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The Interface Between Metaphysics and Science

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Abstract

The interface between metaphysics and science refers to the close-knit relationship between Metaphysics as First Philosophy and science. The first conception of metaphysics by Aristotle makes its appearance after Physics. The issue at hand borders on the lacuna between metaphysics and science, on the first hand, and on the interconnectedness of the metaphysics, and by extension the whole of philosophy, and the sciences of Physics, Chemistry, Biology and Engineering. We must underscore the view that Metaphysics investigates into the ground and foundation of all regularities and irregularities in nature. It is the first philosophy and the first science. We shall, therefore, probe into the development of modern science from classical antiquity and state the mistake of rejecting metaphysics by the logical positivists as a fundamental injury to science. Our attempt to recover and rediscover the metaphysical foundations of science shall reestablish an enabling interface between metaphysics and science. Our discussion shall first be on metaphysics as the first philosophy and the first science. After examining how science has dovetailed from metaphysics, we would reestablish the interface between metaphysics and science.

Keywords: Metaphysics; Science; Nature; Modernity and Logical Positivism.

Introduction

Metaphysics and science are two areas of human inquiry that are often seen to be poles apart. The word "metaphysics" is a compound word. It originates from three Greek words "μετρ τρ φυσικά (*meta ta physica*)." The Greek concept *μετρ* (*meta*) means "after", "beyond", "post", "more than", "further than", and/or "farther than." The Greek term *τρ* (*ta*) is translated as the definite article '*the'*, within the context of its preceding the third Greek concept *φυσικά* (*physica*) which means "physics", "physical", "matter", and/or "material." The compound concept *μετρ τρ φυσικά* (*meta ta physica*) or metaphysics in the English Language means "after", "beyond physics", "after physics", "post-physics" or "post-physical." Metaphysics is taken to be the first and most important branch of philosophy, although the modern era has seen epistemologists taking metaphysical inquiry itself as an epistemological inquiry. This does

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not make metaphysical introspections less relevant because of the noetic reference, at least, to Aristotle's reference to his work as the first philosophy (*prote philosophia* πρώτη φιλοσοφία). (Weber, 2013:1).

The concept of science originates from the Latin term, "scientia" which means "knowledge" (Ukpokolo, 2019, p. 105). This dovetails into the German word "Wise ns chaff" which refers to "'systematic, organised knowledge'" (Ukpokolo, 2019:105). It is the case that if science comprehends only the appearance of things in the world, then it describes nothing of that which, at the same time, can be said that it is and it appears more fundamentally as it participates in the systematic enterprise of the de-realisation of all existence in the process of knowing. It is necessary for us to not abandon the world but to reverse it into an authentic study of how to make the world better than it is now (Sebbah, 2006:50). Although Aristotle of Stagira sees Metaphysics as a science (Aristotle, *Metaphysics,* BK II, 993 a, 30) like the ancients and medievalists, the friction between science and metaphysics through the modern period until the contemporary period is probed. Our scientific attempt at recovering and rediscovering the metaphysical foundations of contemporary science shall create an enabling interface between metaphysics and science. Our first discourse on metaphysics as the first philosophy and science shall lead us to the examination of science as dovetailed from metaphysics. Thereafter, we would reestablish an interface between metaphysical science and contemporary science.

Literature Review

The subject-matter of metaphysics stretches back to Aristotle in Ancient Greece wherein his concepualisation of metaphysics gives us the term metaphysics. In the modern period, western metaphysics beginning from Cartesian metaphysics sees the human person as a thinking substance; a rationalist perception of a human being. The English philosopher, John Locke, opines that a human person is an intelligent being (*homo sapiens*) who "has reason and reflection, and can consider itself as itself, the same thinking thing, in different times and places." (Locke, 1694, cited in Gromak, 2015:1). This idea of a human being is imbued with reason and the capacity for not only reflection of reality but of self; a person has the powers to self-consider, self-introspect, self-examine and self-evaluate himself/herself concerning any subject-matter.

Philosophers have been torn between idealist and materialist traditions. The idealists tend to hinge their claims on *a priori* truths. The materialists, however, discover truths *a posteriori.* How can the relationship between metaphysics and science be seen as hinging on the view that no epistemological principle or law, theorem or theory could be known *a priori?* Is there any possibility of arriving at any knowledge claim before or prior to experience? A. Kertesz claims that "nothing could be known as *a priori;* hence, no epistemological principle is known as *a priori.*" (Kertesz, 2002:273-274). The theoretical statements of science amount to knowledge following observation statements whose formulation is from experience supported by experiments. Scientific claims appear made only after experience i.e. *a posteriori.*

The debate concerning the relationship between metaphysics and science can be seen from the backdrop of Sven Arntzen's categorisation that there are two extreme positions in Western descriptions of nature. To understand and interpret nature is to investigate into the nature of reality. The first extreme position on nature is about "the exploitation and destruction of nature, practices resulting in deforestation, the extinction of species, the release of toxic substances, etc." The second extreme position is about the "steps to preserve wilderness in its pristine condition as untouched nature." (Arntzen 2001:67). The trans-valuation of natural phenomena inspires our investigation into the meeting point between metaphysics and science. Whereas the latter is principally about inquiring into nature, the former inquires fundamentally in the latter as not only what has been discovered through scientific discoveries but that which nature is *per se*.

Methodology

The methodology of this philosophical inquiry is the critical analytic method of breaking down concepts as developed through the trajectory of discourses on truth. Since there has not been any singular conceptualisation of metaphysics since Aristotle's analysis of it in classical antiquity in interrelationship with science which precedes it as Physics, our evaluative approach takes congnisance of positions we distilled from our interaction with works including Aristotle's *Metaphysics* (350 BC/1982); R. Weber's "Why talk about Chinese metaphysics?" (2013); B. Doyle's *Metaphysics: Problems, Paradoxes and Puzzles, Solved?* (2016); Z. Golubovic's. "An Anthropological Conceptualisation of Identity." (2011) and M. H. G. Hoffmann, J.C. Schmidt, N.J. Nersessian's "Philosophy *of* and *as* Interdisciplinarity" (2012), amongst others.

Results

Metaphysics as First Science

Traditionally, metaphysics is one of the four major branches of philosophy, "alongside ethics, logic, and epistemology," (Mumford, 2012). Metaphysics is concerned "with explaining the fundamental nature of being and the world" (Weber, 2013). Aristotle sees it as the first philosophy and science (Aristotle, *Metaphysics,* BK II, 993 a, 30). According to Doyle (2016:3), "Metaphysics is an abstract human invention about the nature of concrete reality – *immaterial* thoughts about material things." The study of concrete reality or material things is what science constitutes. Formal or idealist metaphysics opens up for all seekers the immaterial ground for knowing things as they are in themselves and not only as they appear to us (Doyle, 2016:6). This metaphysical discovery brings us face-to-face with the isomorphism between the abstract in the transcendental world of forms and the concrete in the material world.

The material world of scientific study is not the noumenal or transcendental world. On the first hand, the material world is physical, concrete and this-worldly. It is the world of phenomena; the world of the senses or the world of empirical experiences. The material universe provides

scientists and materialist metaphysicists with the things they study. Formal or idealist metaphysics, however, is about the immaterial constituents of matter such that "Abstract information," according to Bob Doyle becomes "the metaphysical ground - of both logic and language as means of communication. It is a dual parallel to the material substrate that the Greeks called Qπoκείμενον - the "underlying." It gives matter its form and shape" (Doyle, 2016:6). The formal structure of science is studied by metaphysicists to arrive at *a priori* knowledge of the necessary relationships between universal ideas and particular facts, certain knowledge independent of any empirical experience or knowledge that is *a priori,* idealist and analytic i.e. true by definition or according to logic (Doyle, 2016:6). Metaphysics as first philosophy and science investigates the totality of reality. It seeks to discover that which reality is and not merely the appearances of it. It is this investigation that pervaded ancient philosophical rumination through medieval until modern and contemporary reflections concerning reality studied across different departments that are using different methodologies in order to arrive at the truth.

Since metaphysical investigations about this real world of human and non-human existence have thrown frontal questions on cosmological issues concerning the existence of the cosmos, questions on ontological issues concerning being that exists, and epistemological issues concerning how we come to know what existed, is existing, and will possibly exist (Doyle, 2016:209). Preoccupations with epistemological issues according to materialist ontologies tend to reduce knowledge to that which is after experience i.e. *a posteriori.* W.V.O. Quine's frontal objection to the two dogmas of empiricism continues the epistemological trend of the modern period which sees experience as the source of knowledge without its a priori and analytic dimension (Quine, 1951). Is it the case that analytic truths should not be reckoned with or is it the case that knowledge is only *a posteriori*? Is contemporary science reduced to the *a posteriori,* or is there anything between the *a posteriori* and the *a priori?*

Gillian Russell explains synthetic truth which is Quine's empirical truth as "one which is true both because of the way the world is, and because of what it means" (Russell, 2002:181). Synthetic truths are experiential or empirical truth and not analytic truth which "is meant to be true in virtue of its meaning alone (Russell, 2002:181). According to Russell, "Quine held that there were no analytic truths and moreover that it was unclear what analytic truth was, a thesis that is sometimes expressed by saying that there is *no such thing* as the analytic/synthetic distinction" (Russell, 2002:181). Quine's position is against "a longstanding philosophical orthodoxy and they made space for a new, more radical kind of empiricism, according to which nothing can be known a priori, not even mathematics or logic" (Russell, 2002:181). It is this that pushes us into this inquiry of discovering whether synthetic truths are all there are in the world. If synthetic truths are all there are in the world, is there any relation between metaphysical truths that are *a priori* with science? It is this question of the interface between metaphysics and science that inspires our investigation into the development of science.

The Development of Contemporary Science

From Thales, the progenitor of philosophy in Miletus, to Anaximenes and Anaximander, philosophy began as a scientific activity undergirded by a materialist metaphysics. Cosmological questions preoccupied the ancients concerning the fundamental substance that the universe consists of. Philosophy was the first scientific thought and practice from which all other sciences developed (Sodipo, 2004:17). Contemporary science started developing with the departmentalisation of academic institutions especially with the emergence of science from natural science which was also known as the philosophy of nature. When science was becoming an independent area of inquiry, the scientific method was equally being developed to distinguish what pure science is from what is pseudo-science. Maintaining its standards as the Father of all disciplines, philosophy has been relating with other disciplines through interdisciplinary, cross-disciplinary and transdisciplinary actions.

Interdisciplinarity, cross-disciplinarity and multidisciplinarity are three interrelated concepts which have become crucial for contemporary collaborations across disciplines and between academic institutions, industries, the government and society. Interdisciplinarity means "the integration of one or more academic disciplines" (Hoffmann, Schmidt and Nersessian, 2012:1). This integration brings together different disciplines who are trying to understand a single problem from different points of view. The cementing of views helps to understand problems and to resolve them. Crossdisciplinarity integrates not only academic theories, laws and principles but also their correlates in the practical world. It is "the integration of one or more academic disciplines with extra-academic perspectives on a common (and usually a real-world, as opposed to a merely academic) problem" (Hoffmann, Schmidt and Nersessian, 2012:1). Multidisciplinarity narrows down the integrated concerns of disciplines that have come together to a singular challenge. It is the "juxtaposition of two or more academic disciplines focused on a single problem" (Hoffmann, Schmidt and Nersessian, 2012:1).

Science and philosophy have been interrelating through the centuries in order to arrive at what is authentically useful, practical and pragmatic. The advancement of different scientific disciplines is influenced by philosophical reflection which makes "fresh contacts with the concepts, methods and standards of scientific inquiry" (Sodipo, 2004:17). This contact breaks down concepts using methodologies that help to solve problems of our daily lives through science and technology. We must observe that "the greatest contribution to science has been made by those scientists who possessed what is rightly called philosophic insight" (Sodipo, 2004:17). Science explains facts but it does not do this without a known or an unknown theory discovered through observation, thesis formulation, hypothesis construction, experimentation, analysis and theorisation. It appears that practical scientific activities in their technological senses have intertwining threads through the scientific process of making observations, formulating theses, constructing hypotheses, carrying out experiments, analysing data and establishing a theory. T.H. Huxley observes that "Those who refuse to go beyond fact to theory rarely get as far as fact, and any more who has studied the history of science

knows almost every step therein has been made by…the invention of a hypothesis which, though verifiable, often had little foundation to start with" (Sodipo, 2004:17). Sir Lawrence Bragg who with his father, Sir William Henry Bragg, won the Nobel Prize in Physics in 1915 for a crystallographic work of "analysing crystal structures by means of X-rays" (Sodipo, 2004:17). According to Lawrence Bragg "the essence of science "lies not in discovering facts, but in discovering other ways of thinking about them" (Sodipo, 2004:17). The other ways of thinking about scientific concerns are philosophical as far as they are "general, persistent and difficult questions" (Sodipo, 2004:19). These difficult questions are perennial issues which philosophers of science are concerned with.

Discussion

The Interface between Metaphysics and Science

The interface between metaphysics and science is drawn from the age-old relationship between the two areas of human inquiry. Metaphysics began as the first science of being as being. Science, however, experienced moments of separation from metaphysics because of the increasing questions raised concerning the nature of reality. The question we want to ask revolves around whether metaphysics has any intercourse with science. Recent developments in Information and Communications Technology (ICT), Artificial Intelligence (AI), video game cloning and robotics make us inquire as to; whether there is any interface between metaphysics and science in this age of 5G technology. Since human beings can achieve less than industrial robots when a certain task is given because of advancements in technology, how can we state that the duties performed by a controlled machine called a robot is not a case of a confused role using Erikson's identity/role confusion dichotomy as an example. The question being and identity cannot only be understood in terms of the tasks, roles, duties or responsibilities carried out according to a controlled method where free will, freedom and choice are not in play. It is the case that robots do not exercise freewill in the accomplishment of roles, human persons, however, always choose whether explicitly or implicitly. The fact of choosing to try a thing or not explains the choice. The fact of indecision concerning a thing explains another choice. Whether a person decides or not, goes or not, comes or not, there is always a decision or a choice not to decide. Beyond examinations of the ubiquitous nature of choice that does not mean that every human action, word or thought flows out of an ocean of free will, the problem transcends the human species to consideration of other species and genera. More than that, ongoing research into ICT, cybernetics, artificial intelligence and robotic engineering (Kuper, and Kuper, 2004:476, cited in Golubovic, 2011:26) in Philosophy of Mind as a subfield of Metaphysics brings to the fore discoveries and findings concerning the meaning and nature of not only the identity of a human subject having either an extended material substance, *a res extens*a, or a non-extended spiritual substance, a *res cogitans,* a mind and/or soul but whether there is any interaction between metaphysics and science. Should issues bordering on metaphysical science as Aristotle conceived in terms of hylozoism or hylomorphism, Cartesian

interactionism or behaviourism, functionalism or teleo-functionalism, epiphenomenalism or central state materialism, occasionalism or acosmism?

Metaphysical inquiry is an inquiry into the numerous questions, issues and problems "about reality that lies beyond or behind those capable of being tackled by the methods of science." (Blackburn, 2008:231-232). This appears to create a distinction between metaphysics and science. Metaphysics goes beyond empirical science to investigate issues outside the boundaries empiricism carved for itself. As a science, theory and discourse on the totality of reality (Lawhead, 2002:xxxi), some of the often-discussed issues in metaphysical discourses range from reality and non-reality, time and eternity, mind and body, life and death, being and non-being, existence and non-existence, determinism and indeterminism, God and the Devil. The relationship between metaphysics and science shows the attempts of metaphysicists and scientists to predict and explain reality. The jettisoning of metaphysical science by empirical scientists is predicated on the view that nothing but physical matters exist for human beings to inquire into. There is nothing more than the natural world of physical components for scientists to study, conquer, and reorder towards the unity of all the constituents of the ecosystem. Empiricism believes that nothing exists except matter and its movements and modification. It holds that matter is the fundamental substance in nature and that all things, including mental states and consciousness, are the results of material interactions. To the empiricist, matter is primary and the mind, soul, or spirit is secondary (Blackburn, 2008:225).

If the empiricist's thesis is based on matter, can we explain issues beyond nature using metaphysical prompts? To understand this question, we must see that mechanical materialism or empiricist science is limited by perceiving the world as consisting entirely of hard, massy material objects, which, though perhaps imperceptibly small, can be studied through the aid of microscopes whose zooming functions enlarge microorganisms for clarity of viewing, observations, hypotheses formulation, laboratory experimentation, analyses and evaluation. Hardcore empiricists deny that immaterial substances such as minds and spirits exist or explain them away as being material things or motions of material thought seen as non-material.

The empiricist premise that all human experiences can be explained in the physical realm through empirical processes is untenable because consciousness, for example, cannot be accounted for in physical terms. Epiphenomenalism is a materialist position that does not deny spiritual or non-material processes. It discusses reality in relation to the existence of mental processes in addition to and flowing from material processes. Spiritual entities are, nonetheless, wholly dependent on material processes and without causal efficacy of their own. In other words, spiritual entities exist freely in dominion in the spiritual realm but depend on the physical in the physical world. Spiritual beings are related to material things somewhat in the way that a being's shadow is related to the being (Blackburn, 2008:117-118). The difference between metaphysics and empiricist science is that metaphysical science investigates the tangible and the intangible which cannot be seen in actual existence; they are imaginary creations and cannot be verifiable and/or falsifiable. For the empiricist who may believe in the supernatural,

supernatural truths discussed in formal or idealist metaphysics account for the reality that empirical science cannot explain. For the empiricist whose materialism is eliminative, what is not physical cannot be said to amount to any real knowledge claim because, for him/her, matter is the only thing they can say that exists. The empiricist materialist mentality does not see the non-empirical as actually part of reality; they are just stories passed down from a very long time and these stories are figments of the imagination of people of the past.

The phenomenological tradition of Edmund Husserl is decipherable from streams of phenomenological programs across the globe, it can be seen that beneath all the structures of human cognitive exercises, the interrelationship of metaphysics and science becomes manifest through phenomenological processes that are onto-epistemological and onto-scientific. The ontological nature of scientific inquiries probes into the nature of objects of study as it should be the case while studying physics as a science of nature and/or any of the other sciences. The rapport between metaphysics and science is seen in the epistemological development from Cartesianism, which Husserl called "a new Cartesianism, a Cartesianism of the 20th century" (Husserl, 2003:1). He established the distinction between a real object of consciousness and an ideal object of consciousness. This distinction is, according to him, "*synthetic consciousness*" (Husserl, 2003:10). He used the term *synthetic consciousness* because it is the property of distinguishing between the "*thingly and the ideational (simply intentional) contents of consciousness*" (Husserl, 2003:15). It is Husserl's observation that while different phenomenological exercises concerning a phenomenological object of study are varied in their *thingly* reality, the objective meaning of the phenomenological object is not varied. The objective meaning is identical. According to him, "What is given as something spatial-real is, in the manifold perceiving of it, something ideal-identical – something immanently identical within intention, within the various manners of consciousness, within acts of the ego – not as a thingly datum but as an objective meaning" (Husserl, 2003:15).

Scientific and metaphysical speculations, reflections and criticisms put an especial premium on the way human beings live today in relation to the eco-system. Nature which science studies should not be carelessly and recklessly interacted with through corruption and misappropriation of resources, sea pollution and land degradation, oil spillage and deforestation, mining and hunting for commercial purposes. The ecological integrity of contemporary philosopher Sven Arntzen influences our mediation between contemporary humans whose underlying being as human with all other human persons past and present as much as the interrelationship between non-humans in nature and humans from the past through the present underpins the fundamental importance of making metaphysical discoveries about time and eternity, body and spirit and other realities unveiling the nature of being natural. Scientific discoveries "allows for human uses of nature to sustain human life when nature is understood as a community, which includes humans among its members." (Arntzen, 2001:67).

Arntzen's categorisation of two extreme positions in Western philosophy concerning nature shows his interaction with the works of Knut Hamsun. According to him, the scientific uses of

nature should be "consistent with the integrity of nature when nature, or a region in nature, is understood as a community that can include human among its members." (Arntzen, 2001:68). Arntzen's Leaning on Naess Arne's Ecosophy because certain human "lifestyles are compatible with wilderness." (Arntzen, 2001:75) made him to opine that "whereas the integrity of nature viewed as an organism requires the exclusion of humans for its preservation, the integrity of nature as a community requires that lifestyles detrimental to the mixed community, certain ways in which humans live and coexist, be abandoned." (Arntzen, 2001:75).

Ashwini Vasanthakumar provides two broad ways which we can use to understand the interface between metaphysics and science. This understanding would be apt if we see the interrelationship between metaphysics and science since the modern period to be conflictual because of the shift from metaphysical investigations into nature's being to scientific and physical inquiries natural phenomena. According to Vasanthakumar, "First, that victims' duties are self-regarding duties that victims owe to their self-respect or to their well-being, and second, that victims' duties are other-regarding duties that arise from victims' duties of justice or of assistance." (Vasanthakumar, 2020:1). We are appropriating her philosophical contribution in its metaphysical background questioning of the inherent constitution of self-respect and autonomy in well-being. She sees self-regarding duties as intrinsically or inherently asserting and insisting on self-respect and autonomy. These improve human well-being by preserving human rationality and every aspect of human life in interrelationship with the eco-system. (Vasanthakumar, 2020:3). Her other-regarding duties form a continuum from self-regarding duties as the two can, like metaphysics and science, "lay the groundwork for conceiving victims' duties as a species of role obligations." (Vasanthakumar, 2020:4).

We must emphasise that the nature of self-regarding duties are the duties human persons have in reference to their well-being. The obligation to protect the biological self in compliance with the duty everyone has to himself/herself is a duty against self-harm enshrined in The Harm Principle as framed by John Stuart Mill. (Gray and Smith, 1991: 87). This principle was discovered to be natural to the psychological makeup of human beings as living creatures in search of happiness in free action against any form of unhappiness especially violence and oppression experienced in restrictions on human freedom. It helps societies to conform to the harm principle in order to maximise human happiness. (Hudelson, 1999:36). The modern philosopher Immanuel Kant (1724-1804 CE), the animal right theorist Peter Singer (b. 1946) and some plant rights theorists embrace the idea of abstract right as a thing independent or devoid of utility as they could also endorse the Harm Principle because "the harm principle appears to be a direct consequence of the natural right to liberty held by every human being." (Hudelson, 1999:36). The Harm Principle states "that the sole end for which mankind are warranted, individually or collectively, in interfering with the liberty of action of any of their number, is self-protection. That the only purpose for which power can be rightfully exercised over any member of a civilized community, against his will, is to prevent harm to others." (Hudelson, 1999:35-36). This agrees with natural science which metaphysics continues in

order to discover what empirical findings cannot discover. It is not in disagreement with principles of justice and equal representation, free trade and transboundary justice such that natural rights theorists and metaphysical philosophers probing natural reality to the extent of what is empirically discoverable and rationally arrived at.

Conclusion

The problem under study revolved around the interrelationship or interconnectedness between metaphysics and science. Our essay showed that the paradigm shifts from ancient, renaissance and medieval science by some modernists who see nature as more independent, more determinative, and more permanent, cannot separate the discipline of science from the discipline of metaphysics. The ancients and medievalists saw man as occupying a more significant and determinative place in the universe than the realm of nature. There is an inevitable relationship between metaphysics and science which aids our discovery of scientific theses through scientific hypotheses and repeated observations and experimentations such that, there cannot be any science without metaphysical foundations. Metaphysics is the premier discipline which investigates the ground and foundation of all regularities and irregularities in nature. While regularities appear explainable through certain processes, the irregularities also are probed into in order to arrive at probable points of understanding. Metaphysics is the first philosophy and the first science. Our attempt at recovering and rediscovering the metaphysical foundations of science created an enabling interface between metaphysics and science.

The discipline of Metaphysics cannot be seen in opposition to scientific disciplines. The word "metaphysics" is a compound and an all-inclusive word because it captures all of reality under its purview. It originated from three Greek words "μετρ τρ φυσικά (*meta ta physica*)." The Greek concept *μετρ* (*meta*) means "after", "beyond", "post", "more than", "further than", and/or "farther than." The Greek term *τρ* (*ta*) is translated as the definite article '*the*', within the context of its preceding the third Greek concept *φυσικά* (*physica*) which means "physics", "physical", "matter", and/or "material." The compound concept *μετρ τρ φυσικά* (*meta ta physica*) or metaphysics in the English Language means "after "beyond physics", "after physics", "post-physics" or "post-physical." Although Metaphysics was taken to be the first and most important branch of philosophy until the modern era when epistemologists saw it as an epistemological inquiry, our interrogation sees it as the branch of studies which includes all other branches of human inquiry in their ontic and ontological dimensions. This makes metaphysical introspections more relevant flowing from the noetic reference of Aristotle to his work as the first philosophy (*prote philosophia* πρώτη φιλοσοφία) (Weber, 2013:1). The meaning of science from the Latin term, "Scientia" which means "knowledge" (Ukpokolo, 2019:105) and the German word "Wise ns chaff" makes "'systematic, organised knowledge" (Ukpokolo, 2019:105) incomplete without arriving at the essence of things.

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