

On the idea of circular development of the philosophy of science

Up until Aristotle's time, there were either the naive materialistic views that considered the world merely as a sensory perceivable reality, as a system based on the same material basis, or there were absolute idealist views that by connecting the real being only with idea and mind, accepted the sensory world as a shadow and illusion and considered the knowledge that were taken from the sensory experiment not as truth and knowledge but as a judgement. Aristotle preferred to unite form and matter. Unlike Plato, he sought ideas not above things but in things themselves and replaced idea-*eidos* with form which determined the essence of the thing and its function.

This `replacement` was not at all merely an alternative view, but was the basis of a different view on the world that played an important role in the later development of the history of the philosophical thought. Sometimes the foundation of logic is considered as one of Aristotle's contributions to the sphere of founding a number of new scientific fields. However, `logic` is the natural result of his thought system. That is to say, there is no need for logic within the idealistic teachings that are not based on the sensory experiment. The appearance of the truth in the intuitive form and in the form of revelation does not leave any space for logic. Logic mostly takes into consideration generalizing the knowledge that are taken from the sensory experiment, and outlining the exact counters and boundaries of these `commons`-notions and `correctly` connecting them to each other and forming the patterns of thought. Neither the Pythagorean dialectic nor that of Heraclitus is compatible with formal logic and nor is the philosophy of Plato. For the reason that logic frames thought it is generally in contradiction with the spirit of the dialectical philosophy. From this standpoint, as the founder of logic, Aristotle stimulated the development of scientific knowledge rather than philosophy. Formal logic begins from the denial of the dialectical philosophy by considering that any object or event could be both good and evil, hot and cold, active and still. We would even say that it begins from the denial of philosophy and thus lays down the foundations of the scientification of thought.

Logic in its essence belongs to the patterns of thought, dialectics, however, to thought itself. Thought no longer exists as living thought after it has entered into hearts. At the first

glance, we encounter here a point that may seem paradoxical. According to Marxism dialectics belongs to nature and, for Hegel's teaching, to the sphere of thought. For Marxism, the 'living' processes of nature overstep the limits of formal logic. The human being merely uses logic as local and limited method when he perceives the world and reflects it in consciousness and thought.

Hegel, in turn, considers mind and thought in motion and development. Formal logic belongs neither to 'living nature' nor to living thought; it somehow appears in materializing and 'naturalizing' thought. In fact, neither pure idea nor pure *materia* possesses the concreteness of time and space. Appearing only during the contact of idea with *materia*, the notions of time and space are also the indicators of sensory objects. 'Two objects cannot exist at the same time in the same space', this is an example to the law of contradiction in logic. In fact, other laws of logic also appear under the condition of the concreteness of time and space. Logic is merely the result of the initiative of creating time and space concreteness both in the sensory world and in the world of thought, it is a result of the initiative of packing and shaping thought. For bringing any idea to the notice of others, man is firstly obliged to verbalize and symbolize it. Only in this case the concreteness of thought in terms of time and space is needed. All the laws and principles of logic are obtained here.

It is interesting that Kant was the first who attempted to prove that time, space and causality do not objectively exist in nature, but belong to thought. However, he did not continue this thesis towards uncovering the essence of formal logic. 'The other side of the medal' will appear if we look at the problem symmetrically. Kant emphasizes that the categories of time, space and causality are necessary when the events in the sensory world are explained, that is, when they are transferred to the sphere of thought. If we look at the contrary process- at the problem of transferring intellectual matters to the sensory world, then again we will need the notions of time, space and causality. Under the very circumstances of the concreteness of time and space thought becomes shaped within the patterns of formal logic. What is the pattern then? It is the concreteness of time and space. The notion of 'space' has specific meaning here. What is of concern here is the demarcation of thoughts and the concreteness of the borders of idea.

We should take into consideration the historically known fact that Pythagoras and Plato, who were representatives of dialectical thought, entered into history also as representatives of mathematics and mathematical thought. Certainly Plato was not mathematician. However, with

his way of thinking he contributed to bringing mathematics to the forefront and Aristotle, in turn, served the development of science (nature study). Indeed, unlike the thinking line of Aristotle, which is based on intending to learn nature as it is, as well as on the sensory experiment and thus on quality conditions, the line of Plato, which gives the prominence to the idealization of the world or to the ideal world, leaves more place to quantity conditions. We confront here with a seeming paradox; on the one hand we face here with mathematical exactness, which reminds us of formalism, but on the other hand with the disappearance of the boundaries and outlines of quality concreteness (mathematical regularity). What is needed here is probably to unveil the close relationship of mathematics with dialectics. Setting size limits for the concreteness of quality provides the opportunity for the transition to a new quality outside the size; and this is, namely the dialectics.

This regularity, which would be formulated after several thousand years by Hegel as one of the main principles of dialectics, in fact, also expressed the relationship-correlation between formal logic and mathematics.

It should also be taken into consideration that formal logic was not limited only to excluding sophistry and dialectics, but also was indifferent to mathematics and avoided it.

As a universal talent Aristotle himself, of course, did not stay out of mathematics, but the line that he referred to and developed was mostly based on quality divisions and quantity in some sense receded into back stage. Considering the definiteness of `the thing is what it is`, formal logic does not pay attention to quantity change and the possibility of its transformation into something else.

It is not a coincidence that when the great mathematician and philosopher of our time A. Whitehead analyzed the teaching of Aristotle, he mentioned that formal logic damaged not only philosophy but also science. He writes: `But the Platonic doctrine of the interweaving of Harmony with mathematical relation has been triumphantly vindicated. The Aristotelian classifications based upon qualitative predicates have a very restricted application apart from the introduction of mathematical formulae. Indeed, Aristotelian Logic, by its neglect of mathematical notions, has done almost as much harm as good for the advancement of science`.¹

On the other hand it appears that, besides its damage, his staying out of mathematics had also good effects. The great historian of science and philosophy in the Modern Time A. Koyré

¹ .N. Whitehead. *Adventures of Ideas*. London, 1933, p.157.

writes: `The teaching of Aristotle is not mathematical teaching- and this is the weak aspect of it; however, it is the strong aspect of it too. This teaching is a metaphysical teaching. Though the Aristotelian world is not geometrically curved, if it is possible to say, it is metaphysically curved`.²

Abu Turkhan, in turn, emphasizes the third incurvation event ó incurvation of intellectual space. For his hypothesis, both the geometric and metaphysic incurvations are related to the locality and limitation of the rational potential of the human being. As if, thought itself (human thought-science) has circular motion like celestial bodies, atoms, electrons, etc.³ According to the Koran, God has given the human being limited knowledge; thought can go until a certain border and the more it approaches the border, the more the difficulties. The thought intensifies and is screened, and then turns back (and we absolutely are not aware of our return). The motion of advance is replaced by rotary motion. It is probably better to say that it is a spiral motion. That is to say, there are both the components of advance and return here (Perhaps the Sun itself, atoms, etc. move spirally, but we can only observe the rotary component. Does not the effect of `the expansion of the universe` inform us about the components of advance?)

Now, Aristotelian physics, which was falsified long time ago, is replaced by Galilei-Newton`s Mechanics and the conception of absolute space and time becomes the main scientific principle. However, then Einstein comes and once again time and space become relative. Does not the actuality of Leibnitz in the 21st century, who `did not understand` the principles of Newton and related the continuum of space and time to substances, as well as the return of thought to Aristotle lay the foundation of a new circular motion? Or, the other example: The idea of `the source of the motion should be sought within the substance itself` is rejected by the principle of `outside influence`. However, several centuries later, it is unveiled that electrons have a will and thus once again the necessity to study the nature of the substance appears. Modern genetics, in turn, indicates that all the way to the next development of organism is founded when it is in embryo. Is not it the return to Medieval Islamic philosophical teachings and from there once again to ancient philosophy? Or, does not Modern Phenomenology return to Cartesian teaching and Cartesian teaching, in turn, to Ishraqism (The Philosophy of Illumination), Ishraqism to Manichaeism, the teaching of Mani to Zoroastrianism, and thus does

² . . . , 1985, p.17.

³ bu Turkhan,n õfikir f zas,õ t limi (Abu Turkhan`s teaching of `intellectual space`) // «F ls f v sosial-siyasi ehml r» jurnal,, 2008, 4, pp. 159-160.

not everything begin over again. Do not the returns from Existentialism to Sufism and from Sufism to Zen-Buddhism notify that in one sense philosophical thought has circular motion (in fact, spiral)? All that have been said above show that the facts, which indicate that in some day or other the progressive thought turns back `in an uninformed way`, and the hypotheses, which claim that intellectual space is not rectilinear but curvilinear, are not accidental.