A REFLECTION ON THE QUESTION OF OBJECTIVITY AND RATIONALITY OF INDIGENOUS AFRICAN SCIENCE

Umezurike J. Ezugwu, PhD
&
Uchenna A. Ezeogu, PhD
General Studies Unit (Philosophy), Nigeria Maritime University
Okorkenokoko, Delta State.

Abstract
We argued in this paper that indigenous African science is not primitive and unreal as it has been tagged or celebrated by the Europeans and some African thinkers. The mentality that African science is not a science because it is not empirical, objective and falsifiable is the reason why African science is not thriving. The arrival of the Europeans with their cultural, scientific and religious background, made African science to be seen as irrational, superstitious, unscientific, barbaric, juju or witchcraft, than a body of knowledge which helps in explaining the rationality of the African experiences, thoughts and realities. This has hunted and in no minimal way, brought set back to the indigenous African science and its practitioners, within and outside urban metropolis. Today, those that associate themselves with the indigenous African science are frowned at, as it is seen as a taboo and an archaic practice with no objectivity. This no doubt, has contributed immensely to the low level of patronage; the indigenous African scientists have, in the recent time. Our aim in this paper is to demonstrate that scientific activities, irrespective of practicality, race, colour and ethnicity are found in all human societies. Science as a human and cultural activity may vary from society to the other methodologically, but the sole aim of it, be it practical or metaphysical is to explain realities or experiences of people in a given society. To say that African science is not objective, logical and rational, as held by the Europeans, just because its methodology is different from that of Western science, amounts to futility, epistemic injustice and disrespect to African styles of life.

Key Words: Indigenous African Science, Objectivity, Rationality

Introduction
The question about the existence of indigenous African science has been addressed, owing to the fact that man from time immemorial, strives to ameliorate his surrounding challenges. The creative way of doing this, has been to rely on his own science. This, he does, believing that his problems or enigmas can be better explained and addressed eventually, using his own explanatory model (s). This is to show that science has existed in Africa from the beginning. Hence, there has always been a scientific tradition in every stage of history (Uduguiwomen, 33). The unanswered question remains: why is African science being seen as nothing but a mere magic, mythology, superstitious tales of paranormal exercises and experiences? Why the question, what is the rationality and objectivity of African science? Is indigenous African science, science? If it is, where lays its empiricity? Can knowledge derived from African indigenous science be objective, rational and logical? These and many more have been the mingling questions that have engaged African scientists or the practitioner (s) of indigenous African science today. To answer these questions and correct the negative impressions, which the Europeans have on the indigenous African science, it is of great importance to share and make it clearer to the Europeans using Feyeraband's assertion that defending a particular science's excellent and characteristics are like the imperialists power who do not allow other cultures to make their own contribution to the body of knowledge (304). This implies that a scientific theory could arise from mythical, magical
and ideological sources. Alozie collaborated this when he shows how Wegner's hypothesis of Continental Drift was heavily influenced by the philosophical speculation, metaphysical and religio-mythical origins (321). The summary of this drift is about a time in history when the continents were united into one during the carboniferous era. This one continent was said to have broken up and drifted away to its present positions in globe.

It is obvious that it is not only the empirical realities that are said to be authentic knowledge. However, reality can be explained in both metaphysical and physical or empirical dimensions. In view of this, the assumption that indigenous African science is not a science because of its variegated methodology with that of Western science is erroneous. This counters the position of Alan Ryan, who denies the authenticity of social sciences just because it does not have the same method with the natural sciences (9). For him, social sciences deal with human behaviour, which differs from that of inert matter, and cannot make a general law, which will produce a positive predictions and discoveries of future occurrences like natural sciences. The trust of this paper is to redefine and unmask the presuppositions that are bound in the thoughts of the Europeans, on the indigenous African science, by bringing to bear, the viability of the indigenous African science, which is enshrined in traditional religion, traditional medicine and African life styles in general. Here, we vehemently disagreed with the Europeans, who, upon the African wealth of knowledge, in the science community, claimed that what the Africans can boast of or their obtainable knowledge is gotten from mystics and magic and cannot be experimented or scientifically analyzed, and therefore, should be abolished. Woe to some of the Africans that have joined the impostors (Europeans), who pretend to be with us but they are the architects of our problems, as they have, in the name of their imported religion (Christianity), made us threw away our inherited gods and shrines that have been useful in solving our problems before their arrival. This has messed up our forefathers achievements that took years to structure and instituted.

Anyway, I have no problem with the existence of the imported religion, which is Christianity, but with the notion that the African indigenous science, religion or lifestyles should be silenced because of their metaphysical foundations. The Europeans who are of this opinion should be reminded that there is element of empiricity in abstraction and abstraction in empiricity. Reality is that they exist in complementation of every other reality that exists (Asouzu, 193). For this reason, there is need for both indigenous African science and Western science to coexist or complement each other. To cement this idea, Michael Harner, a medical doctor observes: “The witch doctor succeeds for the same reason all the rest of us (doctors) succeed. Each patient carries his own doctor inside him. They come to us not knowing this truth. We are at our best when we give the doctor who resides within each patient a chance to go to work” (135). The Europeans who saw indigenous African scientific enquiries as fetish and primitive practices should know that it is as useful as their own science. To privatize knowledge or to claim that Western science is more realistic than African science, as the Europeans have been caught doing, just because of their inability to understand the objectivity and rationality of indigenous African science, is simply to block the gateway or the aperture, in which knowledge could be possibly acquired and transmitted. Indigenous African science is a science that explains realities both in empirical and metaphysical approaches, and should be seen as a model to the Western science that is polarized and truncated, as it explains only about the empirical realities.

Indigenous African Science versus Western Science
Before we continue to examine the different between the indigenous African science and Western science, it is of great germane to answer the question: what is indigenous African science? Indigenous African science is that kind of science that is originated and produced by the African people. This takes us to what is usually being over looked by some thinkers.
For a good number of them, indigenous African science is all about traditional African science and nothing else. This strong claim does not holistically present the true picture of what indigenous African science depicts. Indigenous African science does not limit itself to traditional African science. By implication, it is not without element of scientific tradition. To many, indigenous African science is nothing but a way of divination (igba afa) or incantation (okwu mmuo) practiced by the Africans in the interpretation of their experiences. This is incorrect, the indigenous African science inspirations and aspirations is both empirical and metaphysical in nature unlike the Western science that is solely empirical. In science, therefore, Africans believe in two levels of reality; the empirical and the nonempirical (Ojong, 5). According to him, the empirical routes are on the lower side of the scale of knowledge mainly because of their tentative nature. African epistemology also considers such knowledge to be incomplete as it is limited to the perceptual abilities of man while the revealed truths about the objects of knowledge are regarded by African scientists as higher truths.

Here, it is crystal clear that in African thinking, spirit has primary over matter. Though, the supremacy placed on the spirit does not seem to imply the denial of the existence of matter. It simply means that every material thing is endowed with spirit force, which can be likened to soul, mind psyche, vital force or life force. This perception of reality is quite different from the Western notion of reality. For them, matter has supremacy and primacy over spirit. In African mindset, “ihe anaghi ahu anya ka ihe ana ahu anya” (the spirit is higher than the matter) but in the Western idea of life, the reverse is the case. Momoh (8) shed more light on the African understanding of reality, when he opines that for any physical thing, active or inert, dead or alive, the African conception is that it is primarily spirit or spiritual, not that it is absolutely and exclusively spirit or spiritual, as the West could hold on the issue that has to do with matter. In other words, they tenaciously and strongly believe in anything that has to do with matter and refute anything pertaining to spiritual realm.

This follows that the African thought system operates in epistemic sense of spiritual realism, and because it is spirit that is in charge of the interaction and alteration of things, the spirit has the power to interpenetrate and interconnect all things. It is as a result of this that the operations of African scientists are not far removed from the realities adduced by spirito-rationality. In consonance with this, Idoniboye (83) states that the ontology of any distinctive African world view is replete of spirit; spirit is the animating, sustaining creative life force of the universe. For him, therefore, spirit is real; it is as real as matter. This shows that the truth revealed by the spirit is authentic and cannot be faulted using empirical rationality, in traditional African epistemic categories. In fact, spirit is the ladder of confidence among Africans. For the Africans, causality is ruled by supernatural being or god, the Western or scientific philosophy is sought in mathematics or statistics of chance (Sdipo 48). The cause of everything in African place is attributed to spirit or supernatural being or god. This, the Africans believed since their problems are explained and addressed, when the spirit or god is duly consulted, honoured and respected. This notion has been the drive and mentality of the Africans, till the Europeans brought in their strange religion and convinced many Africans to see the African traditional religion as primitive and barbaric. My happiness or consolation is that the said foreign religion is hunting everybody today, even the pope of Roman Catholic Church or the person in control of the Muslim and the entire self-acclaimed prophets and prophetesses are deeply receiving lashes for its acceptance.

In Chimakonam’s comparative analogy, between the Western science and African science, the goal of Western science is no other thing but to conquer nature while African science sees nature as a system comprising of everything including man (48). For him, African science recognizes the law of uniformity and taps from it. Here, it is important to note that the reason why the Western scientists have refused to admit that there is something like African science/scientists, is because they have always been arrogant and one sided in their
approach to reality. By this consciously or unconsciously innate mark in them, they disobey the law of nature by fighting nature itself, in the name of showcasing their technological capabilities. More so, having being excelling in the field of technology, every society must abide by the Western scientific method. This position was supported by Udoma, who avers that society that does not use the modern Western scientific method is as good as a closed society (86).

This aversion is false, reason being that common among African medicine practitioners, is the general held position that in addition to whatever skills and experiences a man might have received during his years of tutelage, he can only become an expert so to speak when he start receiving messages from the divine either through dreams or trances or through benevolent spirit helpers. Idowu confirmed this when he states “… a really good African doctor is usually a person who lives close to nature and has a close opportunity of observation, even of the medicinal habits of animals and birds” (201). This means that the African scientists have their own method of approaching reality just as the Western scientists do. No two paradigms can have the same rule characteristically (Kuhn 95). To see the Western scientific model/scientists as infallibles and gods that can exist without the African model/scientists is wrong since all sciences no matter their methods have the ultimate end to serve nature in all ramifications (Asozu 90). In line with Winch (307), I strongly believe that rationality is linked with culture and therefore, it is possible to consider separate systems to be rational. Failure to recognize the existence of other cultures and their gradual developments amounts to Western unfaithfulness to the order of nature. Hence, all material realities in the macro-world are instantaneously interconnected by some non-maternal forces of the micro-world. In other words, it is abominable to celebrate one aspect of reality. To achieve what man set out for himself in this globe, as a composite being, it is an undeniable fact that the Western type of ontology, which is markedly materialistic, cannot comprehensively help in achieving the noble objectives or epistemic quests of an African man, and therefore, should not be seen as paragon or model to African ontology.

An Interrogation on the Existence of African Science
My strong interrogations show that the denial of indigenous African science was as a result of the fact that it fails to imitate or operates under the methodology and ambit of modern science, which rests on the belief that nature, operates according to general principle with its characteristics of reliability, precision objectivity, testability, comprehensiveness and universality. This led to the disregard, the indigenous African scientists are experiencing today. It is appalling that we fail to understand that there are aspects of indigenous African science that cannot be made known to everybody but they profess truths and enable healings in the traditional African societies. For instance, in my family, there is a leaf we know that is being used to cure a sickness called (inochinwa/o shohe), which disallows the sperm ejaculated from a male counterpart to be viable at the meeting of the ova of the female counterpart. The secrecy of the leaf is not meant to be disclosed to anybody outside the family. This concealment does not vitiate the authenticity of the said leaf but it is a way of protecting it from the intruders, who may not know about the tenets of the leaf and obey the spirit behind it. If the intruders were to be allowed and by peradventure, they failed to adhere to its tenets, any woman the leaf is being used upon will be barren for life.

The problem with the kind of science expressed above is that it disallows continuity since the death of the entire members of the family, makes the leaf useless. The above fact, notwithstanding, does not demonstrate the unscientific nature of the leaf in question, it rather shows the metaphysical underpinning of the leaf. Its scientific nature is exposed during the teachings of the controller of the leaf, who knows the secret and sacred nature of it, and how it can be used in healing of the patient. I am not amazed or dazzled by the question: is there an African science? This is because such question has been a way of intimidating the
Africans and doubting the rationality and logicality of African experiences. The debate or the question about what the Africans can afford in the African space started long age, from Aristotle to the present day European thinkers. First, was on the existence of African philosophy, which has been resolved. Hence, it is obvious that African philosophy is being done in various African universities today, and series of books and articles published on it. The pummeling question today is on the existence, rationality, logicality and objectivity of indigenous African science. This has also been trashed by scholars like Chimakonam (2012), Kuhu (1962), Feyerabend (1988), Sertima (1984, 141) and Afisi (2002). They are of the opinion that indigenous African science exist and its existence cannot be denied any longer. Hence, it explains and accounts for the African native thought systems. Contrary to the above assertion, Bajah (1980) denies the existence of African science, saying that “there is science in Africa but there is no African science” (25). Maybe, this submission could be as a result of Bajah’s inability to see the above outlined principles or characteristics of Western science which include; testability, universality and objectivity in indigenous African science. Be that as it may, Bajah should be told that every society has its own characteristics and structure. That indigenous African scientists do not explain realities the same way the Western scientists do, is not an indication of non-existence but to show that as culture differs, explanatory models and paradigms can never be the same.

Moreover, Alozie observes that the new interpretation of atom implies that we now have two brands of physics; physics at the macro-level of existence and physics at the microlevel of existence. According to him, if physics is studying reality, will there be any justification to have two or more answers to a question about any particular phenomenon? Should we discard all that Galileo, Newton, Einstein and their contemporaries did in the light of development in particle physics? Where should the exploits of mystics and spiritualist be located in the body of knowledge of events that are material? (7). African medicine diagnostic method falls within the micro-level while European diagnostic method is within the macro-level. The objective of this detailed analysis is to show that African medicine has developed an advanced methodology capable of diagnosing and curing many ailments that are puzzling to their European trained counterparts. This counters the Europeans conception of indigenous African science and Bajah, who followed the Europeans without deep reflection, to condemn already existing indigenous African science. African science exists just as the existence of Western science cannot be negotiated or disputed.

**On the Question of Objectivity and Rationality of Indigenous African Science.**

The problem of objectivity has been one of the major attacks leveled against indigenous African science. Western science is seen as that that embodies objectivity and its subject matter is independent and real. In other words, it is taken to be the primary and perfect model, with which we can holistically explain reality. This thought is embellished by Williams, who in an attempt to distinguish science from non-science, elevated science above non-science. He contends that science has a unique mode of inquiry, which is absent in non-science. For him, any kind of explanation derived from the nonscience is seen as local conception of reality, hence, it offers the sort of explanation that is characteristically dependent (79). This implies that what science cannot account for does not exist or constitute reality (Asiegbu, 120). To reject locality, culture and temporality as encumbrances of reality in the name of absolutizing reality, is to eliminate research and inquiries that supposed to be part learning and knowing of the entities in the universe. The difference in African and Western science is that as western science deals with the empirical reality, African science goes beyond empirical as it embraces all kinds of realities. It is on this basis that the objectivity and rationality of both aspects of knowledge are justified. To allow an aspect because of its empirical nature or metaphysical underpinning is to erode completely symbiotic relationship that exists between the two aspects of knowledge or episteme.
William’s notion on the differences between science and non-science was later debunked by Feyerabend in his parameter to reason, where he lodged a sound argument for the justification of the rationality of the method of science on its local commodity designed to satisfy local needs and solve local problems (29). Having seen that we are confronted with the utility of African science or the benefit one stand to gain in adhering to the teachings of African science, it is important to expose some of the ways in which African science can be rational and objective. In Yala and Boki Northern parts of Cross River State of Nigeria, a traditional orthopedic doctor in treating a fractured bone case, begins by breaking the leg of either a cockerel or hen, depending on the sex of the patient. And then treats the cockerel or hen, on whose recuperation, automatically transmitted and reflected by the actual human patient. Again, in my town, Ede-oballa in Nuskka Local Government Area of Enugu State, Nigeria, we have a native doctor (dibia ngborogu na mkpo akwukwo), who can heal or covert a thief from his evil ways to good life, by throwing some local beans at night on the compound, where the thief is, requesting that he picks all without missing any. When this is done perfectly well, the thief is delivered, and will never take what does not belong to him or her. Here, both the metaphysical and empirical approaches were involved. The traditional doctor or the bone setter perfected the above mentioned task through a “force” medium that is neither seen, verifiable nor authenticated using Western science Schema but the idea behind it cannot be jettisoned because the secret is not known to all. As Western science is governed and occasioned by the general laws and tied to the principle of verifiability, universality and testability, African science is not limited to such qualities, though, operates differently from that of the Western science.

Interestingly, Tella (1986), Iwu (1986) and Adesina (2011) noted that traditional healers are capable of arresting the deterioration at gangrenous limbs that may lead to amputation and that the activities of the traditional surgical operations include among others the cutting of tribal marks, male and female circumcision and cutting off the upper end of the throat flap (epiglottis). It is clear from what we have discussed so far that the indigenous African scientists can strongly compete and possibly surmount Western scientists in the science community. Hence, they trace the root cause of everything unlike the Western scientists that operate under assumption and prejudice in most cases. In fact, its metaphysical and empirical dimensions cannot be compared with the empirical nature of the Western science nor the objectivity and rationality of it equated with the Western science because of its spirituality and physicality.

Conclusion
From the foregoing, it is a fact that indigenous African science exist. To deny this or to paint a different picture of what indigenous African science is, by seeing it as merely barbaric, fetish and primitive is rather unfortunate but inevitable given the fact that our thoughts have been thwarted and influenced by the Western logic and their imported religion, which is Christianity. In this work, we provided a philosophical basis for indigenous African science, as we maintained that logic of explanation often reflects the context and culture of the people. Here, it becomes questionable and unfruitful to negate the existence of indigenous African science just because its explanatory paradigm, or methodology or model does not fit into the forcefully or seemingly generally acceptable explanatory model of the West.

The question on the objectivity and rationality of indigenous African science is therefore answered and its philosophical imports displayed and unmasked in this work. The indigenous African science has primacy over the Western science based on the fact that Western science starts and ends in empirical formation, while indigenous African science goes beyond that as it swims within two poles or modes of realities, the empirical and metaphysical realities. It may sound absurd, to claim that African science, which operates under the ambience of spirituality has element of empirical connotation. It really has and

154
cannot be denied of it, the only difference it has with that of Western science is method and nothing else. It is abnormal to describe someone, who is taller than you as a short man just because you are unnecessarily envious of the said person. This is what the African scientists have been experiencing from their Western counterparts. The only way to ameliorate and if possible eradicate this war between the African scientists and Western scientists is to discourage the religious thought system, which include prayer houses or healing homes that see anything African as primitive, juju-witch craft, fetish, abominable, and eventually, incorporate African science in the curriculum education of the West, just the way we incorporated their own, for supplementation.

Works Cited
Adesina, S. U. *Traditional Medical Care in Nigeria*. Retrieved on 20 May, 2018
Sodipo, J. O. *Cause and Effect*. Second Order (5-1) 1975
Winch, Peter U. "Understanding a Primitive Society".American Philosophical Quarterly (1) 1985,