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THE ANTIQUE MODEL OF HUMANITIES AND SCIENCES OF "SEVEN LIBERAL ARTS" IN EUROPEAN EDUCATION

The purpose of the article. The aim of this research is to find out the existential spiritual and moral component of education in the content area of the ancient model of humanities and natural sciences. **The methodology** of the research is based on cultural, hermeneutic, analytical methods, which gave the chance to study out the formation and development peculiarities of the European model of higher education in the antique period. **The scientific novelty** of the research is that the article turns up as the first scientific research from the standpoint of cultural science of the "seven liberal arts" educational phenomenon in both ancient and modern European, and also in national higher education. **Conclusions.** The ancient model of higher education has created a classical education paradigm, which is a universal foundation for the scientific elite formation in all intellectual fields, and, by the affairs of well-known graduates of the most famous European universities, it is confirmed in the history of civilization.

Key words: antiquity, seven liberal arts, the antique model of education, quadrivium, trivium.

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Антична модель гуманітарно-природничих дисциплін «семи вільних мистецтв» європейської освіти

Мета дослідження. Мета роботи полягає у виокремленні екзистенційної духовно-моральної складової змісту освіти в предметному наповненні античної моделі гуманітарно-природничих дисциплін. **Методологія дослідження** спирається на культурологічний, герменевтичний, аналітичний методи**,** що дало змогу з'ясувати особливості формування та розвитку європейської моделі вищої освіти у античний період. **Наукова новизна дослідження** полягає у тому, що стаття є першим науковим дослідженням з позицій культурології освітнього феномену «семи вільних мистецтв» як у античній, так і сучасній європейській та вітчизняній вищій освіті. **Висновки.** Антична модель вищої освіти створила класичну освітню парадигму, яка є універсальним фундаментом для формування наукової еліти в усіх галузях знань, що в історії цивілізації підтверджено діяльністю знаних випускників найвідоміших європейських університетів.

*Ключові слова***:** античність, «сім вільних мистецтв», антична модель освіти, квадривіум, тривіум.

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Античная модель гуманитарно-естественноведческих дисциплин «семи свободных искусств» европейского образования

Цель исследования. Цель работы состоит в выделении духовно-нравственной составляющей содержания образования в предметном наполнении античной модели гуманитарно- естественноведческих дисциплин. **Методология исследования** основывается на культурологическом, герменевтическом, аналитическом методах, что позволяет выяснить особенности формирования и развития европейской модели высшего образования в античный период. **Научная новизна исследования** заключается в том, что статья есть первым научным исследованием с позиций культурологии образовательного феномена «семи свободных искусств» как в античном, так и в современном европейском и отечественном высшем образовании. **Выводы.** Античная модель высшего образования создала классическую образовательную парадигму, которая является универсальным фундаментом для формирования научной элиты во всех областях знаний, что в истории цивилизации подтверждается деятельностью известных выпускников популярных европейских университетов.

Ключевые слова: античность, семь свободных искусств, античная модель образования, квадривиум, тривиум.

The problem statement in general and its connection with important scientific or practical tasks. The urgency of the research is defined by the educational reforms of the European model, which are penetrated into the system of education in the up-to-date conditions of the national high school. The teaching method was divided into the introductory course "trivium", which consisted of the study of grammar, dialectics, rhetoric, and the higher course - "quadrivium", where such sciences as arithmetic, geometry, astronomy, and music were studied, this way, that block established the basis of humanities and sciences and created the foundation for the humanistic knowledge outlook. It also established the formation of spiritual and moral qualities of humanity, high intelligence, mankind humanization, and society.

Analysis of recent research and publications. A number of scientific studies on the history of culture, pedagogy, philosophy, and linguistics were devoted to the issues of higher education, including the European

standard, that in the complex comprise the modern culturological direction of the generalized knowledge on the set problem. The basis of the study source is reprinted and translated works of such scholars of antiquity as Aristotle [1-4], Euclid [6], Plato [14-17], Ptolemy [19].

Some aspects of the investigated matter were considered by scholars of Ukrainian historiography such as V. Dolid [7], V.Kupchyshina [8], M.Laslo-Kutsyuk [9], V. Lisiy [10], V. Nikitas [11], O. Oliynyk [12], S. Proletov [18], T. Tokareva [20], V. Yaremchenko [23].

This issue was studied by foreign researchers, among them – G. Zhurakovsky [7], Yu.Petrov [13], S. Hoking [21], Y. Kholopov [22].

The purpose of the article - is to distinguish the existential spiritual and moral qualities of education, in the system of sources of knowledge in the ancient model of humanities and natural sciences.

Description of the main content. The current status of high national education maintenance is based on the Bologna system of the European model. It is in use of the former Soviet education for more than twenty years and it permanently changes the disciplines of the main humanitarian and natural science. However, the taking out from the curriculums of many higher educational institutions such subjects as ethics, rhetoric, mathematics, and grammar as basic, especially for humanities gives ground for perceiving national high education as a formally institutionalized European diploma "Bachelor" and "Master".

European antique school tradition expanded through Kievan Rus. Basic knowledge consisted of teaching students according to the definitions of scientists, including V. Mykytas "to read, write, count and church singing, and then grammar with elements of "noble sciences. " [11, 13]. The “comprehensive expertise for the full course of "seven noble sciences" was implemented by the author: humanitarian trivium (grammar based on ancient books with poetic texts, rhetoric based on the treatises of Cicero, dialectic with comments of logical treatises of Aristotle) and mathematical quadrivium (arithmetic, geometry, astronomy, music).

V. Kupchyshina in the article "Educational Ideas of the Antiquity and the Renaissance: A Comparative Aspect" emphasizes the importance of the ancient period for the emergence of educational ideas of freedom and humanism, as according to her words ".... at this historical and cultural stage the personal freedom, as a full citizen’s one, was expanded in the ancient Greek city-states, the orientation of people was strengthened into the rational self-cognition to achieve personal success" [8, 53] Ancient culture was and remains a historical and cultural heritage for all nationalities, the foundation of development, transformations of the established branches of science.

Professor S. Proleev in his monograph "Ancient World: Philosophy, History, Culture" set a stress on the development of science in the concept of ancient philosophy, as "the medieval culture would not have been only without the Christian volume, but also without the ancient system of the seven liberal sciences and treatises of ancient thinkers, that were read with the works of the genitors. " [18, 452].

As time goes, such a thing as a scientific tradition in the Antiquity has appeared - a scientific method of knowing the world through a substantiated fact of evidence. In its basis lies mathematically rigorous, logical proof, which was formed only in ancient Greece, according to the Russian researcher Yu. Petrov [13, 11]. Even according to the teachings of Plato mathematical science helped to realize the laws that govern the only true world - the world of ideas, perfect triangles, cones, spheres. The only guide in this ideal world was a mathematical argument, free of the visibility, separated from human sensations. According to the philosophical ideas of Plato, there was created a Greek science, with increased attention to the " severity" of evidence.

Professor G. Zhurakovskiy mentioned the close relationship between the philosophical schools of antiquity, in particular, the Pythagorean Union, the School of Sophists, and the Platonic Academy with the prototype of the newest university higher education schools. He stressed that "... The Pythagorean Union for some time was a kind of high school in Hellas, where the latest achievements of science and independent research took place." [7, 122]. Thanks to the work of the Sophists, as G. Zhurakovsky affirms, " a kind of high school " was formed for several decades”, which served as the “mental spirit of the age” and was under the old educational forms - schools "musical, gymnasium." [7, 140] According to G. Zhurakovsky, the Socratic tradition of higher education was associated with the system of ethical knowledge and "was identified by Socrates with" universal knowledge "- philosophy. ... had a pronounced dogmatic character: the notion of "reasonable consciousness", "neighbor", "surrounding social life," "goodness", "evil", "truth" are taken by Socrates as universal non-historical concepts. " [7,168].

The structural unit of the ancient model of higher education was "Platonic" Academy, which has been existed for almost 1000 years. Except for Plato, the school had his notorious student, Aristotle, who attended the Euclid Academy. Education in the Academy was divided into two categories: practical sciences such as grammar, rhetoric, and dialectics, and exclusively theoretical sciences. Plato in the work "Protagoras" describes the training of young men for "arithmetic calculus, astronomy, geometry, music" [16, 207], and in his work "State" speaks on the main standards of education - knowledge, and "those who we educate, should not try to study something imperfect" [14, 314].

The paramount thing in the ancient world was the practical knowledge acquisition, speech knowledge from the block "trivium", which included such disciplines as rhetoric, grammar, and dialectics. Professor O. Oliynyk in her study [12] presented in detail the rhetoric development peculiarities as a science and discipline in the ancient period. The scholar said that the deep practical foundation for the rhetoric development was discovered by the

Sophists - by educating their students with "the freedom to express their own thoughts and their ability to defend and protect their beliefs despite all authority." [12, 25].The scientific theory of rhetoric was established by Plato in the work of "Phaedrus" [17]. The author of the rhetoric is Aristotle [4]. As Tokareva said, he "gave a scientific grounding of rhetoric, expanded that subject, showed its all-embracing character ...". [20, 195].

Aristotle focused extensively on grammar as a practical science in his work "Poetics". Aristotle notes that "in the verbal presentation there are such parts as the primary sound, syllable, union, noun, verb, sentence part, flexion, sentence. The main sound is inseparable one.... Nouns can be male, female and neuter…" [2; 655, 670]. The scientific basis for phonetics as a grammar subdiscipline was the Pythagoreans' doctrine about the theory of music and acoustics, in particular rhythm and metrics. The main problems that were under the study by of those days philosophers were the connection between the word and subject, the language accuracy, the problems of the language norm. Reading poetic texts was at the heart of grammar.

The Doctor of Philology M. Laslo-Kutsyuk in the literary monograph "The Key to Fiction" offers an opinion that "Poetry" of Aristotle is in actual fact the main textbook suitable for literature, in other words, for verbal art, which does not contradict up to date aesthetics. "[9, 5].

In the ancient knowledge system, the key place was given to the science of dialectics, which contributed to the logically consistent provision of practical ability to conduct dialogue, conversation, debate with the overall goal of achieving truth. In the work of Professor W. Lisoho [10] is stated the fact, that "dialectics as a dialogue is not just a conversation or a quarrel in the ordinary concept, it is an art of capability of holding a dialogue, using questions and answers, in spite of all the attitude intensity, which often happened between conversants" [10, 29]. In the dialogue "Parmenides" Plato uses some words-antagonists "similar - dissimilar", and in the text it sounds like this: "If there is a lot of some things, they can be similar or dissimilar, and this is, obviously, impossible, because both dissimilar can't be similar and similar – can't be dissimilar" [15, 416].

The teaching system "quadrivium" as the higher scale of European education was based on the theoretical natural science block. The main components of education were the disciplines of the mathematical logic cycle, which completed the studies in the old schools and academies. The "Father" of Greek science, according to scientists, including Yu. Petrov [13], is Thales of Miletus, who founded the mathematical basis of scientific knowledge; the leading figures of science Pythagoras, Archimedes, Euclid, Plato expanded this direction, adding new studies in the field of mathematical and philosophical views.

Arithmetic numerical conformities were discovered by Pythagoras and his Pythagorean School. As we know from the school curriculum, Pythagoras was engaged in the development of mathematical knowledge, music, ethics, politics, the doctrine of the knowledge of God, which in total drew up the basic world harmony of knowledge, sacral moral values perception through the visuality of number, which is still preserved in Christian traditions. In the Pythagorean numbers, there is a basis of dialectical and logical understanding of important correlations and oppositions of our existence.

According to Pythagoras, numbers and sounds expressed a "voice scale of the world", in other words, the spiritual, earthly and cosmic harmony of the universe. The theory of the Pythagorean numbers expressed the basic laws of the universe, world perception, and as a result, it was possible to calculate and explain all things of the world, the relation between them and, in general, the theoretical model of the world. Due to this, Aristotle in his work "Metaphysics" said that "... the so-called Pythagoreans, dealing with mathematics were the first who developed it,..they saw that the capabilities and relations are expressed in numbers ... .the number originates from one whole ... and the sky is a number" [1, 75-76].

With the help of a compass, ruler and scientific logics the theoretical foundations were discovered in the ancient period – these are theorems that revealed the substance of geometric figures, in other words, geometry. It is still used in secondary and higher school and is called the "Euclidean", after the name of the founder. Euclid left the scientific and theoretical treatise "Beginning" or "Elements" [6], which has preserved as a basic subject of education.

The geometric and theoretical definition of the world in Euclidean figures explains the existence of an ideal world. It is not investigated by feelings, but by intellect, by the understandable qualities of the postulates and by the axioms of this world, and as a result – theorems. In the books "Beginning" (there are 13 of them) [6], geometrical figures are considered on a plane and in space (planimeter and stereometry); books 7.8, 9 are devoted to the subject of arithmetic and algebra. The work of Euclid developed, during the educational process, the scientific logic and aesthetic feelings, is designated to train logical thinking; to cultivate a sense of beauty from contemplating the ideal geometric shapes. Euclid is considered to be the founder of geometry, which in ancient Greek times received the status of a separate science. On the basis of his own theories and systematization of existing ones, he summarized the experience of scientific mathematical knowledge of a basic secondary and higher education.

The musical education was a component of the ancient model of European education for a long time. The music was considered by the ancient Greeks as the sister of philosophy and astronomy. "As our eyes seek to astronomy, our ears - to the movement of harmonious consonances; these two sciences - like two sisters ... as the Pythagoreans claim, "it was written by Plato in the work" The State "[14, 314]. According to Plato, "Musical" art was directed to the awareness of existence, where there is a balance of harmony, and rhythm passes the sequence to

action. A more deepen the ancient concept of musical art as a separate branch of knowledge was recorded in the work of "Regulations in Music" philosopher Boethius [22].

The main aim of music is not the sound of musical instruments, but the science of nature and world harmony and its manifestation in the sounds. The world harmony, according to the ancient authors, is measured by the number, as harmony in its basis has a measure and proportion - the categories associated with the numbers. The world harmony is also reflected in music, which is its sound manifestation. Summing up the influence of the ancient musical science on the further development of European culture, Yu. Kholopov emphasizes that "All ideas of ancient wisdom ... were perceived by the Christian Middle Ages, for which there was an installation of the subordination by the aesthetic element to the ethical (moral) in the education by different kinds of music. " [22, 55].

Plato in the treatise "State" emphasizes the importance of musical education, by asking the question "What education will be? For a body, it is a gymnastic upbringing, but for the soul, it is musical one "[14, 168]. In support of music education, Aristotle appeared in his treatise "Politics". [3] He believed that music had a beneficial effect on the spiritual and moral position of mankind, it should be necessarily included in the education of youth, and "young people" - are teens and youth [3; 635, 638].

There was astronomy in the Ancient period, as well as other sciences, in the philosophical doctrines. The founders were Pythagoreans, Plato, Aristotle, Ptolemy. Each scientist has created his own scheme of the universe, but the most famous is the Ptolemy. He created a geocentric model of the cosmos, consisting of the Earth, around which circle some celestial bodies: the Moon, Mercury, Venus, the Sun, Mars, Jupiter, and Saturn. His scientific views Ptolemy described in the work of "Almagest" [19], which was as a textbook of astronomy until the beginning of the XVII century. Ptolemy didn't just create a kinematic model of the geocentric system of the world, but he also built a unified logically based system of space knowledge with a basis of worldview discipline facts by the previous knowledge. In his work, Ptolemy emphasized "...love to the science about eternal and unchanging, by teaching from the science which has already been passed by the previous outstanding researchers…. In order this work to be completed, we state everything important for the science in the right order in the sky" [19, 6].

The native researcher, associate professor V. Dield describes Ptolemy as one of the most notable figures in the history of science, "in his well-known work," Almagest, "Ptolemy reflected all, or almost all, the most significant achievements in ancient astronomy and rejected most of the mythical explanations of heavenly features." [5, 135] The model, which he created, in the author's opinion, contradicted a later observation, but the new features of the motion of celestial bodies were revealed.

Professor of Cambridge University S. Hawking in his book Theory of All. The origin and destiny of the universe "highlighted ancient astronomical knowledge, emphasizing that" ...Ptolemy's model allowed to calculate with sufficient accuracy the visible positions of the celestial bodies. ..His model wasn't accepted by everybody, but the majority appreciated it….Aristotle-Ptolemy's theory has fairly "died" only in 1609 when Galileo began to observe the starry sky with the help of the newly invented telescope" [21, 6].

Summarizing the ancient model of the humanities and natural sciences of the "liberal arts" of the European standard of education, we must note that the first systematic presentation of various branches of knowledge was carried out by Roman scholar Mark Teresiy Warrons (116-27 BC). In his nine-volume Encyclopedia of "Discipline," he first considered "seven liberal arts" - grammar, rhetoric, dialectics, arithmetic, geometry, astronomy, music.

According to the Ukrainian scientist V. Yaremchenko, "at the beginning of the fifth century, the Carthaginian talker Marcian Capella in his poem "Marriage of Mercury and Philology" presented his concept of "seven liberal arts" and set off the official study in medieval schools. His concept was improved by the Roman philosopher Manliy Severin Boethius (480-524 years), who suggested dividing these disciplines into two parts. The first - trivium - united humanitarian knowledge (grammar, rhetoric, dialectics), which developed thinking and taught to express views. At the second stage - quadrivium - it was necessary to master the knowledge of nature: arithmetic, geometry, astronomy, and music. Afterward, the universities which appeared in the 11th-13th centuries, such as Bologna, Oxford, Paris, and others, along with theology, studied the subjects of liberal arts" [23, 268].

Conclusion. As a result of getting the high humanitarian knowledge, invented by the ancient coryphaeus, the world received a new elite, with practical theoretical knowledge, deeply spiritual and moral values, with specialists both in the technical branches of science and in the humanitarian fields, who created scientific and technological progress. The graduates of the University of Bologna enrapture with the scientific achievements in the literature (F. Petrarca D. Alighieri), mathematics and astronomy (Nikolay Kopernik), physicists (L. Galvani), pedagogy and management of higher education (Y. Drohobych (Kotermak) and etc. Perspective for further exploration we can find in the medieval humanitarian and natural model of education.

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