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THE FORMATION OF THE NOOSPHERE CONCEPT: VOLODYMYR VERNADSKY AND PIERRE TEILHARD DE CHARDIN ¹

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СТАНОВЛЕННЯ ІДЕЇ НООСФЕРИ: ВОЛОДИМИР ВЕРНАДСЬКИЙ
ТА П'ЄР ТЕАР ДЕ ШАРДЕН

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Актуальність дослідження зумовлена необхідністю філософської рефлексії щодо незбалансованості наукових досягнень і моральної відповідальності людини за використання здобутих результатів. **Метою статті** є етико-аксіологічна реконцептуалізація ноосферологічних учень В. Вернадського і П. Теяра де Шардена. **Теоретико-методологічними підставами** роботи є історичний метод та концептуальне моделювання. **Результати дослідження.** Розкрито модель Вернадського, у межах якої біосферу представлено як етап геохімічного розвитку, а ноосферу – як етап еволюції сфери життя, а також концепцію Теяра де Шардена, у якій досліджено послідовність становлення планети через етапи переджиття, життя, мислення та наджиття. На підставі позиціонування обома авторами ключової ролі людини в перебудові природного світу здійснено реконструкцію цих моделей ноосфери через концепт морально-ціннісного виміру ноосферного буття.

Ключові слова: Вернадський, Теяр де Шарден, еволюція, біосфера, ноосфера, «точка Омега», етико-аксіологічний вимір.

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The relevance of the study is determined by the necessity for philosophical reflection on the imbalance of scientific achievements and the moral responsibility of man for the use of the obtained results.

The purpose of the article is the ethical and axiological reconceptualization of the noospherological teachings of V. Vernadsky and P. Teilhard de Chardin.

The theoretical and methodological foundations of the work are the historical method and conceptual modeling.

Research results. Vernadsky's model, within which the biosphere is presented as a stage of geochemical development, and the noosphere – as a stage of the evolution of the sphere of life, as well as the concept of Teilhard de Chardin, which explores the sequence of the formation of the planet through the stages of pre-life, life, thought, and super-life, are revealed. Based on the positioning by both authors of the key role of humanity in the restructuring of the natural world, the reconstruction of these models of the noosphere through the concept of the moral and axiological dimension of noospheric existence is carried out.

Key words: Vernadsky, Teilhard de Chardin, evolution, biosphere, noosphere, "Omega Point", ethical and axiological dimension.

¹ Ключові ідеї цієї роботи оприлюднені в доповіді на VII Міжнародній науковій конференції «Людина як цілісність: філософський, мовознавчий та педагогічний дискурси» (31 жовтня 2024 р., м. Одеса, ОНМедУ).

Introduction

For more than a century, the conceptual field of the noosphere has been the subject of reflection and numerous reconstructions as a sphere of rational human activity and, accordingly, that stage of the universe development, when human intellectual influence becomes dominant in the human-nature relationship. This idea did not emerge from nowhere; the concepts of the Geological Era of Humanity and the Anthropogenic Era (by J. L. R. Agassiz and A. P. Pavlov, respectively) prepared essentially its further development by V. I. Vernadsky, E. Le Roy, and P. Teilhard de Chardin. Earlier foundations of the doctrine of the noosphere also include the model of the Human Epoch that sought to harmonize evolutionary and theological perspectives (in particular, G.-L. L. de Buffon), as well as, to some extent, the widely represented anthropocentrism of science and philosophy in the 15th–16th centuries. The relevance of the noosphere concept and study of noosphere-related issues are sure to increase further, which is not surprising due to the intensifying human impact on the natural world having become more significant than in previous centuries.

In recent years, numerous studies on the concept of the noosphere and related issues have been published. Thus, H. M. Shvetsova-Vodka identifies key ideas of noospherology by analyzing the teachings of V. Vernadsky, Le Roy, and P. Teilhard de Chardin [9]. O. V. Tsebro examines the possible application of Vernadsky's theoretical and methodological ideas on the noosphere to provide regional ecological development and the sustainable development of nooregions through innovative advances [8]. P. Skyba critically assesses the noosphere concept in the face of the current ecological crisis and emphasizes the need to revise humanity's attitude to nature and to search for efficient solutions to environmental problems [6]. The monograph with the ambitious title *The Evolution of Everything* by British journalist, politician, scientist, and science popularizer Matthew White Ridley (Matt Ridley) stands out for its innovative research perspective and critical approach to traditional worldviews [5]. However, despite such chapters as *Evolution of Life*, *Evolution of Mind*, *Evolution of Morality*, *Evolution of Technology*, etc., the work never mentions the concept of the noosphere or its creators.

However, in our opinion, the issue of the moral and value significance of noosphere existence remains somewhat in the shadows (with some exceptions), although both Vernadsky and Teilhard de Chardin attached fundamental importance to this dimension of the noosphere. Thus, *the purpose* of the study is a reconceptualization of the teachings of Volodymyr Vernadsky and Pierre Teilhard de Chardin from an ethical and axiological standpoint. *The theoretical and methodological foundations* include: 1) the historical method – to study the evolution of ideas of V. I. Vernadsky and Teilhard de Chardin from understanding the features and prospects for the

evolution of the sphere of life to the development of the concept of the sphere of reason; 2) conceptual modeling – at the basis of the reconstruction of the models of the noosphere of Volodymyr Vernadsky and Pierre Teilhard de Chardin.

The idea of the noosphere had matured in Vernadsky over decades. During a series of lectures on geochemistry at the Sorbonne in 1922–1923, he laid the conceptual foundations of the noosphere doctrine. However, the concept of the noosphere itself was introduced into philosophical and scientific discourse by French philosopher and mathematician Edouard Le Roy in 1927 [11], who repeatedly emphasized that he developed this idea jointly with his colleague and friend Pierre Teilhard de Chardin (it was about understanding the noosphere prospects of humanity and is the subject of further discussion). Nevertheless, without questioning Le Roy's primacy in putting forward the concept of the noosphere², Vernadsky noted (see the letter to B. L. Lichkov dated September 7, 1936 [3, p. 298]) that the French philosopher deepened the Ukrainian author's (Vernadsky's own) teachings about the biosphere.

Vernadsky anticipates and prepares for the understanding of the concept of the noosphere, which is rooted in a crucial ontological position with an anthropological basis. He argues *against the separation of humanity's development from biological evolution*. To clarify his perspective:

1) The biosphere represents a natural stage of continuous geological evolution.

2) Humans are inherently integrated into the biosphere [1, p. 14], forming an essential part of all living organisms.

3) The era of noosphere development signifies a necessary phase in the evolution of living beings.

This understanding allows us to view human history on a much larger scale than previously envisioned by scientists, framing it as a continuation of the biogeochemical evolution of living matter.

Vernadsky rejects the assumption that knowledge, particularly scientific knowledge, arises randomly. On the contrary, it is a natural stage of continuous geological development, conditioned by its previous stages and historical evolution. Vernadsky relies on the concept of the Anthropogenic Era³ proposed by the scientist-geologist A. P. Pavlov to designate that enormous period of the geological history of the Earth, characterized by the dominance of the human mind, free creative thinking, and purposeful transformation of nature according to the needs and interests of man and consistent with, not opposed to, the evolutionary flow of life.

² See [2, p. 255; 3, p. 310].

³ A. P. Pavlov reinterprets the doctrine of Louis Agassiz about the "geological era of man", which is based on purely paleontological data without evolutionist accentuations. The era of man was also discussed in the 18th century, mostly, in a theistic aspect – man here appears as the last, God's most perfect creation (for example, in G.-L. L. de Buffon, who tried to carefully reconcile his views on the evolution of the Earth and life, recognizing man as the "crown of creation").

In recent centuries (as opposed to earlier epochs, which Vernadsky considers to have spanned millions of years), the human factor has grown increasingly significant. Moreover, as noted by a contemporary researcher of Vernadsky's legacy, O. V. Tsebro, the changes that humans bring to the natural world inevitably affect humans themselves under the feedback principle and, as a result, "...the social life of mankind is intertwined increasingly into a single network with natural processes and objects..." (our translation – V. Kh., N. L.) creating a kind of updated "primary basis of being" that carries a significant component of the results of human activity [8, p. 5].

Evaluating the structure of the universe and the potential of science to understand and improve it, Vernadsky proposes a series of axioms (which can be distilled into three key principles) that lay the foundation for understanding Earth's transition from the biosphere to the noosphere [3, pp. 304–306]:

1. *Scientific activity is an expression of geological movement, manifesting in humanity's work at the stage when the biosphere, the shell of living matter, reaches a qualitatively new state – the noosphere.* Thus, the scientific achievements of humanity are part of a continuous, cumulative process shaped by the discoveries of past generations.

2. *Individual free will, if it becomes the primary basis for human activity, is a destructive factor and, therefore, cannot and should not be the basis for scientific and philosophical work.* The scientific achievements of many generations, prepared by "billions of years of unconscious evolutionary process of the living matter of the biosphere", do not depend on the personal will of individual scientists. When individual intentions dominate, according to Vernadsky, we are dealing with a "harmful, unrealistic fiction" implemented contrary to the planetary movement towards noosphere culture⁴. The scientists express their negative attitude toward the level of personification of the source of human activity when such a will – the will of egocentrism, even narcissism – tries to act, ignoring global trends, particularly the trends of the development of science. Regarding freedom of thought as a fundamental component of the social order, such a basis promises fruitful prospects for humanity.

3. *The inextricable connection with past achievements will continue to grow, strengthen, and complicate.* Such qualitative growth of scientific knowledge is essential and attributive since at every stage of the development of living matter, including the emergence of human mental potential and its cultural (including scientific and philosophical) structures, "the natural substrate of our thinking given to us" manifests itself. Thus, as

⁴ This statement is debatable, as the approach does not consider the individual achievements of individual scientists. Moreover, some studies that were initially carried out in defiance of general paradigm trends subsequently received recognition in the scientific world and even laid the foundations of a new paradigm. Vernadsky's doctrine does not explain accidental discoveries either.

Vernadsky believes, the general channels of human thought have a fundamental geological origin, that is, prepared by the essence of planetary formation.

In his works, Vernadsky often discusses the anticipated time-frame for the creation of the noosphere, presenting a wide range of possibilities. Thus, in the above-mentioned letter to B. L. Lichkov, he asserts that the noosphere had already formed during the post-Pliocene epoch [3, p. 298]⁵. Conversely, in a 1942 letter to his daughter N. V. Toll (Vernadska-Toll), he describes the noosphere as "the future that is geologically inevitable for my grandchildren and great-grandchildren" (our translation – V. Kh., N. L.) [3, p. 309]. This perspective does not seem to be controversial. When Vernadsky refers to the formation of the noosphere in the Pleistocene, he likely means the foundation for the *potential stage* of development of mind, beginning with *Homo erectus*, a species traditionally recognized as a direct ancestor of *Homo sapiens*. However, concerning the *actual realization* of the "culture of mind" stage, that is, the full-fledged transition of humanity to the noosphere, Vernadsky anticipated this would occur in the late 20th or early 21st century, that is, nowadays.

The idea of the noosphere also found justification from alternative perspectives – through the ontological and anthropological foundations of theistic evolutionism, which was prominently advocated by Pierre Teilhard de Chardin. Teilhard's theories ignited significant debate in religious and philosophical circles, even influencing official Catholic doctrine. For example, influenced by his work, Pope Pius XII, in the 1950 encyclical *Humani Generis*, admits the previously controversial concept of evolution (more precisely, "conditional evolution") within Catholic theology. This highlights the potential for understanding and productive dialogue between evolutionary science and Christian knowledge, suggesting that God's creative acts – the creation of the world and the "breathing in" of the soul into man – can be mediated by natural evolutionary processes. These processes prepared the human body as a material "shell" to be ensouled [10].

In the prologue to his seminal work *The Phenomenon of Man*, Teilhard de Chardin formulates the goal of his entire philosophy: to build and develop a "homogeneous and coherent perspective of our general extended experience of man. A whole which unfolds" [13, p. 35]. The human being is positioned as the pivotal principle of nature, "the centre of perspective", "the unique nodal point", which, to some extent, constructs the Universe, laying the constitutive foundations of its attributability.

Teilhard de Chardin emphasizes that his phenomenological method aims to reveal the

⁵ The Pliocene geological epoch was succeeded by the Pleistocene epoch, which began 2.59 million and ended 11.7 thousand years ago.

"double-sidedness" of the matter of the Universe by interpreting it through both external and internal dimensions, which are harmonized and interdependent⁶. Accepting the presence of these two types of objectivity in the Universe and recognising the total universal spread of the spiritual (consciousness, understood in a broad sense, from the most primitive forms to the human spirit), Teilhard de Chardin proposes the existence of a deeper stratum beneath the physical Universe: *the one that potentiates and actualizes life as a necessary generative principle of consciousness (the "pre-life" layer)*. Already in the initial periods of the evolution of the Earth, our planet contained (in fact, innately) the potentiality of bioexistence, and in such qualitative and quantitative indicators that turned out to be sufficient for creating the prerequisites for the further transit from the pre-life sphere to the *life sphere* (biosphere), and further – towards the gradual concentration of the interior of the Earth ("a *within* of the earth") [13, p. 71]. Teilhard de Chardin describes this evolving psychic layer as the matter that underlies the formation of consciousness in its universal meaning to increasingly perfect forms up to the human one.

To understand the evolution of life, Teilhard de Chardin begins with its most fundamental step: *"the natural granule of life"*, which he identifies as the cell. He interprets the revolution in matter's formation that led to the creation of cells in two main aspects (as is typical of his author's style) [13, p. 87–88]. Firstly, from an external perspective, the cell represents: 1) a distinct level of *complexity* within the cellular structure⁷ and 2) *the constancy ("fixity") of the basic type* of cell, which is preserved and replicated from generation to generation despite its morphological variety. This understanding allows Teilhard to refer to a new "layer" in the matter of the Universe. Secondly, the internal aspect of the revolutionary leap in the development of matter manifests in a qualitatively new level of mental life associated with cells. Here, Teilhard faces a challenge: given that atoms, molecules, and megamolecules represent the primary (pre-life) modes of matter, he must explain how the cellular mode stands out significantly. He connects the remarkable shift in the development

of consciousness to a fundamentally new variant of "granular grouping", which permits the organization of various particles into an almost limitless number of substances. Therefore, while cellular existence may not mark *the absolute beginning* of the psychic realm, it establishes the foundation for a revolutionary *metamorphosis* in psychic life.

Teilhard de Chardin devotes particular attention to the culminating stage of world evolution—the noosphere—which is the primary focus of our article. The French philosopher argues that the emergence of *thinking* resulted from a long evolutionary process marked by billions of years of geochemical, geotectonic, and geobiological pulsations. The accumulated potential was objectified ultimately in the emergence of nervous systems. Because higher nervous activity reaches its zenith in humankind, Teilhard insists that man must not be regarded merely as another species of living nature. The emergence of thinking is a revolutionary leap, comparable in importance to the emergence of life itself. The process of psychogenesis, arising from biogenesis and ultimately leading to man, now gives way to a new stage: noogenesis – the birth of the spirit. Thus, according to the philosopher, hominization marked the beginning of a new era in planetary history [13, p. 180–181].

However, Teilhard de Chardin does not stop at intelligent life in human form as the highest level of evolution in his assessment of geological development and raises a crucial question about the prospects of the Universe: Does the Universe have the potential for its further advancement, or will its evolution end with mankind [13, p. 232]? The philosopher chooses an optimistic perspective: if humanity continues to evolve intellectually and spiritually, a final, transcendent stage maximum of evolutionary integrity, *survival*, awaits. He calls this ultimate stage the Omega point – the highest pole of evolution, the outcome of a massive concentration of consciousness generated through the noogenetic process. Crucially, this is not a fusion that destroys individual identity but *a differentiated union*, in which all parts become more advanced without losing their uniqueness and align in harmony with the universal whole. In this system, unity coincides with the highest degree of harmonized complexity. Conceptually, Omega "...can only be a distinct Centre radiating at the core of a system of centres" [13, p. 262–263]. This point is the absolute ideal toward which the entire Universe strives – or, more precisely, in the aspect of its core driving force, *the Divine Milieu*.

The philosopher defines the fundamental concept of the Divine Milieu as an all-encompassing, omnipotent sphere that creates, nourishes, and unifies the components of the Universe. In this divine relationship between God and creation – including human beings and all other genera and species of beings – God holds all within Himself yet preserves the extreme uniqueness of each being. Thus, at the Omega point, which is the peak of noosphere development, the highest balance

⁶ The external (physical) and internal (spiritual) aspects of the Universe, according to Teilhard de Chardin, have some properties in common: a) atomistic structure, b) the ability to complicate and differentiate their elementary units, c) the striking coherence of the tendencies of improving consciousness and complicating the bodily structure of natural objects due to the interconnection and interpenetration of spiritual and material energies [13, pp. 57–60].

⁷ In these considerations, the philosopher, in our opinion, is not always consistent, on the one hand, correctly pointing out that the primary organic cover represented as "a biologically connected complex," "a superorganism," "a living film" [13, p. 84]; and on the other hand, reducing complexity to the "triumph of plurality" [13, p. 78], which underestimates its key parameter – the emergence of a series of properties, that is, not their conditionality by any of the elements of the plurality, but their inherent nature to the whole as such.

of unity and personification is achieved. Teilhard de Chardin writes that “at the peak of their adherence to him, the elect also discover in him the consummation of their individual fulfilment. Christianity alone therefore saves, with the rights of thought, the essential aspiration of all mysticism: *to be united* (that is, to become the other) *while remaining oneself*” [12, p. 116].

Teilhard de Chardin emphasizes that the unity of divine attributes and the universal integration enabled by them stem from the fundamental truth that God is the “ultimate point” (“the top of the world cone”) of the convergence of all realities that are associated with the multifaceted evolution of the world, both in the elemental-individual and its holistic modes. A close look at the structure of things in the multiverse world cannot help but lead to the thought of the concept of this system – the primary source of all its properties. The Divine Milieu serves as a living burning focus that centers the entire world, ensuring that the components of the Universe can coexist harmoniously without causing harm to one another, thus extinguishing their mutual alienation. According to Teilhard de Chardin, for man to fully coordinate his existence with the Divine Milieu, considerable effort is required to break through and find his “place” within the Divine Womb. Otherwise, he will remain only “encompassed” and “placed”, unable to experience the Milieu as truly belonging to him. Merely waiting for blessings to come is insufficient; one must actively strive for the honor and right to be a part of the Divine Flow.

Thus, what may appear as the extreme limit in the improvement of relations between the world and man and an ideal set of external conditions for human flourishing is, at a deeper level, a coevolutionary pathway, a reciprocal energetic exchange between the Divine Macrocosm and the human Microcosm.

Having analyzed the ontological and anthropological foundations of the noosphere models of Vernadsky and Teilhard de Chardin, we now turn to their ethical and value-oriented (axiological) dimensions.

In Teilhard’s teaching, the ethics development within the Divine Milieu has both individual and collective evolutionary components.

Reflecting on the first aspect, the French theologian and philosopher affirms that the world will never reject the individuality, i.e., each person remains a distinct natural unit, an independent center of perception and action, a personality mini-universe within the several billion totality of worlds-monads. Within this context, Teilhard de Chardin emphasizes three core virtues that imbue human existence with the Divine: purity, faith, and fidelity.

He argues that the progression of individual development is merely a transitional step toward a deeper understanding of the evolution of collective morality within the Divine Milieu⁸. This approach,

grounded in the principle of collective development, acknowledges that acceptance of the Almighty can vary among individuals due to their different levels of purity, faith, and fidelity. However, this does not imply that the energy and informational flows from God are differentiated or selective. On the contrary, Teilhard states, “...God presents and gives himself to our souls under the same temporal and spatial ‘species’...” [12, pp. 141–142]. It is important to reiterate that the Universe ultimately receives as many degrees and methods of “sur-animation” (spiritualization) as there are unique combinations of the three aforementioned virtues embodied in each person.

Then, how can the discreteness and isolation of myriads of personal microcosms be overcome, and how do they form the universal Divine Milieu? Teilhard believes that the initial stages of the formation of the Unity occurred during the earthly period of the Milieu’s existence. The driving force that ensures the interconnection and ultimate merging of individual human monads is the love of the neighbor. The dignified and majestic convergence with the Divine Milieu is accessible only in a collective, pan-human way. Therefore, by sharing love with others, a person multiplies both the driving force of unity and the power of Wholeness. Full transfiguration is possible only for a subject that contains everyone and everything in themselves – for a subject of integral Mankind.

No matter how difficult it may be to work on oneself to overcome the initial qualities of hostility to others and alienation from them, it is not unachievable or psychologically and physically impossible. One need only recognize that the multitude of others is united in the Monad of Christ, and pure and sincere love for God will naturally extend to each member of Unity. Teilhard de Chardin summarizes, “A tremendous spiritual power is slumbering in the depths of our multitude, which will manifest itself only when we have learnt *to break down the barriers* of our egoisms and, by a fundamental recasting of our outlook, raise ourselves up to the habitual and practical vision of universal realities” [12, p. 146].

Volodymyr Vernadsky also places a strong emphasis on the ethical and axiological dimensions of the noosphere. In his vision, the conceptualization of the noosphere necessarily involves two areas of reflection: the logic of descriptive natural science and scientific ethics⁹. The first pertains to the foundations of research in the natural sciences, especially geology, chemistry, and biology. The second one addresses the moral responsibility of scientists for the outcomes of their efforts to transform the biosphere, emphasizing their moral certainty¹⁰: whether these transformations ultimately benefit or harm nature (for more details, see [7, pp. 123–125]).

⁸ Teilhard de Chardin disagrees with the dominance of the idea of individual salvation, which is characteristic of the teachings of the most authoritative Catholic philosopher, Thomas Aquinas. His goal is to substantiate the possibility and prospects of collective salvation, in essence, humanity as a holistic mind. His goal is to substantiate the possibility and prospects of *collective salvation*, in essence, mankind as a holistic mind.

⁹ Vernadsky mentioned that he came up with this idea in 1937 while planning one of his major works under the draft title *On the Main Problems of Biogeochemistry* (the work that is likely to have been published as *Biogeochemical Essays* in 1940).

¹⁰ H. M. Shvetsova-Vodka, a contemporary Ukrainian researcher of Vernadsky’s legacy, positions the constant of morality as one of the fundamental properties and laws of the noosphere formation [9, p. 18].

Vernadsky emphasizes that the ethical certainty of noosphere existence is a universal human issue. Fragmented and uncoordinated individual efforts, driven by personal will alone, are destructive in this context. Only the collective planetary mind, forged through the scientific achievements of many generations, can guide human civilization toward the standards of morality. This perspective resonates with Teilhard's view, although the French philosopher frames it through his concept of differentiated unity as a general property of the Divine Milieu, which seems to be a path to the golden mean: a state in which the autonomy of individual entities does not contradict the integrity of the macrocosm, but is organically consistent with it.

Vernadsky is unequivocal: if the noosphere loses its ethical and positive Attribution this may lead humanity to a colossal catastrophe instead of becoming the peak of evolution. The greatest tragedy would be that the human being itself could be the cause of this downfall. Contemporary researcher O. P. Skyba notes that rising concerns within the scientific community about the future of mental activity stem from a growing awareness of global tensions, particularly the conflict "between the natural and the artificial, between the universe of nature and the universe of human activity" (our translation – V. Kh., N. L.) [6, p. 115], which arise precisely from the fact that the scientific orientation of human activity does not always contain a moral dimension.

The growth of scientific and technical advancements in humanity will continue, which is obvious. Equally evident, however, is that such progress will demand serious ethical reflection from scientists. Therefore, the imperative of moral responsibility – that is, scientists must be accountable for whether their discoveries and work are implemented for purposes that are destructive or aligned with the vision of the noosphere – should become appropriate and conceptual in scientific and ethical research [1, p. 45].

Vernadsky's warnings, voiced in the first half of the 20th century, are more relevant today than ever when history presents the resurgence of violence and cruelty, now enhanced by the latest scientific and technological advances. Perhaps, there is no doubt any longer, moreover, it is becoming axiomatic that humanity must not only develop but also continuously revise and update a system of ethical norms and rules to accompany and regulate scientific and technological activity for all-planetary multiplication of good and prevention of evil. This moral imperative forms the core of the concept of "nooethics", as proposed by modern Ukrainian scholar V. M. Zaporozhan (its subject area is the field of medical and biological technologies, that is, those that are already used and will be used in the future as a tool for improving health and ensuring survival)¹¹. Ultimately, each person must understand that without imbuing the concept of the noosphere with deep moral meaning, it will be

impossible to discover or implement the effective and promising solutions needed to overcome the global threats facing humanity.

Conclusions

1. This article examines the philosophical doctrines of V. Vernadsky and P. Teilhard de Chardin concerning the concept of the noosphere, with particular emphasis on the ethical and axiological dimensions of their respective models.

2. The originality of Vernadsky's evolutionary theory is highlighted, wherein the sphere of reason is conceptualized as a necessary and inevitable stage in the evolution of the biosphere, itself a natural phase in the broader geochemical development of the Earth. In this framework, human existence, as the bearer of mind, represents the highest form of biogeochemical evolution.

3. The Ukrainian thinker proposed a series of axioms regarding the planet's progression toward the stage of reason and the subsequent development of the noosphere:

1) Scientific activity is interpreted as a prepared phase of planetary geological evolution, becoming objectively realized through human activity as the biosphere transitions into the noosphere.

2) Productive and forward-looking advancement is attributed to collective (even universal) labor. Individual creative will is affirmed only when integrated within the scientific community's shared objectives; otherwise, it is regarded as a potentially destructive power.

3) The intensification and growing complexity of the connection to the achievements of previous generations are seen as natural phenomena, given that the fundamental trajectories of human thought are intrinsically aligned with the essence of Earth's evolution.

4. Teilhard de Chardin, in his theistic-evolutionary interpretation of the noosphere – markedly distinct from Vernadsky's naturalistic framework – also affirms the central role of the human being as a constructive agent within the universe. He outlines a stratified evolutionary trajectory encompassing the phases of pre-life, life, thinking, and survival. Noogenesis, initiated at the stage of thought and preceded by psychogenesis (which itself stems from biogenesis), culminates in the survival phase with the emergence of the Omega Point as the ultimate evolutionary apex.

5. The Omega Point, in Teilhard's system, represents the highest stage of cosmic formation, wherein the universe attains the status of the Divine Milieu – an ideal, holistic sphere mediating the relationship between God, humanity, and nature. Within this harmonized unity, individual entities retain their distinct identities and autonomy, in accordance with the principle of differentiated unity.

6. Particular attention is devoted to the ethical-axiological dimensions of the noospheric doctrines developed by both the Ukrainian and French thinkers.

¹¹ See, for example, [4].

Each emphasizes the centrality of evolving collective morality. For Teilhard, every individual, by presenting himself before God with the virtues manifested through his actions, contributes to the complex, multi-tiered, yet unified and harmonious Divine Milieu. The universal unifying principle is love for one's neighbor. Vernadsky, meanwhile, underscores the ethical responsibility of scientists for the consequences of their research, considering it a vital aspect of the collective moral and axiological structure of the noosphere. Both thinkers ultimately converge in their recognition of the decisive role that scientific activity plays in imbuing noospheric existence with high moral value, aimed at safeguarding our planetary home.

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