

# Asouzu's Critique of Philosophy of Essence and Its Implication for the Growth of Science

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The balkanization of reality by Aristotelian Philosophy has been a thought provoking exercise in the history of Western Philosophy. Aristotle's idea as conceptualized by Asouzu as Philosophy of Essence has been the central instrument for bifurcation and polarization of all entities into classes, such as: Essence and Accident, Matter and Form, Cause and Effect, Rationalism and Empiricism etc. This dualistic ontology he believes has eaten deeply into the mind of Western scholars to perceive science dualistically. In view of the above, the disagreement with Aristotle's compartmentalization of reality from Ibuanyidanda Philosophy (Philosophy of Complementarity) by Asouzu is an attempt to restructure scientific dualistic ontology into one unified, non-polarized, non-absolutistic, harmonious framework capable of fascinating unity in science. Hence, the subject matter of Ibuanyidanda Philosophy is to restore the broken unity between theory and praxis that exists in science because everything that exists serves a missing link of reality. The aim of this paper is to critically examine from the philosophical eye, the various critique by Asouzu on this thought provoking polarization of reality in Aristotle's Philosophy of Essence. We are of the view that Aristotle had to balkanize reality to solve the various problems of his era. Thus, if applied to contemporary scientific issues, it will lead us to no unity and growth in science. Furthermore, from Ibuanyidanda's perspective, we are of the view that its nature of harmonious non-polarized ontology is a breakthrough to contemporary scientific issues especially the debate within macro physics, theory of relativity, and sub-atomic particles physics (Quantum Mechanics).

*Keywords:* Philosophy of Essence, Ibuanyidanda, missing link, positivism, theory of relativity and Quantum Mechanics

## 1. Background Study

### 1.1. Introduction

The history of western philosophical thought will not be complete without considering the various monumental effort of Aristotle in active philosophizing. His works span through Ethics, Socio-political Philosophy, Epistemology, Metaphysics and Logic, and other areas of science. His work on metaphysics is essential in shaping modern philosophical thought, especially his idea as conceptualized by Asouzu as Philosophy of Essence, which investigates reality in a dual ontological framework, creating a bifurcating mindset to most western thinkers. This reasoning pattern has created epistemic platform for ethnocentric, bifurcation, and polarization in science which spans through most of western thought, creating a base for

example among rationalism and empiricism, materialism and non-materialism, realism and idealism, and verifiability criterion of logical positivism as against metaphysical principles. The foregoing though paves way for the growth of positivism in science. Thus, the adoption of the following principles by the positivist for a theory is to be termed scientific:

(1). Science is the only authentic and valid knowledge.

(2). Facts are the only possible objects of knowledge.

(3). The method of philosophy is not different from that of science.

(4). The main business of philosophy is to identify general principle's common to all science and as the basics of social organization. (Uduigwomen, 195)

In view of the above characteristics of positivism, the logical positivist styles themselves the "Vienna Circle" and mostly they are Mathematicians, Scientists, and Philosophers etc., in the likes of Moritz Schlick, Hans Hahn, Otto Neurath, Philipp Frank, Bella Von, and Kurt Goedel. In their discussion on how scientific theories and laws are formulated, they adopted the Verifiability Principle, according to which a proposition is meaningful, if it can be verified directly or is capable of being verified in future experience (Uduigwomen, 200). For the logical positivist this is to serve as a criterion of demarcation between Science and Metaphysics to enhance the unity of empirical science in the process ride science of all metaphysical notions and ethical theories. These ideas have links from Aristotelian dualistic ontology of reality, which are Aristotle bifurcate reality into "essence (substance) and accident." Science from this epistemic background started to be seen as a one sided business of empiricism, metaphysical notions, theology, ethics were all counted as meaningless and nonsensical. Scientist up till today still believes on empirical palpable facts to solve material needs of man, neglecting non-empirical immaterial facts in science.

In attempt to disarm this foundation and pave way for a better equipped and more sustainable science, Innocent Asouzu, the founder of a contemporary philosophical trend or movement called Complementary Reflection (Ibuanyidanda Philosophy)—a Professor in the Department of Philosophy, University of Calabar in his complementary philosophy (Ibuanyidanda), has fashioned an ideal way and a strategy of understanding a prefect reality in a non-polarized platform, rapt with the capacity of mutual dependence and interdependence in complementarity. He notes that this unfortunate distinction between metaphysics and the other sciences for example would have a tremendous consequence for the way science is understood and scientific debates conducted (Asouzu, 18). He goes on to highlight some of the differences between a philosophy of essence that polarizes reality and Ibuanyidanda that harmonizes; he thus adds:

If now a philosophy of essence polarizes reality, Ibuanyidanda Philosophy explores a method and principles for coalescing the real and the ideal, the essential and accidental into a system of mutual complementing units. It is a challenge to show how philosophy can be relevant to all units constituting a whole, such that the essential and accidental, the necessary and contingent, the universal and the particular, the absolute and relative, the conservative and the progressive, the constructive and the deconstructive; both the consequential and inconsequential, both the essential and inessential, both the real and the ideal, both the transcendental and world-immanent, can more easily be grappled with within the same framework. (Asouzu, 39)

In line with the above, Ibuanyidanda Philosophy is tasked with the duty to penetrate and explore all levels of being be it metaphysical, empirical, non-empirical, transcendental, spiritual, and/or corporal to harmonize their relationship in ideas and practice because anything that exists serves a missing link of reality. Hence, Ibuanyidanda Philosophy has no limit of which it could investigate, geared toward integrating in mutual

dependence and interdependence in complementarity as against the idea demonstrated in Aristotle's Philosophy of Essence.

Before we proceed further, we will love to gain more insight of their background. As such, let us consider a brief examination of the biographical studies of these two noble scholars.

### 1.2. *Biographical Studies*

In this section, we shall make attempts to briefly give account of their background, which will help us to establish our fact. Let us start with Aristotle's biographical studies and later we shall consider that of Asouzu.

#### 1.2.1. Brief Background of Aristotle

Aristotle was born in 384 BCE in the small town of Stagira in Northern Greece. His father, Nicomachus died when he was a child and later Proxenus of Atarneus took care of him throughout his childhood age. He schooled under Plato's Academy at the age of 18 in Athens up till when he was 37.

He was influenced by Plato's thought even though he eventually left Plato's philosophical thought to establish his own school call Lyceum. His works span through various disciplines, such as: Physics, Biology, Zoology, Metaphysics, Logic, Ethics, Aesthetics, Poetry, Theatre, Music, Rhetoric, Linguistics, Politics, and Government. Indeed his works are really monumental in the history of western philosophy and have help to shape the thought of modern and contemporary thinkers.

#### 1.2.2. Brief Background of Asouzu

Innocent Asouzu is from the Igbo tribe of Nigeria, born on 13th October, 1952. He is a Professor of Philosophy, currently lecturing in the Department of Philosophy, University of Calabar, Calabar-Nigeria where he has been teaching till date. He attended Bigard Major Seminary, Enugu in Nigeria, after which he gained a scholarship to study at Leopold Franzens University, Innsbruck, Austria.

After his Ph.D. graduation in 1982, he taught for three and half years in Rheinfelden, Switzerland. He returned to Nigeria in 1986 and took part in the compulsory "National Youth Service Corps," and in 1987 took up a permanent teaching appointment in the University of Calabar—Nigeria where he had been teaching till date. He has held many posts in the institution (Asouzu, 63-69).

He was influenced by the work of Paul Tillich and Wolfhart Pannenberg. He is the founder of a contemporary philosophical trend or movement called Complementary Reflection (Ibuanidanda Philosophy), which underlying framework and mission is to research on theoretical preconditions of mutual co-existence between missing-links of reality.

He has written many ground breaking books and articles on this; some of which are: *The Method and Principles of Complementary Reflection in and Beyond African Philosophy* (2004); *Ibuanidanda: New Complementary Ontology* (2007); *Ikwa Ogwe: Essential Readings in Complementary Reflection* (2007); *Ibuanidanda: The Heavy Burden of Philosophy beyond African Philosophy* (2007), and the latest, *Ibuanidanda: (Complementary Reflection) and Some Basic Philosophical Problems in Africa today* (2013).

## 2. A Critique of Aristotle's Philosophy of Essence

### 2.1. *Explication of Aristotle's Philosophy of Essence*

Aristotle, one of Plato's students in *The Academy*, has influenced humanity both in practical and theoretical knowledge. He is a famous writer and one of the most unique contributors of ideas in philosophical cum scientific thought. He is known and respected by many people for his major contribution in metaphysics,

especially his idea on Philosophy of Essence. In his metaphysics, he balkanizes being into two parts: the essence and the accident. For him essence means that through which and in which a being has its act of existing. Within this context, he expounds on concept like, matter and form, cause and effect etc. Let us explicate on the concept of essence from the perspective of Wikipedia.com:

In philosophy, essence is the attribute or set of attributes that make an entity or substance what it fundamentally is, and which it has by necessity, and without which it loses its identity. Essence is contrasted with accident: a property that the entity or substance has contingently, without which the substance can still retain its identity. The concept originates with Aristotle, who used the Greek expression *ti ên einai* (literally "the what it was to be") or sometimes the shorter phrase *ti esti* (literally "the what it is") for the same idea. This phrase presented such difficulties for his Latin translators that they coined the word *essentia* (English "essence") to represent the whole expression. For Aristotle and his scholastic followers, the notion of essence is closely linked to that of definition (*horismos*). ([www.wikipedia.com/essence](http://www.wikipedia.com/essence))

Essence here can also be expressed as substance, which is always present in every being. It is the fundamental aspect of all being, without it a being ceases to exist. Pantaleon Iroegbu further explicates on essence in three conceptual views namely:

(1). *Quidity*: Essence is what a thing is in itself, its thingness. It answers to the question: *Quid* (i.e, what)? It is what defines a thing in itself and makes it distinct from all other things.

(2). *Nature*: The essence of the thing is the peculiar character, structure, and nature of that thing, as it exists in reality, not abstract from the mind.

(3). *Substance*: Aristotle is the originator of the understanding of essence at times as substance. Substance is contrasted with accident. (Pantaleon, 48-49)

For Aristotle, his focus on metaphysics is based on the science that treats being as being (*Being qua Being*). Thus he posits:

There is a science which investigates being as being and the attributes which belong to this in virtue of its own nature. Now this is not the same as any of the so-called special sciences; for none of these others treats universally of being as being. They cut off a part of being and investigate the attribute of this part; this is what the mathematical sciences for instance do. Now since we are seeking the first principles and the highest causes, clearly there must be something to which these belong in virtue of its own nature. If then those who seek the elements of existing things are seeking these same principles, it is necessary that the elements must be elements of being not by accident but just because it is being. Therefore, it is of being as being that we also must grasp the first causes. (Aristotle, *Metaphysics*, Book IV, Chap. 1)

Metaphysics for Aristotle is the study of substance or essence, thus all beings constitute of substance and accident which is the real character of being. Thus, he writes:

And as to the things which might seem most of all to indicate substance, water and earth and fire and air, of which composite bodies consist, heat and cold and the like are modifications of these, not substances, and the body which is thus modified alone persists as something real and as a substance. But, on the other hand, the body is surely less of a substance than the surface, and the surface than the line, and the line than the unit and the point. For the body is bounded by these; and they are thought to be capable of existing without body, but body incapable of existing without these. This is why, while most of the philosophers and the earlier among them think that substance and being are identical with body, and that all other things are modifications of this, so that the first principles of the bodies are the first principles of being, the more recent and those who are held to be wiser thought numbers are the first principles. As we said, then, if these are not substance, there is no substance and no being at all; for the accidents of these it cannot be right to call beings. (*Metaphysica*, Book B, 5)

In other words, a being can exist without its accidental parts; it is the contrast of essence. Aristotelian

dualistic perception teaches that substance or essence does not need accidents to subsist, whereas accidents need substances to exist essentially. In Plato's analogy, he compartmentalizes reality into two distinctive worlds: the ideal world and the world of forms. The ideal world is the real world or the world of perfection, while the world of forms is the photocopy of the ideal world. This really influenced Aristotelian dualistic perception of reality. And it creates that the platform is most western thinkers' perceived reality in a dualistic background. Hence Asouzu summit: "One of the things most striking about his metaphysical teaching is that it is conceptualized with a mindset that sees reality, human interpersonal relationship, and science in a polarized, exclusivist, non-complementary mode" (Asouzu, 14-15).

From the above background, it can be said that Philosophy of Essence impacts negatively on the growth of science that could not be based on unity, integration, and mutual dependence and interdependence in complementarity; as such there exist disjointed, disharmonious, exclusivist senses of scientism.

The above problems need to be examined, so that the fundamental goal of science can be equipped, sustained, and progressive. This is why Asouzu chooses Ibuanyidanda (Philosophy of Complementarity) as an attempt to solve the various problems created by Aristotle's Philosophy of Essence. Let us critically examine the various critique of Philosophy of Essence from Ibuanyidanda perspective.

## 2.2. *Asouzu's Critique of Philosophy of Essence*

One of the driving forces of Asouzu's critique on Aristotle's Philosophy of Essence is from the background of Ibuanyidanda Philosophy. This is why before we proceed to examine this critique, it is imperative to briefly explicate on Ibuanyidanda Philosophy. This will help us establish the foundation of Asouzu's philosophical thought and we shall also define "the concept of missing link" which is Ibuanyidanda's vital tool.

### *An Exposition of Ibuanyidanda Philosophy*

According to Chris Ijiomah, in one of his famous article titled "The Crisis in Geometry and the Rise of Relativistic Logic in Twentieth Century," he avers: "Every paradigm of thought or action produces a logic and is produced by a logic" (5). The paradigm of thought in Ibuanyidanda Philosophy could be traced from the traditional Igbo philosophers of the complementary system of thought that advocates a mutual dependence and interdependence of all existential being. Thus, Asouzu summits:

The concept Ibuanyidanda draws its inspiration from the teachings of traditional Igbo philosophers of the complementary system of thought. The closest English equivalent to the word "Ibuanyidanda" is "complementarity". Danda are ants that have the capacity, in mutual dependence and interdependence, to carry loads that appear bigger and heavier than themselves. What this implies is that they can surmount very difficult challenges when they are mutually dependent on each other in the complementation of their efforts. Hence, traditional Igbo philosophers insist that: ibu anyi danda (no task is insurmountable for danda). It is from this synthetic idea "ibu anyi danda" that serves a heuristic pre-scientific function within the context of traditional Igbo experience that the synthetic-analytic concept "Ibuanyidanda" is derived through abstraction. (Asouzu, Ibuanyidanda, 11).

He further states:

Ibuanyidanda Philosophy is a transcendent complementary comprehensive systematic inquiry into the structure and dynamics of human consciousness as to determine the reason for the subject-object tension and dichotomy by reason of which the ego always seeks its autonomy outside the foundation of its unity. It is an attempt at addressing this tension with a view to providing workable solutions towards its containment in a complementary comprehensive mutually harmonized fashion. (Asouzu, inaugural, 38)

In view of the above quotation, Ibuanyidanda Philosophy demands that all level of beings must exist in mutual dependence and interdependence in action. As such, cross-examination and cross-fertilization of ideas in complementarity is paramount in all aspect of being; as against the bifurcating ontology of Aristotle's Philosophy of Essence. Let us take a look at what we identify as the fundamental tenets of Ibuanyidanda Philosophy.

### 2.3. *Fundamental Tenets of Ibuanyidanda Philosophy*

They include as follows:

(1). The joy of every being is sustained when there is mutual dependence and interdependence in complementarity of all missing links.

(2). Ibuanyidanda is not an ethno or a cultural philosophy; it is cross-fertilization of ideas within all missing links of reality.

(3). Ibuanyidanda Philosophy is not a monism or monistic in nature; it recognizes the state of differences but it should come from the foundation of cross-fertilization of ideas within all missing links.

(4). Ibuanyidanda Philosophy is geared toward solving the consequences of Philosophy of Essence.

(5). It is an attempt to highlight some of the excesses of Philosophy of Essence which are dogmatic, hegemonic approaches to theory formulation and practice of science.

(6). It is a systemic approach aiming at negating all bifurcated, polarized, disjointed, disharmonious, exclusivist entities toward a complementary comprehensive mutually harmonized non-absolutistic fashion.

The above tenets form the forearm of Ibuanyidanda Philosophy. It is not an ethno-philosophy; it creates a platform where all Aristotelian bifurcated, polarized, disjointed and disharmonious exclusivist entities are negated. Thus, Ibuanyidanda Philosophy is advocating for a harmonious, mutual, integrated, complementary interrelatedness among all existential missing links of realities.

Now, Aristotelian compartmentalization of being into essence and accident gives rise to the unfortunate demarcation among metaphysics and other sciences by the logical positivist. Let us examine how Asouzu uses the concept of missing link from Ibuanyidanda Philosophy to address this problem created by Aristotle.

### 2.4. *The Concept of Missing Links towards the Growth of Modern Science*

What is missing link? Can Being be defined? To what extent can we prove the existence Being? To answer these thought provoking questions, let us examine what Asouzu means by missing link since the Aristotelian notion of being follows a tradition which sees the notion of being as indefinable. He thereby implies as follows:

Hence, I dare define the idea of being; here I claim that being is that on account of which anything that exists serves a missing link of reality. In other words, within an Ibuanyidanda context, reality presents itself to us as missing links of reality within whose framework the idea of being reveals itself and is defined. I designate as "missing links". (Asouzu, 41)

From the above quotation, Ibuanyidanda Philosophy opines that everything that exists serves a missing link of reality. In other words, the joy of every being is when every missing link of reality exists in a mutual dependence and interdependence in complementarity. Ibuanyidanda Philosophy is emphasized for a comprehensive fashion whose essence equals his existence because reality is made up of all missing links. Thus Asouzu proceeds further to define missing link as,

diverse units that make up an entity within the framework of the whole and as they are complementarily related. They are all the imaginable, fragments, units, components, and combinations that enter into our understanding of any aspect of our

world. They are also all the units and combinations necessary in the conceptualization of an entity or of the whole. Thus missing links are, for example, thoughts and the thoughts of thoughts. They are diverse modes of manifestation of being in history. They are categories and the categories of categories. They are the units and the units of units, entities and the entities of entities, and things and the things of things. They are ideas and the ideas of ideas, etc., as these can possibly be abstracted and related to each other as conditions of possibility of their perfectibility in a harmonious systemic manner. (Asouzu, *Method and Principles*, 285-6)

In this new complementary ontology, Ibuanyidanda Philosophy plays a vital role in harmonizing the epistemological challenges of empiricism and rationalism, the origin of science which is the central point where scientific debate is anchored.

To eliminate these problems caused by Aristotelian dual ontology, Ibuanyidanda Philosophy calls for a total integration and cross-fertilization of ideas among all missing links in science and technology. Asouzu submits as follows:

I call the metaphysical variant of the Ibuanyidanda principle, the principle of integration. This principle claims: "Anything that exists serves a missing link of reality". The principle of progressive transformation serves as the practical variant of this principle states. It states: "All human actions are geared towards the joy of being". The imperative of Ibuanyidanda Philosophy states: "Allow the limitations of being to be the cause of your joy", whereas the truth and authenticity criterion states: "Never elevate any world immanent missing link to an absolute instance. (Asouzu, 44-45)

The above emphasis strengthens the needs for integration of all scientific theories to be pursued within one holistic framework of Ibuanyidanda Philosophy.

Let us further examine how Ibuanyidanda Philosophy could be used to achieve mutuality in the debate among Classical Physics (CP), Theory of Relativity (TR), and Quantum Physics (QM) for the purpose of growth and unity in science.

### **3. Ibuanyidanda Philosophy vis-à-vis Modern Scientific Cosmology**

#### *3.1. Ibuanyidanda Philosophy towards the Unity and Growth of Classical Physics (CP), Theory of Relativity (TR), and Quantum Physics (QM)*

The debate among CP, TR, and QM is one of the thought provoking issue in the history and development of science; its centers on quantum mechanics as the last theory in physics. This was as a result of the Copenhagen interpretation of quantum mechanics, championed by Neils Bohr and Wenner Heisenberg that no other theory can supersede the predictive power of quantum theory, as such it is the last theory and never to be surpassed revolution in science (Mendie, 120). The CP and TR school advocacy opine that though quantum mechanics has given us a new understanding of reality but should not be seen as the last theory in science. Let us explicate on the fundamental terms as used in this paper.

##### **3.1.1. What Is Classical Mechanics?**

In physics, classical mechanics is one of the sub-fields of mechanics which deals on physical laws of nature. Hence, all law that gain their foundation from physical objects, motion, space, time play a vital role in defining classical mechanics. Wikipedia further avers that:

Classical mechanics is concerned with the set of physical laws describing the motion of bodies under the action of a system of forces. The study of the motion of bodies is an ancient one, making classical mechanics one of the oldest and largest subjects in science, engineering, and technology. It is also widely known as Newtonian mechanics. ([https://en.wikipedia.org/wiki/Classical\\_mechanics](https://en.wikipedia.org/wiki/Classical_mechanics))

In view of the above, most scholars refer classical mechanics as Newtonian mechanics because it constitutes mostly the physics of Isaac Newton. Classical mechanics describes the motion of macroscopic objects, from projectiles to parts of machinery, as well as astronomical objects, such as spacecraft, planets, stars, and galaxies. Besides this, many specializations within the subject deal with solids, liquids and gases, and other specific sub-topics. Classical mechanics also provides extremely accurate results as long as the domain of study is restricted to large objects and the speeds involved do not approach the speed of light. In summation, large objects are studied under classical mechanics. Because of its limitations, another theory emerges called theory of relativity by Albert Einstein.

### 3.1.2. Albert Einstein Theory of Relativity

Albert Einstein is one of the most unique contributors in the field of physics, both his theory of relativity and photo-electric effect are really monumental in the history of science. Einstein relativity gives birth to a new look or a new perspective about reality to a new dimension of reality relative to the observers frame of reference. Einstein's relativity encompasses of two theories:

- (1). Special theory of relativity;
- (2). General theory of relativity.

Special theory of relativity comes to shatter the fundamental postulations of classical mechanics which states as follows:

- (1). The laws of physics are the same for all observers in uniform motion relative to one another (principle of relativity).
- (2). The speed of light in a vacuum is the same for all observers, regardless of their relative motion or of the motion of the light source.

In view of the above postulation, Albert Einstein (1879-1955) in 1905 published his famous paper that changes the whole world of science called "On the Electrodynamics of Moving Bodies," which he developed the special relativity. This theory revolutionizes our concept of space, time, matter, and energy. Einstein shows that the commonsense notion of space and time, in which they form some kind absolute framework in the universe with respect to which material object move, is grossly wrong. Rather, our measurements of special and temporal interval are relative; they depend on the observer's point of view or what we call "frame of reference" (Wheeler, 6). He further explains using the concept of time dilation that a moving clock will appear to run slower than a clock at rest; this does not mean that the clock actually is running slower. But it runs normal in its own frame of reference; the one where it is at rest, but run slower to an observer is another reference frame in which the clock is moving. This is why Einstein avers that a moving object will appear shortened in the direction of its motion (Gribanov, 65).

Surprisingly, the new concept of space and time that arises from relativity is based only on two simple postulates:

- (1). The laws of physics are the same in all inertial (non-accelerating) reference frames;
- (2). The speed of light in free space in a vacuum is the same, regardless of their motion or of the motion of the source of the light (Wikipedia.com).

The above explain that Einstein puts an end to the absolute time. Hence, the revolutionary insight lies in the conclusion that the flow of time in the universe does indeed differ depending on one's reference frame. An outstanding feature of special relativity is its mass-energy relation, which is expressed on the well-known formula:  $E=MC^2$  (Energy equal mass times the speed of light squared).



### 3.1.3. Einstein General Theory of Relativity

It is imperative to note that there are certain problems that exist in the special relativity theory. Which is the problem of gravity, thus special relativity does not take cognizance of gravitation. This is why in 1916 his general theory of relativity was published, which was aimed to show that light is affected by gravity. This has been confirmed according to Wheeler through observations during complete solar eclipse of the bending of light from a star near the edge of the sun. The conclusion is that light is not some kind of substance separated from matter; light is matter, with all its inertial and gravitational properties. Thus, general relativity predicts that light bends in a gravitational field.

### 3.1.4. Quantum Mechanics

Quantum mechanics which can also be called quantum theory or quantum physics is one of the latest revolutionized theories in science that studies the existence, behavior, movement of sub-atomic particles. Wikipedia further states:

Quantum mechanics is a branch of physics which deals with physical phenomena at microscopic scales where the action is on the order of the Planck constant. It departs from classical mechanics primarily at the quantum realm of atomic and subatomic length scales. Quantum mechanics provides a mathematical description of much of the dual particle-like and wave-like behavior and interactions of energy and matter. Quantum mechanics provides a substantially useful framework for many features of the modern periodic table of elements including the behavior of atoms during chemical bonding and has played a significant role in the development of many modern technologies. ([https://en.wikipedia.org/wiki/Quantum\\_mechanics](https://en.wikipedia.org/wiki/Quantum_mechanics))

Mendie Patrick defines quantum mechanics as,

that branch of physics which deals with the behavior of matter at the level of the atom, the nucleus, and the elementary particles. At this level, energy, mass, momentum, and other quantities do not vary continuously, as they do in the large-scale world, but come in discrete unites called quanta... it is a mathematical theory, as a replacement for classical mechanics in order to explain satisfactorily the behavior of atoms, molecules, and elementary particles in terms of observable quantities such as the intensities and frequencies of spectral lines. (121)

Gary Zukau (The Dancing Wuli Master) defines quantum mechanics as: A “quantum” is a quantity of something, a specific amount. “Mechanics” is the study of motion. Therefore, ‘quantum mechanics’ is the study of the motion of quantities. Quantum theory says that nature comes in bit and pieces (quanta), and quantum mechanics is the study of this phenomenon (45).

This radical change from the longstanding view about nature occurs in the beginning of the 20th century. The radical view is that nature is not simply a blend of forms of matter or physical quantities into a smooth, continues existence. Rather, nature is discontinuous and discrete. It is a new dimension of science that is evolved during the first new decades of the 20th century in an endeavor to understand the fundamental properties of what matter is made up of. It starts with the study of the interaction of radiation and matter; with the use of classical mechanics, radiation effect can neither be explained, nor the theory of electromagnetism. In particular, physicists are puzzled by the nature of light about spectral lines in the spectrum of sunlight which is discovered earlier by Joseph von Fraunhofer (1787-1826). These spectral lines are systematically catalogued for various substances, yet nobody can explain why the spectral lines are there and why they could differ from each substance. It takes about 100 years, until a plausible explanation is supplied by quantum theory.

In view of the above, on the 15th of December 1920, Neils Bohr and Werner Heisenberg, before the physical society of Copenhagen revealed a distinctive interpretation of quantum mechanics that bewildered the

entire scientific community all over the world. That quantum mechanics which studies the sub-microscopic nature of the universe, which is built up with uncertainty and indeterminacy principles, is the final theory of physics, hence, the end of road thesis in science. In reaction to this assertion, Albert Einstein a philosopher cum physicist stood up to raise an argument in 1935, together with Podolsky and Rosen in their paper titled, "Can Quantum-Mechanical Description of Physical Reality Be Considered Complete?" Einstein and his colleagues conveyed a message that what is appearing as indeterminacy and uncertainty is because we do not know the real nature of reality, so because we don't know it, it appears uncertain and it appears indeterminate; immediately we know the deeper reality, it will reveal that what is looking as uncertain or indeterminate is because of our lack of knowledge, because "God does not play Dice."

### 3.2. *Ibuanyidanda Philosophy within CM, TR, QM Debate*

Can Ibuanyidanda Philosophy help to unite classical physics, theory of relativity, and quantum physics into one framework? This is not an easy exercise in the history of its applicability. This problem is said to have pictured from Aristotelian dual ontological understanding of reality that divides the world into macro and micro world. The macro world deals with the physics of Isaac Newton (classical mechanics) and Einstein theory of relativity, whereas the micro world deals with the world of subatomic particles (Quantum Mechanics). These debates have lasted for so long why because it lacks the foundation of mutual cross-examination of ideas. This is why Ibuanyidanda Philosophy is advocating for a cross-fertilization of ideas in mutual, harmonious dependence of theories in all aspect of reality especially the debate in questioned. Though, these are different part of physics, but there is need for cross-examination of ideas, because one cannot exist without the other.

## 4. Conclusion

In this paper, attempts have been made to call for mutuality in all facets of science as against the Aristotelian based bifurcating ontology which sets the stage for ensuring undue conflicts within the scientific community. The essay is thus an attempt to justify the position of Ibuanyidanda Philosophy as a panacea for unity in science. We have seen from the discussion above, why it is imperative to adopt cross-fertilization of ideas in complementarity. Ibuanyidanda Philosophy is not totally against the philosophy of Aristotle, because it paves way for solution during his era. But the position of Ibuanyidanda Philosophy is to harmonize reality where Aristotelian Philosophy could not; it is regarded as a breakthrough for peace and unity in science using its complementary power and integrative system. Ibuanyidanda does not only function in science, but to all other facets of human endeavors because reality is made up of all missing links and if any part of reality is neglected, we will not have a full and holistic reality. On the QM, TR, and CM debate, it is more commendable to mutually complement the ideas of these different theories of physics if sciences most grow because every part of science is a missing link of each other.

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