

SOME REMARKS ON EDUCATIONAL ROLE OF PHILOSOPHY OF NATURE IN MODERN BOTANICAL GARDENS

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This short paper aims at showing how philosophy of nature can be introduced into an educational process carried on in a modern botanical garden. First of all I would like to focus on uniqueness of philosophy of nature. As an example I will present philosophy of organism worked out in 20-ies of XX c by Alfred North Whitehead. I will also discuss opportunities of improving quality of ecological education which results from teaching unified view of the world. Later on I will present several applications of teaching of philosophy of nature in botanical garden.

INTRODUCTION

Philosophy of nature was the first direction of philosophy in European culture. The first writings of Greek philosophers had the same title: *On the Nature*. Afterwards philosophy started to penetrate a wide range of various disciplines such as metaphysics, ontology, epistemology, ethics, aesthetics, methodology. Nowadays we have many philosophical sub-disciplines connected closely with some branches of modern science as for example philosophy of physics, philosophy of mathematics, logic, biology, chemistry (!). Unfortunately not each part of philosophy enjoys the same great interest. Paradoxically these days when science searches the nature at so deep level, philosophy of nature makes hardly any progress. This state is due to several factors: but the most important is weakness of metaphysics – the general theory of reality. Of course, many authors (mainly scientists) try to explore philosophical implication of their own disciplines. Although many interesting and inspiring ideas are worked out the standard of the attempts is relatively low in comparison with professional philosophy, especially metaphysics. It does not mean that philosophy requires some unusual abilities or extraordinary insight but the issue is that

achievement of high standard of every kind of knowledge demands many years of studying and co-operation with a researcher of an outstanding personality.

Lets return to philosophy of nature. Philosophical question about nature (or in Greek – *physis*) is a particularisation of more general question about essence and existence of the whole reality or about essence and existence of being. The nature is only a part of the Universe which contains other types of entities such as values, culture, God etc.

2. What is the philosophy of nature? Like every type of philosophy this one asks the questions about the wholeness of nature, about its essence, primordial elements, etc. Philosophy of nature tried to answer such kind of questions from the very beginning, but it ceased to answer them about 200 years ago. Of course there were several philosophers which tried to build up a new philosophy of nature but their proposals were either to shallow (like Engels' or and Bergson systems) or to speculative (like Schelling's and Hegel's systems). Even such eminent ontologists as Nicolai Hartmann and Roman Ingarden created systems too classic from point of view of new vision of world. Fortunately, there are some exceptions and one of them, namely process philosophy or philosophy of organism created by Alfred North Whitehead in 20-ties of XX century, is relatively new. According to Whitehead primary being is not any kind of an enduring substance but it is an organism. The organism is an elementary portion of world-process. This is not a biological organism but the smallest dynamic unit of nature which antecedents division of nature into living and inanimate parts. It is amazing that the philosophy can provide a much better metaphysical description of the Universe than any other metaphysical system.

3. Now I would like to explain some statements characteristic for the philosophy of

organism. The basic features of world (which are present at its each level) are:

- a. Creativity. We can recognise its presence through emerging new forms in nature. As one knows the notion of evolution has been used beyond the biological context for many years. Nowadays it has its own dimensions like cosmological, cultural and even spiritual.
- b. Anty-substantiality. For the last two hundreds years physics has shown consistently that the world is not built of some kind of enduring and unchangeable stuff or “bricks” but just quite the opposite – the deeper level of reality we search the more dynamic it is. The substrate of the world is something similar to energy, which is indefinite when is considered as such, but when is considered in relation to creatures we can see that the same substrate is able to generate variety of forms and to build complex and dynamic structures.
- c. The world turns out to be a process at its each level but this process is neither a simple and homogeneous flow nor chaos of changes. The process come into being in portions or takes place in quanta of becoming. Nowadays, the complementarity concerning process and particle aspects of reality is an recognised characteristic both micro- and macro world. This quantum of process is undivided but composite one. Whitehead called it an organism.
- d. Our knowledge about real and possible connections among parts of the world is vast. And we know that no part of the Universe is independent of others in a sense of direct or indirect origin and mutual interactions. In philosophy we have to radicalise or strengthen these theses. If anty-substantial, quantum and process points of view are acceptable, each new element of world i.e. organism will be a particular synthesis of all earlier organisms. The synthesis is creative i.e. it brings something new into the world. The following notions: *inheritance* and *creativity* are a pair of complementary characteristics of the whole world and at the same time each of its part i.e. an organism or a society of organisms. It seems that nowadays we realize again the crucial fact of universal connectedness and interdependence of all beings or organisms.

Premises of the modern worldview formulated above are at the same time premises of the modern philosophy of nature. But we should remember that philosophy is not a worldview. Metaphysics is the most general theory of the universe. It has both rational and empirical sides. Contrary to earlier metaphysical systems (especially medieval ones) which were formulated *a priori* Whitehead’s metaphysics from the beginning was formulated as a *a posteriori* system of hypotheses. Some notions and (hypo)theses which origin from philosophy of organism and their application to proposed education in modern botanical gardens will be presented below.

What is an organism in the most general i.e. metaphysical sense?

1. An organism is built of prehensions of all the organisms which died. Prehension is a kind of generalised action which connects (like a vector) two organisms: one belongs to the past and the second just becoming.
2. There is a selection of the prehensions. Some of them are included into a new organism and the rest is excluded. The included prehensions are called feelings.
3. Growing is transformation of a given matter i.e. feelings and subsequently concrescence (syntheses) of all the parts into a new organism.
4. The organism is a result of interaction between the inherited from the earlier world of organisms (with the use of feelings) and a novelty created by the primordial feature of reality.
5. Growth of the organism is aimed at realisation of its own optimum of existence. The optimum consists in achieving satisfaction i.e. the maximum intensity of feeling.
6. Organisms as a community or society generate their own laws and at the same time they are subordinated to their laws.
7. The world is a unimaginable composite structure of societies which are finally constituted by primordial organisms. The world and its laws are dynamic by nature.

It is amazing that we can interpret contemporary knowledge about every level of our world (from quantum level, next through biological, psychological, cultural one and up to cosmological) by means of notions of process philosophy. We are able to comprise our

knowledge from one synthetic point of view and thanks to it we have a chance to understand our complex world and maybe ourselves as well. For instance, from the perspective of process philosophy one can show that an electron is not a basic organism but a complicated society (nexus) consisting of primordial organisms which follow unceasingly one-by-one. When so, than a biological organism is a very complicated society of societies.

Let's come back to the main question: can philosophy of nature be included in educational programs realised in botanical gardens? The answer depends on what kind of educational purposes should be achieved by means of philosophy of nature. Below, I will discuss briefly cognitive, educational and spiritual purposes and also its influence on children's upbringing.

Education purposes are realised in a particular way during the classes of philosophy of nature. Knowledge should not be accentuate but if such a case takes place, than classes may change into popular science lectures. It would be the failure. Besides, philosophers do not have to be the best popularises. Cognition and educational aims are directed towards perceiving the whole metaphysical fact (which is the nature taken as such) and subsequently understanding this fact by means of notions and theses of process philosophy. There is a well-known fact that we can explain many phenomena and despite all that do not understand them satisfactory enough. It means that we feel helpless in answering simple questions about the wholeness or its meaning. One says that keeping in touch with philosophy makes a man wiser i.e. somebody is able to deepen systematically their reflection on nature and is closely connected with emotional and spiritual experiences.

Realisation of purposes such as: emotional growth of children, strengthening their motivation in order to change their attitude towards ecological problems of our times can receive support from philosophy of nature workshops. There is a simple reason for it. Philosophy of nature provides a rational ground for the matter passing on at psycho-educational workshops and practising ecological sensitivity.

First of all, we should discern religion and spirituality. The former is historically deter-

mined and connected with specific worship. The latter is of universal character and nowadays is taken into account as autonomic sphere of human development. The growth relays on integration of all the elements which constitute a man. The stage of spiritual development is expressed through special kind of sensitivity to internal world of a man and to external one. Philosophical education reveals the unity of the world and the man but it makes it from rational perspective. Then the spiritual development can be conceived as a mode of naturalistic attitude.

Let's sum up above remarks and present briefly educational role of philosophy of nature in modern botanical gardens.

Philosophy of nature provides a coherent system of notions and theses, by means of which one can better understand the matter taught within educational programs of different sciences. Furthermore, the presence of philosophy of nature in ecological and psycho-educational workshops solidifies cognition and emotional results and cements changing of attitudes.

There are several conditions we should fulfil to achieve a success. The character of places where children meet philosophy should have a suitable space form. Open air of botanical garden (regardless of season) guarantees optimal setting of lessons, so children should not be in large groups and the places ought to be well-chosen. For instance, the problem of general nature of the world can be discussed at a place with a wide view of the surroundings. The topic connected with the nature of organism can be taken up in a place where biological and non-biological organisms are shown distinctively. Each collection of plants is suitable for it. Subjects which refer to different kinds of societies of organisms need ecosystems which one can meet in natural or quasi-natural parts of a garden. In winter a greenhouse is very suitable for it. Finally, spiritual dimension of nature can be discussed and experienced in an area of Far-Eastern gardens or other types of gardens founded by monks (for instance by Franciscans).

Different methods of teaching should be applied during philosophy of nature class. In this context it is worthy to mark out a particular educational path adapted to needs of such an unusual subject.