TOWARDS A COMPLEMENTARY OUTLOOK FOR SCIENCE AND METAPHYSICS: THE MYTH OF REJECTING METAPHYSICS

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Abstract

The paper argues for a complementary stance for both science and metaphysics in fostering the appropriate knowledge-basedfor sound pedagogical process and sustainable development. Metaphysics as a domain of knowledge generally refers to the study of the most basic item, feature of reality (ontology), or the study of the most basic concepts used in an account of reality. However, metaphysics has over the years met with caustic critique and utter rejection. The paper aims at showing that various critiques and, or rejection of metaphysics is a myth and unrealistic. Through the method of conceptual analysis and logical inferences, the paper aims to establish that many of such critiquing are bedridden with inconsistencies, polemic contradictions and are products of sheer intellectual arrogance and dogmatism. The paper holds that, behind the physical world of everyday experience, lies material and non-material substance not directly accessible to the senses, and thus argues for a deeper and more complex perceptive of reality that recognizes the synthesis of science and metaphysics. The paper concludes that metaphysics and science should be taken as complementary areas of studies in the quest for solutions to the existential challenges of life. To this end, the paper recommends the consideration of metaphysics in curriculum designs and pedagogical process.

Keywords: *Metaphysics, Science, Complementary stance, existence, reality*

Introduction:

Metaphysics as a concept, originally was a term used to denote the title of a compilation of certain Aristotle's writings by Andronicus of Rhodes, in the first century AD. The term arising from the etymology of the word: "ta-meta ta-

phusika" was employed because the compilation came after 'meta' writings about the physical in the classifications of Aristotle works. Metaphysics studies most basic item or feature or reality (ontology), or the study of the most basic concepts used in an account of reality. In what follows the paper started with the overview of the metaphysical enterprise and outlined criticisms meted against metaphysics which eventually culminated into the orchestrated rejection of metaphysics as a domain of knowledge. While showing that the critique and, or rejection of metaphysics is a myth and unrealistic, the paper opined that metaphysics provides comprehensive understanding of reality, and called for a complementary stance for both science and metaphysics in fostering the appropriate knowledge-based that would embrace the whole reality of existence.

The Metaphysical Enterprise

Physics is the scientific investigation of the fundamental nature of physical being. Metaphysics at least within that tradition that traces itself back to the Aristotle's eponymous treatise is the philosophical investigation of the even more fundamental nature of being as such. Metaphysics is concerned with the contours of the categories of entity postulated or presupposed by any possible, acceptable, account of the world, whether of the physical world or of any other aspect of the world. The task of metaphysics is to lay out a complete, coherent ontology, embracing all that is necessary to capture the correct account of the world in any of the special inquiries whether they are empirical, mathematical, modal or moral.

Traditionally, metaphysics was practiced as a top-down, a-priori discipline, with Euclidean geometry as its model. The metaphysician begins with self-evident principles of a highly general nature, together with appropriate definitions, and proceeds to draw out the necessary consequences. This approach is clearly exemplified in the work of two prominent eighteenth-century metaphysician, Gottfried WihelmLeibnz and Benedict (Baruch) de Spinoza. Leibniz spun metaphysical gold out of the dross of the principles of non-contradiction and sufficient reasons: His entire Monadology (1965), replete with an infinite collection of possible worlds, with the actual world (the best of all possible worlds) consisting of a myriad of mutually reflecting, simple, mind-like substances. Spinoza was even more self-consciously imitating Euclid, but his conclusions are almost diametrically opposed to those of Leibniz. Spinoza's ontology comprises exactly one substance (God-or-nature), of which the mental and physical realms are two aspects, and everything about the one substance is absolutely necessary. Only the actual is really possible. In the light of its lofty aim, the conflicting conclusions of its practitioners, and their exaggerated claims to have achieved the aim with completeness and certainty, it is perhaps unsurprising that the discipline of metaphysics, so practiced, has been regularly contested. Empiricists, led by David Hume, have often attacked a-prior metaphysics, contrasting its lackluster or

conflicting results with the astonishing success of empirical sciences, on the one hand, and of mathematics on the other.

At the end of the eighteenth century, Immanuel Kant, in response to Hume's critique, attempted a partial vindication of a-priori metaphysics. According to Kant, metaphysics can play a legitimate role as handmaid to science and a less straightforward role in upholding ethics. Through an analysis of the cognitive needs of thinking, sensing beings, it can establish the presupposition of Newtonians Euclidean space, absolute time, deterministic causation, and enduring interacting substances obeying conservation laws. In addition, if a metaphysical hypothesis-the existence of God or the freedom of the will is required for the smooth and effective operation of morality, then that may be legitimately adopted as though it were true, as a postulate of practical rationality. Kant's comprises evidently of metaphysical sprits, his work unleashing a century's worth of metaphysical system-building in an increasingly problematic idealist tradition.

In the late nineteenth century, the appetite for idealist metaphysics began to fade. A realist assault on this tradition was launched by Alexius Meinong, Bertrand Russell, GottlobFrege, and George Moore, and their style of argumentation, as much as the content of their conclusions, was influenced in shaping the twentieth century's more circumspect approach to metaphysics. Rather more radically a group of scientifically minded thinkers – inspired by Ludwig Wittgenstein's Tractatus(1922), rallying under the banner of Logical Positivism and Brandishing a verificationist criterion of meaning –declared all metaphysical discourse completely meaningless. They argued that sentence that cannot be either verified by observation or proven by pure logic and are not merely beyond our knowing but are strictly speaking, meaningless. Echoing Hume, the logical positivists denies any legitimate space for metaphysics between a-posteriori science and a-priori logic. The shortcomings of Logical Positivism were rapidly exposed (mostly by its adherents and fellow empiricists such as Karl Popper, 1963), but its offspring – ordinary language philosophy –cast over the metaphysical enterprise a pall that did not lift until the 1960s.Metaphysics, cautiously revived by heirs of both movements (albeit with notable differences in methodology, detailed below), is once again a flourishing discipline in the early twenty-first century.

Contemporary metaphysics on the other Hand, is characterized by a bottom-up approach rather than the traditional top –down approach. The contemporary metaphysician begins with a problem or puzzle, often generated by some basic data or the consequences of such data. The different sources of the basic data characterize two broad traditions. One tradition—championed by Moore (1925), mediated mid-century philosophers such as P. F. Strawson, Arthur Prior ,and Roderick Chisholm and embraced by contemporary philosophers such as Frank Jackson—takes as prime data the deliverances of everyday discourse and commonsense, so called "Moorean facts". For example, that I have two hands; that

there is a piece of cheese in my left hand and a stick of chalk in my right;that the chalk and the cheese are distinct things; that cheese and chalk have the same color ,and so on.

A different tradition, traceable back through the empiricists (such as Russell and Rudolph Carnap), mediated by Willard Quine, and embraced by philosophers such as John Smart, John Mackie, and David Armstrong, is less impressed with commonsense data. It takes the serious data to be constituted by the presuppositions and deliverances of extraordinarily successful scientific theories: that there is no role for the flow of time in a fundamental account of the world; that the fundamental laws are probabilistic rather than deterministic; that simultaneity is relative to motion; and the space –time may be non –Euclidean.

The presuppositions and deliverances of the mathematical disciplines essential to science are also treated as serious data: for example; that numbers and an infinite class of such functions is vastly bigger than infinite class numbers that there can be no complete axiomatization of mathematical truth, and so on. The two traditions overlap, of course, as exemplified in the work of prominent metaphysicians like David Lewis (1981, 1986), who draws extensively on both kinds of data, seeking ontology compatible with and explanatory of both. However, to say that contemporary metaphysics is bottom-up is not to saddle it with a crude inductivism – the fallacious inference of general theories from finite data.

The task of the contemporary metaphysician is not so much to prove an ontology, either from high-level first principles or from lower-level first data, as to propose an ontology to accommodate and explain data. But to resolve apparent conflicts by explaining away the appearance of suchor explain why the data are misleading. The methodology is less like that of pure mathematics and more like that of science – conjecture and refutation – with the difference being the kind of data that require accommodation or furnish a counterexample. Given a finite amount of data, the number of potentially adequate metaphysical theories seems limited only by imagination of practicing metaphysicians. To decide between theories we need more than data accommodation. Metaphysicians typically subscribe to Occam's razor – the injunction to refrain from multiplying entities beyond necessity. The Razor, read as an endorsement of ontological abstemiousness, is sometimes considered a license to slash entities without regard for a complementary principle- the injunction to refrain from eliminating entities that are necessary. The upshot of these two principles isthata theory must explain the data; and of two theories that both explain the data, the theory with fewer antic commitments is to be preferred. So, we begin with a domain of discourse – such as mind, or mathematics, or morality – and note that, on the surface at least, it supplies data that posit or presuppose ontology.

A Survey of the Critiques and Rejection of Metaphysics

Metaphysics has many detractors. The man who aspires "to know reality as against mere appearance" to use Bradley's description, is commonly taken to be a dreamer, a dupe, or a charlatan. Reality in this context is by the metaphysician's own admission, something that is inaccessible to sense; as Plato explained that it can only be discovered by the pure intelligence. That the sphere of metaphysician is of the supersensible realm, no doubt made it almost impossible to have a metaphysician who is not claiming the knowledge of unseen realities. It has been a common place critic of metaphysics since the early 18th century that no such claims can be justified; the supersensible cannot be known about or even known of, whether directly or by interference. The following therefore, represents an array of various critiques and subsequently, rejections shot out against the enterprise of metaphysic. It is the view of this paper that bringing them out would submit them all to the prism of examination for determining the stance, reality or myth of such critiques and rejections.

Metaphysics as a concept, started to receive very harsh criticisms from the empiricists, especially, David Hume. And the criticism eventually culminated into the orchestrated rejection of metaphysics. In his writing A Treatise of Human Nature (1739) And an Inquiry Concerning Human Understanding (1748), Hume argued for the necessity of the sense experience against the intelligibility of knowledge received from reason. And on this note, reject every forms of knowledge and understanding of reality that are inaccessible to the senses—metaphysics—as an illusion. Thus, Hume urgesscholars to cosign volumes of divinity and school metaphysics to the flames, as such contains nothing but sophistry and illusion. However, it should be noted that Hume's pronouncement about metaphysics seems ambivalent, in the sense that a part of his writings, calls for the need to cultivate true metaphysics with some care, in order to destroy the false and adulterated metaphysics. Thus, he identifies true metaphysics with critical philosophical reflection.

This indeed led to the claim of Immanuel Kant that the Humean thesis woke him up from his intellectual slumber of dogmatism. In other word, it was Hume, who suddenly brought to Kant's knowledge, the sharp distinction between a-prior and posteriori knowledge, in relation to the inadequacies of metaphysical knowledge. This call for philosophical reflection also informed the logical positives in their drive against metaphysics, by maintaining that for meaningfulness, a statement must pass through the purgatory of sense perception, perhaps the best thing known about this school of thought, also called the Vienna Circle', was their resolute hostility to metaphysics. The movement, championed by Moritz Schlick held metaphysics as the field of alleged knowledge of the essence of things that transcends the realm of empirical sciences. Metaphysics lies outside the positivistic

set bounds of verifiability, and in the same sense represents language that has gone on holiday, borrowing a Wittgensteinian term.

For logical positivism (latter neo-positivism), true thoughts are empirical. In other words, anything straying beyond the use of scientific method also strayed beyond the boundaries of meaning. The fact that metaphysical thesis are not empirical but seems to be arguing from the armchair that bears no visible relationship to scientific thoughts and experiments, for this school or thought, makes it not to admit of verification or falsificationism, and not only unscientific, but also strictly meaningless. Thus, in the place of metaphysics, they advocated for the description of the correct methods and structures of empirical science.

Moritz Lazerowitz (1963) also believes that metaphysics is not necessary, because what metaphysics is, what its nature and scope are, still remains unknown to man. In his word, metaphysics is of a chronic condition and of endless and unresolved debate.

For Glem Langford (1968), while giving reasons for the rejection of metaphysics averred that'the most important factor has been the rise of modern science and the realization that its success has been due to the refusal to accept any view about the world which is not supported by evidence.

Kal Pearson (1887-1936) also rejected metaphysics on the ground that its scope is excluded from that of the sciences. The method of metaphysics, Pearson believes has no application. In his derogative stance towards metaphysics, he categorizes metaphysics along with works like poetry or an imaginative activity. For Pearson, "the metaphysician is really more dangerous than the poet because he makes truth claims his visions". A metaphysician for him therefore is a sinister member of a community. Consequently, he opines, in the place of metaphysics, for science as that which offers better training for modern citizenship.

For J. S. Mill (1949), the rejection of metaphysics should be premised upon the fact that metaphysics do not express empirical facts. To Mill, all meaningful proposition are empirical. In other words they express matters of fact, and their truth or falsity is determined by observing or examining the actual worlds. Since metaphysics does not express proposition determinable by observation, it should be rejected as nonsensical. Furthermore, some analytical philosophers who holds a disdain for ordinary language, especially Bowes (1964), believes that metaphysics is a symptom of an intellectual disease which has, as its panacea, the 'therapeutic measure of discourse about ordinary language and its uses'.

Another interesting view of rejection is that of Kennick (1966), for him metaphysics is enigmatic. What he is trying to say is that metaphysics is mysterious, difficult to understand and all attempts to understand it are bound to lead to mere futility. He argues that "controversies in metaphysics are non-terminated and it is met by various or divergent evaluations by different philosophers. Kennnick noted that metaphysical thoughts are fallacious in the following ways.

* It commits Alfred North Whitehead's fallacy of misplaced concreteness describing non-concrete things or rather abstract things (entities) as if they were concrete.
* It commits R.G. Collingwood's Fallacy of categorical mistake: mistaking one category of things for another.
* Metaphysics also commits J.L. Austin's descriptive fallacy; describing abstract entities as tangible things.

Of a particular note is the thought advanced by G.E. Moore (1925) which produced of a striking metaphysical thesis that, if accepted would make metaphysical speculations difficult if not impossible. It was the characteristics of a certain type of philosopher, according to Moore, to advance claims of a highly paradoxical nature to say for instance that "time is not real" or that "there are no such things as physical objects" his case for the rejection of such idealistic claims which are products of thoughts emanating from the metaphysical parlance was that they go against the most central convictions of common sense, convictions that people accept unhesitatingly when they are not doing philosophy; like "this is my arm". These sets of propositions called 'truism', are for Moore known to be true. They are wholly true; their meaning is in no way doubtful or obscure.

To reject the materiality of facts as claimed by these ,metaphysician; Bradely, Mactaggart and the rest of others, is for Moore a self-refutation, because it is quite certain that they knew those truism to be true, for even in their philosophical writings, they have alluded to themselves, and to other philosophers or to possible readers. What this goes to buttress is that while the idealist are claiming the non-existence of the material world, they revealed their knowledge of the existence of themselves and other people, and of the ordinary world in which they and others were living. Although, in support of Bradely, one could reply that Moore has missed the point of discoursed; even as Rudolf Carnap, noted that Bradley raised an external question, and was given an internal answer by Moore. The point of usage therein is that, it was an answer that carried considerable conviction. The simple denial carried with it an obvious fact, that it makes the metaphysician more circumspect, to explain explicitly, what he was denying, and what he was ready to accept, and so to make his own case more shaper and thus easier to confirm or reject.

This anthology would be incomplete without including an unfailing advocate of the positivist school: A. J. Ayer. Ayer (1946) proffers a sort of bomb-shell against the claim that metaphysics affords us knowledge of a reality transcending the world of science and common sense. His concern is to show the meaninglessness of metaphysical theories about a reality beyond the empirical. His thesis is therefore that, many metaphysical utterances are due to the commission of logical errors. For Ayer, the claim that we have knowledge of a reality which transcends the

phenomenal world cannot be legitimately deduced from the evidences of our senses, because we cannot infer anything empirical from non-empirical premises. Ayer therefore posited that the labors of those who have striven to describe such a reality have all been devoted to the production of nonsense.

In order to establish the meaninglessness of all forms of metaphysical and religious statements, Ayer puts forward the verification principle. According to which a statement:

…is factually significant to any given person, if, and only if,he knows, how to verify the proposition which it purports to express, that is if he knows what observation would lead him, under certain conditions, to accept the proposition as being true or reject it as being false.

For Ayer therefore, any proposition not conforming to the fact of verifiability is nothing but a tautology of pseudo-proposition, which is not even of any literal significant.

The Critique: Myth or Reality?

A common currency to various forms of critique and rejections of metaphysics has the issue of scientific procedures and achievements at their base. Hence, the aim of this paper to overcome the enervating struggles between metaphysics and science, so as to see if the series of rejection meted out to metaphysics would then suffice for reality or otherwise.

The immense fruitfulness of science—modern science—resulted from the possibility of carrying out observation and controlled experiments. Noted also is that the enterprise of science is premised upon the notion of universally acceptance of its knowledge which according to Bowes (1964), must satisfy two conditions. One, scientific knowledge or statements must be made up of members of the same kind: electron, atoms, DNA molecules, members of a biological species, etc. or and, must persist for a sufficient length of time to permits repeated observation, i.e. a galaxy, a geological stratum, etc. The second condition is that it must be repeatable in the same way on demand so that anyone, anywhere, at anytime can repeat the experiment. However, these positions contravene instances of certain scientific statements on Extra Sensory Perception (ESP) or Unidentified Flying Objects (UFO). Also, the self evident assertion of repeatability and membership is seemingly and controversial. J.R. Ravertz in his Tragedy in the History of Science sums it up when he noted that:

All scientific research, except the most routine and banal, is a gamble, and not every gamble wins. Such lost ventures rarely find a trace in the public record of scientific achievement. Historians of science have always been aware of mistaken judgments, sometimes made by distinguished men, for in every great controversy, one can be seen to have lost.

It is therefore pertinent to note that the fact of knowledge that transcends space and time; that transcendent actions, and cannot be produce at will for demonstration by anyone at anytime and anywhere stressed the existence of a domain of the totality of human experience and external reality. This domain of knowledge is indeed as substantial as those portions of the natural order subject to experimental science, but which exact science do not have the means to grapple with.

Hence, other means must be employed to giveassurance for the veracity of the knowledge of such domains. To this, metaphysics provides ample assistance, as it deals primarily with the nature of the totality of reality. This explains why the rejection of metaphysics to the exaltation of science on the ground of inexplicableness is spurious and porous. For of what different ontological status would scientific entities like proton, neutron, electro-magnetic wave, atom, etc. have to metaphysical entities and act like Angels, God, divinity, acts of divine grace, salvation, etc. considering the fact that they are both empirically visible but we can only feel and see their effects.

Furthermore, science and metaphysics are often contrasted on the reason that knowledge of the former is public and objective, while that of the former is private. This claim, would further be shown to be demonstrably false. Paul Feyerabend in his 'How to defend Society against Science' (1985), argues that science is just an ideology that propels a society that it should be dealt with as an ideology. Hence his submission that, "science must not be given any special position, except for pointing out that there are lots of people who believe in it". In other words, if science and its knowledge are possessed in any community, or society, it would be meaningful there. One would therefore have to commit oneself to the enterprise of science, which is, become a member of the scientific community, submits oneself to its discipline and its cannons of inquiry for one to be able to verify and accept scientific claims and knowledge. No wonder, the appeal view of Isaac Ukpokolo (2010) that 'science is even more dogmatic than religion'.

Acritical review of the scientific enterprise would reveal that only committed and dedicated traditionalists or believer of certain beliefs and values can verify for themselves knowledge of such traditions, beliefs, theories and values. It would therefore not be wrong to hold that in both science and metaphysics, individuals find meaning and acceptance and fulfillment from participating in the discipline. As individual metaphysicians bear witness to the intellectual power of contemplation and intuition they experience in their philosophical speculations, individual scientists bear witness to the personal satisfaction and fulfillment they derive from science and their enthusiasm for the value, importance and nobility of the enterprise which they engage in. This is the inner, subjective, and deeply personal element in both discipline.

Although there have been an emphasis on the shortcomings in the praxis of metaphysics, this paper would want to draw attentions to the fact that science in the

praxis of its achievement is also without no shortcomings. It should be noted that the sensitivity of this would render scientists less holier-than-thou, in their approach to metaphysics. One of such shortcomings inheres in the fact that the universe science claims to be investigating is unimaginably vast, mysterious and beyond its grasp, it is indeed a journey into the unknown. Science has thus, also dwells in same mysteries which antagonists of metaphysics more often than not claim is the domain of metaphysics. For example, science have been unable to give concrete and uniform objective explanations, (not to even talk of solutions),even for the troublesome problem of our time, like; AIDS, telepathy, Extrasensory Perception, Cancer, etc. Also, a century ago, virtually nothing was known about quantum physics and complexity science; the processes of acupuncture and mesmerism or hypnotism were formally rejected as unscientific now have scientific recognitions. This indeed shows that science is gradually recognizing its inability to grapple with the totality of human quest and endeavors.

Recommendations

1. Consideration of Metaphysics and Science as complementary areas of studies
2. pedagogical inclusion of metaphysical studies in the teaching-learning process.
3. The complementary stance of Metaphysics and science should be recognized and aptly treated as essential in curriculum designs and pedagogical process.

Conclusion

In whatever way the myth of metaphysics' rejection at its exaltation above science is conceived, the aim is not to destroy science, nor is it to abuse its integrity or to be unappreciative of its wondrous achievements. Rather, the purpose is to press home the conviction that unless science becomes humanistic,—interrogating and proffering solutions to life challenges in its totality by coming to the realization that both the physical and the transcendental counts a lot in dealings with salient issues of humanity—science betrays its own visions and also the hopes of the world.

Furthermore, it is sheer lack of understanding or mere intellectual arrogance that makes scientist call for rejection of metaphysics because it is based on speculation. My reason for holding such a position against the enterprise of science is the fact that, it is devoid of every form of skepticisms that the rational mind has the ability to speculate into the future and the unknown, which by extension would reveal that speculation is even at the root of science. In fact, the human mind speculates into the future before going into the laboratory for test. This buttressed my point that there is speculative metaphysics underlying science. Therefore, if we can establish the truth of science, the truth of metaphysics cannot be rejected as impossible.

However, of an important note is that the crux of this paper is in bringing metaphysics and science into coherence thereby revealing the unrealities and the myth in the rejection of metaphysics. The objective here is not to permit either science or metaphysics to overwhelm the other, rather, this paper argues without polemics that, the two be allowed to complement each other so as to proffer and promote intellectual awareness needed in grappling with the totality of reality in the quest for the emancipation and welfare of life. The plausibility of this view is that behind the material world of everyday experience, there lie material substances that are not accessible to the senses. Therefore, one can hold that, the existential challenges of life constitute a deeper and more complex reality. The ambience of expertise in dealing with these realities however, is not all included in the scientific world view. This is because science, as shown earlier-on, does not and cannot take into its account transcendental realities that are part of life's challenges. Hence, the need for the complementary stance of the two differing domain of knowledge to form, a useful combination of skill, aptness and features that would foster appropriate knowledge-based needed to embrace the whole reality of existence. Only then, it could be reasonably argued that, the vision and aspirations of the scientific enterprise—welfare of life—be attained; as science would be more holistic in its approaches to issues. The paper would recommend the pedagogical consideration of metaphysical studies in the teaching-learning process. Making metaphysics a point of consideration in curriculum designs,and even in the teaching of science will engenders the synthesis of cognitive and affective domains of learning in the teaching of science and other empirical areas of studies. To this end, it could be argued that, a complementary outlook for science and metaphysics is essential in the intellectual quest needed in dealing with the lived experiences of human life and the ensuing challenges.

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