



The Synergy between Philosophy and Science, need of the contemporary society

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Abstract

What the world will be like in the foreseeable future is a matter of concern for everyone, no matter how far removed the human is from scientific work, political struggle, or revolutionary moment. What is in store for man: the holocaust of war, or a peaceful life? What will the earth be like? Will nature survive or will it be annihilated as a result of scientific and technical progress? Will oppression and social injustice disappear from the world, or will they persist forever? These are general questions confronting each person living on society. However, is it possible to resolve above and all other social issues by only social science approaches, is the central story of this article. Social science is pre-dominated with predictable analyses while science is empirical. Humanities are academic disciplines that deal with the study on the aspects and issues of human society and culture, whereas, science is a systematic innovativeness that builds and organizes information in the form of testable explanations and predictions about the universal phenomena including social issues. Although scope of science seems broader than humanities, any social issues need a stringent social science approach first that may or may not need/follow scientific intervention. Individually, both the disciplines have their opportunities, utilities and on the other hand both they have limitations as well. For example, without analysing a social, emotional, lively need, any empirical scientific approach may fail to have a resolution of the problem, rather will be wastage of time, money and man power behind such approaches. Therefore, with multiple approaches from humanities and science together, issues of society or global issues may be resolved faster and better. Such approaches, beyond the boundary, generally referred as interdisciplinarity or trans-disciplinarity is the need of the current-day society. However, the literature survey indicates that ratio between works with interdisciplinary approaches and disciplinary approaches are very low and thus are discouraging. However, India stood first on literature available on interdisciplinarity in comparison to other nations. Therefore, in the present study an attempt has been made to illuminate the synthesis between the two broad areas such as humanities especially, philosophy and science. Work on humanities especially on the subject of philosophy that connects with individual's life in collaboration with scientific and technologically driven approaches in the world is needed.

Keywords: interdisciplinarity, humanities, philosophy, present-day humanity, science, social need

Introduction

The term "humanities" is collectively used for different academic disciplines that deal to a number of aspects of basically in relation to human society and culture. Currently, this term is more often used in contrast to natural science, and many a time is referred to social sciences such as literature, languages, philosophy, history, law, economics and politics ^[1]. It is also argued that unlike the sciences, humanities have not a clear central discipline ^[2]. For example, the humanities include ancient and modern languages, literature, philosophy, history, human geography, law, politics, religion, and art are not the central discipline ^[3]. Such arguments are expelled by many stating each discipline in humanities has its own concept, hence different from other sister subjects including science subject too, and it is because of the central concept is much strong, clear and defined. Therefore, scholars in the humanities are called as "humanity scholars" or humanists ^[4]. The Renaissance scholars and artists were also called humanists. The core human disciplines such as history, folk logistics, and cultural anthropology study subject matters are deals with manipulative experimental method does not apply to, and

instead mainly use the comparative method and comparative research ^[5].

On the other hand, science belong to the Latin word "*scientia*", which means "knowledge", and is defined as a systematic enterprise that builds and organizes knowledge in the form of testable explanations and predictions about the universe. Science is the intellectual action at practical level that may follow methodical and systematics to know about either physical and natural object or world through observation and experiment. Therefore, science is meant to understand the nature and underlying mechanism of any object in the world and out of world i.e. in space also ^[6]. Scientists usually take for granted a set of basic assumptions that are needed to justify the scientific method and must be correlated and proved universally. They are, (1) that there is an objective reality shared by all rational and universal observers; (2) that this objective reality is governed by natural laws; (3) that these laws can be discovered by means of systematic observation and experimentation irrespective of the person and place in the globe. So, the philosophy of science seeks a deep understanding of what these underlying assumptions mean and whether they are valid ^[7].

If the definition of science is interpreted then the above topics are nothing but an extension of human practices that co-existed from (pre-)historic time, for example, creating different sounds (as part of language) or drawing a picture (as part of art) to exchange and understand the intention or emotion. So, science can be considered as an extension of humanities that evolved as a discipline, as a result of the need of the society. Therefore, introductory thought fuldis closes that humanities is the use of approaches that are predominantly hypothetical but critical, and have a noteworthy historical component, and this methodical aspects distinguishes it from the mainly experiential approaches of the (natural) sciences. However, the basic approaches in both humanities and science remains the same that it needs a hypothesis, sound methodology, and interpretation data (existing or new themes/thoughts in humanities or the obtained information form scientific experiments). Normally, the end users are the human beings in both the cases. So, why only interdisciplinary research focused on the core subjects of science? For example, philosophy, that deals in general and fundamental problems concerning matters such as existence, knowledge, values, reason, mind, and language, can be a part of science especially natural sciences or vice versa? There are many complex social issues remaining unanswered, and both humanities and science fails to provide a resolution with their independent approaches. Such major issues are Poverty, corruption, illiteracy, terrorism, casteism, untouchability, intolerance, overpopulation and child marriage. Does the current time allow us to believe on such concept that a multidisciplinary such as cumulative or corresponding merged approaches from science and humanities, for example philosophy, it can irradiate such issues, is the central theme of this article?

The term Philosophy in General

Philosophy is anenormousrationaljourney while at the same time what it discusses is one of the most important things we can do with our lives.It is very hard to define the word philosophy.Any rationalquest may be called philosophy when it aims at attaining wisdom or knowledge of some kind. The word “philosophy” is made up of two Greek wordsphilo, ‘love’& Sophia, ‘wisdom’ and so it means love of wisdom [8].Different philosophers have thought over philosophical problems from different perspectives and however extensive, vital and complete their outlook might be, it has always remains one sided. Some sayphilosophy means an informed way of life, searching for truth, through the deliberation to reach a higher sense of self or self-actualization. A famous philosopher Fredrick Nietzsche says, “A philosopher who has made the tour of many states of health, and always makes it a new, has also gone through just as many philosophies: he really cannot do otherwise than transform his condition on every occasion into the most ingenious posture and position, this art of transfiguration is just philosophy. We philosophers are not at liberty to separate soul and body, as the people separate them; and we are still less at liberty to separate soul and spirit We are not thinking frogs, we are not objectifying and registering apparatuses with cold entrails, our thoughts must be continually born to us out of our pain, and we must, mother like, share with them all that we have in us of blood, heart, ardour, joy, passion, pang, conscience, fate and fatality, We want to understand; life means for us constantly to

transform into light and flame all that we are or meet with[9].” The world around us is boundless. Man can only try to solve its puzzles step by step; yet human beings never cognize the world completely. Philosophy exemplifies man’s striving to connect in aninvariable search in order to aware of this infinite, the ‘roots and causes’ of all things existing, and to call in to questions everything he has achieved. Plato, the great philosopher of antiquity, said that philosophy had its source in surprise, in amazement [10]. As philosophers’ extendtheirthinking, philosophical conclusions are also customized and even transformed. This does not mean that philosophers are changing their position but only that they are visualizing new truth, in fact the philosophical aim is never completely achieved nor is the philosophical curiosity ever completely satisfied, if it is done then philosophical thinking will stop. Efforts should not be evaluated on the basis of definite conclusions but by philosophical insight, maturity and constant thinking. “Glaucou asked to Socrates, ‘Who are the true philosophers?’ great Greek Philosopher Socrates replied, “Those who are lovers of the vision of truth” [11]. “Philosophy is solute and persistent attempt to understand and appreciate the universe asa whole [12].” Philosophy, in its widest and broadest sense,has meant a contemplative and rational attempt to understand the nature andcontent of the universe, taken in its entirety and as a single whole, from anobservation and study of the data presented by all its aspects [13].Which this showsthat each of these definitions are interesting in its own way, and to some extentconfines some of what Philosophy is about or at least what people think it’s about.What we can collect from these explanations is that Philosophy is kind ofsubject about important questions, which is focused on human existence. Philosophy means to experience the society. It has two disciplines (Fig. 1),

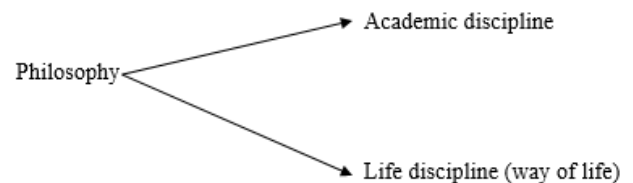


Fig 1: Use of philosophy i life.

In the life of an individual, on intensely personal dimension, many, if not most, people will at some point in their life struggle with philosophical questions. “Why am I here?” “Why do bad things happen?” How do I know when I can trust my senses on the testimony of other people? Are the choices I make really free, and will they have an impact on my future. So at the outset, with these questions we can think that philosophy is a way of life. So, it is a very difficult task to say what exactly Philosophy is?Without one cannot reflect on it. On the other hand Philosophy as an academic discipline which offer individuals to start thinking about big questions such as about the nature of beauty, goodness, ethics, freedom, authenticity, our relation with othersexistence, time,logic, knowledge, alienation, oppression, and more. While doing so, Philosophy offers a path to developone’sown answers to many tough questions: How ought I live? What makes for a good life? Whatexists? How much do I know? What can I hope for? Philosophy also helps to learn to express oneself moreclearly and precisely, both in speech and in writing, and to read and

listen more critically and intelligently. In short, Philosophy helps a person to become a clear and nuanced thinker. This skill will benefit an individual both in his/her academics and throughout his/her life.

Philosophy in the root: the awakening thought, basic of science

It is expected that, at the beginning of any study, usually one can say what the subject matter of that study is. For example Botany is the knowledge of plants, Astronomy of the heavenly bodies, and Geology of the rocks of the earth's crust. What then, is the special area of Philosophy? What is Philosophy about? What do we learn from Philosophy? In the first place, the content of Philosophy has differed considerably in different periods of history as it is of other sciences. We can see in various subjects the mutual interactions and influences between the field of science and philosophy, the development sketched ^[14]. In a broad-spectrum the inclination has been to narrow down the scope of the subject as knowledge advanced, to exclude from philosophy what was formerly included in it ^[15]. Thus in the time of Plato and Aristotle, Physics, Astronomy and Biology the main subject areas of science were included as parts of Philosophy ^[16]. In remote antiquity there emerged an enormous diversity of facts, ideas and concepts about philosophy and its purpose. The great Greek thinker Aristotle held that all sciences pursue a special aim, except philosophy, which "alone of all sciences is free, for only this science exists for its own sake" ^[17]. However, Cicero, a famous thinker and orator, manifestly asserted the opposite: "Thou we are turning to, thou we are asking for help. On philosophy the lodestar of life, neither we nor human life itself, could exist without you!" ^[18]. So it is obvious that there are lots of questions and varieties of opinions come into the human mind regarding this term philosophy. Let's turn to the root of philosophy. Where and when did it emerge? Why did philosophical thought progress very fast in some societies and some phrases and slowly in others? Is there any relevance of this subject matter where science and technology has taken place or without philosophy these two subjects are meaningless these are the kind of questions we are going to discuss in this article?

Philosophical reflection is not born out of nothing. It is a reflection which is historically placed. This means that the philosopher tries to conjugate two different spheres of expression: that of the history of philosophy (tradition) and that of his or her own time. In current society we are facing lots of problems arising out of life-style, religion, politics, science and technology. If philosophy means the way of thinking through which the human being can progress then what type of progress are today's individuals facing? If this generation completely overlooks the subject philosophy and feel that philosophy as a subject is nothing to gain or there is not any relation with science then the progress may hinder day by day. So to making of a good period we need philosophy with science. The legend thinker Mahatma Gandhi cautioned us against seven sins and one of the important sins is, "Science without humanity" ^[19]. So for the progress of society, culture, and nation we have to merge these two phases science and Philosophy. Science and Philosophy are the two side of the same coin. One cannot separate these two. Science needs Philosophy to grow. The main work of Philosophy is: Asking questions, systematically seeking for the truths, understanding the

phenomenon using critical thinking articulating the ideas, concepts and to analyze the information or evidence. It has the following standards:

1. Create knowledge, experience and practices.
2. Aware about these, interventions.
3. The most important thing is Welfare of humanity.

To discuss the above standards we have to analyse what are the philosophical problems through which we can come to the point that Philosophy is need to maintain harmony in the society.

A philosophical problem, reality is scientific approaches:

Different types of questions give rise to the problems of different sciences. For example, if it is asked in a triangle, the sum of the three interior angles equals two right angles then it is a problem of geometry. If it is asked there is 70 % of water and 30 percent land is a problem of geography. Similarly there are lots of problem related to economics, politics, and other sciences respectively. The philosopher is not concerned with these particular problems, but can we think that their problems are entirely not connected with the problems of different sciences? No, in the different problems mentioned above, the questions of general nature will fall within the scope of philosophy. For example: what is space? What is time? What is beauty? What is knowledge? These are philosophical problems ^[20].

There are two types of philosophical problems. On the one hand, there are problems of those studies which are known as philosophical sciences. These include Epistemology, Logic, Philosophy of sciences, Metaphysics, Axiology; Aesthetics etc. on the other hand are the problems which fall within the field of philosophy as a universal science. But these philosophical problems include problems of the sciences which in spite of bearing the name of science. The main distinction between philosophical sciences and the physical sciences is that the former raises more fundamental and basic questions as compared to the latter ^[21].

Metaphysical problems: Metaphysics means the study of the theory of Being or Reality. It is the branch of philosophy which deals with the nature of Reality as a whole. Existence of god and the nature of the universe- is called metaphysics which also includes its sub-classes Ontology (within it cosmology and cosmogony is also included) ^[22]. Aristotle devised Metaphysics to be studied after physics. Thus etymologically speaking, Metaphysics means "after Physics. It is the last science, the science of sciences". It is also the first sciences, the mother of all sciences. He also calls it the science of being though such a science is impossible since science deals only with processes of phenomena. Philosophy deals with being as much as with becoming. Thus it includes sciences within its knowledge Philosophy as an explanation of the total experience of man seeks integral truth ^[23]. The speculation which deals with the constitution of universe, space, time, the origin and nature of life, the philosophy of evolution, the purpose or design in nature is called cosmology ^[24]. Cosmogony deals with the origin or creation of the world. So, Metaphysics discusses the most basic categories of thing, such as existence, objects, or properties, causation and so forth.

Epistemological problems: or the problems of the theory of knowledge: Within the scope of the epistemological philosophy comes the question on the origin and the nature of knowledge, its possibilities and limits and method of acquiring knowledge and the scope and validity of

knowledge. This philosophy of epistemology is divided into two subfields:

1. Philosophy of natural sciences and
2. Philosophy of social sciences.

These subfields discuss the world of appearance i.e., the material world. Scientific study gives knowledge of the different departments of the world, the knowledge of which is the fundamental basis of philosophy. It classifies both the quest for scientific knowledge and the results yielded by such quest by exploring the logic of scientific evidence, the nature of scientific laws, explanations, and theories and possible connections among the various branches of science such as the relation of Psychology to brain Biology and biology to chemistry or the social sciences to natural sciences [25]. Physics, chemistry, biology etc. are included in its fold, although today, these subjects are popularly referred to as sciences as separated from philosophy. Still many of the philosophers strive that science retains an unknown and unknowable link to philosophy. This is because it is the mother of all sciences.

Logical problems: Logic is the science of methods of thought and the implication of judgement. It studies the structure of thought, its laws and fallacies. What is thought? What is relation with nature? Thus, like epistemology, logic also provides fundamental basis is the science of correct or valid thinking. **Ethical Problems:** Ethics is the science of good, the right and wrong. Its main concerns are “ what is right?, What is wrong?, What is good?, What is responsibility? And What are rights and duties what are their interrelation?. Thus, ethics discusses the ultimate good and explains rights and duties in its light. According to A. Whitehead, “Philosophy is not one among the sciences with its own little scheme of abstractions which it works away at perfecting and improving. It is survey of sciences, with the special object of their harmony and their completion [26].” In the above mentioned classification of philosophical problems it should be noted that problems of different fields of philosophy cannot be absolutely isolated from each other because in fact philosophical problems are not so much problems of a particular fields as problems of a particular type. In other words, as opposed to the particular problems of science, they are general problems. Philosophical problems can be viewed from two aspects:

1. **Critical:** In the critical aspect the problem of philosophy is to critically examine the postulates and conclusions of different sciences. [27]
2. **Synthetic:** In this aspect the problem is to present a complete world view based on the conclusions of sciences

Thus in brief, philosophy is a totality of some peculiar problems of which some are problems of philosophical sciences while others are problems of criticism and synthesis of the postulates and conclusions of different sciences.

The relevance of philosophy in the scientific world:

A scientist can lay out the empirical arguments for accepting a theory, philosophers adduce a variety of considerations, both descriptive and normative, that make their epistemologies plausible [28]. Thus evaluation and elucidation smudge together more in philosophical discourse than they do in scientific discourse. We see therefore, that in the early stages of mankind’s development

philosophy was a ‘science of sciences’ not because ancient philosopher had a unique gift of penetration or knew a secret which had been forgotten by subsequent generations. On the contrary, this was due to the fact that scientific knowledge was weakly developed and rudimentary. While we come across at philosophical practice, broadly defined, we come across quite different forms of normative and reflexive philosophy. It means the aspect of normatively may be epistemological, social critical, methodological or policy oriented, while its reflexivity may be foundational, sceptical, or differentially situated [29]. Thus, it will be clear that much more could and should be said about these different interpretations of normative and reflexive philosophy. Gradually, as human knowledge expanded, individual sciences began to spring up, first natural sciences- mathematics, physics, astronomy, chemistry, geology, biology and then those dealing with society and man, such as psychology, sociology, history, political science and economics etc. Analogy is a powerful mode of thought that is central in the formation, development, evaluation, and exposition of theories, in philosophy as well as science. Like science, philosophy is primarily theory development, not poetry or rhetoric, even though rhetoric and even poetry can sometimes be displayed in both fields. Philosophy is not the queen, or under-labourer of the sciences but rather a partner in a collaborative endeavour to understand and improve the world. When Socrates, that greatest of teachers, felt called upon to refute the arguments of these men, he met them, so to speak, on their own ground, recognizing that the subjects of which they discoursed were, indeed, matter for scientific investigation. He was regarded as an innovator; he taught men to think and to raise questions where, before, the traditions of the fathers had seemed a sufficient guide to men’s actions. Men had learned to reflect. In the works of Socrates’ disciple Plato (428-347 B.C.) and in those of Plato’s disciple Aristotle (384-322 B.C.), abundant justice is done to these fields of human activity. These two, the greatest among the Greek philosophers, differ from each other in many things, but it is worthy of remark that they both seem to regard the whole sphere of human knowledge as their province. Plato is much more interested in the moral sciences than in the physical, but he, nevertheless, feels called upon to give an account of how the world was made and out of what sort of elements. As for Aristotle, that wonderful man seems to have found it possible to represent worthily every science known to his time, and to have marked out several new fields for his successors to cultivate. His philosophy covers physics, cosmology, zoology, logic, metaphysics, ethics, psychology, politics and economics, rhetoric and poetics. He was supposed to give an account of the system of things. But the notion of what it means to give an account of the system of things had necessarily undergone some change. The philosopher had to be something more than a natural philosopher. Philosophy appears as chiefly a guide to life. When we examine more closely these systems, we find a conception of philosophy not really so very different from that which had obtained before. We do not find, it is true, that disinterested passion for the attainment of truth which is the glory of science. Man seems quite too much concerned with the problem of his own happiness or unhappiness; he has grown morbid. Nevertheless, the practical maxims which obtain in each of these systems are based upon a certain view of the system of things as a whole. Philosophy

has a broader spectrum for the reason that it is relevant to almost all cerebral activities. Almost all branches of study related to philosophy because it deals with the basics of life which is closely related with all areas of human interest. It takes a comprehensive view of the entire universe. Thus, within the scope of philosophical investigation comes the study of space, time, mind, matter, future life and god or the absolute ^[30]. Philosophy has been described by Teichman & Evans asthe study of problems which are ultimate abstract and very general. These problems are concerned with the nature of existence, knowledge, morality, reason and human purpose ^[31]. Philosophers attempt to see reality as a whole. They analyse the nature and findings of different branches of knowledge, examine the assumptions on which they rest, the problems to which they give rise to and seek to establish a coherent view of the whole sphere of experience. The fundamental beliefs of this framework are that science includes universal laws to organize knowledge in the world to explain, control and predict phenomena ^[32]. 'Scientific knowledge develops through logical deduction, which depends intensely on empirical observations that are tested and verified utilizing the scientific method. Philosophy and science are two parts of same coin one can't live without another ^[33]. If we leave philosophy then it is not only harmful for science but also for education, for society. The necessity of philosophy for science can easily be understood from a Kuhnian perspective on how science develops. As is well known, Thomas Kuhn explicates progress in science not as a linear process of theoretical formulation and experimental verification or refutation of scientific theories, but in terms of revolutions and changes of paradigm ^[34]. A paradigm is for Kuhn not a cookbook recipe about the mathematical laws and mechanical workings of the universe or a set of equations and technical terms and procedures. Paradigms include ways of looking at the world, practices of instrumentation, traditions of research, shared values and beliefs about which questions are considered to be scientific ^[35]. Nowadays we might want to stretch this concept even further to include institutional conditions, governmental constraints and market stimuli that may be supportive of particular paradigms ^[36]. Scientists working in different paradigms view the world in different ways, Kuhn has emphasized. Their basic assumptions about the kinds of entities there are in the world differ as do the kinds of primary properties that those entities have. Paradigms also suggest meaningful goals and open questions for the theory. In this sense, philosophy plays a heuristic role in the discovery of new scientific theories ^[37]. Paradigms can have the function of guiding the scientist towards the formulation of theories that describe entities of one type or another. Most great scientific innovators have at some point studied the works of philosophers and developed philosophical views of their own. This did not always happen very systematically, but the interest in philosophy developed by these scientists was at least above average and in turn had an important heuristic function in the formulation of new scientific theories ^[38]. Implicit in the heuristic role of philosophy is also an important analytic function. One of the tasks of philosophy is to scrutinize the concepts and presuppositions of scientific theories, to analyze and lay bare what is hidden and implicit in a particular scientific paradigm. The critical function of philosophy might not only feed back into science, but become a starting point for philosophy itself: discovering what entities science assumes

there to be in the world can be a useful starting point for philosophical reflection on nature. It seems that the key philosophical stances on nature and science be compatible with the kinds of objects and relations that science finds.

Conjugal between Philosophy and Science

Sometimes people are to be heard saying that philosophy cannot be considered as a science, since throughout its history, it has tackled the same set of questions, while each concrete science, having solved a problem, never returns to it but poses and elaborates new ones. Philosophical problems, however called 'eternal' not because they cannot be solved, but because each era poses them in its own way. As changes occur in society, life conditions the volume of scientific knowledge, the degree to which man has mastered nature, and in man himself, relationships between man and the world around him also undergo change. Philosophy as a subject, not only is an institutionalized discipline but rather as a certain type of scholarly research ^[39]. What can one answer to these arguments which seem to conflate well with our most endearing notions and intuitions about the nature of science? Can we really deny that science and philosophy are two different worlds; that their subject matters and methods differ? Can we deny that science seeks to explain brute matters of fact that have been out there before there was human life? Can we deny the fact that unquestioned philosophical preconceptions have at times been hampering factors for the progress of science? Of course we can't; but that's only part of the story, and not the most interesting part for that matter ^[40]. "Knowledge of the lowest kind," says Herbert Spencer, "is un-unified knowledge; Science is partially-unified knowledge; Philosophy is completely-unified knowledge." ^[41]. Science, he argues, means merely the family of the Sciences – stands for nothing more than the sum of knowledge formed of their contributions. Philosophy is the fusion of these contributions into a whole; it is knowledge of the greatest generality. In harmony with this notion Spencer produced a system of philosophy which includes the following: A volume entitled "First Principles," which undertakes to show what man can and what man cannot know; a treatise on the principles of biology; another on the principles of psychology; still another on the principles of sociology; and finally one on the principles of morality. To complete the scheme it would have been necessary to give an account of inorganic nature before going on to the phenomena of life, but our philosopher found the task too great and left this out ^[42]. Philosophy once meant the whole body of scientific knowledge. Afterward it came to mean the whole body of knowledge which could be attained by the mere light of human reason, unaided by revelation. The several special sciences sprang up, and a multitude of men have for a long time past devoted themselves to definite limited fields of investigation with little attention to what has been done in other fields. Nevertheless, there has persisted the notion of a discipline which somehow concerns itself with the whole system of things, rather than with any limited division of that broad field. It is a notion not peculiar to the disciples of Spencer. There are many to whom philosophy is a "Weltweisheit," a world-wisdom ^[43]. Shall we say that this is the meaning of the word philosophy now? And if we do, how shall we draw a line between philosophy and the body of the special sciences? As I will argue, the doctrine that philosophy is useless for science is not only false; it is also harmful for

education, for society, and ultimately for science itself. I will do this by advancing three arguments for the usefulness of philosophy for the natural sciences. These arguments include refutations of the misconceptions presented in the previous section. They are neither wholly original nor exhaustive, but they should be a first step towards the development of a synergetic relationship between philosophy and the natural sciences (Fig. 2). Especially, in developing countries such as India, such collaborations are highly wanting. Researchers across the disciplines such as from science and humanities therefore should come forward to join hands for multi- or transdisciplinary approaches.



Fig 2: Representing figure showing the need of improving thought process for interdisciplinary approaches rather on a single aspect. Amalgamation of subjects such as science and philosophy may lead to a better discipline with interdisciplinary approaches. ^[44] (adapted from volkswagenstiftung. de, Google images).

It is interesting to know that although the percentage of articles published on interdisciplinary approaches across the world is very less in comparison to the disciplinary approaches, India top the globe with the highest number of the published articles on interdisciplinarity. The top country rank is India, Main Land China, Taiwan, South Korea, Brazil, Italy, United States, Japan, United Kingdom and Germany (Fig. 3). However, such more works are anticipated.

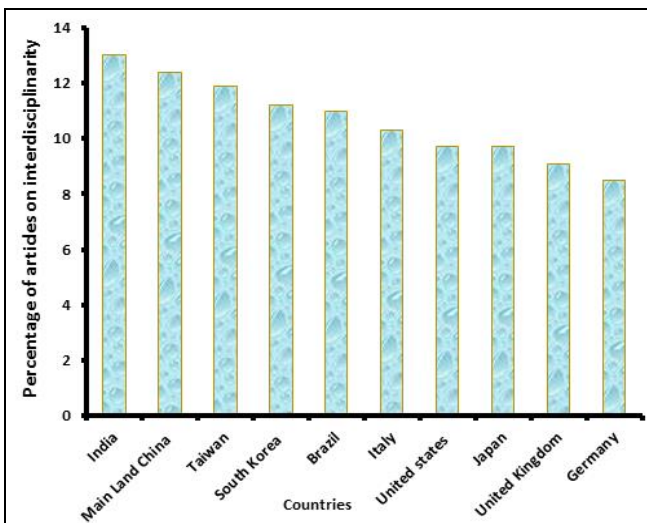


Fig 3: Top ten nations having the highest percentage of articles published on interdisciplinarity.

Preliminary understanding reveals that the humanities are the use of approaches that are predominantly hypothetical however, science deals with empirical approaches for problem solving purposes. Both are purposive to have a resolution to a human problem. Generally, the end user is human in both the cases of independent disciplinary approaches. Many interdisciplinary researches are focuses on merging sister science disciplines such as biophysics (biology + physics), biochemistry (biology + chemistry) and clinical biochemistry (medicine + biochemistry). But the current day social maladies such as Poverty, corruption, illiteracy, terrorism, casteism, untouchability, intolerance, overpopulation and child marriage needs a multidisciplinary approaches. Reason is very simple that independent approaches were not able to irradiate them from society. So, interdisciplinarity across the boundary, foreexample, philosophy, that deals in general and fundamental problems concerning matters such as existence, knowledge, values, reason, mind, and language, can be a part of science (especially natural sciences and more particularly animals sciences such as zoology) or vice versa. It is concluded that the present day need is high aimed for interdisciplinarity along with individual subject researches to solve many complex issues of the society.

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Conclusion

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