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# Logical Positivism and the Challenge of Epistemic Claims

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**Abstract.** Before Hume, there was empiricism as developed by John Locke and Berkeley. But they all failed to draw empiricism to its logical conclusion. For both Locke and Berkeley, ideas exist in the *mind* and they are the only things that exist. With the emergence of Hume, empiricism as an intellectual doctrine becomes broaden. He reforms empiricism and asserts that, there could be no ideas without antecedent impressions. Logical Positivism as a philosophical school of thought is best defined as a general attitude of the mind, a spirit of inquiry, an approach to the facts of human existence. In this connection, logical positivism as an analytic philosophy engages in re-constructing empiricist criteria and approach for analyzing epistemic claims. Hence, the attempt to establish in this paper, the logical positivist challenge on the existing empiricist claims with a view of illustrating how logical positivism has lifted the epistemic claims beyond the scope of Lockean and Berkeleyean philosophy using cognitive verifiable principle that has link with the external world.

**Keywords:** Empiricism, Logical Positivism, Mind, Epistemic, Cognitive.

## 1. Introduction

In this write up, we shall establish the etymology of knowledge as well as the traditional and modern theories of knowledge with emphasis on the logical positivism as a philosophical school of thought and as analytic philosophy. In the main, we shall argue therefore how logical positivism constitutes a challenge to the traditional approach to knowledge and epistemic claims.

## 2. Logical Positivism as a Philosophical School of Thought

Positivism is best defined as a general theory of the human mind, a spirit of inquiry, an approach to the facts of human existence (Stumpf, 1994: 353). It is further affirmed that positivism is a philosophical theory that affirm that certain 'positive' knowledge is based on natural phenomena and their properties and relations are derived from sensory experience. Its central feature appears in the first instance to be negative in that it rejects the assumption that nature has some ultimate purpose or end. Secondly, positivism gives up any attempt to discover either the "essence" or the internal or secret causes of things. On the positive side, its spirit is expressed in an attempt to study facts by observing the constant relations between things and by formulating the laws of science as the laws of constant relations among various phenomena.

Therefore, positivism is a movement routed in American tr*a*dition with recourse to the British empiricism which also emphasizes the power of sense experience. Leibniz within the empiricist fold makes a distinction between forms of

knowledge: *Truth of Reason* and *Truth of fact* just as John Locke empirically makes a cleavage between the ideas and sensation on the one hand and primary and secondary qualities on the other hand. Their task is to distinguish science from other human endeavors as it relates to power of perception. In the 21st century "positivism" has dominated discussions in the area of scientific method. The term was popularized by Augustus Comte who generally refers to positivism as a strict form of empiricism which recognizes as valid only knowledge claims based on experience. Comte first described the epistemological perspective of positivism in his work, T*he Course in Positive Philosophy*, and in a series of texts published between 1830 and 1842. These texts were followed by the 1848 work, *A General view of Positivism (*1865). The first three volumes of the course dealt chiefly with the physical sciences already in existence (mathematics, astronomy, physics, chemistry, biology), whereas the latter two volumes emphasized the inevitable coming of social science. Observing the circular dependence of theory and observation in science, and classifying the sciences in this way, Comte may be regarded as the first philosopher of science in the modern sense of the term (Stumpf, 1994: 449). Comte was also the first to distinguish natural philosophy from science explicitly. For him, the physical sciences necessarily arrived first, before humanity could adequately channel its efforts into the most challenging and complex "Queen Science" of human society. Thus, his *View of Positivism* was therefore set-out to define, in more detail, the empirical goals of sociological method.

Be that as it may, Comte offered an account of social evolution, proposing that society undergoes three phases in its quest for the truth according to a general 'law of three stages'. The idea bears some similarity to Marx's view that human society would progress toward a communist peak. This is perhaps unsurprising as both were profoundly influenced by the early utopian socialist, Henri de Saint-Simon, who was at one time Comte's teacher and mentor. Both Comte and Marx intended to develop, scientifically, a new secular ideology in the wake of European secularization.

Furthermore, logical positivists in general adopt the "investigatory methods of science" in their philosophical enquiry. Anything that cannot be confirmed, affirmed or falsified by these methods of enquiry is regarded as *pseudo*. The approach of logical positivists is quite laudable but the question is how consistent is their approach? In the early 1920s, positivism emerged as a full-fledge philosophy of science in the form of logical positivism established by the Vienna Circle constituted by a group of scientists and philosophers. Logical positivism accepted as its central doctrine, Wittgeinstein's verification theory of meaning. The verification theory holds that statements or propositions are meaningful only if they can be empirically verified, that is, testable by sense experience. This criterion was adopted in an attempt to differentiate scientific (meaningful) statements from purely metaphysical statements which are regarded as meaningless (Wedberg, 1984).

Although the logical positivists hold a wide range of beliefs on many matters, they all share an interest in science and deep skepticism about the theological and metaphysical knowledge. Following Wittgeinstein, many scholars of positivist orientation subscribed to the correspondence theory of truth, while some like Otto Neurath, believed in coherentism. They believe that all knowledge should be based on logical inference from simple "protocol sentences grounded in observable facts". Hence, many of them support forms of realism, materialism, philosophical naturalism, and empiricism. The fact is that logical positivists are much influenced by and are great admirers of the early Wittgensteinian philosophy. Wittgenstein himself was not a logical positivist although he was on friendly terms with many members of the Vienna Circle, especially Friendrich Waismann. Wittgenstein's position was mainly to provide clarification and solution to all the major problems of philosophy and was held in high esteem by the anti-metaphysical logical positivists (Wittgenstein, 1961). In his *Tractatus*, he opines that the philosophical problems arise from misunderstandings of the logic of language.

On this note, the logical positivists were attracted by the methods of science and mathematics based on the principles of verification and confirmation. They were disposed to reject metaphysics, just like the earlier positivists who considered metaphysics, as Comte did (Malhotra, 1994: 7) as outdated and meaningless. So they claim that metaphysical knowledge is impossible as shown by the logical and essential character of language.

### 3. Logical Positivism as Analytic Philosophy

The dominant movement of philosophical activity in the contemporary English-speaking world is known as analytic philosophy. What unifies all analytic philosophers is their agreement concerning the central task of philosophy. The task of philosophy, they say, is to clarify the meaning of language (Stumpf, 1994: 447). In the early work of Wittgenstein, the *Tractatus logico-Philosophicus*, he said "the object of philosophy is the logical clarification of thoughts" (Wittgenstein, 1961), "so that 'the result of philosophy is not a number of philosophical propositions, but to make propositions clear.

In contrast to the immediately past tradition of nineteenth century idealism, especially Hegelianism whose advocates engaged in constructing complete systems of thought regarding the whole universe, the analysts would now undertake the more modest task of working upon individual problems. Not only would these problems be single and manageable, they would all fit into a single class. They would all be problems revolving around the meanings and usages of language. For this reason, it would no longer be the task of the philosophers to investigate the nature of reality, to build complete systems that seek to explain the universe, or to fashion moral, political and religious philosophies of behavior. Philosophy, in this new key, "is not a doctrine but an activity" and as such it is structured to produce "no ethical proposition" (Stumpf, 1994: 446), says Wittgenstein. Philosophers are no longer to consider themselves capable of discovering unique forms of information about the world and humanity. The discovery of facts is the task of the scientists.

In the same vein, the new assumption of analytic philosophy is that philosophers can render a genuine service by carefully unpacking complex problems whose origin is found in the imprecise use of language. Scientists themselves, it was felt, had discussed their findings in language that was often misleading and in certain ways ambiguous. That is, scientific language contained ambiguities of logic, not of physical discovery, and the clarification of these logical ambiguities was required. It is assumed, also, that rigorous linguistic analysis could prevent the abusive use of language. For instance, A. J. Ayer's major concern is about cognitive rather than to make non-cognitive assertions "to draw false inferences, or ask false inferences, or ask spurious questions or make non-sensical assumptions" (Stumpf, 1994: 447). Therefore, philosophy is called upon to remove these dangers from our use of language. The only proper task of philosophy, according to linguistic analysts, is logical analysis.

In our considerations so far, we have already established the concept of logical analysis. We have tried to determine the character of physical hypotheses, of metaphysical propositions or rather, *pseudo* propositions of psychological propositions. This is with the submission that we have to apply logical analysis to logical analysis itself in determining the character of the propositions of logic as well as those propositions which are the results of logical analysis.

Hence, the opinion that metaphysical propositions have no sense because they do not conform to sense experience and do not concern any facts has already been expressed by Hume. It is to this effect he writes in the last chapter of his *Enquiry Concerning Human Understanding* (1748) that:

*It seems to me, that the only objects of the abstract sciences or of demonstration are quantity and number… All other enquiries of men regard only matters of fact and existence; and these are evidently incapable of*

*demonstration which he claims should be committed to flames: for it can contain nothing but sophistry and illusion* (Miller, 1993: 192).

Be that as it may, we may find it difficult to agree with this view of Hume, that only the propositions of mathematics and empirical science have sense, and that all other propositions are nonsensical. Given this, the question, what causes this dramatic shift in the enterprise of philosophy? At Cambridge, Bertrand Russell and G.E. Moore had reacted in the early decades of the twentieth century against the system building of the Hegelian philosophers such as F. H. Bradley, Bernard Bosanquent, and J. E. McTaggart, who had been engaged in ambitious metaphysical speculation. They reacted to the extravagance of the metaphysical language often dominating the Hegelian philosophy and wondered just what could be meant by these interpretations of the whole universe. Although Moore did not necessarily want to give up metaphysics, he was specially disturbed by the contrast between metaphysical language and so-called "common sense" (Stumpf, 1994: 448). To him, certain statements, for example, McTaggart's famous notion that 'time is unreal' (Malhotra, 1994:7) seemed "perfectly monstrous". Moore was inspired to analyze language particularly to clarify ordinary language and to make language fit the test of common sense in its meaning. This implies that clarification of language does not intend to falsify existing metaphysical language but make language more meaningful and with conceptual clarity.

Russell, on the other hand, was a brilliant mathematician; hence metaphysical language seems to loose and obscure to his understanding. He did not want to reject metaphysics, any more than Moore did, but he wants to tighten up the loose language of metaphysics. While Moore sets out to analyze common-sense language, Russell tries to analyze "facts" for the purpose of inventing a new language in terms of logical atomism that would have the exactness and rigor of mathematics because this new language would be made to correspond exactly to the "facts". Neither Moore nor Russell gives up the attempt to understand reality. However, the way they go about the business of philosophy, their task still remains that philosophy is concerned not with discovery but with clarification and, therefore, in a sense, not with truth but with meaning.

## 4. Logical Positivism and the Challenge of Epistemic Claims

Logical positivism challenges traditional morality or metaphysical language by maintaining that its language is non-cognitive, unempirical and therefore meaningless. When we raise the question whether morality is meaningless; then it is important to introduce a distinction. There is a big difference between existential meaning and cognitive meaning. In the first case, it is a question of relevance or importance, whereas in the second case it is a question of truth status. To claim that a statement is irrelevant, suggests that it has no existential meaning and it is different from saying that a claim is neither true nor false and therefore does not say anything literal at all, that is, it has no cognitive meaning. The reformed empiricism asserts that there could be no ideas without antecedent assertions. This is by Hume's fork; divides ideas into that of *Matters of fact* and *Relations of ideas*. Immanuel Kant also builds on this footing and divides proposition into *analytic* and *synthetic* propositions. The clarification by Hume and Kant is aimed to editing the meaningfulness of proposition. In the consideration of propositions by Russell, he develops what he calls *atomism*. He believes that there are some propositions which are atomic in nature. These are apart from propositions of 'relation of ideas' and that of 'matter of fact'. Any proposition which does not fall under any of these categories is regarded as pseudo propositions.

Logical positivism is a super empiricist philosophy tailored after the manner of Hume. So, we could recall Hume's pronouncement about casting into flames these volumes containing claims that are neither 'relations of ideas' (analytic or *a priori*) nor 'matters of fact' (synthetic or *a posteriori*). Given this, we could say that positivism lies in the Hume's verification principle that a proposition is

cognitively meaningful if and only if it is neither analytic (which conforms to reason) or in principle empirically verifiable (that is, it conforms to sense experience). Similarly put in another way is to say that you cannot conceive of the actual empirical conditions under which your claim could be shown to be true at the same time comes to be false, and then one is talking nonsense. The implications of these principles are, of course, devastating. All metaphysical claims about God, souls, freewill, necessary causal relations, underlying substances, etc are immediately excluded as cognitively meaningless. And the verificationists deliver an identical judgment on moral claims. They are purportedly not empty analytic propositions, or tautologies and they cannot, even in principle, be verified by means of sense experience, so they are cognitively meaningless. Wittgenstein in his own connection develops the *referential theory of meaning* (Malhotra, 1994: 8). This theory connotes that a meaningful proposition shall refer to certain object. A proposition which does not refer to any cognitive object in existence is said to be cognitively meaningless. Positivists try as much as possible to formulate several theories to establish the truth of assertable and indubitable proposition. For instance, 'God exist' is a proposition which the logical positivists regard as *pseudo* proposition because it does not refer to anything cognitively verifiable by sense perception. Though it says that something exist, but there is a problem of recognizing such entity (God) when we come by its verification.

Essentially, Rudolf Carnap replaces the concept of verification with the idea of "gradually increasing confirmation" (Stumpf, 1994: 448). It is for this reason he argues that, if verification is taken to mean the "complete and definitive establishment of truth", then universal statements can never be verified. However, they may be "confirmed by accumulation of successful empirical tests". Thus, science progresses through the accumulation of multiple confirming instances obtained under a wide variety of circumstances and conditions.

By and large, it is suffice to say that logical empiricists believe that all knowledge begins with observation. This leads to empirical generalizations among observable entities. As our ideas progress, theories are formulated deductively to explain the generalizations, and new evidence is required to confirm or disconfirm the theories. Throughout the process, data are given precedence. Indeed, the entire process is viewed as essentially an inductive one. Science in general and knowledge in particular are believed to occur in an upward fashion: "from data to theory to understanding terms (Malhotra, 1994: 8). This is "an upward see-page" of meaning from the observational terms to the theoretical concepts and it is construed in a similar way by Hempel, Carnap (Malhotra, 1994: 8) and other logical empiricists. In regard to analytic propositions of Kant, it is noted that their verification is not subject to experience alone but its truth can only be displaced by reason. An example is 2+2=4. For the empiricists, there is no problem about analytic propositions but about 'the truth of matters of fact'. This is because we have to appeal to sense experience to affirm it.

As a matter of fact, logical empiricism is characterized by the inductive statistical method. In view of this, science begins with observation, and its theories are ultimately justified by the accumulation of further observations which provide probabilistic support for its conclusion. Of course, the logical empiricist's use of a probabilistic linkage between the *explanans* and the *explanandum* does not avoid the problem of induction. It remains to be shown how a fronted number of observations can lead to the logical conclusion that a universal statement is "probably true" (Malhotra, 1994: 8). Moreover, attempts to justify induction on the basis of experience are necessarily circular. So, the argument that induction has worked successfully in the past is itself an inductive argument and cannot be used to support the principle of induction (Miller, 1993: 209).

### 5. Logical Positivism and the Limit of Human Reason

It is important to note, however, what price must be paid for *synthetic a priori knowledge*. It is a very high price. One of the implications of

Kant's analysis is that we can know nothing of reality as it is in itself (what Kant calls the *noumena* world) but only as it appears to us through experience (he calls this *phenomenal* world). The reason is clear: the *a priori* categories or concepts of the understanding are, as we have illustrated, constitutive of our experience, and therefore they have no legitimate application beyond experience. Causality, for example applies only to object of possible experience. And when we try to apply such concepts beyond experience, what results is nonsense and obscurities. This necessary limitation of the concepts of the understanding to the phenomenal world comes out well in the following from Kant's *Prolegomena to Any further Metaphysics* published in 1783 as a simplified version of the Critique of Pure Reason.

Since the oldest days of philosophy, inquiries into pure reason have conceived, besides the things of sense, or appearances (phenomena), which make up the sensible world, certain beings of the understanding (noumena),which should constitute an intelligible world. And as appearance and illusion were by those men identified (a thing which we may excuse in an underdeveloped epoch) actuality was only conceded to the beings of the understanding (Miller, 1993: 209).

Given this, the metaphysical proposition has hitherto remained reason in establishing all those sciences which contain a theoretical *a priori* knowledge of objects. Rationalism is the conviction that human reason is valuable, and that Aristotelian logic is *reliable*: any conclusion arrived at by an application of its rules to true premises is also true. By truth, is meant "correspondence with objective reality".

## 6. Conclusion

Summarily, there are truths which may seem to be self-evident, as dictated by axiomatic syllogisms. For instance, "One plus One equals Two" is true, by definition, within a simple system of abstract integer arithmetic. However, it does not follow that it is true in the sense of "corresponding with objective reality". Indeed, as far as the physical universe is concerned: the more that "plus" signifies anything, the less accurate is the equation. The interactions between the first "One" and the second "One" (think of the masses of two electrons) tend to affect the value of the "Two". Much of physics is concerned with accounting for such interactions, on the basis that they can be analyzed in terms of other delineable and non-interacting things. So, masses do not add because of forces; velocities do not add because of relativity; volumes of liquids do not add because of surface tension, and so on. The root problem here is that while on the one hand the only real numbers are the positive integers (no-one could ever see "five thirds of a Zebra") on the other hand the only things that are properly characterized by the positive integers are particles, and these are exactly the kind of things for which association implies significant interaction.

As a physicist, one may evaluate the truth of any proposition by testing it against experience and observation. This is roughly what is meant by empiricism. However, following Popper's analysis, one does not believe that experiment can ever determine truth. This is for two reasons; first, the interpretation of any observation is richly influenced by the theoretical perspective and expectations of the observer. Hence, the significance of some fact may be misconstrued, over- or under-rated. Second, no number of confirmations of a theory can amount to its certain proof. There might always be some as yet unexplored or even un-envisaged circumstance in which it fails.

It is much easier to disprove a theory than prove it; though even this is problematic. What constitutes a disproof is itself theory laden following John Kekes dictums that "all observations are theory bound" (Kekes, 1980). What may appear to be a disproof of some theories may in fact amount to the disproof not of the theory under test but of some piece of "back-ground knowledge" that has been presumed to be true and was not meant to be under investigation at the time. Discerning the significance of experimental evidence is an art form in its own right!

From this it follows that establishing a view of the world cannot be a conclusive process. Induction, even atimes, is potentially misleading. Deduction, though valid, requires axioms: which are not available! Knowledge advances, but always in a *Cloud of Unknowing*. Progress can only be made by guess-work and intuition. Empiricism is an act of faith. It is based on the conviction that the world is comprehensible and coherent, unlike a nightmare or "Tom and Jerry" cartoon. This metaphysical conviction is empirically justifiable in no way, except that it works. Nevertheless, it is the basis of all Western Civilization's science and technology.

Hence, one may assert that in every aspect of human knowledge of the real world (except mathematics here, without meaning any disrespect) faith necessarily precedes knowledge. The significant difference between Physics and Theology is that much of the subject matter of Theology unlike physics cannot be tested empirically.

However, Popper gives an immense attention to the issue of demarcation. His main interest is to ensure that there is proper appreciation between science and non-science (Popper, 1959: 253). He is thus dissatisfied by this process, with the efforts of the positivists especially Rudolf Carnap to show that the demarcation between science and metaphysics fits is just like the distinction between sense and nonsense. Thus, he did not see metaphysics as a term of 'intellectual abuse' for the art of theorizing that can neither be classified as belonging to logic nor empirical science as the positivists tend to believe. If the positivists' stand is taken seriously, it will be discovered that their efforts to destroy metaphysics will equally have adverse effects on science as most scientific theories which have the features of metaphysics will be destroyed alongside.

**References**

Karl Popper, (1959), *The Logic of Scientific Discovery*, London: Hutchinson and Co. (Publishers) Limited.

Kekes John, (1980), "Recent Trends and Future Prospects" in *Epistemology Philosophy*, 3, 2 & 3, 89.

Miller Edmund L. (1993) "The Way of Experience" *Questions that Matter: An Invitation To Philosophy*, Shorter Edition, U.S.A: McGraw-Hill, Inc.

Stumpf, Samuel Enoch **(**1994), "Comte: The Rise of Positivism in France", in *Philosophy: History and* Anders *Problems*, 5th Edition, U.S.A: McGraw-Hill, Inc.

Wedberg, (1984) *A History of Philosophy*, Volume 3 Oxford: Clarendon Press.

Wittgenstein, (1961), *Tractatus Logico-Philosophicus*, translated by D.F. Pears and B.F. McGuinnes, London: Routledge and Kegan Paul.

Yogesh Malhotra, "Logical Empiricism" in *Role of Science in Knowledge Creation: A Philosophy of Science Perspective*, (Brint Institute, http:/www.kmbook.com/science.htm 1994) p.7