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Lesson 5: Philosophy And The Sciences

The Philosophy of the Sciences

In the previous lesson we mentioned that sometimes the term “philosophy” is used in genitive constructions such as “philosophy of morals”, “philosophy of law”, etc..

We shall now explain this sort of usage.

This sort of expression is sometimes used by those who restrict the term “science” to the empirical sciences, and who use the term “philosophy” for fields of the human sciences which are not susceptible to proof by sensory experience.

Instead of saying, “the science of theology”, for example, such people say “the philosophy of theology”, that is, the use of “philosophy” in the genetic construction is merely for the sake of indicating the kind of matter under discussion and its topics.

Likewise, those who consider problems which are both scientific and evaluative to be “unscientific”, and who hold that there is no objective basis in reality for them but consider them to be merely governed by the desires and inclinations of people, sometimes consider these sorts of problems to belong to the realm of philosophy.

So, for example, instead of speaking of the “science of morals” they say, “the philosophy of morals”, and instead of speaking of “the science of politics” they say, “the philosophy of politics”. Sometimes this sort of expression is used in another sense, and that is to explain the principles of other sciences.

In addition, matters such as the history, founders, goals, methods of research, and the course of development of a science are also discussed under this rubric. This sort of expression is not peculiar to the positivists and those of like mind to them, but those who consider philosophical and evaluative knowledge to be “science” and who consider their methods of research and inquiry to be “scientific”, also use this sort of expression.

Sometimes, in order to avoid confusion with the previous usage, they add the word “science” to the genetic construction. For example, they say, “the philosophy of the science of history” in contrast to “the philosophy of history”, or they say, “the philosophy of the science of morals” in contrast to “the philosophy of morals” in the previous sense.

Metaphysics

One of the terms which are used in contrast to “science” is the term “metaphysics”. Hence, it is necessary to explain something about this word. This term is derived from the Greek metataphysica by dropping the extra ta and transforming the physica to “physics”, to take the form “metaphysics”. It has been translated into Arabic as ma ba‘d al-tabi‘ah (that which is after physics).

According to that which has been narrated by the historians of philosophy, this word was first used as a name for one of the books of Aristotle, which occurred following his Physics, and which included general discussions of existence. In the Islamic Age this came to be called umur ‘ammah (general affairs), and some of the Islamic philosophers have considered it suitable to use the expression ma qabl al-tabi‘ah (that which is prior to physics).

Apparently, this discussion is different from that of theology or uthulujiyyah. But in the books of the Islamic philosophers, these discussions are combined, and together they are given the name “divinity in the general sense”. Likewise, theology is specified by the name “divinity in the specific sense”.

Some have taken the term metaphysics to be equivalent to “trans-physical”, meaning that which is beyond physics, and they consider the use of this name for this part of ancient philosophy to be an instance of using a general name for something more specific, for in divinity, in the general sense, God and abstract things (beyond physics) are also discussed. However, it seems that the first meaning is the correct one.

In any case, metaphysics is used for a collection of theoretical intellectual problems, which are a part of philosophy (in the general sense). Nowadays, the term philosophy is sometimes restricted to these problems, and one of the new meanings of “philosophy” is metaphysics.

The reason that the positivists considered these kinds of problems to be unscientific, is that they are susceptible to verification by sensory experience. Likewise, Kant considered theoretical reason to be insufficient for the verification of these problems and he called them “dialectical” or debatable from two standpoints.

Science, Philosophy, Metaphysics and the Relations among

them

Keeping in mind the different meanings mentioned for science and philosophy, it becomes clear that the relation among science, philosophy and metaphysics differs in accordance with these different meanings. If “science” is used for awareness, in an unqualified sense, or if it is used for a group of related propositions, it becomes more general than philosophy, for it would then include particular propositions and the conventional sciences.

If it is used in the sense of real universal propositions, it becomes equivalent to philosophy in its ancient sense. If it is used in the sense of empirical propositions, it becomes more specific than philosophy in the ancient sense, and it contradicts the modern meaning of philosophy (i.e., the set of nonempirical propositions). Likewise, metaphysics is a part of philosophy in the ancient sense, and is equivalent to it in one of its modern meanings.

It should be noted that the contrast between science and philosophy in the modern sense, as is intended by the positivists and those similar to them, is used to denigrate the value of philosophical problems and to deny the nobility and station of reason and the value of intellectual understanding, while this is not correct.

In discussions of epistemology it will be made clear that the value of intellectual understanding is not merely any less than that of sensory and experiential knowledge, but is even of an even higher level than these. Even the value of experiential knowledge itself will be found to be due to the value of intellectual understanding and philosophical propositions.

Therefore, the restriction of the term science for empirical knowledge and the term philosophy to that which is non-empirical is acceptable if merely a matter of terminology, but one must not misuse the contrast between these terms to pretend that the problems of philosophy and metaphysics are just idle speculation.

Likewise, the label “scientific” does not establish any advantage for any sort of philosophical tendency, and basically, this label is like a patch which does not match the fabric of philosophy, and it can be considered a sign of the ignorance and demagoguery of those who affix it.

The claim that the principles of a philosophy such as those of dialectical materialism are obtained from empirical laws is wrong, for the laws of no science are generalizable to any other science, let alone to all of existence. For example, the laws of psychology and biology cannot be generalized to physics or chemistry or mathematics, and vice versa. The laws of these sciences have no use outside their own realms.

The Division and Classification of the Sciences

The question will be posed here concerning what basically is the motivation for the separation of the science from one another. The answer is that recognizable problems form a broad spectrum, and although within this spectrum some problems have a close relation to one another, others are completely alien to one another.

On the other hand, the acquisition of some kinds of knowledge is dependent on that of others, and at least the understanding of one kind may help in the understanding of another, while for other sorts of knowledge this sort of relation does not exist. With regard to the fact that the acquisition of all the kinds of knowledge is impossible for a student and assuming that it would be feasible, not all people have the motivation for it.

Likewise, the talents and tastes of individuals with regard to the acquisition to different sorts of subjects are different, and given that some sorts of knowledge are related to one another and that the acquisition of some are dependent on others, for this reason, teachers since long ago have decided to classify appropriately related topics together, and to so determine the specific sciences and types of knowledge.

Different sciences are categorized and the need of each science for others is clarified, and consequently their relative priorities are determined so that, firstly, one who has a specific talent and taste will be able to find that which he seeks from among the masses of innumerable problems and he may find the way to reach his goal.

Secondly, one who would acquire a different field of knowledge should be able to find where to begin, so that the way may be prepared for knowledge of this other field and to facilitate its acquisition.

In this way, the sciences have been divided into various parts, and each part, in turn, has been placed in a specific category and level, which include a general division into the theoretical and practical sciences, and the theoretical sciences are divided into the natural sciences, mathematics and divinity, while the practical sciences are divided into ethics, household economics and politics, which were mentioned before.

The Standard for Distinguishing among the Sciences

Now that the necessity for classifying the sciences has become clear, another question may be posed. What are the criteria and standards for the categorization of the sciences and for distinguishing among them?

The answer is that the sciences may be classified according to various standards, the most important of which are:

1. According to the methods and procedures of research. Earlier we indicated that all problems cannot

be the object of study and research by a single method, and we also indicated that all sciences, with regard to their general methods of inquiry, can be divided into three groups:

A. The rational sciences, which may be investigated by means of rational proofs and mental inferences alone, as with logic and divine philosophy.

B. The empirical sciences, which are verifiable by empirical methods, such as physics, chemistry and biology.

C. Narrative sciences, which can be investigated on the basis of narrated and historical documentation, such as history, biography (`ilm al-rijal) and Islamic jurisprudence (`ilm al-fiqh).

2. According to the goal and telos. Another standard on the basis of which the sciences may be classified is the benefits and consequences which result from them. These are the goals and ends which the student takes into consideration when learning them, such as material and spiritual goals, or individual and social goals.

It is obvious that one who desires to find the way for the realization of his own spiritual perfection needs to study various matters which are not needed by one who is interested in obtaining wealth through agriculture or industry. Likewise, a leader of society needs another kind of knowledge. Hence, the sciences may be classified in accordance with these various goals.

3. According to the subject matter. The third standard according to which the sciences may be distinguished and separated is their subject matter. With regard to the fact that every problem has a subject, and a number of problems are collected under an inclusive topic, this inclusive topic may serve as that about which the various subordinate questions pivot, as numbers are the subject of arithmetic, volume (continuous quantities) is the subject of geometry and the human body is the subject of the science of medicine.

The classification of the sciences in accordance with their subject matters provides a better way to secure the goal and motivation for separating the sciences since by using this method the internal relations and harmony among problems and their order and arrangement is better preserved.

For this reason, since long ago it has been noted by great philosophers and scientists. However, in subdivisions other standards may be taken into consideration. For example, one may establish a science called theology, whose problems turn about the subject of God the Almighty. Then it may be subdivided into branches which are philosophical, gnostic, or religious, each of which may be investigated by a specific procedure.

In reality, the standard for this subdivision would be the method of research. In the same way, the subject of mathematics may be divided into various branches each of which may be indicated on the basis of a specific goal, such as the mathematics of physics and the mathematics of economics. In this

way, the composition of different standards is brought about.

Whole and Universal

The inclusive topic which is taken into consideration for the subjects of a problem and on the basis of which science appears with the meaning of a collection of related problems, sometimes is a universal topic and has many individual instances, and sometimes it takes the form of a whole and has numerous parts.

An example of the first kind is the topic of number or amount, which has various types and classes each of which is composed of the subject of a specific problem. An example of the second kind is the body of man which has numerous organs, limbs and parts, each of which is the subject of a section of the science of medicine.

The basic difference between these two sorts of subjects is that in the first kind, the topic of the subject of the science is applied individually to the subjects of its problems which are its particulars, as opposed to the second sort in which the topic of the subject is not applied individually to the subjects of the problems, but rather is predicated to the collection of parts.

The Branches of the Sciences

From what has already been explained, it has been found that the classification of the sciences is for the sake of facilitating teaching, and to fulfill the aims of education to the extent possible. In the beginning when human knowledge was limited it was possible to classify all of it into a few groups.

For example, it was possible to consider zoology to be a single science and it would even include problems related to man. However, gradually when the circle of problems expanded, especially after various scientific instruments were made for the investigation of empirical problems, the empirical sciences more than others, were divided into various branches, and every science was divided into more particular sciences. This process is still increasing.

In general, the subdivision of the sciences takes several forms:

1. One form is that in which the small parts are taken from the subject as a whole, and each part becomes the subject of a new branch taken from the mother science, as endocrinology and genetics. It is clear that this kind of division is specified to sciences in which the relation between the subject of the science and the subject of the problems is the relation between a whole and its parts.

2. Another form is that in which more particular types and more limited classes are taken from the universal topic, as entomology and bacteriology. This sort of subdivision occurs in sciences in which the relation between the subject of the science and the subject of the problems is that between universal and particular, not between a whole and its parts.

3. Another form is that in which the various methods of research are considered a secondary criteria and while retaining the unity of the subject, new branches appear. This occurs in cases in which the problems of a science may be investigated and solved in different ways, as in philosophical theology, mystical theology and religious theology.

4. Another form is that in which different goal may be considered as subcriteria and problems appropriate to each goal are introduced as a specific branch of the mother science, as was mentioned in the case of mathematics.

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