THE STUDY OF NATURE IN THE ENLIGHTMENT PHILOSOPHY

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Abstract:
Regarding the conception of nature, there is an evolution of the Enlightment philosophy from the self-reflexive reasoning of the Middle Ages, centred on God's existence, through the acceptance and the overcoming of the mathematical model of nature conception , to the biologist model, laying the foundations of evolutionism.

Keywords: *enlightenment philosophy, Jean Jacques Rousseau, nature, human nature, evolutionism.*

In the religious medieval system, built on the scholastic thinking, each reality has a fix place. The distance or proximity of God determines the value of the work. Thus, the concepts of God, soul and world represent the axis of the being, according to which all existence is a hierarchy, creating a safe world in which the location of beings is determined by one or the other from the circles stated before. The aim of knowledge is the approach of the Supreme being.

The knowledge of nature is not removed from the concerns of the Middle Age man, but it is of a lesser importance, locked in the bottom of the circle of the being, the most remote of the knowledge of God. "The nature's empire will be put face to face with the grace empire" [1], the first having only the attributes of inferiority. Knowledge is "natural" because it comes from the human reason, but the knowledge of nature represents a limited horizon of reality understanding. The empire of the nature is given through sensory and judgement processes and the logical conclusion related to them, by the discursive use of intellect, and the other is accessible only through the power of revelation.

Although it seemed locked in its inferiority, knowing the nature finds exactly this flaw in the theological system: that it accept the field of nature knowledge with its own sphere, governed by the natural law, obviously also created by God, but accessible to human reason. The first attack belongs to the Renaissance philosophy which, by pantheism, identifies nature with God arguing that true nature is God's creation, not just a mere creature. It participates in the divine being, because the force of the divine action represents life in itself.

Giordano Bruno argued that we don't have to imagine God as that external force foreign to nature and uninterested in it; his dignity lies precisely in the capacity to intervene in nature and to identify with it and with its law. This way, the study of the nature recaptures the dignity lost in the time of the ancients: knowing nature means knowing God manifested in it by identification with it.

The next Renaissance discovery is that the nature as a whole consists of parts that have individuality. Thus nature can and should be known not as a whole but also fragmented into its component parts. The method of the knowledge of the parties, which can be defined clearly and distinctly, is a sensitive experiment. Senses regain their dignity especially because in the understanding of nature, they will be associated with the accurate measurement and the mathematical instrument. The new method has spawned a new cosmology to which the Church has fiercely resisted. But the big problem was another one: the Church felt more threatened by the new concept about the truth than by the new cosmology, it was harder to tolerate that the scientific truth is a truth which comes from God, that apart from the truth of revelation, there is also the truth of nature which is not based on God's word, which he "owned", but on his work. This new truth was equaled to the one revealed, but it had the advantage of safety, univocity, formalisation and rationality, it was believable and put in jeopardy the credibility of the revelation.

The age of Enlightenment will bring up the issue of the relationship between nature and intellect, which in fact is a recognition of the remoteness of the two entities. First it posits the rationality of nature and the independence of spirit. The reason is able to know the nature, but it is an independent entity. "Human nature is opposed to the nature of the cosmos and then it retrieves in it. Who discovers one, will get a certainty regarding the other" [2]. The nature and the intellect are intrinsic, have their own essence, and it is not a hidden and mysterious one, but it is totally accessible to the intellect that can systematically understand and explain them. This is the fundamental coordinate of the enlightenment age, the philosophical century, how d'Alembert called it, or the natural-scientific century.

The first attack of the Enlightenment will be given to the theology and to the Church. Basing on the successful theories of physics it will be broken the link between theology and physics. Theology was taken the right to postulate "truths" in the field of Physics "the biblical Physics" being richly gibed. The biblical description of the creation is considered metaphorical, the days of the creation being in fact, counted as eras or periods, destroying this way, by the scientific reinterpretation of the Bible, the whole theological cosmogony and postulating its lack of capacity to provide theoretical models. Not only theology is not entitled to provide a model of the existence, but also science.

Science, particularly physics, can't keep "the spirit" which produced the great metaphysical conceptions of the 17th century, it must confine itself to investigating phenomena and to show their empirical ties. The physicist must give up his desire to explain the mechanism of the universe, limiting to the complete description of particular existences, and links between them. Fontenelle noticed this sooner in his *Entretiens sur la pluralite des mondes*: "as far as I'm concerned, I admire him [n.i. universe] even more as I know it is also a clockwise: it is surprising that nature is so worthy of admiration because it is based on such simple things" [3]. The object of the science are simple things, real existences, the actual condition, and not that of the Cartesian physics, the first principle, "in itself", "first mover" of all existences.

The new epistemology changes the relation between the principles and the actual conditions proposing a new methodology of research: the principle represents what is inferred, while status quo represents what is native. The actual conditions are the subject of the empirical research, and the inductive research rests on the mathematical tool. "If you do not use the compass of mathematics and if the torch of experience does not illuminate our path, you cannot advance any

step" [4]. Giving up ontological foundation of the first principle brought numerous problems of existence conception. The phenomenal world can find explanation in itself, in its laws, but is this phenomena uniform and constant? D'Alembert proclaims this constancy, but will not substantiate in any place. Leibniz returns to the highest principle, which is the source of both the intelligible and the sensitive world to ensure the stability and harmony of the ideal and the real plan, to be able to submit the real to the rules of logic and mathematics, and to make it cognizable. The solution could not be accepted by the Enlightenment adepts which had already appropriated the induction and empirical research. That's why they preferred rather to postulate the axiom regarding the constancy of nature. Nature's constancy, itself an unprovable axiom, is not a scientific, but a pragmatic one: its value is derived from the necessity of thinking, but also from the necessity of action. In other words, without proclaiming the constancy of nature as a pragmatic necessity, the empirical research activity cannot go forward. The axiom of the nature's constancy becomes faith, and Hume will base it on habit, habitude [5]. The attempt to remove all metaphysical components of the foundation of the empirical philosophy goes so far as threatening and calling into question even its logical foundation.

If mathematical physics has inclined to a strict phenomenalism which goes up to skeptical consequences, the natural-scientific popular philosophy will have a somehow opposite path. For her theoretical knowledge is still possible by identifying and removing obstacles that have stood in front of the progress of nature study. The language of the ancient metaphysics is made guilty of forwarding the cognitive effort. So far, the metaphysics, caught in the throes of its own language, could not escape the magic of words presenting a kind of self reflexive nature, it is a whole closed in itself which subsists and is explained by itself. It has not noticed that the spirit of truth, immanent, wants to transcend the world, but its only force consists in connecting sensitive data. If it would have returned to the materiality, giving up the search for the ideal chimaera, it would have perceived that the only clear and distinct data, the only clear and complete order belongs to the material world. "To exist means to fulfill the movements specific to a determined essence; means to remove the ones which can weaken or harm it." [6]

The Mechanism is not satisfied with the establishment of the limits of functioning and study of nature, but also, in the same manner it will decree physiologically, psychologically and morally. Furthermore, the psychology becomes the primary ally in support of mechanism being equally mechanical. We operate like a machine, "the human body is a clockwise, but a huge clockwise built so artistically and skilled" [7], that the man becomes the yardstick of materialism and mechanism. Nothing must escape materialism; It is not a natural scientific dogma of the era, but it is an imperative that dictates what must be known. Holbach's attempt to eliminate from the conception of nature, everything that pertains to the sensitivity, fantasy and feeling, proclaiming the equality of all existences, any valorisation being wrong, had to face the opposition of his contemporaries, who materialists, however did not accept *The system of nature*, a work written without style and in which he destroyed still strong idols. The man of the Enlightenment was not yet ready to consider himself socially freely, and also a puppet-machine at the reach of some blind forces that he should accept to describe without understanding what is behind them. The Mechanism falls into this trap because it proclaimed the possibility of a being to explain a world, being trapped in its nets and without the ability to be free, not even to think freely.

The modernity imposed the mathematical study of nature. Mathematics does not acquiesce in only developing its own conceptual world, but it aims to include in it the entire reality. Therefore the mathematics becomes metaphysics. As the century of Enlightenment aims to be against metaphysics, it will repudiate this knowledge once it will become aware of it. The ideal mathematical knowledge of nature is beginning to disappear, and is replaced by a new ideal: the dream of a purely descriptive science of the nature. The description of a phenomenal wealth takes the place of explaining the nature and defining the concepts. The man of science is no longer interested in ordering the whole reality according to mathematical principles, but he wants to render in a natural manner the pure exuberance of nature, even though this abundance could ultimately ordered and calculated in an integrator system. *The philosophy of Botany* of Linné fails precisely for this reason that instead of describing the budding nature, it tries to sketch general concepts through which to introduce natural existences afterwards. Abstract categorization is against nature who lectured on comparing nature with itself, not with abstract concepts. To better highlight this feature science turns from the Cartesian Physics model to the Biology one, as a method of description. We must let ourselves be exclusively guided by experience: because only this can give us that kind of certainty which can give us the truth of physical objects. Inductively, we must increase the number of experiments and intensify them, we must generalize, to relate the facts through the conclusions derived by analogy until, finally, we get to a level of knowledge from which we can see how the detail relates to the whole, how the particular effects depend on the general ones. Instead of comprising in predetermined frameworks nature, it is better to study objects in their causal evolution and creating a final complete image. In this way, in the bosom of Enlightenment appears for the first time in *The natural history* of Buffon, the direction to evolutionism, a strong cultural current deeply speculated in the next century. "As in the human history - says Buffon in the *Natural history* – there is a research of the historical documents, coins and medals, deciphering the ancient inscriptions to determine the transformations that have occurred and to ascertain the ages of the spiritual events, so does, in the history of nature, have to be researched the archive world, the earliest monuments have to be ripped from the womb of the Earth, the ruins reconstructed and all signs of physical transformations which can lead to different states of life of nature united into a single body of evidence. This is the only means by which, in the infinity of space, we can identify certain fixed points and obtain a few milestones on the eternal temporal axis. "

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