

# PHILOSOPHY, SCIENCE AND AXIOLOGY

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## *Abstract*

*The economic progress of any society is invariably linked up with the advancement of science and technology. Therefore, philosophical idealism must be combined with scientific realism to create a world that is worthy of human living. It is axiology that serves as the scaffolding of such a world. Philosophy and axiology become all the more important and significant in a society that is marked by scientific and technological advancement. In this paper an attempt is made to show the interface between philosophy, science and axiology which preserves the richness of human life.*

## **Introduction**

Philosophy, science, and axiology are necessary conditions for a well balanced human life, but none of them is a sufficient condition by itself. A well balanced human life is that which absorbs all the three nutrients in their proper proportions. Excess dosage of any of these nutrients may cripple the very human life by causing imbalance of one sort or another. This is often witnessed in the present day world. By and large the two neglected nutrients in the present day world are philosophy and axiology. The nutrient that dominates the present day human life is science. As rational beings we are not opposed to science and scientific temper. But we must also realize that science has its limitations. If science is completely divorced from philosophy and axiology, then the fall of human beings is imminent. Similarly, philosophy and axiology must go hand in hand with science for they cannot promote material progress on their own. The economic progress of any society is invariably linked up with the advancement of science and technology. Therefore, philosophical idealism must be combined with scientific realism to create a world that is worthy of human living. It is the axiology that serves as the scaffolding of such a world. As a matter of fact, philosophy and axiology become all the more important and significant in a society that is marked by scientific and technological advancement. In this paper an attempt is made to show the interface

between philosophy, science and axiology which form essential ingredients of human life on the globe.

### **The Task of Philosophy**

In a way to inquire into the function or role of philosophy in human life is to inquire in to its subject-matter. To define the subject-matter of philosophy is the most difficult part of our current exercise. It is said sarcastically that philosophy either covers everything, or nothing under the sun. Most of the misconceptions about philosophy arose out of our inability to realize its intrinsic worth. Partly it is due to the reason that “each age and each thinker has offered a new conception of philosophy which cannot be brushed aside by merely calling it a misconception.”<sup>1</sup> It is the tendency of many to look for extrinsic worth of everything that they possess or pursue in this world. If a thing does not have extrinsic worth then it is simply discounted as worthless. If an individual is asked to choose between knowledge and material wealth it is the latter which is preferred to the former because of its extrinsic worth. Our vision of life is often myopic. Adding fuel to the fire, of late it has become a general practice of many to ask the question: What purpose does the discipline in question serve for the betterment of human life? When such a question is asked, what is basically at the back of the questioner’s mind is to seek a justification for pursuing any discipline in terms of enhancing the living standards (material well-being) of any individual. In other words, one deliberately chooses and pursues a discipline which is materially profitable to lead a comfortable life-style. This is the order of the day. In the process, we often fail to differentiate between the standards of living (material well-being) from those of life (general well-being). An individual under the sway of the recent developments in science and technology cannot but think in terms of enhancing his /her standards of living. Thus, as aptly remarked by Herbert Marcuse, the modern man has only one dimension, namely, the pursuit of material wealth. He/she is hardly bothered about the general well-being. The mesmeric effect of science and technology makes us believe that science is the only paradigm of human life and we, knowingly or unknowingly, allow scientism to percolate through every form of human life. This

is virtually the starting point of human decadence. The quality of life essentially consists in realizing the meaning and purpose of human life and the standards of living essentially consist in the pursuit of material wealth and comforts. The following analogy may help us in understanding the difference between the standards of living and the standards of life. In our day-to-day life we come across two types of physician: the general physician and the specialist in a particular branch of medicine. The general physician is basically interested in monitoring the overall health of an individual. For him the general health of any individual is supreme or paramount. On the contrary, a specialist is interested in one aspect of human health in which he is a specialist. For example, a cardiologist is only interested in the sound condition of an individual's heart. He hardly pays attention to the other parts of the patient's body for his knowledge is limited to his specialty. A philosopher can be compared with a general physician for he is chiefly concerned with overall well-being of an individual. The overall well-being of individuals paves the way for the overall well-being of a society. In other words, philosophy is concerned with the overall development of a society, whereas the incidental sciences, both natural and social, are basically concerned with those aspects of society in which they specialize. Certainly this is not to undermine their contribution to any society for the incidental sciences have their own role to play in the development of a society. Philosophy provides an integral or holistic view of the human life which accommodates every branch of knowledge. Ultimately the progress of any society is linked up with the philosophy on which it rests.

It appears as though philosophy, science and axiology are completely independent of each other for they have their own subject-matters to deal with. This may be true from the point of view of mere academic exercise. What is studied under the label philosophy is not studied under the other two disciplines and vice versa. For the purpose of academic organization there is every need to distinguish one discipline from another just as we distinguish one branch of knowledge from another within the same discipline. As students of philosophy we often claim that we are specialized either in metaphysics or in epistemology or in logic or in ethics

and so on. Similarly, a student of mathematics may claim that he or she is specialized either in arithmetic or in algebra or in trigonometry and so on. This is true of other disciplines too. But ultimately all these branches within the same discipline provide us with a comprehensive account of the subject-matter of that discipline. Unlike other disciplines, whose subject-matters are well defined, the subject-matter of philosophy is very broad in the sense that it covers a very wide spectrum of issues concerning man, nature, and man's relation to nature. In other words, the subject-matter of philosophy virtually covers everything that concerns human life in general. This is the reason why philosophy is often branded as an abstruse and abstract discipline. In fact, it is the prerogative of a philosopher to venture into any area of inquiry for philosophy is a reflective activity. Of course, the art of philosophizing may differ from one philosopher to another and one school of thought to another for the art of philosophizing is not monolithic. Therefore, the subject-matter of philosophy cannot be narrowed down or restricted to any specific area. This is the advantage with philosophy. In the beginning all the disciplines were covered under the label philosophy. A natural scientist was known as a natural philosopher, a social scientist a social philosopher, and a mathematician a philosopher of mathematics. Therefore, "it is customary to reckon many early thinkers as philosophers whose main interests were rather in what we should now call mathematics, physics, chemistry, biology, astronomy, economics, or philosophy."<sup>2</sup>

After the Renaissance the sciences listed above gradually branched off from philosophy and established themselves as independent branches of knowledge primarily due to the reason that scientists unlike philosophers are not interested in reflective activity, but basically engage themselves in explaining the natural phenomena by means of observation and experimentation. Thus their methods of inquiry and objectives are completely different from those of philosophers. However, as observed by Ewing: "The fundamental concepts of the sciences and the general picture of human experience, and of reality in so far as we form justified beliefs about it, remain within the purview of philosophy, since they

cannot from the nature of the case be determined by the methods of any of the special sciences.”<sup>3</sup> Unlike the subject-matter of philosophy, which is very broad, the subject-matter of each specialized science is well defined in the sense that the domain of each science is specific and restricted. In addition to that, scientists, especially the natural scientists, always swear by objectivity and proof for their explanation. This is also true of most of the social sciences which make use of prevailing empirical data for their objective analysis. Thus natural sciences take an experimental turn in that they seek justification for their own discoveries. This is the reason why the objectives of a philosopher and a natural scientist are clearly demarcated. If a philosopher is interested in understanding the nature of a given phenomenon, a scientist, on the contrary, is interested in explaining its nature. At this juncture let us not go into the details of explaining the fundamental differences among natural, social and exact sciences. Right now the expression ‘science’ is specifically reserved to refer to natural or experimental sciences. The natural or experimental sciences provide us with knowledge of the various aspects of the reality. *Prima facie* it appears that each of the natural sciences is completely independent of one another. But when they develop it becomes more conspicuous that they can no longer claim to be independent of one another. For example, today we talk of subjects like bio-physics, physical chemistry, bio-informatics, bio-chemistry, and so on. Mathematics becomes an integral part of all sciences in one way or another. There is hardly any science that can dispense with mathematics. In spite of the fact that each and every specialized science is completely independent of itself for each specialized science has its own subject-matter to deal with, yet there is a scope for the study of the general principles on which they rest and the points of their interaction. This is normally taken care of by the philosophers of science.

There is another significant distinction made between philosophy and science in general. Philosophers as lovers of wisdom, as interpreted by the ancient Greek tradition, try to pursue wisdom which is always rated higher than knowledge. The latter is the knowledge of natural sciences whereas the former is not. Wisdom is an

end itself. We always talk of knowledge of something, but we do not talk of wisdom of something for wisdom does not have any object of reference, but knowledge always has an object of reference. A philosopher aims at the knowledge which is insightful. It may not belong to any specific field of inquiry but may be applied to all fields of inquiry. To put it in a nutshell, philosophy “is a human and cultural enterprise to be inquired into, rather than a mere term to be defined.”<sup>4</sup> A philosopher’s discussion about knowledge, sources of knowledge, limitations of knowledge, and justification of one’s claims to knowledge is more insightful in the sense that he tries to provide a general framework on which the theory of knowledge in general rests. Thus his approach is more holistic rather than fragmentary. More than anything it is the reflective and evaluative spirit of philosophy that makes philosophy a discipline worth pursuing.

### **The Objectives of Science**

As a matter of fact, the “expression” science is used in two different senses. In one sense, science is said to be a systematic study of any branch of knowledge. Accordingly, we can interpret astronomy as the science of celestial bodies, botany as the science of plants, physics as the science of physical bodies and their properties, ethics as the science of morals, religion as the science of divinity and so on. Thus science in this sense is in no way different from philosophy. This is the reason why the ancient Greek philosophers treated philosophy as the science of all sciences or the first science. Therefore when science is understood in its broader sense, there appeared hardly any distinction between science and philosophy for science entertains both the questions of ‘why sort’ and ‘how sort’. The former are basically the questions of teleological nature and the latter are the questions of empirical nature. The interaction between philosophy and science can be summarized in the following manner:

Philosophy and scientific thinking, in fact, were born together; and again and again philosophic reflection has been revitalized by fresh contact with the concepts, methods and standards of scientific inquiry. And finally, those

comprehensive visions of the world and of human destiny which we cherish as the great philosophical systems of speculative thought are surely among the most imposing artistic achievements of the spirit of man. The outstanding philosophers, indeed, have been endowed with something of poetic imagination, critical acumen, natural piety, and spiritual insight.<sup>5</sup>

In another sense, science is viewed as a rational enterprise that deals with empirical phenomena or the physical world. It is a systematic study of the description and analysis of empirical facts. Thus in its restricted sense science is only concerned with empirical facts. It hardly bothers about the questions of teleological nature. As a persuasive enterprise science tries to justify all its claims by advancing verifiable proofs. It is “a conscious artifact of mankind, with well-documented historical origins, with a definable scope and content, and with recognizable professional practitioners and exponents.”<sup>6</sup> What is most important in the above mentioned passage is the expression ‘definable scope and content’. Science with its well defined boundaries is altogether a distinctive branch of knowledge which swears by objectivity. There is no scope for subjective opinions and speculative thinking. Such a description of science is often viewed as a reaction to philosophy which accommodates subjective opinions and speculative thinking. With a view to distinguish the distinctive approaches of philosophy and science, Ziman writes that “science, by contrast, is rigorous, methodical, academic, logical, and practical. The very facility that it gives us, of clear understanding, of seeing things sharply in focus, makes us feel that the instrument itself is very real and hard and definite.”<sup>7</sup> Then there is a danger of science pointing out an accusing finger at “concepts like *Nous*, pre-established harmony, *Karma*, or *Moksa*, and concludes unilaterally that philosophy is nothing but wool-gathering.”<sup>8</sup>

Fundamentally science and philosophy adopt two distinctive approaches to reality. But this difference between science and philosophy need not be

stretched beyond a point. Although the approaches of science and philosophy are different they need not be viewed as antagonistic to each other. Strictly speaking they supplement each other. To invoke the argument from polar concepts here, the expression 'objective' derives its meaning from its opposite expression 'subjective' and vice versa. In other words, both objectivity and subjectivity have their own role to play in our scheme of knowledge.

There are evidences in history that science made use of fictions to arrive at certain deductions which served as its starting points. When it referred to the substances like ether to explain natural phenomena it is no longer claim that it deals with only tangible hypotheses. When the scientific deductions based on fictions are found to be true it does not mean that the fictions of science are also true. In fact, it results in the fallacy of the affirming the consequent. As Karl Popper rightly held that the scientific predictions are no more than wild conjectures. These wild conjectures turn out to be hypotheses to explain certain phenomena. Hypotheses advanced by scientists may turn out to be genuine or may not. There is another interesting thing about science. It is often claimed that science is critical whereas philosophy is speculative. But this is not true. Sometimes science becomes speculative and philosophy becomes critical. For instance, physicists' explanation of the origin of the earth is attributed to Big Bang theory; and Darwin's explanation of the evolution of the species is attributed to mutations and natural selection. Both these explanations, by all means, are nothing but the scientific speculations. Even the evidences on which the paleontologists rely to assess the age and era of any extinct animal or plant are also based on speculations. The popular view that there existed dinosaurs some millions of years ago is also speculative. The well-known Heisenberg's theory of indeterminacy in quantum physics is another example where speculations about an electron's behaviour are based on thought experiments. Therefore, one should not jump to the conclusion that science is always realistic and objective and critical. Similarly, philosophy is not always speculative, but also critical. In the history of philosophy we come across a number of instances

where philosophers were highly critical of certain concepts and methods of philosophy. There were also certain philosophical traditions like logical atomism, logical positivism that attempted to get rid of speculative thinking from the sphere of philosophy. Of course whether they were successful in their attempt to eliminate speculative thinking from the sphere of philosophy is secondary. Both the philosophers and scientists made use of flashes of insight to explain various phenomena. They hardly employed any logical reasoning to explain these insights. What is interesting to note is that the scientists who pursued philosophy could not turn philosophy into a science; and the speculations about atomic and sub-atomic structures in physical sciences could not turn science into philosophy. The descriptive and analytical approach of science distinguishes it from philosophy whose approach is reflective and evaluative. The distinctive approaches of science and philosophy do not make them antithetical to each other.

There is yet another misconception about science and philosophy. The former makes use of reason extensively whereas the latter solely relies on intuition. This is a myth. Just as reason is not the prerogative of scientists, intuition is not the prerogative of philosophers. A philosopher is a good logician, and a scientist does not mind using intuition as a source of insight for intuition “in the sense of immediate grasping of truth or receiving illumination on a problem is inevitable in all knowledge. There can be no science or philosophy worth the name in the absence of flashes of insight into experience.”<sup>9</sup> Further it is argued that science being limited in its scope it achieves definite results while the scope of philosophy being very wide it remains as a perennial inquiry. In addition to that, philosophy harps on the same set of questions “while each concrete science, having solved a problem, never returns to it but poses and elaborates new ones.”<sup>10</sup> This argument may appear to be realistic, but the fact remains that none of the theories in science is final. This only shows the scientific inquiry is also a never ending quest for knowledge.

The problems of philosophy are eternal not because they cannot be solved, but because each age poses them in a different way. Basically the problems of philosophy are nothing but the problems of life. The problems of life are invariably linked up with the prevailing social conditions. The social dynamics of any given situation often necessitates a new way of looking at the problems of life. This is how novelty is experienced in philosophy. As aptly remarked by William James, all formulations in science, theology, or philosophy are only mere approximations to truth. A theory in any field of inquiry is upheld not for its internal consistency but for its problem solving capacity.<sup>11</sup> Similar view is expressed by Wittgenstein in his *Philosophical Investigations* when he said philosophy survives insofar as the puzzles in philosophy survive. The puzzles of philosophy are the same as the puzzles of life. If one puzzle is dissolved there exists another.

Science in general relies on certain postulates. They are ---observation, experimentation, reasoning, and hypothesis formation. But philosophy examines these postulates of science in order to understand their significance. In this sense philosophy can be viewed as an extension of science. A genuine scientist always appreciates the role of philosophy. Similarly a philosopher does not hesitate to say that science is considered to be “a major part of the stock of our minds; its products are the furniture of our surroundings. We must accept it, as the good lady of the fable is said to have agreed to accept the Universe.”<sup>12</sup> It is a well acknowledged fact that one of the fundamental objectives of modern science is to improve the living standards of humankind. The artifacts of science are enjoyed by every one of us. A philosopher is not an exception to this. But a philosopher does not mind to warn us about the impending dangers posed by science in any society. To quote Ravetz in this context: “If we are to achieve the benefits of industrialized science, then both the commonsense understanding of science and the disciplined philosophy of science will need to be modified and enriched.”<sup>13</sup> The need of the hour is to regulate our scientific knowledge with

proper philosophical reflection and evaluation before it destroys the social life of humankind. The vulgar reduction of science and technology to commercial and military purposes is witnessed in the present day world. Mass production and mass consumption have become primary objectives of modern science. Science is no more pursued as a value neutral enterprise. Its results are used for the material progress of a section of people who exercise their power and domination over the others. To minimize this damage philosophy needs the support of a sound axiology or science of values. Just as logic as a science of reasoning is within the bounds of laws of thought, philosophy as a reflective and evaluative enterprise must be within the bounds of certain basic human values. A philosophy which is based on certain fundamental human values alone can check or regulate the excesses of science.

### **The Significance of Axiology**

Axiology as a science of values comes to our rescue when morality loses its ground in a society where philosophical idealism (wisdom) is completely set aside due to the demands of scientific realism. Axiology as an important branch of moral philosophy reminds us of our duty as philosophers not to remain merely as lovers of wisdom but to act with wisdom in order to prevent social catastrophes. The *Bhagavad-Gita* advocated a philosophy of action. Under the sway of scientific realism modern man inculcates only those material values which are basically instrumental in promoting science and technology as the only legitimate mode of rationality. Such a view has dangerous consequences for it fails to recognize the role of reason or rationality in any other field of inquiry. In this context it is interesting to observe the following statement of David Ingram.

Today, many philosophers would argue that the rightness of moral choices is and values cannot be rationally determined. If the moral decision is relegated to the sphere of arbitrary (private) preference, then only science and technology, logical and calculating thought, can lay claim to universal

reason. But in a society in which the rightness of basic goals and values is assumed to be beyond rational assessment social practice itself----- however scientifically enlightened it may be-----becomes irrational. When science and technology exclusively dominate social life they themselves become ideological.<sup>14</sup>

If rationality is the sole property of science and technology, then, as Ingram held, moral values remain as mere exhortations to certain virtues for they are arbitrary, private and emotional appeals of the speakers. The emotive theory of ethics propounded by the logical positivists like A.J. Ayer precisely holds this view. But it is not the case. Of course the fact (is)–value (ought) distinction is not new to philosophers and scientists. In his *Tractatus Logico-Philosophicus* Wittgenstein made the physical world as the domain of facts. And in this world there is no scope for values. If at all there are values they exist outside this world. But the later Wittgenstein realized this folly and brought them back to the realm of the physical world to show the co-existence of facts and values. This is a healthy sign for otherwise there would a perpetuation of Hobbes’s state of nature in which there is war of all against all. Moralists have often argued that values can neither be reduced to facts nor be derived from facts. This does not mean that rationality is confined to the realm of facts alone as if moralists are completely bereft of rationality while advocating a system of values. As regards the significance of values, one of the contemporary Indian philosophers Hiriyanna writes: “The place which values occupy in life is so important that no philosopher, whose theme is the whole of experience, can omit to take account of them.”<sup>15</sup>

Broadly speaking a value is something that is desirable. What is desirable is often contrasted with what is desired. The former has an altruistic appeal while the latter is pursued only to satisfy ones desired end. In other words, facts are apprehended, values are realized. These values are further divided into material and non-material ones. Material values are always weighed in terms of their immediate material value. A gold ornament has immediate material value. It can be exchanged for a sum of amount. More than its aesthetic appeal it is for its material worth people would like to possess it. By and

large material values are only treated as instrumental values. They have mere extrinsic worth. On the contrary the non-material values such as ethical, religious, and aesthetic values are ends in themselves. They have intrinsic worth. When Socrates held that knowledge is virtue what he meant is that it is an end in itself. But there are always exceptions when people sell knowledge for material gains like the Sophists and claim to speak the truth, when in fact they are congenital liars. One can always find an exception to a rule.

Further it is asked: Do values belong to things, or do we endow things with value? As we know that the material value of a thing is not within the thing unlike the quality of hardness which is within the thing. This day-to-day example poses another question; Are values subjective or objective? There are moralists who treat them as subjective and there are also moralists who treat them as objective. Their arguments proceed in the following manner. The subjectivists argue that our experience tells us that values are relative for they differ from one social group to another and from one individual to another. What is viewed as an utmost value by one social group or individuals may not be so for another social group or an individual. What is sincerely admitted as desirable for one social group often turns out to be undesirable for another social group. On a cold night what is valuable for a person is a fire in the fireplace but not a diamond or a gold coin. Similarly the objectivists argue that values are not relative but they become relative to varying social groups and individuals. The reasons attributed to such a view is that values are consistent but they vary from one group or individual to another group or individual due to changing environment or circumstances or biological constitution and so on. Colours and beauty provide feast to our eyes, but it may not be so for a person who is blind or suffering from colour-blindness. We are unanimous in holding that a glass of milk is conducive to maintaining good health but not a glass of coco. If anything and everything is conducive to good health then we may value everything as good for maintaining good health. But it is not so.

To treat values as subjective or objective does not go well with them at all. It is unfair to values. A careful examination of values which we experience in our day-to-day

life suggest that values are neither the exclusive property of objects or acts nor exclusively created by human beings. Values are both subjective and objective. They are subjective insofar as the process of evaluation is concerned and objective as the evaluation is always the evaluation of something objective or concrete. We evaluate standards of education, of life, of health and so on. The process of evaluation is the outcome of our reflective thinking. As it is held by philosophers in general that reflection is the essence of rationality. Therefore it is meaningless to say that there is no involvement of rationality in moral evaluation. Rationality is not the prerogative of scientists. As rightly held by later Wittgenstein rationality assumes different forms in different forms of life. Similarly, both subjectivism and objectivism operate in all forms of life. Science cannot be an exception to this rule. One of the best criticisms of objectivism is found in Kant's *Critique of Pure Reason*. The pure precepts, which are supposed to be objective, without proper conceptualization do not yield any knowledge. What is called conceptualization is an inner process and its objective significance is only realized in the form of a judgment. Similarly evaluation of any objective phenomenon is an inner process but its objective significance can be realized when it is experienced.

### **Concluding Remarks**

The upshot of the above discussion is to show that philosophy, science, and axiology have their own subject-matters to deal with, yet they are not divorced from each other. For the healthier growth of any society all the three are essential. We cannot lead a balanced life just by professing philosophical idealism without any goals to realize. These ideals turn out to be mere showcase pieces. The reification of Platonic ideals is no good for human life. Similarly when we talk of science and its achievements in the form of technological innovations we are blindly adhering to scientific realism without realizing the meaning and purpose of life. As aptly held by Socrates, a life is not worth living without proper examination. It is philosophy which distinguishes true needs of society from false ones. A scientist must carry out his research in tune with the true needs of society. Thus he must take the clue from philosophy. There is no point in pursuing scientific research that is going to be detrimental to human life. It is axiology which shapes our philosophical thinking in order to preserve the basic human values. In the

absence of values human life is as good as the life of a beast. We do not live just for the sake of living, but we always make our lives worthy of living. It is rather inconceivable to think of man without philosophy and axiology. Philosophy in this sense is a complete reflection of man's praxis. Science is a product of man's praxis. Therefore, there is every need for man to control science. Man should not allow science to control him. This is where axiology comes into the picture. A pseudo-scientist often forgets the fact that he is primarily a man and secondarily a scientist. On the contrary a genuine scientist is one who takes guidance from philosophy and axiology to judge or foresee how best his discoveries and inventions would be useful for the furtherance of human race on the globe.

## ENDNOTES

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