meaningfulness. The possibility of independent constructing of the criteria is assigned by the primary relation of the previous and new objective (subjective) situations. The objective form of history of the real objects forms, subjectivized into historical logics of meanings organization and applied as the means of reformation of the previous criteria, provides possibility for construction of new criteria. The independently implemented creative action of the construction of new criteria becomes the guarantee of success of the construction and practical realization of the whole act of self-development.

8. *Independent choice of the solution samples.* The primary form of criteria is the immediate sample (natural model) of the creative action result. For evaluation and self-evaluation it is required to choose the sample and establish it as the criteria for all students of the educational group. All students take part in discussion, and each of them, on a compulsory basis, expresses his opinion and reasons it. As a result of the discussion, one (or several) sample is chosen which is further used as the criteria of assessment of correctness of the fulfilled task for the whole class.

9. *Independent construction of the means of practical solution* takes place in the form of mini-discussion, which is organized by the students themselves in pairs (or other working teams). The character of mini-discussion and the whole work in mini-groups is assigned by the aim, which is formulated by the whole class as a result of macro-discussion. The task of mini-discussion is to determine the means, which by the opinion of the mini-group participants, corresponds to the objective (subjective) goal, formulated by the whole class. The achievement of the objective (subjective) goal is only possible under the condition of formulation and achievement of the psychological goal, adequate to it. The method of organization of the cooperative practical action for solution of the educational task by the

group serves as the psychological goal. The result of mini-discussion is the method of organization of cooperative action, formulated, coordinated and accepted by all mini-group participants.

10. Independent construction of the means for practical solution. This also takes place in the form of mini-discussion. Each educational mini-group chooses, finds or constructs independently the means of the practical training task, coordinated inside the group. Each mini-group participant may have different means, but proceeding from the assumption that each member is equally responsible for the ultimate result of the mini-group and makes his own unique and inimitable contribution into it, they must be coordinated.

11. Mutual Control. Cooperative creative action is built as the independent action on the basis of independently formulated criteria. Therefore, the mutual control acts as a system forming factor in organization of cooperative action. The need and significant importance of mutual control proceeds from the common goal and single responsibility for the common result of each student of the educational group. Peculiarity of cooperative work of the educational group is the necessary coordination at all and on the basis of the criteria, formulated by the group. Mutual control is the action of correlation of intermediate results of one's own and the other's action with the purpose of continuous correction of the methods of educational task solution. Mutual control is the method of correlation of the common intermediate task with the common intermediate result and individual intermediate results of one's own and the other's action. Mutual control is implemented in the form of mutual discussion, the result of which is the necessary correction of the methods of cooperative action, which is adequate to the established conditions.

12. Self-control. The success of fulfilling the cooperative action immediately depends on the success of each individual contribution. From this point of view, self-control is the constituting fac-

tor of both individual and cooperative action. Self-control is the relation of the current task and the current result of individual action, as well as the correlation of the current task of cooperative action and the current result of individual action. On the one hand, self-control is the derivative from mutual control, on the other hand, the individual action is impossible without self-control. Most probably, self-control and mutual control emerge i simultaneously and represent two mutually supplementing sides of one and the same action. Self-control is implemented in individual form, but its necessity, methods and results are preset by that commonness, the derivate of which is the individual action. On the other hand, commonness, the component of which is individual action as the product of commonness, determines the character of individual action.

13. Cooperative evaluation (assessment). Similar to mutual control. The difference lies in the fact that mutual evaluation is the correlation of ultimate goals and ultimate results of individual actions with the help of criteria as psychological means. It has a significant meaning as the leading form of emergence and improvement of self-evaluation, as well as the means of reformation and improvement of cooperative action and its performance. It is realized in mini-discussion, first under the direct control of the teacher (which reduces to problematization, drive for the independent finding of the solution at the expense of the search for a compromise, etc.), later the immediate control is replaced by mediated guidance, shifting to self-governance.

14. Self-evaluation (self-assessment). Similar to self-control. It is the obligatory component of self-control and represents an independent action. Represents the action of comparison of the ultimate goal of individual action and individual ultimate result, as well as comparison of the ultimate goal of cooperative action and ultimate result of individual action. It is the means of self-improvement at the expense of correction on the basis of the formulated common criteria. Implemented in individual form, first under the direct guidance of the teacher, and then becomes

more autonomous. In the limits it is formed into ability to independently construct one's own individual criteria and to practically act on their basis, irrespective of the other people's criteria.

15. Self-analysis. The object of self-analysis is establishing the relationships among the goal of action, the means of the realized action, the process and the result. Coincidence or discoordination of the goal and result serves as the basis for making conclusions on the character of the produced action. Self-analysis is realized as the component of mutual analysis (cooperative self-analysis) and represents the most significant link in preparation for organization of the next cycle of cooperative action. Implemented in individual form, at first, directly controlled by the teacher or another student, then in a more mediated form, passing into the autonomous individual regime.

16. Independent practical work. Represents the most important component of cooperative action, which is, on the one hand, the result of preparatory work in the ideal plan, on the other hand, is the means of approbation of the ideal form. Fulfilled independently by each student on his own. Cooperative character of action supposes continuous exchange of information, but the same as in the other forms of cooperative action organization, while fulfilling the practical part of the task, not a single participant of cooperative action can fulfill any practical work of the other participant. It is possible to convince, advise, appeal, discourage etc., but in no case one can fulfill practical task for the other. This thesis once again emphasizes the sovereignty of each participant of cooperative action and his right on his own, sovereign contribution into the cooperative result. This right is fixed both ideologically and technologically.

17. Independent construction of the common result of solution. It has the decisive role, as the performance and efficiency of work of the mini-group is determined by its result. From this point of view, not a single participant of the mini-group can present the result of only his own action, as the common result

will be deficient and won't be evaluated positively. Besides, not a single participant can orient at the quality of only his individual result, because even the brilliant result of one individual action, with the frankly bad result of the other individual action, will totally bring about the negative assessment of the aggregate result. Therefore, technologically each participant has to orient not only at the quality of his individual result, but to the same extent, he must orient at the result quality of another individual action. And only in the case when both individual contributions have the high quality, the result of cooperative action will receive a high mark. Otherwise, in any case, the result of cooperative action will always be evaluated negatively. The action of construction of the common result is central for organization of the whole cooperative action, which takes place in the form of mini-discussion, the aim of which is coordination of the common result and acceptance of this decision by all participants. Practically, the technology of the common decision construction is based on the rule of prohibition to fulfill the work for the other participant, in this case, to contribute one's result for the other into the common construction of the common decision. It can only be done by the participant himself, who received his result. The other can only convince, appeal, reason or deny the actions of the first one, but nobody has the right to fulfill the other participant's work, i.e. to include into common construction of the common result the individual result of the other participant.

18. Independent substantiation of one's own version of the supposed result.

This form of organization of cooperative action expresses the sovereign right of each participant on his own point of view. It is fixed technologically in such a way that if a partner doesn't accept substantiation, there won't be any cooperative result. Any participant has the right for his own point of view, assuming that the result of cooperative action must be common and assessment of each participant is the evaluation of their cooperative labour. All these conditions assign a rather contradictory

position for each participant, who has to continually correlate his individual and cooperative interests and constantly choose and search for a compromise between the individual and cooperative. When the cooperative becomes the form of development of the individual, and the individual becomes the form of development of the cooperative, the contradiction between the individual and the cooperative is resolved in favor of both cooperative and individual. If the participants don't see the possibility to resolve the contradiction between the individual and the cooperative, this will lead to such technological errors, which should be removed as soon as possible. It takes place in the form of mini-group discussion, the aim of which is coordination of all points of view and formulation of one, cooperative, compromise.

19. Conclusions. Represent the method of establishing relations between the ideal and real forms, implemented by the cooperative creative action with its historical mission. Conclusions give assessment to both the cooperative action itself as a whole and peculiarities of implementation of its separate components (action procedures), as well as efficacy of basic forms of organization. They give, at the same time the assessment of the work performance of the whole group, each separate participant, as well as the teacher as the organizer of the cooperative creative educational action of the group. As a result of conducted comparisons, correlations and assessments, the decision is made on introduction of necessary corrections and changes into the character of organization of the next type of creative actions.

Conclusions. As a result of analysis of the genetic-modelling method of organization of developmental education in conceptions of D.B.Elkonin-V.V.Davidov and correlations of the results of developmental education with the aims of this research, there was made a conclusion on the necessity of working out the creatively-experimental method, relevant to the aims and tasks of the research. In experimental research the creatively-experimental method directly embodied itself in cooperative

creative action of the students, the object of which is constructing the structure of perceptively-mediated objective (subjective) action. The special methodical system was worked out, which represents the totality of general and special methods, serving as the means of organization of cooperative creative action at different stages of its development. Methodical system itself was modelled in the form of main principles of organization of cooperative creative action and basic forms of organization of cooperative creative action.

5.3. Psychologo-pedagogical Project of Experimental Situations of self-Development

(Conceptions of experimental research.)

5.3.1. Transition between Sensory-mediated and Perceptively-mediated Actions as the Subject of Experimental Research.

First reason of choice of this type of transition as the subject of experimental research is the substantial difference of the processes of individual development of the psyche, organized as the externally determined development and internally determined self-development. From this point of view, the experience of “externally” determined ontogenesis is not only unhelpful in organization of “internally” determined ontogenesis, but interferes with it. Therefore, in order to avoid additional distortions of the research results at the expense of “overlap” of one logics of ontogenesis on the other, the experimental research should be conducted as early as possible.

Second reason of choice of this type of transition as the subject of experimental research consists in the fact that today the conception of self-development (as well as the conception of personality-oriented education and conception of developmental education) is not ready to answer the question about the primary stage of Man development, about his first ontogenetic step.

Third reason of choice of this type of transition as the subject of experimental research is that the elementary school age is the most investigated and normatively worked out period of on-

togenesis in pedagogical Psychology [288] [289] [290]. Exactly, on this period of ontogenesis focused their attention the well-known investigations of L.V.Zankov, D.B.Elkonin-V.V.Davidov, I.S.Yakimanskaya, M.I.Lissina and many other well-known investigators of the psyche genesis. Besides, the classical system of elementary education has built rather stable normative base, supporting the standard logics of acquisition of knowledge, skills and their formation. This provides a good opportunity to correlate the results obtained from the experimental research of peculiarities of self-development organization and standard results of classical organization of development at this age.

Fourth reason of choice of this type of transition as the subject of experimental research consists in the fact that there takes place the objective problem of Child transition from pre-school childhood into school childhood. Many authors point to spontaneous process of child psyche formation in pre-school age, which leads to the formation of its empiric type (e.g.: V.V.Davidov, V.V.Repkin, etc).

This type of psyche is known to be oriented towards the external, insignificant indications of the objective (subjective) world, perceived by a Child as significant indications. The Man, possessing the empiric type of psyche, is characterized by his ability to act in the standard (natural way, reproducing the spontaneously built structure of action, determined by external, insignificant indications of objective (subjective) world). Such man is successful in standard situations, but he cannot rebuild his action in a non-standard (“artificial”) way.

Connections between ideal and real forms of sensory-mediated (natural) action in case of empiric type of psyche possess “frozen”, “tough”, unambiguous and fixed character. This, exactly, prevents the Man in the problem, non-standard situations from flexible rebuilding these connections into relations, depending on changing external conditions.

Spontaneous (empirical) character of formation of the objective (subjective) action leads to the fact that the action is fulfilled on the basis of the trite schemes, which the child cannot change independently in a new, non-standard, problem situations. In the situation of classical education, which is built on the processes of appropriation / imitation, the natural action on the basis of the appropriated “standard” ideal forms, patterns, external models is usual for the students of elementary school age.

One of the ways of solution of the problem of changing the empiric character of the forming psyche is developmental education, under the conditions of which the objects of acquisition by mechanisms of imitation become the common (theoretical) methods, rather than the concrete empiric patterns of action (D.B.Elkonin-V.V.Davidov). Having adopted these common methods, the student overcomes the trite character of action at the expense of the fact that in a changing situation he is capable of rebuilding the concrete (single) ways of his own actions on the basis of the abstract principle, common way of action, acquired by him.

Knowledge of the common method, as the principle of constructing the action, gives the student freedom from the concrete situation, permits him to recreate, reproduce by the generalized form of his action, any subject from the given class, i.e. to relate to the objective (subjective) world rationally (on the basis of concept as generalized knowledge).

But, as the matter of fact, this problem is not considered in the conception of developmental education. In situations, when there arises the necessity for a new ideal form of the objective (subjective) action (in a new generalized method, in the new abstract), the student finds himself in a “deadlock” situation, and he cannot go out of it independently.

This means that such educational technologies are needed, which would give the students opportunity to master the possibility of producing their own action in problem situations.

Therefore, the idea of a true experimental research requires that under the conditions of educational process the student should acquire the ability to produce ideal forms, rather than appropriate or imitate them.

In connection with this the structure of self-development act, as the transition from one level of mediation of objective (subjective) action to its other level of mediation, is assigned by both its beginning - the “tough” initial structure of the sensory-mediated objective (subjective) action, and its end - “flexible” structure of perceptively-mediated objective (subjective) action, generated by the students themselves. The relation between the sensory-mediated and perceptively-mediated structures of action, is the relation of ontogenesis. Transition between sensory-mediated and perceptively-mediated structures is facilitated by cooperative creative action, transforming the sensory-mediated structure of objective (subjective) action into perceptively-mediated structure at the expense of transformation of the sensory type meanings into perceptive type meanings.

Conception of experimental Research.

Cooperative creative action is the universal method of resolution of genetic contradiction between the new historical type of cultural objects and the previous historical type of objective (subjective) action. As a result of creative action, there takes place the transformation of the previous historical type of objective (subjective) action into its new historical type. The new historical type of meanings, which is initially created by the students as hypothetical knowledge about the method of objective (subjective) action, serves as the means of creative action.

The need to reproduce the new objective (subjective) world of culture practically leads to the production of new means and abilities, necessary for it. The possibility of resolving the problem situation and production of a new historical type of meaning is included in historical logics of development of the objective (subjective) forms of culture. In the problem situation the “external” historical logics of development of objective (subjective)

forms of culture is reconstructed and recreated by the students into “internal” logics of the creative action, which represents the method of constructing of a new structure of objective (subjective) action.

Thereby, the relation of historical forms of objective (subjective) action is realized by the students as the sense of life, which is embodied in the form of creative action, serving for the student as the historical value.

But if the initial point of self-development is assigned subjectively, i.e. by the initial objective (subjective) action, the final point of self-development is assigned objectively, i.e. by natural form of a new objectiveness, the ideal form of which the students will have to create. To resolve this problem, the student must transform the relation between the “old” and “new” objective (subjective) forms of culture in relation between the “old” and “new” forms of action. Such necessity arises only in cooperative creative action. Therefore, the main form, where the individual self-development takes place, is the cooperative creative action.

The necessity to act together leads to the necessity to construct the possibility of such cooperative action (its ideal form). And this, in its turn, leads to the fact that the natural form of the object must obtain the common intersubjective (ideal) form. The natural form of the object must be denoted by cooperatively acting students themselves in order to act as the common psychological means of organization by themselves of their own cooperative action.

This meaning of natural form of the object, created by the students themselves, is a new ideal form of objective (subjective) action, which, having emerged as cooperative and then transformed into individual, represents the means of constructing a new objective (subjective) action. Having transformed the natural form of the object into intersubjective (ideal) form (having designated the object) as a result of creative communication

and having transformed it into the individual form, each student completes the next step in his development.

Thus, the students themselves build their trajectory of self-movement, objectively reconstructing the historical logics of development of objective (subjective) culture, but subjectively constructing the historical logics of self-development.

The process of self-development represents consistent in time, complicating situations of new types of meanings production. The possibility of such construction arises in the case, when the students find themselves in a problem situation, where both the initial point of their self-development and the final point of their self-development are assigned objectively, historically. In this self-movement, which still objectively represents the reconstruction of the historical way, covered by the humankind, the students master the objective (historical) logics of culture development as the subjective logics of self-development, as the logics of transition from one type of integrity of their cooperative objective (subjective) action to another type of its integrity, from the integrity of objective (subjective) action of one quality to the integrity of objective (subjective) action of another quality.

In this experimental investigation the subject of research is the situation of transition between the sensory-mediated and perceptively-mediated structures of objective (subjective) action. In real practice of experimental education this transition was implemented at the expense of creation by the students of meanings of perceptive type [291]. The possibility of creation by the students of the perceptive type of meanings is assigned by the historical structure of experimental situation. The cooperative creative action, as the means of constructing perceptively-mediated structure of cooperative objective (subjective) action, with the help of perceptive meaning, as psychological means under conditions of creative communication, serves as the means of resolution of the problem situation.

5.3.2. Logically-Psychological Analysis of Situations of Experimental Research.

The object of logically-psychological analysis of experimental situation of self-development is the logics of transformation of psychological structure of the sensory-mediated action, where both ideal and real forms of action are mediated by one another, by the “tough” associative connection, into the psychological structure of perceptively-mediated action, where the ideal and real forms of action are mediated by reflexive relation (the action of reflexive consciousness).

The initial sensory-mediated structure of the objective (subjective) action represents the associative (unambiguous) connection of ideal and single real forms, which are capable of being reproduced in standard situations, but incapable of being changed and changing their connection in non-standard situations. Mastering of such associative (“tough”) connections enables the student to successfully reproduce standard solution of standard tasks, mastered in the standard situations of learning. Thereby, any changes of standard situations for students turn objective tasks into non-standard and, consequently, unresolved psychological problems.

Solution of non-standard tasks in non-standard situations supposes mastering the ability to create (reproduce) ideal and real forms and reflexive (flexible) relations between them. To make objective action the means of resolution of problem situations, relations between its ideal and real forms shouldn't be “rough” because, changing objective (subjective) situations suppose the necessity to flexibly rebuild ideal and real forms as a result of generalized relations between them.

The possibility of constructing “flexible” relations is provided for by conceptual generalization of mediating action of reflexive consciousness as an action for the production of ideal and real forms.

Logico-psychological Analysis of Transition between Sensory-mediated and Perceptively-mediated Structures of Objective (Subjective) Reality.

Experimental situation of research is the fragment of the continuous process of self-development understood as the succession of transitions from one level of mediatedness of objective (subjective) action and its other level of mediatedness at the expense of constructing meanings as psychological means of such transitions [292] [293] [294].

The process of self-development is built as self-motion in the direction of two vectors. The main vector of self-development “vertical” is the change of the type of objective (subjective) action. In this direction the new quality of objective (subjective) action arises. The subsidiary vector of development (horizontal) represents the vector of change of the form of action, emerging in the process of “vertical” development. In this direction the formation of new objective (subjective) action takes place.

The essence of self-development is the change of the level of mediation of objective (subjective) action. The well-known dialectical spiral, vividly demonstrating two types of movement, may be looked upon as the model of self-development process: horizontal direction – the process of objective (subjective) action formation; vertical direction – the process of emergence of objective (subjective) action.

The subject of experimental research is the transition between the sensory-mediated and perceptively-mediated structures of objective (subjective) action.

5.3.3. Stages of Cooperative Creative Action Development as the Method of Self-development Organization.

The transition between the sensory-mediated and perceptively-mediated levels of objective (subjective) action, under the conditions of experimental teaching, took place as the process of consistent construction of actions, representing the components of a new (perceptively-mediated) structure of objective (subjective) action. In connection with this the psychological structure

of experimental situation doesn't remain unchanged, in the limits of the assigned structure of transition it constantly changes.

The change of psychological structure of transition is connected with the fact that the final (ultimate) structure of objective (subjective) action is successively added on with the new actions and their relations. Successive construction of the perceptively-mediated structure of objective action changes the psychological structure of the transition itself, which provides for the gradual, stage-by-stage reformation of the student's psyche, successively removing it from the sensory to the perceptive level.

The change of sensory psyche for the perceptive one takes place on the basis of internal regularity, which is expressed in the logical succession of actions of a new perceptively-mediated structure of the objective (subjective) action, constructed by the students. Below is given the succession of stages of constructing the perceptively-mediated structure of the objective (subjective) action, representing the succession of stages of organization of creative actions as the components of creative action.

The Succession of Constructing the Structure of Actions of Perceptively-mediated Objective (subjective) Action.

1. *Action of problematization.* Represents the approbation of the sensory-mediated objective (subjective) action in objective (subjective) situation of perceptive type. The result of such approbation brings about the conclusion of impropriety of sensory-mediated objective (subjective) action in a new objectively perceptive situation. Psychological means of fixation of genetic problem is the negative experience.

2. *Action of motivation and formation of the goal.* Represents the method of transformation of the negative experience as the means of fixation of genetic problem into the positive experience as the means of resolution of genetic problem. Consists in actualization of personal sense of creative action, as a result of which there takes place the change of the experience polarity – from negative to positive. As a result of change of the expe-

rience polarity, the personal sense starts acting as the means of constructing the perceptively-mediated structure of the objective (subjective) action as the motive of creative action, which itself is realized as the value.

3. *Objectively-sampling action.* Represents the method of constructing the sensory image (image perception) of a new type object. The possibility of such construction is provided for by the need of cooperative comparison and differentiation of forms of objects of the previous and new historical types.

4. *Action of constructing the method of comparison of objects, possessing a new form.* Represents the following succession: fixation in a world meaning of the method of comparison of objects, possessing the previous form; sampling the previous method of comparison of objects, possessing a new form; as a result of the analysis of a word meaning, generalization of the former method on a new situation. Based on correlation of the history of objective (subjective) forms and methods of their comparison.

5. *Action of constructing criteria of comparison of objects, possessing a new form.* Represents the formulation of definitions of “perceptive concepts” of more/ less quantity of the new objective (subjective) form. The criterion is the image of perception of the coinciding (overlapping) or non-coinciding (opposing each other) overlaid objective (subjective) forms.

6. *Action of practical comparison of the objects possessing a new form.* Represents the method of alignment in the space of the perception of two compared objects, according to certain rules formulated earlier. As a result of application of methods of comparison of two objective (subjective) forms, the task on ordering the objects by the size of their forms is solved. The objective (subjective) form is, thereby, reflected in consciousness as the fixed image of perception. At this stage the means of change of the size of the objective (subjective) form is missing.

7. *Action of constructing the means of change(increase/ decrease) of the size of a new objective (subjective) form(the form*

of result of practical action). Represents the modelling and the following formulation of genetically-initial relation, which is given in apprehension on the level of perception. This spatial relation represents the “perceptive” concept, underlying any concrete (particular) method of production of a concrete (particular) size of objective (subjective) form.

8. *Action of constructing the means of control and assessment (evaluation) of the supposed result of practical action*. Represents the method of formulation of the assertion of how one can be assured that the intermediate result corresponds to the intermediate tasks, and the ultimate result corresponds to the goal, formulated earlier. Such method is the comparison of the results and the tasks, corresponding to them. Comparison of intermediate tasks and intermediate results is control. Comparison of final results and final task (goals) is assessment (evaluation).

9. *Action of formation of control criteria and assessment of supposed results of practical actions*. Represents formulation of the rules of correlation of results and tasks, as well as means with the help of which it is possible to compare the results and the tasks. Under conditions of experimental research the criteria were natural and visual aids and rules, representing verbal descriptions of processes and results of intermediate comparison.

10. *Action of criterion (choice) of means of practical solution of task*. Represents the process of adjustment of the method of formation as the ideal form of the means, determined by the means of solution of practical task as the aim, and the process of formation as the real form of means. At first, it is possible to obtain such correlation at the expense of choice of the objects, offered by the teacher or searched for independently, which are suitable for support of the formation processes. But further, the method of formation, as the ideal form of the means, becomes the goal of creative actions, creating the new means.

11. *Action of formation and distribution of subtasks*. Represents the result of the analysis of the ultimate task on constructing the relation more/ less. Subtasks are the two parts of the main task

on constructing the relation more/less, i.e. one subtask presents the task on constructing the relation “more”; the second subtask presents the task on constructing the relation “less”. After formulation of subtasks, formed on the basis of criteria of subdivision of the ultimate task into two parts, relative to two aspects of the relation “more/less”, there takes place the distribution of these subtasks for their independent individual practical solution.

12. Action of mutual control. Represents the mutual correlation of intermediate results of solution of the partner’s subtask with the intermediate tasks the partner should fulfill. Such mutual correlation is implemented on the basis of the criteria, which were earlier constructed in cooperation. Essential condition of the mutual control is impossibility of practical interference into the partner’s action.

13. Action of mutual and cooperative assessment(evaluation). Analogical to the above action of mutual control with only difference that the objects of comparison are not the intermediate, but final results and tasks.

14. Action of cooperative choice of the model of result of task solution. Represents the choice (selection) of visual (given in perception) models of results of practical actions. At the beginning, the best works of students, meeting the requirements of the constructed criteria, and later the models of social action, represented in culture, may serve as such models.

15. Action of cooperative analysis of the task. Represents the method of cooperative distinction in the common ultimate task of its two basic parts. The object of analysis is the structure of the relation “more/less”, representing the objective (subjective) content of the ultimate task, which disintegrates into the “more” and “less” components. Accordingly, two logical subtasks are formulated in the common ultimate task.

16. The action of cooperative formulation of the task. Represents the method of cooperative formulation of the ultimate task. Mastering the internal logics of the creative action

unfolding, the students are able to predict its following steps. As the adequate task corresponds to each creative action, understanding the logics of the creative actions succession enables to apply this logics as the cooperative means of prediction and formulation of the ultimate tasks.

17. Action of individual evaluation (assessment) of cooperative work. Represents the individual means of correlation of the results and processes of cooperative action with its goals (aims) and methods. This correlation takes place on the basis of criteria, which are formulated at first cooperatively, then individually.

18. Action of individual assessment of creation of means and independent task solution. Represents the individual means of decision making (on the basis of criteria formulated earlier) on the correspondence of practical individual solution of the ultimate task and means chosen for it.). Foundation for such decision making is the criteria formulated earlier.

19. Action of individual creation of the model of task solution. Represents the method of creation of the visual model of the result of solution of the ultimate task on the basis of its ideal form, represented in word meanings, which serve the means for the criteria construction.

20. Action of individual analysis of the task and subtask formulation. Represents the ideal method of distinction in the common ultimate task of its two basic parts. The object of analysis becomes the structure of the relation “more/less”, which is the objective (subjective) content of the ultimate task and which falls into the components “more” and “less”. Accordingly, two logical parts are formed in the common ultimate task. Mastering the internal logics of unfolding the creative action, each student is able to individually predict its stages. As the adequate task corresponds to each creative action, then understanding the logics of succession of creative actions enables to apply this logics as the individual means of prediction and formulation of the ultimate tasks.

21. *Action of individual formulation of tasks and subtasks.* Represents the means of individual formulation of the ultimate task. Assimilating the internal logics of the creative action unfolding, the students become capable of predicting its following stages. As the adequate task corresponds to each creative action, then understanding the logics of succession of creative actions, enables to apply this logics as the individual means of prediction and formulation of the ultimate tasks.

The plan of experimental research presented the classical natural experiment with the usage of control and experimental groups. The control (virtual) group was represented by the students, who studied at regular (comprehensive) schools with application of classical methods of developmental organization on the basis of the mechanism of appropriation. Experimental group included the students taught with application of the methods of developmental organization on the basis of mechanism of generation.

From organizational and pedagogical points of view, the *first condition* of providing for the individual trajectory of development is different tempo of the students development. This means that each student can pass from one stage of educational process onto another (from one class into another) at any time, when he achieves the level, corresponding to the next stage of education. *Second condition* is the necessity to guarantee each student the possibility of studying on the basis of individual plan, the package of individual syllabi, and individual educational schedule. *Third condition* is the change of basic unit of planning of educational process. This means that educational process should be planned not with a view to the permanent educational group, but with a view to an individual student. *Fourth condition* is the necessity to deny educational groups of permanent personal composition (class) and transition to educational groups of non-permanent composition. Only such structure of educational groups enables to facilitate, by means of organization, the individual trajectory of self-development.

From meaningfully-psychological point of view, the first condition of facilitating the individual trajectory of self-education is projecting the educational space on the individual, cooperative and collective self-control and self-evaluation. *Second condition* is the change of psychological content of the “external” evaluation of the efficiency of individual, cooperative and collective educationally- generative actions. It must be based on the public presentation and defence of creative works and projects of the students, rather than on merit point system.

It is well to bear in mind that one of the socio-meaningful results of the educational space of self-development, achieved at the expense of orientation at the individual and intersubjective culture-generation and gradual growth of educational motivation, is the significant reduction of learning time at high school. This means that psychologically-pedagogical project, especially in case of its practical integration on the state level, must as well anticipate the possibility of adequate changes in the system of university education.

5.4. Technology of Experimental Situations Organization.

5.4.1. Psychological Structures of Experimental Situations.

All objective (subjective) situations of experimental research differed in their objective (subjective) components, but possessed one and the same psychological structure. Psychological structure of experimental situations was assigned by the relation between the sensory-mediated and perceptively-mediated structures of objective (subjective) action. This relation determined the specific character of experimental situations, and cooperative creative action as the means of transformation of sensory-mediated structure into perceptively-mediated structure of objective (subjective) action acted in the capacity of their resolution.

Fundamentals of communication.

1st class, first half-year period, second term

Theme “A Letter to a Friend”.

Psychological task.

To turn the flat space of an unlined sheet of paper into the sign of spatial organization of written action, as the meaning of which acts the perceptive image of the system of the Cartesian coordinates as the psychological means of organization of written action.

Psychological structure.

Task. To learn how to write letters in such a way that they should act as the means of organization of cooperative practical action.

Motive. To transform the sensory-mediated written action (based on the structures of natural lines models, drawn on a sheet of paper) into perceptively- mediated written action, based on the perceptive meaning of the sheets of paper (the image of perception of Cartesian reference system as the common scheme of spatial organization of written action).

Aim (goal) It is necessary to signify the flat unlined sheets of paper, having turned the “live” form of cooperative written action into its transformed form (psychological meaning), objectified in the geometrical form of space of flat sheets of paper.

Method of goal achievement. Communication, based on reflexion, as a result of which the new method of cooperative written speech is created, which is based, as a result of communication, on the scheme of ordering the sheet of paper space, acting as the perceptive meaning as psychological means of organization of written action [295].

Fundamentals of projecting and designing

3d class, second half-year period, fourth semester.

Theme: Cube Development.

Psychological Task.

To turn the process of transformation of the cubic form into the flat form into the sign of constructive action, in the capacity of meaning of which acts the perceptive image of the process of transformation of the flat involute into the cubic form, as the psychological means of organization of cooperative constructive action.

Psychological structure.

Task. Learning to make flat involutes of the solid bodies and to make solid figures out of them.

Motive. To transform the sensory-mediated constructive action (based on the models of involutes) into perceptively-mediated constructive action, based on the perceptive meaning of the solid objects (the image of perception of the process of transformation of the solid body surface into its flat surface).

Aim (goal). It is necessary to signify solid bodies, having turned “the live” form of cooperative constructive action into its transformed form (psychological meaning), objectified in the form of solid bodies.

The method of aim achievement. Communication, carried out on the basis of reflexion of cooperative constructive action, as a result of which a new means of the cooperative constructive action is created, which is based on the general scheme (created as a result of communication) of transforming the solid surface of bodies into the flat surface and acting as the perceptive meaning, as the means of organization of constructive action. [296] [297] [298] [299] [300] [301] [302] [303]

Fundamentals of natural science.

3d class, first half-year period, second term.

Theme: *Discrete Composition of Substance.*

Psychological Task.

To turn the process of substance spreading into the sign of investigative action, in the capacity of meaning of which acts the perceptive image of the process of spreading the substance as the psychological means of organization of cooperative action.

Psychological structure

Task. Learning to plan research in such a way, that the plans should act as the psychological means of organization of cooperative research action.

Motive. The need to transform the sensory-mediated investigative action (based on the perception of space of the substance spreading) into perceptively-mediated investigative action,

based on the perceptive meaning of space (the image of apprehension of substance spreading process as the perceptive scheme of organization of cooperative research action).

Aim. It necessary to signify this space, having transformed the “live” form of cooperative investigative action into its transformed form (psychological meaning), objectified in the perceptive plan of space as the psychological means of organization of cooperative research action.

The method of achieving the aim. Communication, carried out on the basis of reflexion of cooperative investigative action, as a result of which a new method of cooperative investigative action is created, based on the common scheme (created as a result of communication) of investigative space, as a psychological means of organization of cooperative research action [304] [305] [306] [307] [308] [309]

Fundamentals of natural science.

3d class, first half-year, second term.

Psychological Task.

Theme: *Mutual Transformation of Aggregate States of Substances.*

To transform the process of aggregate states of substance into the sign of organization of research action, in the capacity of meaning of which acts the perceptive image of the process of transformation of aggregate states of substance as the psychological means of organization of cooperative research action.

Psychological structure of situation

Task. Learning to plan and implement the processes of change of the aggregate states of substances.

Motive. The need to transform the sensory-mediated investigative action (based on the perception of processes of change of the aggregate states of substances) into the perceptively-mediated investigative action, based on the perceptive meanings of processes of change of the substances aggregate states (the image of apprehension of the processes of change of aggregate

states of substances as the perceptive scheme of organization of cooperative investigative action.)

Aim. It is necessary to signify the “investigated process”, having transformed the “live” form of cooperative investigative action into its transformed form (psychological meaning), objectified in the perceptive model of the process as psychological means of organization of investigative action.

The method of achieving the aim. Communication, carried out on the basis of reflexion of cooperative investigative action, as a result of which a new method of cooperative investigative action is created, based on the perceptive scheme (created as a result of communication) of investigated process as a psychological means of organization of cooperative research action [304] [305] [306] [307] [308] [309]

Fundamentals of natural Science

3d class, first half-year period, third term.

Theme “*Concentration*”

Psychological Task

To transform the process of mixing two substances of different colors into the sign of organization of constructive action, as the meaning of which acts the perceptive image of the process of mixing two substances of different colors as the psychological means of organization of cooperative constructive action.

Psychological structure of situation

Task. Learning to plan and obtain in practice any assigned color as a result of mixing two colors.

Motive. The need to transform the sensory–mediated constructive action (based on perception of the process of mixing two substances of different colors) into perceptively-mediated investigative action, based on the perceptive meaning of the process of mixing two substances of different colors as the perceptive scheme of organization of cooperative constructive action.

Aim. It is necessary to signify the process of mixing two substances of different colors, having transformed the “live” form of cooperative constructive action into its transformed form

(psychological meaning), objectified in the perceptive model of the process of mixing two substances of different colors as the psychological means of organization of cooperative constructive action.

The method of achieving the aim. Communication, carried out on the basis of reflexion of cooperative investigative action, as a result of which a new method of cooperative investigative action is created, based on the perceptive scheme (created as a result of communication) of the constructed process, created as a psychological means of organization of cooperative action. [304] [305] [306] [307] [308] [309]

Fundamentals of natural science

3d class, second half-year period, fourth term.

Theme: “*Mixtures and combinations*”.

Psychological Task.

To transform the process of combination of two substances into the sign of organization of constructive action, in the capacity of meaning of which serves the perceptive image of the process of combination of two substances, as the psychological means of organization of cooperative constructive action.

Psychological structure of situation

Task. Learning to plan and carry out in practice the reaction of combination of two different chemical substances.

Motive. The need to transform the sensory-mediated constructive action (based on perception of the process of combination of two substances) into perceptively-mediated investigative action of combination, based on the perceptive meaning of the process of combination of two different chemical substances (the image of apprehension of processes of combination of two chemical substances as the perceptive scheme of organization of cooperative constructive action).

Aim. It necessary to signify the investigated process of combination of two chemical substances, having transformed the “live” form of cooperative constructive action into its transformed form (psychological meaning), objectified in the perceptive

model of the process of combination of two chemical substances as the psychological means of organization of the cooperative constructive action.

The method of achieving the aim. Communication, realized on the basis of reflexion of cooperative constructive action of combination, as a result of which a new method of cooperative constructive action of combination is created, based on the perceptive scheme(created as a result of communication) of constructed process of combination as a psychological means of organization of cooperative constructive action of combination [304] [305] [306] [307] [308] [309].

Fundamentals of projecting and desining

2nd class, first half-year period, 2nd term

Theme: “*Rectilinear ,segments*”

Psychological Task

To transform the process of comparison of two rectilinear segments into the sign of organization of ordering action,in the capacity of meaning of which serves the perceptive image of the process of comparison of two rectilinear segments as the psychological means of organization of cooperative ordering action.

Psychological structure of situation

Task. Learning to plan and implement in practice the ordering of the space of rectilinear segments in the assigned relation.

Motive. It is necessary to transform the sensory-mediated ordering action (based on the perception of processes of comparison of two rectilinear segments) into perceptively-mediated constructive action, based on the perceptive meaning of processes of comparison of two rectilinear segments (the image of apprehension of processes of comparison of two rectilinear segments as the perceptive scheme of organization of cooperative ordering action).

Aim. It necessary to signify the process of comparison of two rectilinear segments, having transformed the “live” form of cooperative ordering action into its transformed form (psycholog-

ical meaning), objectified in the perceptive model of organization of cooperative ordering action.

The method of achieving the aim. Communication implemented on the basis of reflexion of cooperative ordering action of comparison, as a result of which a new method of cooperative ordering action of comparison is created, based, as a result of communication, on the perceptive scheme of comparison of two rectilinear segments, as psychological means of organization of cooperative constructive action of comparison [296] [297] [298] [299] [300] [301] [302] [303].

Fundamentals of projecting and designing

2nd class, first half-year period, 2nd term.

Theme: “*Face Angles*”.

Psychological Task.

To transform the process of comparison of two face angles into the sign of organization of ordering action, in capacity of meaning of which acts the perceptive image of the process of comparison of two face angles as the psychological means of organization of cooperative ordering action.

Psychological structure of situation.

Task. Learning to plan and implement in practice the ordering of the space of face angles in the assigned relation.

Motive. The need to transform the sensory-mediated ordering action (based on the perception of comparison of two face angles) into perceptively-mediated ordering action, based on the perceptive meaning of the process of comparison of two face angles (image of apprehension of the processes of comparison of two face angles as the perceptive scheme of cooperative ordering action).

Aim. It necessary to signify the process of comparison of two face angles, having transformed the ‘live‘ form (psychological meaning), objectified in the perceptive model of the process of comparison of two face angles as the psychological means of organization of the cooperative action.

The method of achieving the aim. Communication implemented on the basis of reflexion of the cooperative ordering action of comparison, as a result of which a new method of cooperative ordering action of comparison is created, based, as a result of communication, on the perceptive scheme of the process of comparison of two face angles, as the mean of organization of the cooperative constructive comparison action [296] [297] [298] [299] [300] [301] [302] [303].

5.4.2. Objective (Subjective) Structures of Experimental Situations.

For organization of psychological structures of experimental research a special organization of objective (subjective) situations is necessary. The peculiarity of these objective (subjective) situations consists in the fact, that they are based on the historical relation (genesis relation).

Exactly, in such historical structure of objective (subjective) situations organization of self-development is possible, and in such historical structure, exactly, the logics of resolution of the genetic conflict is preset. The logics of resolution of the genetic conflict (contradictions) is the logics of development of the structures of the objective (subjective) action, which represents the logics of objective (subjective) situations genesis, transformed and transferred on the development of the objective (subjective) action structures.

The success in organization of objective (subjective) situations pre-determines the success in solution of the psychological problem (constructing transition between the old and new levels of mediation of objective (subjective) action). This section describes in detail the concrete objective (subjective) situations, applied for organization of experimental research.

First objective (subjective) situation

Educational discipline “fundamentals of communication”.

1 class, first half-year period, second term.

Theme: Letter to a Friend.

Objective Task. To write “correctly” and arrange the letters, words and sentences on the flat space of a sheet of paper in such a way, that the speech wouldn’t need commentaries and would be clear to a partner. In the syllabus of the educational discipline “Language and Speech” the theme “Letter to a Friend” is positioned in the very beginning. It is not independent and serves for organization of cooperative solution of practical didactic investigative problems.

It dependence consists in the fact that mastering writing abilities is not the central, but subsidiary task. The central task as usual is practical decision of the investigative problem.

Thereby, the educational discipline “Language and Speech” and, particularly the “Letter to a Friend”, is the means of organization of communication and cooperative practical work. Thereby, principles and devices, characteristic for organization of the constructive educational process, on the whole, are applied. In this case, exactly, in teaching writing the significant meaning is imparted to the absence of any “matrix”-models of space, which assigns the character to the writing action.

This means that the requirement to write on the unlined paper should be fulfilled.

The need to organize the practical cooperative work compels the students to “express” their individual letters in such a way, that everybody would understand, unambiguously, their outline and their meaning.

Such approach leads to the fact that, mastering writing on the unlined paper, the children always write in one and the same album for drawing. This is necessary for them to regularly evaluate the quality of their writing independently and work on its improvement.

Demonstrational effect, we sometimes applied, consists in the fact that, in a certain period of time, the quality of writing on the first sheets of the album and on its final sheets started to show sharp difference. Demonstration of such album to a know – nothing man (or even to a parent), where the quality of writing

on the first and final sheets are different, causes, as a rule, a sincere surprise, when they learn, that in the beginning and in the end of the album, one and the same student wrote.

Besides, the time for teaching writing noticeably reduces, and the child is able to master different shapes of letters from different alphabets and orient perfectly in the space of the sheet [295].

Second objective (subjective) situation

Educational Discipline: “Fundamentals of Projecting and Designing”.

3d class, second half-year period, fourth term.

Theme: Involute of Cube.

Objective Task. To make the involute of a cube out of a sheet of paper and out of the involute to agglutinate a cube.

In the syllabus of the educational discipline “Fundamental of Projecting and Designing”, the theme “Involute of the Solid Body” is at the very beginning of theme 3. Three-dimensional (volumetric) elements of space.

As a result of experimental education, which represents practical solution of the problem of transformation of the flat sheet into the volumetric cube, the students find stage-by-stage the necessary solution independently.

At that, this solution is on no account connected with recreation, reproduction of the involute pattern, but represents, exactly, the creation of the involute as a result of constructive communication.

But the most important for us is not the ability of making the cube of any dimensions, which is also the result of teaching. The main result is the ability of making the involutes of practically all volumetric bodies, even those, the involutes of which the teacher doesn't imagine [296] [297] [298] [299] [300] [301] [302] [303].

Third objective (subjective) situation

Educational Discipline: “Fundamentals of Theoretical Natural Science”

3d class, first half-year period, second term.

Theme: "Discrete Structure of Substance "

Objective Task. To find the source of smell in the classroom.

In educational discipline "*Fundamental of Theoretical Natural Science*" the theme "Discrete Structure of Substance" is almost at the very beginning, in fact, directly after the introductory theme "Substances and Objects". As a result of experimental education, which like the other educational subjects, is built on the basis of solution of investigative problems, the students come to the need to create new means of modelling the reality. Comparing different variants of description of spreading the substance in the space of the classroom, they come to conclusion, that the only model of the substance as the continuous and "dragging" reality, natural for these conditions, "doesn't work". A new model, which the children didn't know earlier and didn't apply, is needful.

Such only possible model is apprehension of the substance as consisting of separate particles, not the continuous "dragging" material. In conventional education the discrete model of substance (the nuclear-molecular structure of substance) is studied, according to the new programme, not earlier than in the seventh form.

After the discrete model of substance has been constructed by the students, it becomes the theoretical means of further research into the reality. In these investigations both obtaining the new knowledge and improvement of the discrete model as theoretical means take place simultaneously.

Using the discrete model of substance, the students become capable of investigating such effects as evaporation and condensation of water, transition of water from one aggregate state to another, as well as explaining evaporation without the liquid phase (sublimation of iodine), etc.

The most important thing, that the students obtain, having created the discrete model of substance, is the ability to predict

the processes and results of the reality, which are studied in the other parts of this discipline or the other educational disciplines.

As a result of experimental education, the students of the third form (grade) of any school, create the discrete model of substance, consisting of separate "atoms". For this reason the children use circles of different colors and diameters, representing the atoms of the substance, and sheets of colored paper, representing the space, where the substance is found.

This discrete model of substance emerges as a result of special experiment on diffusion of the smelling substance in the classroom. It represents the specific means, with the help of which the students can objectively explain the processes of smell diffusion which take place.

The experimental situation is organized in the following way. The teacher brings to the classroom in advance a small container (a jug, a bottle, etc.) with the smelling substance (e.g. perfume). The container is purposefully left aside the place, which the teacher usually occupies in the classroom, for instance, at one of the back desks. At the beginning of the experiment, before the container is opened, the teacher explains the conditions of the task: "In some time, certain changes will take place in the classroom, which you must find out. By the character of changes you must find the source of these changes...".

In order to solve the assigned task, it is necessary to study the character of the changes. For this purpose, these changes must be fixed on the plan of the classroom, illustrated on a sheet of paper. To do this, each pair of students, sitting at the same desk, allocate between them the main tasks: one student tries to find out the changes, taking place in the classroom, the other student tries correctly and in time to mark on the sheet of paper the changes, taking place.

The student, who is responsible for detecting the expected changes, first, tries to detect these changes in time and say about them to his friend at once, for him to timely mark this on the plan of the classroom, second, he watches the changes, detected

by the other pairs in the class and informs his partner. The other student marks, at once, the detected changes on the plan of the class. The changes, marked on the plan of the classroom, represent the first stage of the experiment.

The second stage of the experiment is the discussion of representations of changes, taking place in the classroom. For this purpose all plans, made by the students are displayed on the board to be clearly seen by all students. All representations are, as a rule, original and externally different from each other. The teacher says that all illustrations are correct, i.e. correctly reflect the processes, which happened in the classroom. The problem arises: the correct representations are, as a rule, externally different from one another. The teacher organizes the constructive discussion, as a result of which the common point of view is formulated: all representations will be the representations of one and the same process only in the case, if the spreading smell is not the continuous, uninterrupted space, but isolated discrete particles of the smell (substance). In this case all illustrations in superposition will coincide [304] [305] [306] [307] [308] [309].

Fourth objective (subjective) situations

Educational Discipline: “Fundamental of Theoretical Natural Science”.

3d class, second half-year period, third term.

Theme: “Aggregate state of substances”.

Objective task. To answer the question: What will happen if any substance (e.g.: ice, water, steam) is continuously heated (e.g. over a spirit-lamp)? Why?

In educational syllabus on *Fundamentals of Natural Science* the theme “Aggregate state of substances” occupies the position before the theme “Concentration” and after the theme “Diffusion of smell in the classroom”.

This theme is studied with the help of the discrete model of the substance, constructed earlier, as the theoretical means,

The experimental situation of studying the properties of the aggregate state of substance is the change of water phase under

the conditions of changing its temperature. The scheme of demonstrational experiment represents the following. First. The teacher demonstrates water in its hard state and asks the question: “What will happen to the piece of ice if it is put over the spirit lamp (i.e.heated)? Why?...” Second. Each pair of students with the help of the discrete model construct their answer and fix it in a more reliable form, e.g.: draw their answer on a separate piece of paper. Third. All variants of answers, obtained by the pairs, are reasoned by the pairs, who obtained them, and discussed by the whole class. As a result, the common conclusion is made on the set of obtained results, proposed by the students. Fourth. The teacher demonstrates the processes, taking place in reality, while heating the ice, the students fix all that is taking phase. Fifth, the students in the class discuss the correctness of fixation of the process and the result of demonstrational experiment to make fixation of the fact unambiguous and not cause any slightest doubt on the part of the students. Sixth. After the objective fact has been fixed, and the method of its fixation doesn't cause any doubt, each pair of students correlate their model of the supposed result with the fixed real result (fact) and makes the conclusion. Seventh. Conclusions of all pairs are discussed by the whole class and the common agreed consensus is found on the correctness of the substance model and correctness of its application in the given experimental situation. Eighth. If necessary, the discrete model of the substance is corrected in order to be tested in the other experimental situation [304] [305] [306] [307] [308] [309].

Fifth objective (subjective) situations.

Educational Discipline: “Fundamentals of Theoretical Natural Science”.

3d class, second half-year period, third term.

Theme: “Concentration”.

Objective task. Using two “paints” to make the solution of the given quantity and given color.

In educational syllabus on *Fundamentals of Natural Science* the theme “Concentration” is positioned after the theme “Aggregate State of Substances” and before the theme “Solutions and Combinations”.

As a result of experimental education the students of the third class of any school can learn how to obtain from two initial components any shade of color. For this task the children use the so-called “schemes of color”, which represent the sets of small squares of different colors.

Each square means the share (“part”) of the color, which is added to the mixture. Having created such means of colors modelling, the children understand, that the color doesn’t depend on the quantity of paint, and they can compose paints of different assigned color and different volume.

In order to check the efficacy of experimental education, we repeatedly conducted the comparative control tests between the students the third classes with experimental education and the students of the seventh classes of conventional schools. The first control test was conducted in 1985 at school N146 in Moscow. Then and later, the results were practically the same. Exactly, as a result of solution of identical, fully coinciding texts of the control tests on the theme “Concentration”, either in the third, or in the seventh forms (classes) the distribution of marks was nearly the same (approximately the same number of excellent, good and satisfactory marks).

This result, as well as the other results, obtained as a result of experimental education, doesn’t depend on the place, where the experimental education was conducted and the place where the control test was carried out. Comparing the adaptive and non-adaptive technologies of education, such a result will always be obtained, irrespective of time and place.

The main objective (subjective) result of education in the limits of the theme “Concentration” is the ability of the students to adequately model (predict) the concentration of any binary

mixtures and obtains in practice the predicted qualities [304] [305] [306] [307] [308] [309].

Sixth objective (subjective) situations

Educational Discipline: “Fundamentals of Theoretical Natural Science”.

3d class, second half-year period, fourth term.

Theme: ” Mixtures and Combinations ”.

Objective (subjective) task. Which substance is received as a result of chemical reaction? Why? In the worked out fragment of educational discipline “*Fundamental of Natural Science*” the theme *Mixtures and Combinations*” is final. It reflects most vividly the ability to reform one’s own means of cognition (i.e. development) in the problem situations, which was formed at the previous stages.

As the result of experimental education, the students become accustomed to the thought that the main logics of education is the logics of reformation of their models and schemes as theoretical means of cognitive action. Here, more than ever brightly, reveals the necessity of independent creative work of students to give up the habitual (trite) models and construct the new, unexpected, which may seem at times impossible.

The practical problem in this case arises as the contradiction between *mixtures* and *combinations*, which at first, don’t differ much from each other externally. But difference of properties, which the students study, brings about the thought, that these seemingly identical substances, which involve the same components, are, as a matter of fact, different substances.

Moreover, it is found out, that they may be described by different types of models. If in the case of “mixtures” of source materials the model of the mixture is the integrity of isolated “molecules” of the source materials, mixed with each other, then, in the case of chemical compound, such type of model cannot serve as the explanatory model of the phenomenon that took place (burning of mixture of iron and sulphur, and their turning into powder).

As a result of research and contemplation, the students come to a new type of models, the models, in which the new “molecule” consists of the “old” molecules of the source materials. For the students this conclusion becomes the real and fundamental discovery, which they made themselves as a result of the search for solution of the practical problem.

As a result, they start forming the new models as the new theoretical means of their own cognitive action [304] [305] [306] [307] [308] [309].

Seventh objective (subjective) situation.

Educational Discipline: “Fundamentals of Projecting and Designing”.

3d class, second half-year period, second term.

Theme: Rectilinear segments.

Objective task. To create the ordered in the assigned quantitative sense variety of objects, possessing the form of rectilinear segments.

In the educational Syllabus “*Fundamentals of Projecting and Designing*” the theme “Linear Space” (rectilinear segments) is positioned before the themes “Flat Space” and “Volumetric Space” and ranks first.

The aim of mastering this theme consists in preparation for transition to the theme “Angles” and, further for transition to the theme “Planar Figures” (flat forms). The theme “Linear space”, despite its preparatory character, requires the large amount of educational time, because the success in organization of the transition between the rectilinear and flat space depends directly on the success of organization of the rectilinear space mastering.

The seeming evidence of simplicity of these tasks solution is erroneous, as the tasks on the ordering of linear (rectilinear) space suppose the need for theoretical means, which present, first of all, the perceptive concept of the method of increase/reduction of the quantity of main property (length) of rectilinear segments.

Discovery of the general method of solution of the tasks of ordering linear space starts with the students' formulation of definition of the perceptive concept "straight line" and "the segment of straight line" (rectilinear segment). Here, the first stages already reveal the specific features of creative education, which consists in constructing the system of meanings by the students themselves. The constant need in formulating all their actions, aims and results, methods and processes of solution in the word, created by the teacher, creates conditions for the emergence of reflexion as the relation of aims and results, methods and processes of the action.

Having formulated the concepts "straight line" and "straight line segment", the students formulate the definitions of the general means of the straight line segments comparison. Generality of concepts and methods are initially guaranteed by the necessity of their formulation in the word (fixation in the sign), the meaning of which is the concept or way of action.

After preliminary preparations of the conceptual apparatus by the students themselves, they come to solving practical tasks. Thereby, while solving practical tasks, one of the most important conditions is always observed: each student, whatever cooperation or communication he were in, always implements the integral independent action. The integrity of the individual independent action fulfilled is facilitated by every student's need to independently formulate the aim (tasks) of action, to independently create (choose) the methods and means of its fulfillment, to independently obtain, in practice, the result of individual action, to independently formulate (obtain) the criteria of the assessment (evaluation) of the process and result of action, its method and aim, i.e. the integrity of individual action is provided by the need to fulfill all components of action independently and individually.

The concrete aspect of the assigned quantitative relation (more or less, increase or reduction, etc) of the integral action, rather than the components of action, fulfilled and coordinated

in the process of their implementation, serve as the criterion of division (distribution) of the functions among the students. Thereby, while solving any theoretical or practical task, under the conditions of creative education, each student implements the full structure of the integral action assigned by the relation aim – result. Partiality of the fulfilled action is connected not with the partiality of the fulfilled action (with the part of fulfilled actions), but with the partiality of the assigned quantitative relation.

Therefore, the division of functions of the students in their cooperative action and the need for cooperative action itself are reasoned not by the structure of the fulfilled action, but by the structure of the assigned quantitative relation of ordering. And as the structure of quantitative ordering relation always consists of two components, any cooperative action of this type always consists of two aspects, exactly, of the aspect of increase and of the aspect of reduction. But in any case of individual fulfillment of any of these two aspects of cooperative action, the individual action is fulfilled as the integral action.

As a result of mastering the reality of the linear space, the students become capable of ordering the linear space in any quantitative relation. This gives opportunity to start the implementation of transition to the flat space with the help of solution of the tasks of transition type, e.g.: “With the help of rectilinear segments to draw a circle (square, rectangle and any other flat figure)...” [296] [297] [298] [299] [300] [301] [302] [303].

Eighth objective (subjective) situation.

Educational Discipline: “Fundamentals of Projecting and Designing”.

2d class, second half-year period, second term.

Theme: Face Angles.

Objective task. To create the variety of objects, possessing the form of face angles, ordered in a quantitative relation.

In educational syllabus “*Fundamentals of Projecting and Designing*” the theme “Angles” is positioned between the themes

“Rectilinear Space” and “Flat Space” and occupies the intermediary, transitional position.

The psychological task, which is solved in the limits of mastering this objective theme, consists in implementing the formation of the intuitive form of consciousness. Thus, the objective theme “Angles” corresponds to the psychological theme “Formation of Consciousness of Intuitive Type”.

In the process of experimental research we repeatedly conducted the comparative assessment of the results of learning in experimental educational groups and ordinary classes (forms) of high schools. We conducted these comparisons in different regions, and everywhere we found out the same effect.

And, exactly, ask the students of any elementary class of an ordinary high school to solve the following task: “draw the row of angles increasing twice”. As a result, you will see the following. You will be proposed as an answer to your question the succession of right angles, the sides of which are increased twice.

If you propose the same task to the students, who studied in experimental classes you will see the following result. As an answer to your task you will be proposed the succession of angles with the increased spread of angles (i.e. really increasing angles). Thereby, it is not a problem for the students, whether the angles are acute, obtuse, or flat.

This points to the fact that under the conditions of non-adaptive education all children without exception (and this is also one of the most significant objective results) master the concept “angle” as theoretical, i.e. as a general principle of construction of any concrete angles in any concrete situations.

This result is not limited to the concrete educational institutions where we managed to conduct this comparison. Despite the quantity of the tests we conducted, we obtained everywhere one and the same result. To draw such a conclusion, there is no need to visit the variety of educational institutional. The foundation for it is the comparative analysis of the adaptive and non-

adaptive technologies of education [296] [297] [298] [299] [300] [301] [302] [303].

5.4.3. Methodical structures of objective situations.

Methodical system of organization of self-development situations as the transition from the sensory–mediated type of objective (subjective) action to its perceptively-mediated type represents the psychological tasks found by internal logics and consistently implemented special methodologies [310] [311] [312] [313].

The system of Special Methodologies Facilitating Organization of Self-Development.

Special Methodology 1.

Task 1. To realize the problem of one's action

Methodology of solution organization

1. Each student in the class tries to solve a new task with the old method.

2. As a result of practical attempts to apply an old method of action, under the conditions of the discussion, organized by the teacher, the students come to conclusion that the old method of action “doesn't work”.

Special Methodology 2.

Task 2. To realize the need to change an old method of action for a new one.

Methodology of solution organization.

1. As the result of the discussion, all students come to conclusion that it is necessary to create a new method of action instead of the old one.

Special Methodology 3.

Task 3. To formulate the definition of a new form of objects.

Methodology of solution organization.

1. Each student tries to formulate the definition of a new objective form. For this reason the students invent the necessary word meanings.

2. As the result of the discussion, the class formulates the definition of a new objective form at the expense of inventing and

accepting by the whole class (and every student from the class) of a meaning of necessary words.

3. Definition of a “perceptive concept” of a new objective form is written down in the “textbook” in the form of the word meaning, invented by students.

Special Methodology 4.

Task 4. To formulate the definition of a new form of performing the formative action.

Methodology of solution organization

1. Each student answers the question, how to change the dimensions of a new objective form; how to imagine it.

2. As a result of analysis of the objects, possessing a new objective (subjective) form, and correlation of the image of an objective (subjective) form and the history of development of the action methods, the class finds the solution.

3. As a result of the discussion, the class forms the new method of the objective (subjective) action.

Special Methodology 5.

Task 5. To formulate the criteria of comparison of the objects, possessing a new form.

Methodology of solution organization.

1. As a result of the discussion, the class works out and formulates the rules of assessment (evaluation) of the results of comparison of two objects, possessing a new form.

Special Methodology 6.

Task 6. To formulate the method of comparison of two objects, possessing a new form.

Methodology of solution organization.

1. The teacher offers to solve the task and with the help of criteria to find out which objects are larger, and which objects are smaller. As a result of the discussion of the different versions of tasks solution, the students formulate the common means of solution of the tasks on comparing the objects, possessing a new form.

Special Methodology 7.

Task 7. To formulate the means of change of the size of a new objective (subjective) form.

Methodology of solution organization.

1.As a result of the discussion, the class works out and formulates the rules: how the dimension of the objective form can be changed (increased/reduced).

Special Methodology 8.

Task 8. To formulate the means of control and assessment (evaluation) of the actions results.

Methodology of solution organization.

1.As a result of the discussion, the class works out and formulates the rules of how to compare the aims (intermediate tasks) and final (intermediate) results of the forming action.

Special Methodology 9.

Task 9. To formulate the means of control and assessment (evaluation) of action results.

Methodology of solution organization.

1.As a result of discussion the class works out and formulates the rules of control and assessment: What is considered to be the result, What should be compared, How should the final decision be made.

Special Methodology 10.

Task 10. To create cooperatively means and methods of solution; to distribute cooperatively the individual task; to individually and practically solve the tasks, to cooperatively check the individual solutions.

Methodology of solution organization.

10.1 The teacher formulates the practical aim.

10.2. The teacher analyzes the aim and formulates two tasks.

10.3. *The class formulates the criteria of mutual checking of the correctness of solution of the educational aim and criteria of the action results assessment (evaluation)*

10.4. *The students in pairs (choose, create) the means and methods of solution of both tasks.*

10.5. *The students in pairs distribute the tasks between themselves*

10.6. *Each student solves his task independently.*

10.7. *On the basis of 10.3. , the students in pairs mutually check each other's correctness of the tasks solution (results, means and methods)*

10.8. On the basis of 10.3., the teacher assesses (evaluates) the correctness of individual solutions.

10.9. On the basis of 10.3., the teacher assesses (evaluates) the correctness of individual check-ups

10.10 On the basis of 10.3., the teacher puts the mark in the register for the correctness of individual solutions.

10.11 On the basis of 10.3., the teacher puts the mark in the register for the correctness of individual check-ups

Special Methodology 11.

Task 11. To create cooperatively the common solution.

Methodology of solution organization.

11.1. The teacher formulates the practical aim.

11.2. The teacher analyzes the aim and formulates two tasks.

11.3. The class formulates the criteria of mutual check-ups of the solution correctness, aims and criteria of cooperative action assessment.

11.4. The students choose or create together means and methods of practical solutions of tasks.

11.5. The students in pairs distribute the tasks between themselves.

11.6. Each student solves his task independently.

11.7. On the basis of 11.3., the students in pairs independently check-ups the correctness of the task solution (results, means, methods).

11.8. Out of separate individual independentl solutions the pair creates the solution of practical aim common for both of them.

11.9. On the basis of 11.3., the teacher assesses the correctness of individual solutions.

11.10 On the basis of 11.3., the teacher assesses the correctness of solution in pairs.

11.11. On the basis of 11.3., the teacher assesses the correctness of individual mutual check-ups.

11.13. On the basis of 11.3, the teacher puts in the register the mark for correctness of the solution in pairs.

11.12. On the basis of 11.3., the teacher puts the mark in the register for correctness of individual solution.

11.14. On the basis of 11.3, the teacher puts the mark in the register for correctness of individual mutual check-ups.

Special Methodology 12.

Task 12. To carry out the mutual assessment (evaluation) of individual actions.

Methodology of solution organization.

12.1. The teacher formulates the practical aim

12.2. The teacher analyzes the aim and formulates two tasks.

12.3. The class formulates the criteria of assessment of correctness of the aim solution and criteria of the cooperative action assessment (evaluation).

12.4. The students in pairs choose (create) independently the means and methods of practical solution of tasks.

12.5. The students in pairs distribute independently the tasks between themselves.

12.6. Each student solves his practical task independently.

12.7. On the basis of 12.3, the students in pairs evaluate mutually the correctness of each other's tasks solutions (results, means, methods).

12.8. Out of two separate independent individual solutions the pair synthesizes the common for two aim solution.

12.9. On the basis of 12.3, the teacher assesses (evaluates) the correctness of common solution.

12.10. On the basis of 12.3., the teacher puts the marks of the students in the register, which they gave to each other for the mutual check-up.

12.11. On the basis of 12.3., the teacher puts in the register his own mark for correctness of the solution in pairs.

12.12. On the basis of 12.3., the teacher puts in the register the mark for correctness of mutual individual evaluation (assessment).

Special Methodology 13.

Task 3. To assess (evaluate) cooperatively the cooperative solution; to create cooperatively the model of solution; to assess (evaluate) cooperatively the individual means of action; to assess (evaluate) cooperatively the mutual assessments (evaluations) of individual solutions.

Methodology of solution organization.

13.1. The teacher formulates the practical task.

13.2. The teacher analyzes the aim and formulates two tasks.

13.3. The class formulates the criteria of assessment (evaluation) of the correctness of the aim solution and criteria of evaluation (assessment) of cooperative action.

13.4. The students in pairs create (choose) independently the means and methods of practical solution of the tasks.

13.5. The students in pairs independently distribute the tasks between themselves.

13.6. Each student solves his task independently.

13.7. On the basis of 13.3., the students in pairs assess (evaluate) mutually the correctness of the tasks solution (results, means and methods).

13.8. Out of two separate independent individual tasks and independent solution the students in pairs synthesize the common aim solution.

13.9. On the basis of 13.3., the class chooses (creates) the model of the aim solution.

13.10. On the basis of 13.4., the students in pairs mutually assess (evaluate) the individual means of solution.

13.11. On the basis of 13.3., and 13.9. the pair evaluates (assess) the correctness of their own common solution.

13.12. On the basis of 13.3. and 13.9., the pair assesses (evaluate) the correctness of mutual assessment (evaluation) of individual solutions.

13.13. On the basis of 13.3 and 13.9., the teacher puts in the register the marks of the students, which they gave to each other for their mutual assessment (evaluation).

13.14. On the basis of 13.3., and 13.9., the teacher puts his mark for the correctness of the common solution.

13.15. On the basis of 13.3., and 13.9., the teacher puts in the register the mark of the students for correctness of their solution in pairs, which the students gave to themselves.

Special Methodology 14.

Task 14. To mutually assess each other with the help of the model.

Methodology of solution organization.

14.1. The teacher formulates the practical aim.

14.2. The teacher analyzes the aim and formulates two tasks.

14.3. The class formulates the criteria of assessment (evaluation) of correctness of the aim solution, self-assessment of the action.

14.4. The students in pairs choose (create) independently the means and methods of tasks solution.

14.5. The students in pairs distribute the tasks between themselves independently.

14.6. Each student in the pair solves his task independently

14.7. On the basis of 14.3., the students in the pair evaluate (assess) each other's correctness of the tasks solution.

14.8. Out of two separate independent individual solutions the pair creates the common for the pair solution of the aim.

14.9. On the basis of 14.3., the class chooses (creates, works out) the model of the aim solution.

14.10. On the basis of 14.3., and 14.9., the students mutually evaluate themselves in the pair

14.11. On the basis of 14.3. and 14.9, the pair assesses themselves..

14.12. On the basis of 14.3. and 14.9, the teacher assesses the mutual assessment of the students in the pair.

14.3. On the basis of 14.3. and 14.9, the teacher assesses (evaluates) the self-assessment of the pair.

14.14. On the basis of 14.3, and 14.9., the teacher puts the mark in the register for mutual check-up, which the students the students gave to themselves; for the pair self-evaluation; for the quality of individual work; for the quality of common solution.

Special Methodology 15.

Task 15. To conduct cooperatively the analysis of the aim; to coordinate the processes of individual tasks solutions; to individually assess one's assessment of the other, to assess cooperatively the cooperative self-assessment.

Methodology of solution organization.

15.1 The teacher formulates the practical aim.

15.2. *The students in pairs analyze the aim and formulate the tasks.*

15.3. *The class formulates the criteria of assessment (evaluation) of the practical aim solution, action solution.*

15.4. *The students in pairs choose (create) independently the means and methods of the tasks solution.*

15.5. *The students together in a pair distribute independently between themselves the tasks.*

15.6. *Coordination in the process of fulfillment of individual solutions of practical tasks distributed between themselves in a pair.*

15.7. *Out of separate independent individual solutions the pair create the solution of the aim common for the pair.*

15.8. *On the basis of 15.3., the class chooses (creates, work out) the model of practical aim solution.*

15.9. *on the basis of 15.3. and 15.8., the students mutually assess themselves in the pair.*

15.10. *on the basis of 15.3. and 15.8., the pair evaluates themselves.*

15.11. *On the basis of 15.3., and 15.8, each student evaluates his mutual assessment (evaluation).*

15.12. *Out of the basis of 15.3. and 15.8, the pair evaluates their own self-assessment*

15.13. On the basis of 15.3., and 15.8, the teacher puts in the register the marks of mutual assessment (evaluation), which the students gave to themselves; for the self-evaluation of the pair, which the pair gave to themselves; for the quality of individual work; for the quality of common work; for assessment of their self-assessment; for the self-assessment of the pair.

Special Methodology 16.

Task 16. To formulate cooperatively the practical aim. To create individually means and methods of aim solution.

Methodology of solution organization.

16.1. The class formulates the practical aim of cooperative action.

16.2. The students in pairs analyze independently the aim and formulate the tasks.

16.3. The class works out and formulates independently the criteria of working out the model of aim solution and criteria of the cooperative action assessment (evaluation).

16.4. The students in pairs distribute the tasks between themselves.

16.5. *Each student chooses (creates) independently means and methods of solution of his own task.*

16.6. Coordinated individual solutions of the tasks, distributes between the students in the pair.

16.7. Out of two separate independent individual tasks the pair creates the common for the pair solution of the aim.

16.8. On the basis of 16.3. the class creates (chooses) independently the model of the practical aim solution.

16.9. On the basis of 16.3., and 16.8., the students assess (evaluate) themselves in pairs.

16.10. On the basis of 16.3. and 16.8., the pair evaluates (assesses) themselves.

16.11. on the basis of 16.3. and 16.8., each student assesses (evaluates) his mutual assessment (evaluation)

16.12. On the basis of 16.3. and 16.8., the pair evaluates their own self-assessment.

16.13. On the basis of 16.3. and 16.8., the teacher puts in the register the marks for the mutual assessment (evaluation), which the students gave to themselves; for self-evaluation of the pair, which the pair gave to themselves; for the quality of individual work; for the quality of common work, for the assessment of their self-assessment, for self-assessment of the pair.

Special Methodology 17.

Task 17. To assess (evaluate) individually one's own action in a pair; to assess individually the cooperative action; to assess individually one's own self-assessment.

Methodology of solution organization.

17.1. The class formulates the practical aim of cooperative action.

17.2. The students in pairs analyze the aim and formulate the tasks.

17.3. The class works out and formulates the criteria of working out the model of the practical task solution and criteria of assessment (evaluation) of the cooperative action.

17.4. The students in the pair together distribute the tasks between themselves.

17.5. Each student in the pair creates (chooses) independently means and methods of practical solution of his task.

17.6. Coordinated individual solutions of the tasks distributed between the students in the pair.

17.7. In the pair, out of two independent individual solutions, the aim solution is created, which is common for the pair.

17.8. On the basis of 17.3., the class creates (choose) the model for the aim solution.

17.9. On the basis of 17.3. and 17.8., each student assesses independently his individual action in the pair.

17.10. On the basis of 17.3. and 17.8. , each student assesses (evaluates) the result and action of his pair.

17.11. On the basis of 17.3 and 17.8, each student evaluates (assesses) independently his self-evaluation.

17.12. on the basis of 17.3. and 17.8., each student assesses (evaluates) his assessment (evaluation) of the result and action of the pair.

17.13. On the basis of 17.3. and 17.8., the teacher puts in the register the mark for self-evaluation, which every student gave to himself; for individual assessment of the pair; for the quality of the individual work; for the quality of cooperative work; for assessment of individual self- assessment; for individual assessment (evaluation) of the pair.

Special Methodology 18.

Task: 18. To create individually means and methods of practical aim solution.

Methodology of the solution organization.

18.1. The class formulates the practical aim of the cooperative action.

18.2. The students in a pair together analyze the aim and formulate the tasks.

18.3. The class works out and formulates the criteria of choosing (creating) the models of the task solution and criteria of assessment (evaluation) and self-assessment of the cooperative action.

18.4. Each student creates (chooses) independently the means and methods of both tasks (practical aim) solution.

18.5. Each student solves the aim (both tasks) independently.

18.6. On the basis of 18.3., the class works out the model of the aim solution result.

18.7. On the basis of 18.3. and 18.8., each students assesses (evaluates) independently his individual action in the pair.

18.8. On the basis of 18.3. and 1.8., each student assesses (evaluates) independently the result and action of his pair.

18.9. On the basis of 18.3. and 1.8., each student assesses (evaluates) independently his self-assessment (self-evaluation).

18.10. On the basis of 18.3. and 18.8., each student assesses (evaluates) his evaluation (assessment) of the result and action of the pair.

18.11 On the basis of 18.3. and 1.8., the teacher puts in the register the mark for self-evaluation, which each student gave to himself; for individual assessment (evaluation) of the pair; for the quality of individual work, for the quality of the common work, for the assessment (self-assessment) of individual self-assessment.

Special methodology 19.

Task 19. To create individually the model of the solution result.

Methodology of solution organization.

19.1. The class formulates the practical aim of the cooperative action.

19.2. The students in the pair, together, analyze the aim and formulate the tasks independently .

19.3. The class works out and formulates the criteria of choice (creation) of the model of practical aim solution, and the criteria of assessment (evaluation) and self-assessment of the cooperative action.

19.4. Each student in the pair creates (chooses) independently the means and methods of both subtasks (practical aim) solution.

19.5. Each student in the pair independently practically solves the aim (both tasks).

19.6. Each student chooses (works out, creates) independently the model of practical task solution, on the basis of 19.3.

19.7. On the basis of 19.3. and 19.6., each student assesses (evaluates) independently his individual action.

19.8. On the basis of 19.3. and 19.6., each student assesses (evaluates) independently the result and action of the other students

19.9. On the basis of 19.3. and 19.6., each student assesses – independently his self-assessment

19.10. On the basis of 19.3. and 19.6., each student assesses(evaluates) independently his assessment (evaluation) of the result and action of the other students.

19.11. On the basis of 19.3. and 19.6., the teacher puts into the register the marks for self-assessment (self-evaluation) which each student gave to himself; for assessment of the other students; for the quality of individual work; for assessment (evaluation) of individual self–assessment.

Special methodology 20.

Task 20. To analyze the aim and formulate the task individually.

Methodology of solution organization.

20.1 The class formulates practical aim of the cooperative action

20.2. Each student analyzes independently the aim and formulates the task.

20.3. The class works out and formulates the criteria of choice (creation) of the model of aim solution, assessment (evaluation) and self-assessment (self-evaluation) of the cooperative action.

20.4. Each student creates (chooses) independently the means and methods of practical solution of both tasks (aim).

20.5. Each student solves independently and practically both tasks (aim).

20.6. Each student creates (chooses) independently the model of practical solution on the basis of 20.3.

20.7. On the basis of 20.3. and 16.6., each student assesses (evaluates) independently his individual action.

20.8. On the basis of 20.3.and 16.6., each student assesses (evaluates) independently the result and action of the other students.

20.9. On the basis of 20.3. and 16.6., each student assesses (evaluates) independently his self-evaluation.

20.10. On the basis of 20.3. and 16.6., each student assesses (evaluates) independently his assessment of the result and action of the other students.

20.11. On the basis of 20.3. and 20.6., the teacher puts in the register the mark for self-assessment, which each student gave to himself; for assessment (evaluation) of the other students, for the quality of individual work, for assessment of individual self-assessment.

Special Methodology 21.

Task 21. To formulate individually the aim of action.

21.1. Each student formulates independently the aim of the educationally-generative action.

21.2. Each student analyzes independently the practical aim and formulates the tasks.

21.3. Each student works out and formulates the criteria of creation (choice) of the model of solution of practical aim, assessment (evaluation) and self-assessment of action.

21.4. Each student creates (chooses) independently means and methods of both sub-tasks (aims) solution.

21.5. Each student solves independently and practically both tasks (practical aim).

21.6. Each student creates (chooses) independently the model of solution of practical task and action assessment (evaluation).

21.7. On the basis of 21.3.and 21.6., each student assesses (evaluates) independently his individual action.

21.8. On the basis of 21.3.and 21.6., each student assesses (evaluates) independently the result and action of the other students.

21.9. On the basis of 21.3.and 21.6., each student assesses (evaluates) independently his self-evaluation.

21.10. On the basis of 21.3. and 21.6., each student assesses (evaluates) his evaluation (assessment) of the result and action of the other students.

20.11. On the basis of 20.3. and 20.6., the teacher puts in the register the mark for self-assessment, which each student gave to himself; for assessment (evaluation) of the other students, for the quality of individual work, for assessment of individual self-assessment.

5.5. Main Results of Experimental Research.

5.5.1. *Empiric Results.*

The aim of experimental research was to assert in practice the fact of change of the psychic development character with the change of mechanism of origin of the objective (subjective) action determinants. The main empiric result of the experimental research is the fact of practical implementation of the psychological transition between the sensory-mediated structure of objective (subjective) action and perceptively-mediated structure of the objective (subjective) action as a result of implementation of self-development organization technology. This fact of change of the psychic development character was repeatedly proved in several typical situations.

First, in the situation of self-development organization under the conditions of the main educational discipline “Fundamentals of Projecting and Designing”. Presence /Absence of the self-development fact was proved on the basis of the presence/absence of change of the ability to solve mathematical (geometrical) tasks, which possess a new psychological complexity.

Second, in situation of the self-development organization under the conditions of the subsidiary educational discipline “Fundamentals of Theoretical Natural Science”. Presence/absence of the self-development fact was proved on the basis of indication of presence/absence of the change of the ability to solve physical tasks on the spreading of molecules of gas in the air, possessing a new psychological complexity.

Third, in the situation of self-development organization under the condition of subsidiary educational discipline “Concentration”. Presence/Absence of self-development fact was proved

on the basis of indication of presence/absence of the change of ability to solve chemical tasks on preparation of binary solutions with the properties, possessing a new psychological complexity.

In all three situations the psychological basis of educational process was the self-development organization technology, worked out and realized on the basis of internal logics of development of the structure of cooperative creative action, and objective (subjective) situations differed significantly by their concrete objective (subjective) content (mathematics, physics, chemistry). But the internal logics of qualitative change (complication) of the objective (subjective) educational tasks in all three cases was the same and corresponded to the logics of creative action, the logics of change of the level of objective (subjective) action mediation. On the whole, it was shown that the academic achievement of the experimental classes qualitatively differs from the academic achievements of the control classes. The results of similar research are represented in [314, p.1112] [315].

To *the main psychological results* we refer, first of all, the positive dynamics of educational motivation, provided by the technology of constructing new abilities. The indications of educational motivation were the desire to attend lessons, the desire to speak before the class, the desire to participate in discussion, attitude towards educational subjects, activity in discussions, etc. For investigation of the dynamics of educational motivation observations, questionnaires, etc. were used. Besides, the positive dynamics of educational motivation served as the criterion of assessment of practical action of teachers, who conducted the experiment, the effectiveness of the system of preparation and re-education of teachers-experimenters, and the effectiveness of methodical service work. As compared to control group of students, studying under the conditions of classical technologies of appropriation, the students of experimental groups always showed the positive dynamics of educational motivation, irrespective of age, educational discipline, type of school, locality, etc.

To the main *psychological results* we also refer the positive dynamics of independence of educational action. There were used the following indications of independence: the ability to possess one's own point of view and persist in it, the desire to reason one's point of view, the ability to control and assess oneself, the ability to create means and methods of solving the tasks, the ability to formulate the criteria of control and assessment (evaluation) of action, the ability to create (choose) the models of tasks solution, etc. Ability for communication is also one of the psychological indications. As the indications of the ability for communication, there were used the ability to take into account the other's point of view, the ability to change one's point of view if the other proves the necessity to do it, the ability to cooperatively formulate the criteria of control and assessment, ability to cooperatively formulate aims and tasks, the ability to cooperatively create means and methods, the ability to cooperatively synthesize the common result, the ability for mutual help and mutual assistance, the ability to listen to the other without interruption, etc.

To the main *objective (subjective) results* we refer systemic character (integrity) of the acquired knowledge and skills and "theoretical" (universal) character. The objective (subjective) results of experimental research convincingly show that the application of self-development organization technologies in the educational process changes qualitatively the knowledge-related result of education and reduces significantly the time of education in comparison to educational technologies based on appropriation.

The problem situations, which supposed the necessity of obtaining paradoxal results of the objective (subjective) actions (i.e. the results, which from the first sight contradict the acquired concept) are used as diagnostic situations. Such results are brought about in application of the method under the unusual conditions, for example, if to assign the initial (acute) angle of the arbitrary dimension (e.g.: about 45 degrees) and pro-

pose the draw 5 angles, increasing twice. In this case, the second angle will be right, the third-straight line, the fourth and all following it – circles.

The successful solution of this task can take place only in that case, if there has been formed the ability to see behind the phenomenon the means of its origin, however paradoxal it may seem. This means that the universal (not particular) ability has been formed to construct the ideal form of the objective (subjective) action and implement it practically, correlating the ideal and real forms.

If the ability (mediating action of the reflexive consciousness) is formed as a particular ability (and the action, naturally, transformed into the skill), then the action represents not the universal relation, capable of reproducing any concrete form of a given class, but a concrete relation, capable of reproducing the concrete ideal form, toughly connected with its concrete real form. The change of the task condition, supposing the construction of a new concrete relation of the ideal and real forms, causes the unsurmountable difficulties, as such a student is only able to actualize the imprinted “tough” relations, but he is not able to construct, build and rebuild these relations independently.

Such results are also caused by transition of the action (ideal form of the action) into a new objectivity, e.g.: if to acquire intuitive operation of ordering on mathematical objects and to produce the diagnostics of the accomplishment of intuitive operations, for instance, on chemical objects (e.g.: the binary mixtures of two liquids).

The following additional indices of empiric effectiveness of experimental self-development organization technologies (facilitating the change of the self-development psychic level at the expense of change of the level of objective action mediation) were used: dynamics of educational motivation; attitude towards the educational process, attitude towards oneself, attitude towards friends in the group (class), attitude towards the teacher, possessing one’s own point of view, the ability to listen to a

friend, the ability to deny one's point of view; the ability to control oneself, the ability to independently construct the models of methods and results of one's own actions, the ability to assess oneself, the ability to independently formulate the educational task; the ability to independently formulate the criteria of effectiveness of the creative (educational) action.

The following methods were used as additional: observation, conversation, inquest, the method of diametrical tests, analysis of the products of action [316] [317].

5.5.2. Methodical Results.

To the main methodical results of experimental research, we attribute the educational technology as the means of organization of self-development at the expense of production of new meanings as its psychological means. The structure of transition among objective actions of different historical types underlies the educational technologies of new abilities production. Historical types of objective (subjective) actions differ in character of their mediation. The first type of action is the one representing the ordered states of objective properties of cultural objects, mediated by the sensory ideal form, which is the product of experiencing consciousness. The second type of action is the one, ordering the numbers of objective (subjective) properties of cultural objects, mediated by the perceptive ideal form, which is the product of intuitive consciousness. The third type of action is the one, ordering the quantity of the objective (subjective) forms of cultural objects, mediated by the rational form of reflexive consciousness. The fourth historical type of action is the one, ordering the qualities of historical forms of the objective (subjective) cultures, mediated by the historical form of reflexive consciousness.

Transitions between the historical types of objective (subjective) action are provided by the creative action. Its structure is the psychological basis of educational technology of self-development, the object of which is production by the students of new ideal forms of their own action as means of its organiza-

tion. Twenty one basic components of educational technology are singled out. They correspond to twenty one successively implemented actions in the structure of creative action.

5.5.3. Theoretical Results.

To *the first group of theoretical results* of experimental research we attribute the psychological conception of self-development. This conception proceeds from understanding the Man as the source of development of culture, socium and himself. The necessity of its creation is connected with the necessity of considering a different type of determination of the Man's existence, purposeful. Such type of determination is historical (creative) determination, the essence which is the artificial nature of self-development determinants, rather than inartificial nature of determinants of the externally determined development. This means that in case of socio-stipulated development, the developing (developed to be more exact) man finds the determinants of his development in the "external" socio-cultural environment. The "external" nature of determinants of socio-stipulated development assigns unambiguously the adaptive (functional, "horizontal") character of development. This assertion equally concerns both socio-reflectory (reflex) and culture-historical conceptions of development. In our opinion it is possible to surmount the adaptive(functional "horizontal") character of development not as the means of "ingrowth", inclusion into the naturally built socio-cultural situation, but as the means of production of socio-cultural situation. In this case the development acquires the character of self-development only in that sense, that the development as the qualitative self-change becomes possible only as a result of production of means of development by the developing man himself. As the man is the culturally mediated creature, the culture of a new type acts as the means of self-development, in particular, the ideal form of culture of a new historical type. Under the conditions of education, self-development becomes possible at the expense of projection of educational situation on the basis of historical prin-

ciple as the successions of the alternating historical types of objectively-cultural situations. The initial situation, determining self-development is the genetic problem, representing the contradiction between the means of objective (subjective) action of the previous historical type and objectively-cultural situation of a new historical type. Creative action, which is the form of self-development, acts as the means of genetic problem resolution.

To the second group of theoretical results of the experimental research we attribute the historical periodization of the psychic self-development. It is built on the basis of the criteria of mediatedness of the objective (subjective) action and represents the stages of “vertical” and “horizontal” vectors of self-development, expressing the spiral-shaped model of self-developmental process.

The peculiarity of the “vertical” vector of self-development is that this is the vector of emergence of a new type of objective (subjective) action. The peculiarity of “horizontal” vector of self-development is that this is the vector of formation of a new historical type of objective (subjective) action, which emerged in the “vertical” direction.

The difference of the proposed periodization of self-development from periodizations of psychic development, available in the psychology of development, consists in the fact, that the transition from one stage of development to the other, takes place as a result of cooperative creative action, the object of which is the production of new psychological means of self-development (meanings of a new type).

Periodization of the ontogenetic development looks in the following way.

1. Creative communication, generating the sensory meanings
2. Sensory-mediated action
3. Creative communication, generating the perceptive meanings
4. Sensory form of the perceptively-mediated action
5. Perceptive-form of the perceptively-mediated action

6. Creative communication, generating the symbolic meanings.
7. Sensory form of the symbolically-mediated action
8. Perceptive-form of the symbolically-mediated action
9. Symbolic form of the symbolically-mediated action
10. Creative communication, generating historical senses.
11. Sensory form of the historically-mediated action
12. Perceptive-form of the historically-mediated action
13. Symbolic form of the historically-mediated action
14. Historical form of the historically-mediated action

To the third group of theoretical results of the experimental research we attribute the model of the creative mediation as the psychic mechanism of development.

The mechanism of causal mediation “works” only in that case, when there takes place the relation of isomorphism between the external causes and internal conditions. In this case the external cause acts as the internal determinant of the reflective action, which is the process of formation of the internal conditions on the basis of inductive logics “from the single - to the universal”.

The mechanism of sign mediation “works” only in that case, when there takes place the relation of isomorphism between the objective ideal forms of the cultural objects (motives) and subjective ideal forms (aims) of the objective (subjective) actions. In this case the objective ideal form of the cultural object (motive) acts as the internal determinant (aim) of the objective (subjective) action, which is the process of formation of cultural objects on the basis of deductive logics “from the universal – to the single”.

The mechanism of mediation “works” in the case, when there is the relation of genesis between the types of objective (subjective) actions. In this case the new type of objective (subjective) action acts as the determinant of educational- generative action, which is the process of creation of objective action of a new type on the basis of the historical logics of genesis.

5.5.4. Methodological results.

To the main methodological results of the experimental research we attribute the creatively-experimental method. This method was worked out of for self-development organization, which is understood as the qualitative change of the level of mediatedness of individual objective (subjective) action, first of all, at the expense of production by the man of its new ideal forms.

Up to now, Psychology worked out two types of methods of cognition organization as the appropriation of ideal forms. The fundamental scientific psychological schools were established by the scientists who gave preference for one of these two methods. The brightest examples of such schools in domestic psychology are socio-reflectory psychological school (S.L.Rubinshtein, K.A.Abulhanova-Slavskaya, I.S.Brushlinskiy, A.M.Matyushkin, I.S.Yakimanskaya, D.B.Bogoyavlenskaya, etc.) and culture-historical psychological school (L.S.Vygotsky, A.R.Luriya, A.N.Leontiev, A.V.Zaporozhietz, L.I.Bozhovich, D.B.Elkonin, P.Ya.Galperin, M.I.Lissina, V.V.Davidov, etc).

The representatives of socio-reflectory (reflex) psychological school focused their efforts on the method of inductive cognition, based on appropriation of the ideal forms by the mechanism of ‘external’ causes –through internal conditions’ (internal – from the internal), i.e. on the consumption of culture. This method was worked out by S.L.Rubinshtein and later implemented in educational practice as the technologies of personality oriented education (I.S.Yakimanskaya). Culture-historical psychological school concentrated the efforts on the method of deductive cognition, based on the appropriation of the ideal forms by the mechanism of interiorization (internal – from the external), i.e. on the culture consumption too, but on the basis of another psychic mechanism. This method was worked out by L.S.Vygotsky and later implemented in educational practice as the technology of developing education (D.B.Elkonin, V.V.Davidov). Culture-historical psychology possesses several

modifications of this method: experimentally-genetic method of L.S.Vygotsky, the method of developing experiment of P.Ya.Galperin and the method of genetic-modelling experiment of V.V.Davidov.

Objectively-practical result of the creatively-experimental method is the system of construction of the “cross-cutting” educational disciplines. The main principle of constructing such disciplines is the historical principle of complication of the objective tasks. Another principle is the principle of constricting educational disciplines system. This means that the logics of complication is laid not only into the basis of some separate disciplines, but of the whole system of educational disciplines. The “cross-cutting” educational discipline is the system of educational and objective (subjective) problems, the methods of solution of which are found by the students themselves.

Elaboration of the “cross-cutting” educational discipline demands the historical analysis of corresponding system of objective (subjective) knowledge, as a result of which the initial basic genetic contradiction is formulated, which, being the objective content, preconditions and determines the qualitative peculiarity of the objective (subjective) knowledge in its own history of development. While working-out the “cross-cutting” educational disciplines or the whole system of educational disciplines, special attention should be paid to the periods of change of the historical types of the objective knowledge, because, exactly the transitions and change of the type of objective knowledge assign both objective (subjective) and psychological content of creative education.

As the basic objective (subjective) structure of the situation (objective structure of knowledge) assigns and determines the basic psychological structure of educational and cognitive action, and the objective (subjective) structure of transition from one historical type of the objective (subjective) knowledge to another assigns and determines the psychological structure of creative action, as the transition from the objective (subjective)

action of one historical type to the objective action of another historical type, the structure of the educational and objective problem, assigns the structure of educational and psychological problem, i.e. fully determines the logics and character of the creative educational process.

Conclusions on the fifth part.

The conception of the current experimental research is the thesis that the essence of education, which is to shape the ability to self-development, is not the appropriation, but the production of culture by the students (culture-creation). The production of culture is possible as a result of practical implementation of the following organizational scheme.

1. Analysis of the problem situation and formulation of the genetic problem as the contradiction between the new type of the objective (subjective) culture and the previous type of the objective (subjective) action.
2. Formulation of the hypothesis as the means of problem solution: it is necessary to bring into line the new type of objective (subjective) culture and objective action as the means of its reproduction. To achieve this, it is necessary to turn the available type of the objective (subjective) action into a new type of the objective (subjective) action.
3. To achieve this, it is necessary to apply the historical reflexion and reconstruct the history of development of objective (subjective) culture.
4. As a result of objective reflexion, to construct the historical logics of the objective culture development.
5. As a result of psychological reflexion, to transform the historical logics of development of the objective (subjective) culture into historical logics of development of objective action.
6. As a result of creative reflexion, with the help of development of objective action, to construct the meaning of the new type.

7. With the help of the constructed meaning of a new type, stage-by-stage, by actions, to build the whole structure of the objective (subjective) action of a new historical type.

On the basis of comparison of classical conceptions of the ontogenetic development and the conception of ontogenetic self-development, the conclusion was made, that the processes of ideal forms appropriation and the processes of construction of ideal forms are based on different psychic mechanisms. This comparison resulted in the main hypothesis of experimental research: construction of the ideal forms as the means of self-development by the students will become possible, if to change the mechanism of social mediation (mechanism of ideal forms appropriation) by the mechanism of historical (creative) mediation (mechanism of ideal forms production). As the main stages of confirmation of the main hypothesis, the following special hypotheses were confirmed:

1. Mechanism of causal mediation represents the psychic mechanism of inductive appropriation of the ideal forms. The limited character of the mechanism of causal mediation was illustrated.
2. Mechanism of sign mediation is the psychic mechanism of deductive appropriation of the ideal form. The limited character of the mechanism of sign mediation was illustrated.
3. Social nature of the man is the factor, which preconditions the externally determined development. There was shown the limited character of social nature of the Man and impossibility of organization of self-development processes on its basis.
4. Culture-generative educational environment of self-development must be based on the historical nature of the Man and represent the objectively-problematic situations, the means of solution of which is self-development, and the method of organization is the creative experiment.
5. Psychic mechanism of the internally preconditioned development (self-development) is the mechanism of creative mediation.

Conclusions.

As a result of the sources analysis (part I), it was established that the determinants of individual research, presented in modern conceptions of ontogenetic research possess “external” nature.

As a result of research into the theoretical models of individual development, which are presented in modern conceptions of individual development (part 2), it was illustrated that the psychic mechanisms of individual development, discussed in modern conceptions of the ontogenetic development, are the mechanisms of the “external” determinants appropriation. In connection with this, the modern conceptions of development present, in fact, only one type of development, exactly, “horizontal” type of development (formation).

As a result of the analysis of the models of individual development of psychic mechanisms, available in modern psychology, and their critical reexamination, there was created the model of mechanism of production of the “internal” self-development determinants (part 3). This mechanism is creative mediation, and individual self-development on the basis of this mechanism is carried out at the expense of production of the ideal forms (meanings) by the students themselves.

As a result of critical analysis of naturally-scientific method, based on induction, and experimentally-genetic method, based on deduction, the conclusion was made that these methods cannot be used as the method of self-development organization. As the method of self-development organization, the method of creative experiment can be used, which is based on the abduction (transformation of the existing facts into new hypotheses), the model of which was proposed in part 4.

As a result of many years of the large scale experimental education, on the basis of educational technology of constructing new possibilities, it was established, that one of the main practical results is the change of educational motivation from

the negative to the positive and constant growth of interest for studies.

Experimental research, presented in part 5, showed that not only the educational motivation of the students follows the established regularity, but also the motivation of the teacher, who has passed the corresponding system of introduction into experimental education, in accordance with the revealed regularity.

Deduction.

Experimental research, conducted in this work showed the following.

1. The results of analysis of modern ideas on the mechanisms of individual development led to the conclusion that the mechanisms of self-development can be worked out only on the new methodological basis. As a result of methodological analysis, it was revealed that the target at the socio-cultural nature of the man allows to realize only one particular model of development – “horizontal” or functional development (formation). Consequently, in the limits of this methodology, the mechanisms of “horizontal” development will always represent the mechanisms of socio-cultural adaptation of the man to the actually existing socium. In modern psychology such mechanisms are the mechanism of causal mediation and the mechanism of sign mediation, providing, in the first case, the processes of inductive appropriation of the ideal form, in the second case, the processes of deductive appropriation of the ideal forms.

2. As a result of the analysis of the inductive (“external causes through internal conditions”; “internal from the internal”) and the deductive (“internal from the external”) methods as psychological categories and ways of organization of the educational process of the ideal forms appropriation, the main opinions on the creatively-experimental method, as the method of the ideal forms production, was formed. These opinions are: the Man possesses the historical (universal) nature; socium and culture are the product of human intersubjectivity; the Man is the historical being, who by his action produces the history of nature,

socium, culture and himself; the qualitative self-change of the Man takes place as a result of his creative action, which is the means of production of new ideal forms; self-development is the essential means of the man's existence, which is the transition from its one historical form to another at the expense of his own creative (productive) action; the unity of historical and creative reflexion acts as the mechanism of such historical transition.

3. Creatively-experimental method served as the methodological basis for creation of the model of mechanism of creative mediation, founded on the idea of historical nature of the Man. As compared to the causal and sign mediation, the creative mediation is the mechanism of production of the ideal forms as the means of qualitative self-change (self-development).

4. The model of creative mediation mechanism served as the theoretico-methodological basis for working-out the structure and logics of implementation of the educationally-creative action, which is the process of transformation of the structure of objective (subjective) action of the previous historical type into the structure of objective (subjective) action of a new historical type, i.e. the process of self-development.

5. The logics of unfolding (uncoiling) of the educationally-creative action structure served as the basis for elaboration of the educational technology of the students' self-development organization. The technology represents the system of concrete methodologies, acting as the means of organization of the students' creative action, and the aim of which is creation (production) of the relevant components (action) of the objective (subjective) action of a new historical type. The common scheme of such transition is the succession of twenty stages (of twenty creative actions), each of them is accomplished by constructing a corresponding component of the structure of the objective (subjective) action of a new historical type.

The following succession of stages is theoretically substantiated: collective formulation of the problem; collective formation of the motivation for self-change; collective formation of

the means of perception of a new objective (subjective) form; collective constructing of a new method of practical action; collective formulation of the criteria of comparison of quantities of a new objective (subjective) form; collective formulation of definition of the “aim/goal” concept; collective formulation of means of control and assessment (evaluation) of future practical results; cooperative creation (selection) of the means of practical tasks solution; cooperative formulation of educationally-creative subtasks and their distribution between themselves; individual practical solution of subtasks and cooperative control of results; mutual and cooperative assessment (evaluation); collective creation (selection) of the model of practical solution; cooperative analysis of a new task; collective formulation of a new task; individual assessment (evaluation) of cooperative action; individual creation of the means and methods of new tasks solution; individual creation of the model of a practical task solution; individual analysis of a new task; individual implementation of the structure of objective (subjective) action and the structure of creative action.

6. Practical application of the educational technology allowed to solve two most important problems, which haven't been completely solved in the theory of developmental education. The first problem is naturalization of the sign as an object of appropriation. The essence of the theory of developmental education is the appropriation of the abstract (meaning) as a result of its interiorization. In real educational situation the ideal form, as the appropriated model of action, is manifested in the form of its objective (subjective) model, i.e. through the direct image of perception. By its nature perception is the means of fixation of the solitary. The student, not possessing any adequate theoretical means (logics of the objective actions, objective notions), proceeding from the nature of his psychic possibilities, can treat the presented objective (subjective) action only as a single (solitary process). Demonstration of the action, the direct translation of meanings from the teacher to students cannot solve the

problem, either. Self-development technology solves this problem at the expense of the fact, that the meanings are initially created (produced) by the students themselves. In this case, the object of action initially serves as the sign of the objective (subjective) action, and the problem of its naturalization doesn't arise at all. The second problem is transformation of the cooperative form of educational action into its individual form. It arises because the primary target of the theory of developmental education (theory of educational action) is the division of students in their cooperative work in accordance with the actions of the cooperative action structure. This means that in cooperative action each student fulfils only one action, coordinating it with the actions fulfilled by the other students.

Such principle of formation of the cooperative action structure is the central cause of the problem emergence. This takes place, because, really participating in cooperative action, the student never carries out the whole (integral) structure of the action. As a result, he assimilates only separate actions, but the ability to connect these actions into the integral structure is not formed. Self-development technology solves this problem at the expense of the fact, that the division of students takes place not by the structure components of the cooperative action (in accordance with the fulfilled actions), but by two functions of the integral structure of action. And exactly, as the experimental situation presented the situation of ordering the objective space, the division took place by two aspects of the method of ordering (method of comparison): by the aspect of increase of the ordered factor and by the aspect of reduction of the ordered indication. Mastering any particular aspect of ordering always takes place under the conditions of implementation of the integral structure of action. Mastering both sides of the method leads to formation of the "flexible" structures of action ("reversible operations", according to J.Piaget).

7. Empiric results prove that self-development technology is able to solve the central problem of school education – the prob-

lem of educational motivation. One of the main psychological results of experimental research is the positive dynamics of educational motivation throughout the whole period of experimental education. This result is especially important against the background of negative dynamics of educational motivation, which is the most characteristic feature of the modern system of classical education.

8. Practical application of self-development technology allowed to solve the problem of consistency and “theoreticity” of knowledge acquired by the students. We managed to illustrate experimentally that the technology is capable of providing successful assimilation of knowledge by all children, which in the real practice of classical school education is mastered precariously and formally. This especially concerns that knowledge, the essence of which is genetically-initial objective (subjective) relation. Such knowledge involves the concepts of concentration, proportion, discrete models of substance, consisting of different molecules, the concept of “geometrical form”, etc.

Perspectives of research.

The sense of many years of experimental research was creation of the theoretico-methodologico- empiric foundations of the model of system of creative education [318] [319] [320] [321]. In the quality of such model, creative education can give an impulse to reformation of the system of education and upbringing. Creative education can give opportunity to educate the new generations capable of not only reproducing the experience of the previous generations, but producing (creating) such an experience. The main thing that the system of creative education must do is educate the people, who are able to produce, in problem situations, the new experience (new knowledge; new means new meanings and senses) and make them their social heritage. The results of the conducted experimental research will give the opportunity to start the large-scale practical realization of the new principles of creative education. Nowadays, there develops

the work on creation of the system of educational Centres, which could further become the basis for creation of the large-scale model, which will allow to obtain the result, inaccessible for the classical system of education, resting on the outdated and unpromising principles of translation and appropriation of the former social experience.

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