THE LIMITS OF A.J. AYER'S VERIFICATION PRINCIPLE AS THE METHOD IN MODERN SCIENCE

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ABSTRACT

The fostering role of science in the understanding, interpreting, prediction and development of the world is an enormous contribution hence, explained the huge interest in many philosophers and scientists into the enterprise. Understanding and interpretation of science could help demarcate it from the non-science, meaningful and meaningless. It is in this curiosity that Alfred Jules Ayer built his contribution to the scientific enterprise on verification principle as a way of demarcating science from non-science even as he attaches meaningfulness only to science. According to him, for anything to qualify as scientific knowledge it must pass through the sledge hammer of experience. That is, it must be seen, tested and experimented otherwise it is not only non-scientific but useless and nonsensical. However, the researchers argued that knowledge generally resides in the understanding that, the world composed of two major blocks or categories observable and the unobservable, matter and spirit material and nonmaterial categories. These also explain the indispensability of complementation. The work argued that Ayer's verification principle fails to take into cognizance the other aspects of realities to include the activities in quantum mechanics and subatomic world and this negligence automatically delimits his verifiability principle hence inadequate as a principle particularly in modern science.

Keywords: Limits, Verification Principles, Modern Science.

INTRODUCTION

Fundamentally, the task for a comprehensive and consistent approach to science have engaged the minds of many Philosophers and Scientists especially of contemporary inclination owed to apparent and increasing difficulties in the formulation of scientific theories particularly, in the wake of modern science an era which unveils unique issues and fields of scientific inquiries that defy the usual or common observable and empirical methods, ways and views of science. Modern development in science brings out interesting, unique and amazing areas from discrete spheres of sciences and endeavor to show how these areas contribute in building new grounds in science. This work though appreciates A. J. Ayer's

verification principle but is lucid in highlighting the limitation or inadequacies of his method especially in the dawn of modern science. It seeks also to extend Ayer's work by opening new frontiers as it concerns methods in scientific enterprise. His principle as an approach of scientific inquiry, interpretation and explanation seeks to unite all sciences, and also to demarcate science from non-science; to eliminate non empirically verifiable elements or categories from the spheres of science as useless or meaningless and nonsense. But it could be observed that, there is a paradigm shift from this obsolete thinking that restricted scientific knowledge to sense experience in the wake of modern science which brought to limelight a comprehensive notions of science to puncture Ayer's conventional principle of empirical observability as defective and misrepresenting, noting that its full application will distort and possibly eliminates some vital aspects of science to include activities in subatomic world which cannot be narrowed to experiential verification for its existence. A disparage or unfair inclination to Ayer's verification principle will rather be presenting science in an exclusivist, lopsided and myopic manner.

ALFRED JULES AYER BACKGROUND AND INFLUENCE

Alfred Jules Ayer, was a notable positivist and consistent empiricist committed in his pursuit for a distinctive method of science. He was born to Jules Ayer of Cypress Ayer and Reine Ayer of Swiss and Dutch background respectively on the 29th October 1910. Ayer grew with an interest in science and philosophy. As a brilliant and exceptionally intelligent child, he won scholarship to Eton in 1923, won a classics scholarship to Christ Church Oxford, where he studied Greek and philosophy. As a pupil of Gilbert Ryle, he enjoyed facilitation to go to Vienna circle under the distinguish leadership of Moritz Schlick. On his returned from Vienna, Ayer lectured briefly at Christ Church and was elected to a five-year research fellow in 1935. His wealth of teaching experience is quite extensive. He lectured in France, Belgium, Italy, Sweden, Denmark, Peru, Chile, Uruguay etc. and with the above places of lecture, it becomes common knowledge to deduce that he was equally greatly influenced by the works and personalities of many Scientists and Philosophers to the extent that one could think Ayer was sparingly original in his works. He was influenced by Locke and Hume empiricism, Betrand Russell by Russell's Skeptical Essays, (Rogers 45), G.E Moore by his ''principia Ethica'', wittgenstein's Tractatus; and very significantly, it could be said that Ayer's intellectual formation and solidification was attained by his contact with Moritz Schlick, with other members of the Vienna Circle.

HIS NOTION AND METHOD OF SCIENCE

Ayer's method of science stems from his notion of science, himself also being a brain child of logical positivist. That is, his philosophico-scientific orientation. Soon he became one of

the most popular logical positivists of the twentieth century who fashioned and understood science from the Humean tradition. He opines that science and the scientific, must be empirically bound and so, built on sense experience. Accordingly, science as a ‘’systematized, organized or classified body of knowledge’’ (Aigbodio, 1). The prerequisite for any knowledge and meeting the scientific standard is that it must be built on empiricism and structured on sense experience. For Ayer, in an attempt to explain things in themselves (the noumena). It must be based on facts and attune with ‘state of affair”. To him experience becomes the beginning and the end of any knowledge if it must be scientific otherwise, nonsensical (128).

It further suggests that scientific problems could only be resolved or addressed from empirical phenomenal reference frame. By this, it reduces the aim of science to explanation of the natural world and the world of sense experience possibly, through the apparatus of observation and experimentation. To lend credence to the above, Albert Einstein asserts that the object of all this is to coordinate our experiences and bring them into a logical system’’. It must endeavor to bring together by a means of systematic thought and perceptible phenomena of this world into a thorough going association as possible. (1-2).

Uduigwomen sees science as knowledge arranged in an organized or orderly manner especially knowledge derived from experience, observation and experimentation (20) while for Mbat, it is knowledge attained through empirical, experiential, observational and experimental pathways (142).

For Ayer, science must be centred on the observable categories of the natural world (sense-perception and impression, thoroughly observed, tested and experimented). He adds, truth attained in science, is that obtained from raw facts gotten through perception. That it must be one to one contact of the scientist with the perceptual object out there, and being able to obtain and develop a statement of fact that could be empirically verifiable, is his yardstick of scientific knowledge otherwise, it is a production of nonsense.

HIS VERIFICATION PRINCIPLE

Schlick a major influence on Ayer sees verification principle as the meaning of a proposition in the method of its verification (Bynum, 436). So deriving his impetus, Ayer felt the determination of scientific truth and fostering of science requires productive methodology. And he sees the principle of verification as a standardized method for the actualization of his scientific ends. For him, verificationism is the bedrock for scientific productivity. Building confident for distilling meaningful statements from meaningless and nonsensical statements.

In his further explication, he asserts

The criterion which we use to test the genuineness of apparent statements of facts is the criterion of verifiability. We say that a sentence is factually significant to any given person, if and only if, he knows how to verify the proposition which it purports to express that is, if he knows what observations would lead him under certain conditions, to accept the proposition as being true, or reject it as being false (16).

Understanding Ayer, the beauty and distinctness of science lies in its ability to attain truth and cognitive meaningfulness, through verification principle which must be designed and coded in observation and experimentation. Terms such as conformability and proper observability of scientific statements with facts to determine meaningfulness, acceptability becomes not only cardinal but indispensable criterion otherwise, false, nonsensical and useless. Amazingly, many seem to have seen Ayer's verification principle as a finality as far as scientific knowledge is concern such that any person having a contrary view may appear absurd. Ojong for instance observes that Ayer and the logical positivists in their verificationism have given a commensurable method, pattern and paradigm, appropriate methodological approach, guide to the enterprise of science without which the result will be an abysmal failure (24).

THE LIMITS OF A. J. AYER'S VERIFICATION PRINCIPLE IN MODERN SCIENCE

Commendably, Alfred J. Ayer was very thorough in his verifiability criterion bent. In science according to him, worthwhile inquiry and its acceptability is dependent on its ability to be empirically verifiable through the sense experience. He reiterates,

'' we shall maintain that no statement which refers to a reality transcending the limits of all possible sense-experience can possibly have any literal significance; from which it must follow that the labours of those who have striven to describe such a reality have all been devoted to the production of nonsense (14)''

Without overemphasis to Ayer any object which defies sense experiential observability cannot be a constituent of science and as such, must be properly eliminated from the sphere of science. It is our thinking that the task of science is to depict reality holistically and explain the cosmos in its totality. Put differently, science should enclose the activity of seeking to adequately explain the world. To place this task of science side by side Ayer's verificationist disposition, then it becomes very obvious that Ayer's verifiability principle will definitely distort and delimits the well-established task of science as he seems to explicate the world

and the universe strictly from a confined empirically observable ambience. Again, we know that the universe and reality as a whole is composed of physical and non-physical, observable and non-observable categories therefore, if a comprehensive picture of the universe must be given devoid distortion and mutilation we must untie ourselves from Ayer's straightjacket principle, otherwise, it amounts to a complete distortion of scientific knowledge and also may fall into the lopsided oblivion of empiricists and rationalists independent claim to authentic knowledge respectively. Physical realities and non-physical realities of the world both exist as missing links to each other whose relevance rest only in complementation. Let us call for a rethink to show that science itself is not restricted to matter it is a discipline that traverses the observable world. Science as a discipline is dynamic and progressive if one is to subscribe to Ayer's method, it should be seen honestly as a position of antiquity that could result in intellectual dishonesty, degeneracy and retrogression, such an 'unholy' restriction of science especially in this 21st century to mere sensual knowledge. Discoveries in modern science can be seen to have demolished Ayer's verification principle by bringing into fore certain essentials aspects of reality to defy Ayer's verifiability principle. For instance, the exploration in quantum mechanics and subatomic physics have brought scientists and indeed the scientific community in contact with many strange and amazing realities, (Fritjof, 77).

Modern physics for example took a dramatic turn as unobservable realities have become profoundly noticeable, acknowledged into a scientific development and in so doing, has rendered verification principle seemingly watery. Also, the revolution of particle or wave paradox brought the foundation of mechanistic world view that extols the verifiability of observable matter over the unobservable into serious question.

At the subatomic plane, matter ceases to exist with certainty only at definite places, but rather shows ''tendencies to exist and atomic events fail to occur with certainty at definite times and in definite ways, but rather shows ''tendencies to occur''. In the formation of quantum mechanics, it is held that these tendencies are expressed as probabilities and are associated with qualities that take form of waves similar to the mathematical forms used to describe them for instance, a vibrating guitar string or sound wave that shows how particles can be waves at the same time (probability waves), different from ''real'' that is the three dimensional waves like water or sound waves. Again, modern science shows that the discovery of dual pattern of matter and of the fundamental role of probability, demolishes the classical notion of solid objects. And as Fritjof observes, at the subatomic level, the solid material objects of classical physics dissolves into wave-like patterns of probabilities (306). He adds these patterns do not represent probabilities of inter connections (80). And for Heisenberg, given his uncertainty principle, or the wave-particle duality nature of the quantum or micro world holds that, certain pairs of quantum properties, such as position and

momentum can never both be precisely defined at the same time, as there is always a residue of uncertainty in the value of at least one of these parameters. The more accurately, one member of the pair is constraint; the less accurately, the other one is constrained not necessarily blamed on the imperfect measuring apparatus but it is a case of the uncertainty embedded in the nature of the micro-world which cannot be explained accurately; not empirically verifiable hence, the micro-world is in this respect completely mysterious as its nature becomes completely empirically inaccurate, non-verifiable and inexplicable yet scientific.

CONCLUSION

Scientific investigation in subatomic physics reveals uncommon nature of things, entities and realities that defy conventional empirically verifiable approach of inquiry. The subatomic world remains verifiable approach of inquiry. The subatomic world remains seemingly mysterious in its character and operations as it cannot be concretely understood, explained and predicted; from the foregoing Ayer's verification principle remains incapacitated in investigating, explaining and predicting its activities. Hence, his scientific approach (the verification principle though commendable, remain inadequate in providing proper explanation of scientific realities particularly in the subatomic world and this inadvertently sets the limit of his verification principle as the method or approach of scientific enterprise, given that realities in the subatomic world and that in quantum mechanics are not less scientific to their counterpart in the physical and observable world. It could also, and of great concern be added that to confine science and the scientific to concrete realities especially in the contemporary world will be a de-service to scientific the enterprise because his verification principle is not only lopsided in its scientific explanation but also inaccurate in depicting reality comprehensively.

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