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TO THE QUESTION OF BUILDING THE UNIVERSAL MODEL OF THE DEVELOPMENT OF WORLD PEDAGOGY AND EDUCATION

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The purpose of the research is to build a universal dialectical model simulating the development of world pedagogy and education. The urgency of this task stems, on the one hand, from the system crisis of human civilization, and, on the other hand, from the need in building new educational meanings and methods enabling to overcome the crises.

The research methods are based on theoretical and methodological procedure of analyzing the problem field of the research by moving from the general to the specific, that is, from theoretical aspects of the problem field to its practical aspects. One more used method is fractal-holographic modeling that helps to unify the processes of pedagogy and education development on local and global historic levels. The extrapolation procedure of system-theoretical reduction and simplification of the analyzed phenomena is also used, since the systems analysis is a means of combating complexity, a means of finding the simple in the complex.

The universal models of pedagogy and education development on local and global levels are built. So, the results of the research, which reveal its scientific novelty, indicate that the unfolding of the studied dynamic phenomena can be represented as a single invariant process, which is simulated by a universal dialectical model, unifying this process due to the mechanism of fractal-holographic nesting of the stages of the development of any educational phenomenon. Thus, the understanding of unfolding the educational and pedagogical phenomena in historical context as certain invariant algorithmic dialectical process has been reached. Prospective directions for the study of these educational and pedagogical phenomena may be the researches focusing on more differentiated analysis of the problem field of the research.

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Key words: historiography, historic and pedagogical process, natural, productive, creative pedagogical civilizations, pedagogical cultures, fractal-hologram modeling, universal dialectical model of world pedagogy and education development, systems analysis, triadic dialectical model of development of any phenomenon.

ДО ПИТАННЯ ПОБУДОВИ УНІВЕРСАЛЬНОЇ МОДЕЛІ РОЗВИТКУ СВІТОВОЇ ПЕДАГОГІКИ ТА ОСВІТИ

О. В. Вознюк, О. А. Дубасенюк

Мета дослідження – побудова універсальної діалектичної моделі, що симулює розвиток світової педагогіки та освіти. Актуальність цього завдання дослідження пов'язана, з одного боку, із системною кризою людської цивілізації, а з іншого, – з необхідністю побудови нових освітніх смислів та методів, що дозволяють подолати цю кризу.

Методи дослідження ґрунтуються на теоретико-методологічній процедурі аналізу проблемного поля дослідження шляхом переходу від загального до конкретного, тобто від теоретичних аспектів проблемного поля до його практичних аспектів. Ще одним застосовуваним методом є фрактально-голограмне моделювання, яке допомагає уніфікувати процеси розвитку педагогіки та освіти на локальному та глобальному історичному рівнях. Використовується також екстраполяційна процедура системно-теоретичної редуції та спрощення аналізованих явищ, оскільки системний аналіз є засобом боротьби зі складністю, засобом знаходження простого в складному.

Побудовані універсальні моделі розвитку педагогіки та освіти на локальному та глобальному рівнях. Результати дослідження, які виявляють його наукову новизну, свідчать про те, що розгортання досліджуваних динамічних явищ можна розуміти як єдиний інваріантний процес, який моделюється універсальною діалектичною моделлю, що уніфікує цей процес завдяки механізму фрактально-голограмного вкладення етапів розвитку будь-якого освітнього явища. Таким чином, досягнуто розуміння розгортання історико-педагогічних явищ як певного інваріантного алгоритмічного діалектичного процесу. Перспективними напрямками вивчення цих історико-педагогічних явищ можуть бути наукові розвідки, сфокусовані на більш диференційованому аналізі проблемного поля дослідження.

Ключові слова: історіографія; історико-педагогічний процес; природні, продуктивні, творчі педагогічні цивілізації; педагогічні культури; фрактально-голограмне моделювання; універсальна діалектична модель розвитку світової педагогіки та освіти; системний аналіз; триадна діалектична модель розвитку будь-якого явища.

Introduction of the issue.

Ukrainian historiography has entered a new state of its development when the theoretical and methodological foundations of historical research, including the study of Ukrainian history, have been qualitatively enriched (Yu. Alekseev, P. Dobrov, L. Zashkilnyak, I. Martyniuk, Y. Pavlenko, V. Potulnitsky, L. Taran, O. Udud, and others). The number of works of a methodological nature is growing (S. Zhuk, V. Masnenko, T. Gerasimchuk, V. Vashchenko, etc.).

Scientists conclude that it is expedient to carry out the researches of historical phenomena in a complex way by means of an interdisciplinary approach (G. Bondarenko, L. Borodkin, V. Bransky, S. Vodotika, O. Donchenko, V. Morgun, and others).

Under these conditions, there is now a search for fundamental meanings of the development of pedagogical process, to which some researchers devote their papers. In this connection, the works of scientists devoted to the analysis of the paradigmatic and methodological

essence of pedagogical and educational process are extremely important (M. Boguslavsky, O. Voznyuk, N. Gupan, E. Zadoya, O. Sukhomlinskaya, S. Bobryshov, G. Kornetov, K. Korsak, A. Sbruyeva, A. Semenova, A. Timchenko and others [2; 3; 5; 7; 9, 16; 18]).

Current state of the issue.

According to Z. Ravkin and V. Pryanikova, "the history of world pedagogy is not only an integral and necessary part of pedagogy itself, but also is an essential component of general history of culture, science, public opinion, being organically included in the process of their historical development. Such an understanding of the object under analysis reflects an inseparable unity of basic functions of the principle of historicism and presupposes the overcoming a limited, narrow approach to the study of the historical and pedagogical process, which is sometimes understood as belonging only to the past and not to the present and future, thus, being detached from the whole genesis of the spiritual culture of humanity" [15].

Overcoming the mentioned narrow approach is achieved through the integrated application of many scientific approaches, such as: paradigmatic, irrational-mythological, civilizational, evolutionary-synergistic, cultural-anthropological, modernist, socio-cultural.

One of the most heuristic approaches is the fractal-hologram one, which presupposes considering a large number of historical phenomena in the context of universal, invariant principles of crystallization of historical events (O. Donchenko, P. Shchedrovitsky, O. Kravtsov, etc.). This allows us to speak about the development of the historical and pedagogical process in the context of pedagogical civilizations, pedagogical formation and pedagogical cultures, which, according to P. Shchedrovitsky,

co-existed in each of the stages of pedagogy and education development. Under these conditions, the analysis of pedagogical formations enables to reveal the key content of education, its socio-cultural nature and results [21]. In this case, pedagogical formations can be understood as the boundary types of educational results existing simultaneously in parallel way within the whole pedagogical reality [12].

In this context, we can also analyze the pedagogical cultures (O. Kravtsov, O. Bondarevskaya, I. Kolesnikova, G. Kornetov, M. Mead [4; 8; 9; 12]), whose topology helps to understand the specifics of the changing functions of the education system in contemporary dynamic world, where the future comes rapidly and unfolds the reality being fundamentally different from that which was known and understood by previous generations.

In general, as G. Kornetov notes, during the nineteenth century, two traditions of the analysis of historical and pedagogical phenomena (such as pedagogical civilizations and pedagogical cultures) – Hegelian and Marxist – were formed [10], which, in some way, were reflected in the works of E. Mayer (in his book "Perspectives in History" [23]), as well as in the papers of I. Ziazun. G. Kremen, A. Kuznetsova, V. Symonenko and others [13].

According to triadic model of human evolution, we can speak of three pedagogical civilizations: natural, reproductive and creative.

Natural (primitive) pedagogical civilization provided the integration of human being into natural environment, and required such a pedagogue who was integrated into socio-natural landscape both at the level of a keeper of certain social traditions, spiritual values, knowledge and skills, and at the level of a translator of the spirit of sacred unity of man and the world. So, the pedagogue combined the secular (materialistic) and religious (spiritual)

aspects of social reality, thus being a multifaceted human creature.

Reproductive pedagogical civilization expresses the traditional type of upbringing, determined by social division of labor that reveals social inequality and, in this connection, forms different pedagogical strategies to meet certain social order. As a result, the teacher's personality, whose professional and personality qualities have become more specialized in socio-political and professional-personality respect, has been drastically changing.

Creative pedagogical civilization implements the subject-subject way of interaction of members of educational process and its organization; the major objectives of this process is person's mastering both the mechanisms of holistic information-energy exchange in the system "man-space" (revealing environmentally-friendly forms of human-nature interaction) and the ways to resolve various conflicts in the system "person-to-person" [14].

These three civilizations, on the one hand, coexist within one spatio-temporal segment of historical process (synchronic aspect), and on the other hand, are being consistently realized on a long historical path (diachronic aspect) revealing the phenomenon of resonance and fractal-holographic nesting of different historical cycles when unfolding of all these cycles is realized according to certain algorithm. This circumstance initiates a certain change in scientist's understanding of historical essence of educational and pedagogical processes, thus initiating many attempts at finding out a certain algorithm for the development of historical and pedagogical reality.

Aim of research is to elucidate this algorithm and to build a universal model of the development of world pedagogy and education on local and global historical levels.

Research methods, on the one hand, are based on theoretical and methodological procedure of analyzing

the problem field of the research by moving from the general to the specific, that is, from theoretical aspects of the problem field to its practical aspects. On the other hand, the researching process presupposes the extrapolation procedure of system-theoretical reduction and simplification of the analyzed phenomena. Among the research methods there are the fractal-holographic modeling that helps to unify the processes of education development on local and global historic levels.

Results and discussion. It is important to note that fractal-holographic modeling of social and pedagogical reality [7] is realized through an extrapolation procedure of system-theoretical reduction, simplification, which, as a method of the scientific mastering of reality, corresponds to the basic principle of systematic analysis: according to Yu. A. Chernyak, the systems analysis is a means of overcoming complexity, a means of finding the simple in the complex [20: 51]. As W. Ashby believes, systems theory is to be based on the method of simplification and, in essence, be the science of simplification; in the future, systems theorist should become an expert in simplification [22].

In this context, several models of historical time can be distinguished:

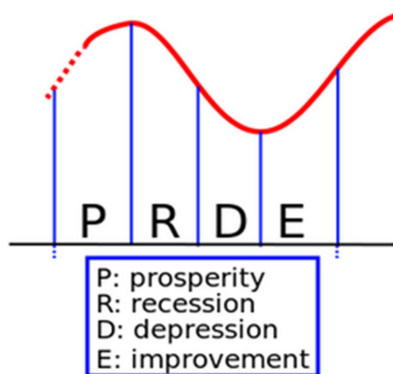
1. The ideas of ancient thinkers about the natural circle of time;
2. Developed in antiquity mental models of a simple perfect infinite circle;
3. Philosophical and theological models of linear theological time of the European Middle Ages;
4. Models of the spiral-cylinder vertical time known in Middle Ages within the Indo-Chinese tradition;
5. Models of the revival of anthropologic time, containing a spiral-cylinder model of history (M. Machiavelli);

6. A model of history in the form of an arrow of progress in the Enlightenment time (R. Descartes, J. Vico);

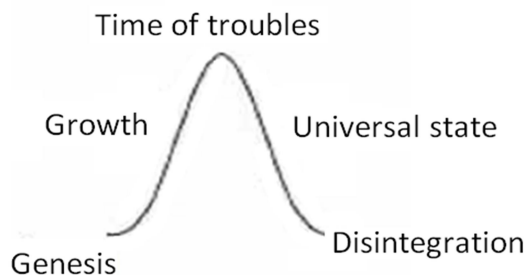
7. Spiral-cylinder multilevel model of time in science and philosophy of the XIX century (combining the ancient circle and phases with an arrow of progress);

8. A contemporary model of evolutionary time of the conical spiral type known in its two varieties (divergent and convergent) [1].

The analysis of these models, that can be unified through a triadic understanding of the time by ancient Greeks as Chronos, Cyclos, Kairos, makes it clear that the development of historical process is a universal entity realized in the form of a cyclic-wave algorithm, which, in its turn, appears to be a fractal-hologram phenomenon, revealing self-similar character, and being reflected in various cycles of development of human civilization in general, and certain aspects of it, in particular (Fig. 1).



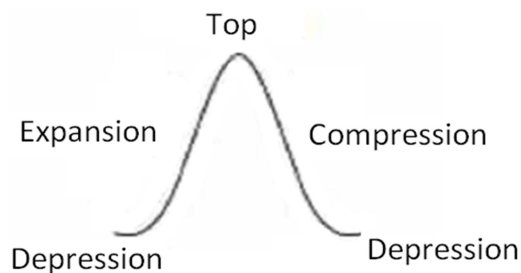
N.Kondratiev's cycles



A. J. Toynbee 's civilization cycle



F. Braudel's demographic cycle



Burns-Mitchell's economic cycles

Fig. 1. Some cycles of social and economic phenomena

The concepts of social development as a wave process, in its turn, allows to simulate the development of pedagogical reality on the basis of a certain algorithm, certain invariant

wave principles. An example of these is the phenomenon of fractal-holographic nesting of different historical cycles (Fig. 2).

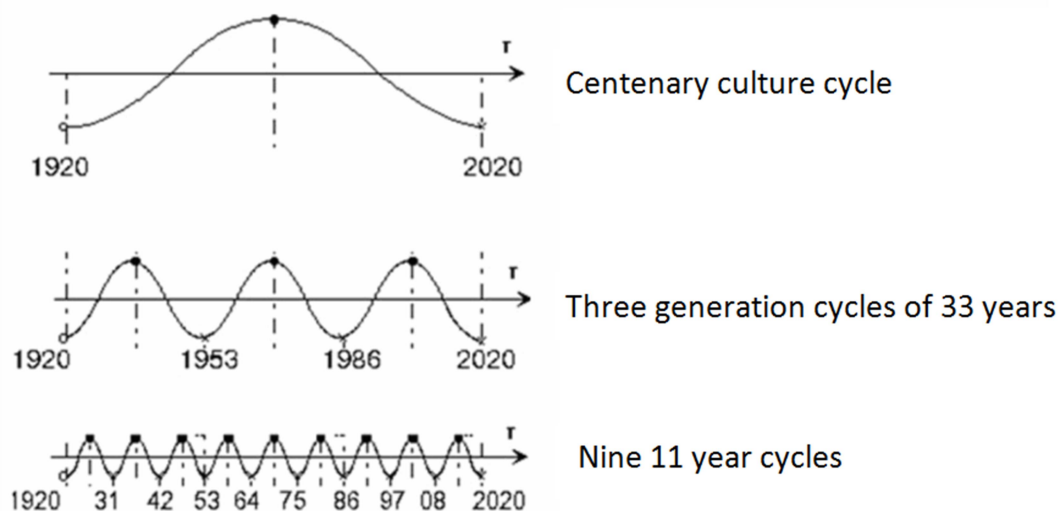


Fig. 2. Illustration of the phenomenon of fractal nesting of different historic processes

These models in invariant form can be represented in the form where three

cycles coexist – local, global and mega-global (Fig. 3).

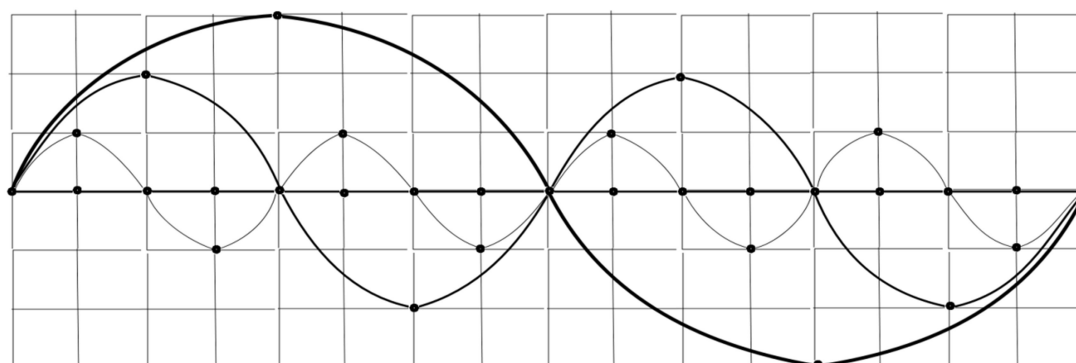


Fig. 3. Fractal nesting of three cycles – local, global and mega-global

Shown fractal-nested cycles, on the one hand, have different number of wave stages of their unfolding, and, on the other hand, the local cycle is characterized by that that some of its stages are enhanced by one or even two stages of larger cycles, and some, on the contrary, are weakened.

The stages of the local cycle can

undergo both an amplification (when the direction of the local stage coincides with the direction of the global stage) and a weakening (when the direction of the local stage does not coincide with the direction of the global stage).

The stages of resonant amplification or weakening in the figure are presented in shaded form (Fig. 4).

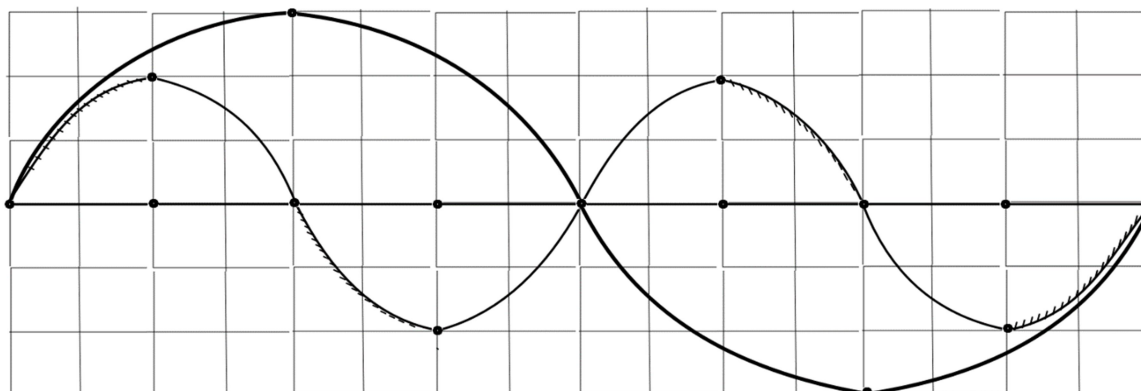


Fig. 4. Illustration of the effect of strengthening or weakening processes at some stages of the local cycle

The function of this process is calculated by the formula:

$F(t, \lambda) = \cos(\eta / 2 + 2t) + \lambda \cos t$. In this case, $0 < \lambda < 1$

The presented universal wave model

of development of any phenomenon of the Universe reveals a dialectical character, which is realized in the form of a triadic dialectical model (thesis – antithesis – synthesis).

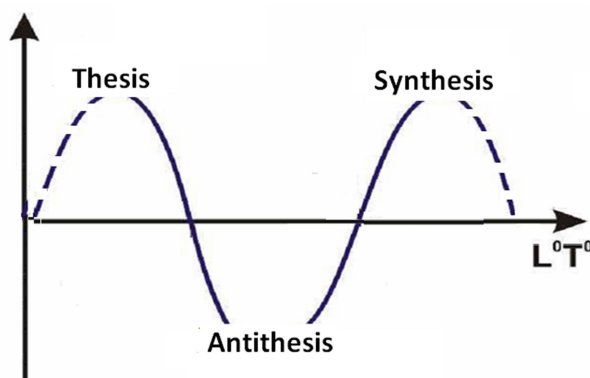


Fig. 5. The triadic dialectical model of development of any phenomenon of the Universe

The constructed universal model is reflected at the level of development of education and pedagogy in the context of global and local processes. Let us consider the development of education and pedagogy on a global level.

Thesis 1: Primitive societies. Subject-subject state of teacher-pupil integration, "direct" transfer of knowledge is realized through spontaneous act of mystical initiation or joint activity.

Antithesis: Societies of Modern Times. The subject-object state of differentiation of teacher and pupil, the transfer of knowledge by the rationalize oriented teacher is mediated by subject-

object relationships of all members of educational process.

Synthesis: The civilization of so-called Knowledge Society (or Information Society). The subject-subject state of integration of teacher and pupil (who are in equal position to the Truth), knowledge transfer is initiated as the process of birth of knowledge.

The same processes are revealed at the local level – in the sphere of development of domestic education for the period of socialist socio-economic formation.

Thesis 2: (20-40 – 60 years of XX century). The domestic school

developed in accordance to subject-subject educational paradigm, presupposing an orientation towards so-called "labour school" as a social institute, being more and more integrated into socio-economic life, and having a certain similarity to the functioning of the school in primitive communities. This process is also observed in the 60s – the Thaw Era.

Antithesis: (60ies – 80ies of XX century). This stage of development of education and pedagogy expresses a state of "stagnation", the dynamics of the educational process is slowing down. There is a dominance of the subject-object educational paradigm.

Synthesis: (80ies of XX century – beginning of 90ies of XXI century) At this stage of national education and pedagogy development there is an attempt to consolidate the subject-subject paradigm, to return to the principle of labour school, but on a new developmental stage.

Each of these stages, in turn, also reveals the triadic scheme of development, realizing the phenomenon of fractal-holographic nesting of the rhythms (stages) in the development of education and pedagogy. If we take the first stage of the development of national education and pedagogy (20-40 years – 60 years of the twentieth century) so it also reveals three dialectical sub-stages. Let us consider them.

Thesis 3: The initial stage of development of socialist socio-economic formation, the establishment of subject-subject paradigm of education as a tool of human development, which implements the principles of A. Makarenko's labour school (unfolding the collectivistic self-government, cooperative methods of studying).

Antithesis: Repression of the paradigm of subject-subjective labor school through strengthening the totalitarian pedagogy, which led to the

inhibition of the development of A. Makarenko's pedagogy.

Synthesis: The Thaw Era, which opened the prospect of renewing the subject-subject labor school (refer to the law "On strengthening the school's connection with life and on the further development of the system of public education in the USSR"). This stage of development of domestic education and pedagogy in general coincides with the stages of their development in the USSR as viewed by A. Sbruyeva and N. Gupan [6; 16].

Conclusions and research perspectives. The results of the study show that the unfolding of the historical and pedagogical process can be represented as an invariant entity, being simulated by a universal dialectical model, which unifies the mentioned process due to the mechanism of fractal-holographic rhythms nesting of the stages of development of any phenomenon.

Prospective directions for the study of educational and pedagogical phenomena may be the researches focusing on more differentiated analysis of the problem field of the research.

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