

цьому воно залишає поза увагою духовні запити особистості. Тому синтез обох традицій автор розглядає як необхідну передумову для виходу з сучасної світоглядної кризи. Стаття присвячена дослідженню стратегій розуміння світу в європейській та індійській традиціях. Автор вважає, що величезне спрощення розуміння, яке пов'язане з мисленням або матеріальними речовинами у відносному русі, дозволило природничим наукам швидко просунутися вперед. Але якщо світ складається з матерії в русі, людські цілі не грають жодної ролі в поясненні того, що відбувається, і, отже, люди не несуть відповідальності за те, що вони роблять. На протиположному, на Сході, зокрема, в Індії, мислителі більше уваги приділяли виявленню сутності людини та її ставленню до світу. Автор доводить, що людська реальність така, що люди всюди, навіть в індоєвропейському світі живуть історіями. Вони можуть бути чистим міфом або чистою історією або їхньою сумішшю. В науці ж єдиним об'єктом вивчення є дієві причини. Індоєвропейська культура не цінує для цілей пізнання жодного чуттєвого досвіду, крім зору, тому, що дані жодного іншого органу чуття не вписуються у світ речовин. Наголошено, що наука і філософія, які настільки довільні у виборі емпіричних даних і настільки віддані ідеям, для яких немає доказів, не повинні вважатися останнім словом тим, хто справді любить мудрість. Сучасні дослідники повинні заохочувати мислення, менш закрите як у науці, так і у філософії.

**Ключові слова:** стратегія розуміння світу, мультикультуралізм, ставлення людини до світу, Вайтхед

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## THE ROOTS OF APPLIED PHILOSOPHY AND ITS SIGNIFICANCE FOR KNOWLEDGE BASED SOCIETY

**Abstract.** The article is devoted to topical issues of the emergence of applied philosophy and its role in society. The important role of knowledge in modern society is emphasized. The concepts of pure and applied science, as well as applied philosophy are discussed. It is noted that applied knowledge can be considered as a philosophical knowledge of the third order, which inevitably leads to complete "truth", which is applicable always and everywhere.

The development of applied philosophy and its connection with applied ethics is considered, because applied philosophy developed primarily in such areas as ethics, as the concept of applied ethics was approved more than fifty years ago. The modern examples of the development of applied philosophy are discussed, in particular: the Center for Applied

Philosophy in Australia, the Society of Applied Philosophy in Great Britain, the Journal of Applied Philosophy published since 1984.

The thesis is that in the modern world any knowledge is somehow applied philosophy. It is noted that even in the most abstract field of philosophy – ontology and metaphysics – the applied approach has become widely accepted, so we can talk about applied ontology and applied metaphysics. The ideas of applied philosophy and more specifically applied ontology and applied metaphysics have developed widely only in the last few decades, but they have deeper and more ancient roots. Also in the last two decades, applied epistemology has begun to develop and spread.

It is noted that in a modern society based on knowledge, it is time to realize not only the possibility but also the real functioning of philosophy as an applied philosophy. The right approach is collaboration and interaction of philosophers with scientists, who are experts in specific sciences, because this is the only way to ensure that philosophical knowledge would not be misinterpreted or misused, but will find its place in modern research and development for the benefit of society as a whole.

*Keywords: applied philosophy, applied ontology, applied metaphysics*

**Introduction.** It is widely approved view nowadays that the contemporary society cannot function properly and even cannot exist if it is not a knowledge based society. This view presupposes that knowledge should be deeply penetrated in all spheres of society and to find in some way an application in it. This is valid even for the most fundamental and most theoretical knowledge. In other words, it is required that even the most abstract knowledge to become an applied one. People did not reach to that understanding suddenly or all at once. This understanding presupposes a deep change of the character of the contemporary knowledge itself, closely tied to the development of science and philosophy and to the enormous changes of the character of the last ones – something for the realization of which given time was necessary.

The task of the present paper is to trace out at least part of the roots of that change and to see where have begun the ideas of applicability of science and philosophy, as well as to underline the role and significance of applied philosophy for the building up of knowledge based society explaining how that term should be understood. The present investigation inevitably will not be complete and it is impossible to be a complete one, because of the vastness of the topic; here I will just point out some characteristic moments.

**Analysis of recent research and publications.** *Pure and Applied Science.* First of all, I would like to pay attention on the fact that still in the first half of the 20<sup>th</sup> century the famous philosopher and thinker Alfred North Whitehead has wrote in his work *The Aims of Education* (Whitehead, 1929).

Science is a river with two sources, the practical source and the theoretical source. The practical source is the desire to direct our actions to achieve predetermined ends. The theoretical source is the desire to understand. Now I am going to emphasize the importance of theory in science. But to avoid misconception I most emphatically state that I do not consider one source as in any sense nobler than the other, or intrinsically more interesting. I cannot see why it is nobler to strive to understand than to busy oneself with the right ordering of one's actions. Both have their bad sides; there are evil ends directing actions, and there are ignoble curiosities of the understanding.

The above quotation clearly demonstrates that the brightest minds of mankind – what undoubtedly was Whitehead – have understood nearly 100 years ago what some contemporary scientists and philosophers are not able to understand today; they think that purely theoretical occupations are nobler than the applied ones and that theoretical knowledge is higher than the applied one

and more worthy of occupation for scientists and philosophers.

Apropos, the discussions about pure and applied science have begun a lot of time ago. It has happened first in mathematics, where the concepts of pure and applied mathematics have been approved long ago, and the discussion which of the two is the true mathematics have been held since a century ago. The initial views of applied mathematics as just an area of applicability of the pure or “true” mathematics have changed with the development and complication of applied mathematics. Mathematicians develop in applied mathematics mathematical theories that are closely connected with the usage of mathematics in different sciences and in the engineering. This is an area of mathematics that uses different methods and standards in comparison with the classical mathematics (Pincock, 2009, p. 173).

The aim of applied mathematics is to clarify scientific concepts and to describe scientific phenomena through the use of mathematics and to stimulate the development of new mathematics by means of such investigations (Pincock, 2009, p. 176).

That process of usage of mathematics has three stages: formulation of scientific problem in mathematical terms; solution of the so formulated mathematical problem; interpretation of the solution and its checking in the scientific terms of the initial scientific discipline (Pincock, 2009, p. 176). Step by step a theory of applied mathematics has been developed and nowadays the applied mathematics is as much theoretical as the pure mathematics. The difference between them is only in the areas of investigation. Sometimes it is considered today that applied mathematics is less strict discipline than pure mathematics and that applied mathematics has semantical difficulties, as well as that applied mathematics is more important for philosophy. However, these views do not rest on serious arguments and – as the authors have pointed – when philosophers direct their attention to these differences between pure and applied mathematics, the problems will be found and clarified (Pincock, 2009).

The situation in other areas of scientific knowledge is analogous: we have theoretical physics and applied physics, and so on. Science however is not exhausted with the natural sciences only. Analogous processes are realized also in the field of humanities including philosophy.

**Formulation of the main material.** *Pure and Applied Philosophy.* In the last few decades it has begun to enforce the view of the presence of not only traditionally perceived up to now “pure” philosophy, but also of applied philosophy. Among the philosophical disciplines it has been realized first of all in areas such as ethics where the concept of applied ethics has been approved more than fifty years ago. I shall consider in more details the question what is understood by “applied philosophy”.

Usually the academic philosophy is considered as the study of reality from the perspective of its ultimate reasons and principles with the help of the human reason (Dolhenty, 2010). The traditionally differentiated branches of philosophy are metaphysics, ontology, epistemology, logic, ethics, etc., and every branch has its own specific. For example, ontology is the study of being (Dolhenty, 2010). On the other hand, philosophy is usually subdivided into speculative and descriptive philosophy, and normative or prescriptive philosophy. Metaphysics and epistemology belong to the first one, and ethics and axiology – to the second one. A number of philosophers

have added in the last three decades also a third type of subdivision: the so called applied philosophy (Dolhenty, 2010). The term “applied” itself means placed in practice or used practically. It can be formulated from here a general definition of applied philosophy.

It is the application of the principles and concepts derived from and based on philosophy to the investigation of our practical occupations and activities (Dolhenty, 2010).

It is important, because the applied knowledge is so to say philosophical knowledge of a third order that does not inevitably lead to a complete “truth” applicable always and everywhere. That is, so to say, the classical definition of applied philosophy. In more details, things are as follows.

Philosophical knowledge of the first order is mostly metaphysical in character. In other words, the principles and concepts of metaphysics are a basis for further philosophical meditation in both the normative and the applied areas. Purely philosophical knowledge of the first order is called a descriptive one, because metaphysics and epistemology “describe” reality or the real state of affairs. The philosophical knowledge of the second order includes axiology, ethics, aesthetics, politics and in general the disciplines that are normative in character. The philosophical knowledge of the third order is namely the applied philosophy. It deals with the question what practical application we can make in relation to the human occupations and human behavior, stemming from the study of descriptive and normative philosophy. To that type of philosophical knowledge belong education (including the recent development of philosophy of children), philosophy of law, philosophy of religion, philosophy of politics, philosophy of sports, philosophy of life, philosophy of science, etc. These three levels of philosophical knowledge place, respectively, different levels of problems or questions in philosophy (Dolhenty, 2010).

Applied philosophy obtains broader and broader circulation and develops successfully and it is even institutionalized. The evidences for all that are the building of Center for applied philosophy based in Australia which deals with investigations of the application of philosophical principles in the public debates and public politics. There exists a Society of applied philosophy in the Great Britten established still in 1982, whose aim is to support philosophical investigations that have direct relation to areas of practical interest. Most frequently they are related to different areas of public life – law, politics, economics, science, technology, medicine, education, etc. The Journal of Applied Philosophy is a body of the association which is published since 1984.

All these are evidences that applied philosophy more and more asserts its place as very important for the society occupation in the field of philosophy. There is even a broader view of applied philosophy. Contemporary science and contemporary philosophy have been changed radically and are not what they were for example in the 18<sup>th</sup> and 19<sup>th</sup> centuries. It is widely accepted that in the course of development of our civilization from Antiquity until now different new disciplines have been peeled off that were individualized as separated – among the newer such disciplines are psychology, sociology, linguistics, economics, etc. It appears as if philosophy loses ground under its feet and as if it loses without its subject except for a vague phrase that it deals with the most general principles of being and knowledge. However, in fact, the more similar disciplines multiplying

and expanding the broader is the spectrum of philosophical questions which they arise. And namely this is the area of applied philosophy.

From that point of view, it can be formulated and defense the thesis that in fact any knowledge is in a sense applied philosophy. Such extended view of applied philosophy questions to some extent the above pointed conditional division of philosophy into three spheres: descriptive, normative and applied. Because in our dynamic epoch of development of knowledge the borders itself, however conditional, between these spheres are fading and the spheres overflow into each other. I shall give an example with the descriptive philosophy – metaphysics and epistemology.

*Applied Ontology and Applied Metaphysics*

Nowadays even in the considered as the most abstract area of philosophy – ontology and metaphysics – the view of applied ontology has begun widely to be affirmed. Of course, that does not become acheless in the sense that many of the traditionally inclined philosophers meet “on a knife” the concept itself of applied ontology and reject that the content of occupations with them belong to philosophy at all. They point out as an argument that this concept has obtained wide usage mainly among the non-philosophical circles (computer scientists, engineers, mathematicians, logicians, etc.) and their reaction is approximately reduced to the following: “Oh dear! They took the good term. Let us struggle to take it back and not to allow the other people to use it”.

However, this is deeply wrong approach on the part of the traditionally strung philosophers. They do not take into account that the term “applied ontology” and its contents have been affirmed with the participation of philosophers and that in the serious interdisciplinary teams working nowadays all over the world for solving of applied tasks, connected with the so understood ontology, philosophers-ontologists participate by all means. The correct approach from the side of philosophers is namely that: not to struggle with scientists who are specialists in concrete sciences, but to cooperate and interact with them, to participate actively in such type of developments. It can be guarantee in this way only that philosophical knowledge would not be wrongly interpreted or used, and it will find its proper place in the contemporary investigations and elaborations in favor of society as a whole. I have written about applied ontology in more details in other works (Petrov, 2004).

The ideas of applied philosophy and more concretely applied ontology and applied metaphysics though widely developed only in the last few decades have their deeper and older roots. Here I again will quote Whitehead who in his work *Religion in the Making* (1926) introduces the understanding of applied metaphysics though in a different context than the contemporary discussions about applied philosophy. He says (Whitehead, 1926).

No religion which faces facts can minimize the evil in the world, not merely the moral evil, but the pain and the suffering. Both the great religions, Christianity and Buddhism, have their separate set of dogmas which deal with this great question. It is in respect to the problem of evil that one great divergence between them exists. Buddhism finds evil essential in the very nature of the world of physical and emotional experience. The wisdom which it inculcates is, therefore, so to conduct life as to gain a release from the individual personality which is the vehicle for such experience. One metaphysical fact about the nature of things which it presupposes is that this release is not to be obtained by mere physical death. Buddhism is the most colossal example in history of applied metaphysics.

Christianity took the opposite road. It has always been a religion seeking a metaphysic, in contrast to Buddhism which is a metaphysic generating a religion.

We see that Whitehead very clearly and undoubtedly speaks about applied metaphysics pointing that still far away before Christ Buddhism has fulfilled such function. It is true that at that time Buddhism did not come to right mind as such, because even the term “metaphysics” itself did not exist (it has appeared, as it is well known, only after the death of Aristotle), let alone to come to right mind as applied metaphysics. However, essentially, looked from a contemporary point of view, this is so and Whitehead underlines namely that fact. Let me pay attention that Whitehead understands metaphysics in the same way as it is understood today, namely (Whitehead, 1926, p. 84).

By “metaphysics” I mean the science which seeks to discover the general ideas which are indispensably relevant to the analysis of everything that happens. That is, it is not about any more detached or specialized view of metaphysics, but namely for the predominant understanding of metaphysics and namely in such sense it is quite natural to speak about applied metaphysic. The merit of Whitehead is that he has understood and has stressed that fact, without enslaving to some presuppositions for the impossibility the metaphysical knowledge to be applied.

On the other hand, I would like to pay attention to the fact that in the last two decades also the applied epistemology has begun to develop and to gain proliferation. The term itself “applied epistemology” has been introduced for the first time in 1989 by Mark Battersby who links it first of all with the critical thinking (Battersby, 1989). However, that term is used nowadays for much broader circus of investigation.

**Conclusions.** Actually, it is high time to realize not only the opportunity, but also the real functioning of philosophy as applied philosophy. Only on the basis of the clear realization of the aspect of philosophy as applied philosophy it can be argued its meaning and its place in the contemporary knowledge and as unseparated element of the presuppositions for the building up of a knowledge based society. But in order to realize in our life this important task of philosophy, we have to better understand the meaning of applied philosophy and its value for all of us.

#### *Conflict of Interest and other Ethics Statements*

The author declare no conflict of interest.

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## КОРНІ ПРИКЛАДНОЇ ФІЛОСОФІЇ ТА ЇЇ ЗНАЧЕННЯ ДЛЯ СУСПІЛЬСТВА

**Анотація.** Стаття присвячена актуальним питанням походження прикладної філософії та її ролі у суспільстві. Підкреслюється важлива роль знань у сучасному суспільстві. Обговорюються поняття теоретичної і прикладної науки, а також прикладної філософії. Зауважується, що прикладне знання можна вважати філософським знанням третього порядку, яке неминуче веде до повної «істини», застосовної завжди і скрізь. Розглядається розвиток прикладної філософії та її зв'язок з прикладною етикою, адже прикладна філософія розвивалася насамперед у таких областях, як етика, оскільки концепція прикладної етики була затверджена більше п'ятдесяти років тому. Наводяться сучасні приклади розвитку прикладної філософії, зокрема: діяльність Центру прикладної філософії в Австралії, Товариства прикладної філософії у Великій Британії, видання Журналу прикладної філософії з 1984 р.

Сформульовано тезу про те, що у сучасному світі будь-яке знання є в певному сенсі прикладною філософією. Відзначається, що навіть у найабстрактнішій галузі філософії – онтології та метафізиці – став широко утверджуватися прикладний підхід, отже можна говорити про прикладну онтологію та прикладну метафізику. Хоча ідеї прикладної філософії та більш конкретно прикладної онтології та прикладної метафізики широко розвинуті лише в останні кілька десятиліть, вони мають більш глибоке і давнє коріння. Також в останні два десятиліття почала розвиватися і набувати поширення прикладна епістемологія.

Наголошується, що в сучасному суспільстві, заснованому на знаннях, настав час усвідомити не лише можливість, а й реальне функціонування філософії як прикладної філософії. Правильний підхід полягає у співпраці та взаємодії філософів з ученими, які є спеціалістами в конкретних науках, бо тільки так можна гарантувати, що філософське знання не буде неправильно витлумачено або використано, і воно знайде своє відповідне місце в сучасних дослідженнях і розробках на благо суспільства в цілому.

**Ключові слова:** *прикладна філософія, прикладна онтологія, прикладна метафізика*

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## NEURONS, NETWORKS AND NEXUS

**Abstract.** The article discusses the problems of development of artificial neural networks (ANN) in the context of the methodology of AN Whitehead. The idea that nature itself controls the learning process boils down to pantheism or atheism from a theological point of view;

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