
UNIT 1 LOGICAL ATOMISM AND POSITIVISM

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1.0 OBJECTIVES

Modern analytical empiricism, which we shall discuss in this unit, differs from that of Locke, Berkeley and Hume by its incorporation of Mathematics and its development of a powerful logical technique. Mostly following the scientific method it was able to achieve definite answers to specific questions in philosophy. Due to its peculiar methodology it has the advantage of being able to tackle its problems one at a time. This is a definite improvement on the earlier philosophies of the system builders who were habituated to resolve at one stroke all major philosophical puzzles with a block theory of the universe. Analytic philosophers strongly believed that in so far as philosophical knowledge is concerned, it is by such methods that it must be sought. Closely following the footsteps of science, they were convinced that by these methods many ancient philosophical problems are completely soluble. In this unit an attempt will be made to expose how scientific methods are adapted to resolve problems in philosophy. The main objective of this unit is:

- To introduce logical atomism and positivism which were simultaneously developed during the first half of the by-gone century, as adjuncts to analytic Philosophy.
- The unit will discuss the main features of the philosophy of logical atomism propounded mainly by Bertrand Russell.
- Regarding logical positivism the unit will explore its viability and feasibility as a method in philosophy.

1.1 INTRODUCTION

There are, of course questions traditionally included in philosophy, where scientific method proves inadequate. Ethical and Aesthetic issues fall under this category.

Analytic thinkers declare that the failure to separate these two kinds, the theory as to the nature of the world on one hand, and the ethical or political doctrine on the other, has been a source of much confused thinking. They categorically affirm that whatever can be known, can be known by scientific method and those which are matters of feeling are to be kept outside this province. Such a viewpoint would be a drastic deviation from our accepted and well-trodden path in philosophy down the ages. For successfully or not philosophy has been surviving all these years addressing issues encompassing all varieties of questions, be it epistemological, metaphysical, ethical or religious. This they decline on both moral and intellectual grounds. Morally speaking, when a philosopher uses his professional competence for anything except a disinterested search for truth is guilty of a kind of treachery. It is presumed that the true philosopher is prepared to examine every preconception that is involved in his theory. When a philosopher adopts unexamined presuppositions as part of his theoretical constructions and places a censorship over his own investigations it results in making philosophy a trivial exercise. Intellectually too, the traditional attempts made by philosophers to justify ethical/religious beliefs ended up in falsifying logic, making mathematics mystical and plead for their deep rooted prejudices on the guise that they were heaven-sent intuitions. This unit, therefore, intends to instruct the learner on the significant deviation from the long resorted philosophical methods, both in logical atomism and positivism.

1.2 LOGICAL ATOMISM: DEFINITION

Bertrand Russell, a stalwart in 20th century analytic tradition has advocated a species of realism in terms of the logic, which characterizes it, namely atomic. He held that logic is what is fundamental in philosophy, and that schools should be characterized rather by their logic than by their metaphysics. In his classic *Principia Mathematica*, which he wrote along with Whitehead, gives stress on this point. The concept of philosophy, its problems and methods, developed by Russell and Moore was provided with a rigorous procedure by the formulation of a new logic developed by them, which had greater scope and power than any known previously.

1.3 PHILOSOPHY OF LOGICAL ATOMISM

Russell's logical atomism is a resultant product of his philosophy of mathematics. He calls his logic atomistic, as opposed to the monistic logic of the people who more or less follow Hegel. By calling it *atomistic* he shares the commonsense belief that there are separate things. Russell does not consider the multiplicity of the world as consisting merely in phases and unreal divisions of a single indivisible reality. It is multiplicity in its real and true sense of the term. He calls his doctrine logical atomism because the atoms that he wishes to arrive at as the last residue in analysis are logical atoms and not physical atoms. Some of them he calls particulars.

The basic thesis of logical atomism is that if one could construct an ideal language, that language would be identical with the structure of reality. This ideal language will, unlike the ordinary language be precise, in which each particular will be called by one name. Similarly each atomic sentence will be composed of elements, which get their meaning by direct co- relation with experience. What constitutes

the experience is the sense data. The world will be seen to consist in a vast number of separate and independent facts, and knowledge of the world will be seen to depend upon acquaintance with immediate experience.

The sort of analysis, which Russell is running in logical atomism, can proceed in two directions. First, by breaking down sentences containing disguised descriptions in to sentences containing overt descriptions of things in the world. This may be termed as *horizontal analysis*. It starts from the level of things in the world and ends there. The second analysis is of the object in the external world in to descriptions of sense data. This is a deep analysis because it takes us down to things of an entirely different kind. As we concern ourselves with this deep analysis a few things are to be sorted out.

Propositions

For Russell propositions are the sorts of things, which are true or false. They are expressed by sentences that assert and symbolize something. While complex symbols may be understood by learning language, simple ones cannot be so understood. For instance, to understand the word *red*, there is no other way but to see red things. Propositions are either atomic or molecular. An atomic proposition is a proposition none of whose parts are propositions.

Russell has come to concede that propositions are not real constituents in the world. Among the furniture of the world we find only facts and particulars, but no propositions.

Proper Names

Proper names are words used to name particulars. If a name fails to refer to an individual or particular, then it is no name. Russell makes it clear that the only word that is capable of standing for a particular is a proper name. When we name an individual or particular we are describing it. For example, when we use the word *Socrates*, we are describing him either as 'the master of Plato' or 'the philosopher who drank the hemlock.'

Individuals/ Particulars

For the atomist, individuals are the ultimate entities of the world. There are an infinite number of kinds of individuals: particulars, qualities, relations etc. These individuals/ particulars can be thought of as the ultimate subjects of sense acquaintance. Particulars are also simple things, which cannot be decomposed or defined, but merely pointed out.

Atomic Facts

Russell discerned varieties of facts: atomic facts, general facts, negative facts and intentional facts. A fact is defined as that which exists in the world, which makes the proposition corresponding to it either true or false. The expression of fact invariable involves a sentence. An atomic fact is a combination of a particular and a relation, like say, 'this is red'. The particular may be a sense datum and the component may be a predicate. In cases when one predicate or relation is involved Russell calls them *monadic facts*. When there are two particulars and one relation those are called *dyadic facts*. In this fashion there could be triadic, quadratic etc. In general where there is one relation and n constituents it is *n-adic facts*

General Facts

When it is said that world consists of atomic facts, it may appear as though the general facts of the form 'All x's are y's' are just derived by the accumulation of the atomic facts. But no matter how many of them you count you will not be saying the same thing as when you say 'All x's are y's'. By 'all' we are not saying that we have observed a sufficiently big number, or indeed any number what so ever. It is saying something else. It is picturing a new fact. This new kind of proposition pictures a new kind of fact called general fact.

Negative Facts

Negative facts are kinds of atomic facts. Russell construed negative facts since he found it extremely difficult to say what exactly happens when you make a positive assertion that is false; hence negative facts. But Russell is left with the problem of saying either that the word 'not' named some element in the world or not.

Intentional Facts

Propositions containing verbs such as wishes, wants, beliefs and the like are not truth functional propositions. The truth or falsity of propositions such as 'Johns believes that p' cannot be determined from the truth or falsity of p. But if propositions about intentional facts cannot be treated truth functionally and analyzed into atomic propositions, then we must allow this new type of fact into our metaphysics. As Russell observes, it becomes a new species for the zoo.

Logical atomism as it got developed moderately began to exhibit cracks and strains. So much so that its very proponents were lead to abandon it. Its flows were visible as they began to elaborate it. The initial simplicity of a logically perfect language mirroring the relations of a small number of readily describable types of ultimate constituents of the world became progressively more complicated. The result was to burden the theory beyond the point where its beauty and utility were attractive.

Check Your Progress I

Note: a) Use the space provided for your answer.

b) Check your answers with those provided at the end of the unit.

1) What is logical atomism?

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2) What do you understand by proposition?

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1.4 LOGICAL POSITIVISM: MAJOR THRUSTS

Logical positivism, as a name for a method, not a theory as such, maintains that there is no special way of knowing that is peculiar to philosophy. As we have already noted, positivism confines knowledge in philosophy to factual assertion, and therefore, it can be decided by the empirical methods of science. Factual questions cannot be determined without appeal to observation. What cannot be decided by the empirical methods of science are either mathematical or logical. However what is distinctive of positivism is its attention to mathematics and logic, and emphasis upon linguistic aspects of traditional philosophical problems. British empiricists were least influenced by mathematics while continental philosophers like Kant regarded mathematics as the pattern to which other knowledge ought to approximate. Logical positivism features this peculiarity that it is able to combine mathematics with empiricism by a new interpretation of mathematical propositions. It was in fact mathematical logic that gave the technical basis for positivistic school. Mathematics, from Pythagoras onward was mixed up with mysticism. Plato's eternal world was inspired by mathematics. Aristotle though more empirical than Plato still thought the capacity for doing sums so remarkable that the arithmetical part of the soul must be immortal. In modern times, both Spinoza and Leibniz adopted mathematical model to conceive reality. Leibniz in fact went up to say that if controversies were to arise between two philosophers, what they need to do is to sit down and calculate just like how two accountants would do in the case of disagreement. Kant believed that his theory of knowledge couldn't be disentangled from his belief that mathematical propositions are both synthetic and *a priori*. Hegel made a quite different use of mathematics in his dialectical method. He "...fastened upon the obscurities in the foundation of mathematics, turned them in to dialectical contradictions and resolved them by nonsensical syntheses". The puzzles that were created by these great men of seventeenth and eighteenth centuries were cleared up during the nineteenth century, not by heroic philosophic doctrines, but by patient attention to detail. For example, the definition of the number 1 had great importance in clearing up metaphysical confusions. The middle age scholastics used to say, "One and being are convertible terms." It now appears that 'one' is a predicate of concepts, not of the things to which the concepts are applicable. For example, 'one' applies to 'satellite of the earth', but not to the moon. Similarly 'being' applies only to certain descriptions, never to what they describe. These distinctions put an end to many arguments of metaphysicians from Parmenides and Plato to the contemporary thinkers. In fact such a development in the *Principles of Mathematics* suggest that philosophical puzzles need to be dissolved rather than solved. Logical positivism arose largely out of this suggestion.

Logical positivism originated in Vienna circle in the early twenties. It has in fact, historical affinities with the skeptical empiricism of David Hume and the scientific conventionalism of Mach and Poincare. It is a matter of interest to philosophers that most of the members of Vienna circle were non philosophers; they were specialists in various disciplines like mathematics, physics, history and sociology.

Though it is difficult to cast the main features of positivism as it has undergone radical transformation in the course of its development at the hands different representatives of the movement, one may, in general identify the core of positivism as the employment of verifiability criterion of meaning.

1.5 VERIFIABILITY THEORY OF MEANING

According to this theory an empirical statement is significant/ meaningful *iff* it is verifiable by appeal to experience. This version of verifiability was marked as the strong sense that requires that a statement, if it is to be meaningful, should admit of verification or falsification by direct confrontation with experience. A few early members of the circle like Moritz Schlick insisted on this narrow sense of verifiability. Later thinkers, however, found it too restrictive and proposed a wider sense which would include direct as well as indirect verifiability. By direct verifiability it is meant verifiability in practice and by indirect verifiability they meant verifiability in theory. They were forced to adopt this wider sense of the term since many of the commonly used types of sentences, such as general statements, historical statements about an inaccessible past, statements which are not practically verifiable etc are all meaningful and essential in our daily life though not directly verifiable.

Look at the sentence, “If atomic warfare is not checked, it may lead to the extermination of life on this planet”. This may or may not be true, but it is significant. It is however, one which cannot be verified, for who would be left to verify it if life were extinct? Probably, Berkeley’s God, whom positivists entertained little hope! Similarly going in to the past, we all believe that there was a time before there was life on the earth. Verifiability, for sure, do not wish to run down such possibilities, but to make sense of such sentences we must use verifiability some what loosely.

Some times a proposition is regarded as verifiable if there is any empirical evidence in its favor. That is to say ‘All a is B’ is *verifiable*, if we know of one A that is B and do not know one that is not B. However, this view leads to logical absurdities. This shows that the above wide definition of verifiability is useless. All the same unless we allow some such wide definition we cannot escape from paradoxes.

Similarly, there are propositions about unrealized situations; take such a proposition as ‘Rain some times falls in places where there is no one to see it’. No one disputes this, but it is impossible to mention a raindrop that has never been noticed. Can anyone seriously maintain that the planet Neptune or the Antarctic continent did not exist until it was discovered? Adherents of verifiability interpret such facts hypothetically. According to them the statement “There is undiscovered iron in the interior of earth.” is abbreviation, and the full statement should be: ‘if I did certain things, I should discover iron’. This solution is not appealing for it is unlikely that anybody will ever find this iron. In any case, how can it be known what then a person would find?. A hypothetical proposition of which the hypothesis will probably be false obviously tells us nothing. Let us consider yet another proposition of this kind: “There was once a world without life.” This cannot mean: “If I had been alive there I should have been that nothing was alive.”

Let us look in to verification theory more intently. The theory that the meaning of a proposition consists in its method of verification follows two positions: 1) That what cannot be verified is meaningless, 2) That two propositions verified by the same occurrences have the same meaning. Both these propositions are difficult to maintain. To consider first (1), practically every advocator of this theory would admit that verification is a social exercise which the individual takes up at a later stage, and definitely not as he acquires experiences in early stages. Further the

hypothesis that nothing exists barring my perceptual experience is too naïve a position for, there are other people who also perceive and remember. If we are to believe in the existence of these other people (as we must) and admit testimony as a valid means of knowledge, it is difficult to identify meaning with verification.

To consider (2), the theory that two propositions whose verified consequences are identical have the same significance is acceptable provided we confine verification to a limited time span. For this reason, we may use ‘verified’ and not ‘verifiable’, if the verifiable consequences are to be identical. For example, the proposition that “all men are mortal” may be true as on now, but it may be that on 10th January 2010 an immortal man will be born. That is to say, the verifiable consequences of “All men are mortal” in fact amounts to “all men born before the time *t* are mortal but not after that”.

Positivism on *a priori* and *a posteriori*

One of the prime motives of logical positivism has been to investigate the formal or *a priori* aspects of knowledge and the *a posteriori* or empirical ones. Rejecting Kant’s claim of the validity of *synthetic a priori* knowledge, positivists maintained that *a priori* is always analytical or tautological. The whole of formal logic and pure mathematics consists of such tautologies. For positivists, therefore, all cognitively significant statements are either empirically verifiable statements of fact or tautological statements, depending on the structure of language.

Rejection of Metaphysics

One of the striking philosophical consequences of the positivistic analysis of knowledge is that it rejects the whole of metaphysics as meaningless, given that only analytical or empirical statements are knowledge producing. Positivist philosophers observe that philosophical works down the history are filled with statements that are neither empirical nor analytic tautologies, and therefore nonsensical.

Function of Philosophy

If metaphysical, ethical and aesthetic judgments are non- cognitive,(issues in these areas which were functions traditionally assigned to philosophy), what then is the new function of philosophy? For positivists, the prime task of philosophy is to analyze philosophical concepts, and resultant clarification of philosophical meaning. Apart from this philosophers may also formulate speculative generalizations of a cosmological sort based on the factual evidence of empirical sciences like physics, biology, astronomy etc. Yet another function of philosophy is to construct conjunctures regarding the past history of the physical universe, the origin of life etc. Such factual hypothesis must be meaningful as they are at least verifiable in principle. Philosophers can also engage themselves in the elucidation of the philosophical categories such as possibility, existence, probability, causality etc. Though such categories will be construed as purely analytical and tautological, and not *synthetic a priori* as Kant claimed. Positivists point out that the philosophical analysis of the linguistic type may be significant and fruitful even though it cannot be expected to yield synthetic truth.

Later Versions of Positivism in America and England

Positivism was transplanted in America by Roudolf Carnap with slight alteration,

making it more flexible and philosophically tolerant. He explored positivism's inherent vitality and flexibility best and made it congenial with such American philosophical tendencies as *pragmatism* and *operationalism*. Carnap was largely responsible for giving Positivism a vigorous and precise formulation and transformed it to a more adaptable Logical empiricism. Carnap's Logical empiricism retains the anti- metaphysical claims of the earlier Positivism, but assigns an important task to philosophy, the task of clarifying language and its meaning. This is to be carried out in the following disciplines:

- 1) Syntax: This is concerned with the formal inter connections of linguistic signs and specifies the structural rules for sentence formation.
- 2) Semantics: This deals with the examination of meanings of linguistic expressions by reference to extra- linguistic facts.
- 3) Pragmatics: This investigates the functions of language at sociological and psychological levels.

The favorable reception of Positivism in England is to be accounted for its closeness to Anglo- American empiricism. In England the analytic and empirical philosophies of G. E Moore and Bertrand Russell provided a philosophical temper favorable to the reception of Positivism. Ludwig Wittgenstien, the dominant figure in the philosophic circle at that time, in his *Tractatus Logico Philosophicus* supporting the anti—metaphysical position of Positivism wrote: “Most propositions and questions that have been written about philosophical matters are not false, but nonsensical”. We cannot therefore, answer questions of this kind at all, but only state their senselessness” (*Tractatus Logico Philosophicus*, 4.003). Along with Carnap, Wittgenstien too voiced that philosophy is nothing but a critique of language. Philosophy as a discipline should not compete with other disciplines in raising true propositions. The function of philosophy is rather to bring out logical clarification of our thoughts; it must make our propositions clear.

Positivistic Analysis of Ethics

Positivists had two approaches towards ethical propositions. It was possible for them to consider ethical propositions either as empirical statement, which is factual in nature, or as non- cognitive one. Mortiz Schlick adopted the first approach where by he observes that valuation, approbation etc. are actually psychic occurrences and therefore, ethical statements are purely psychological one. Some others have felt that like other natural sciences ethics too must become the science of moral consciousness.

Among those who argue in favor of non- cognitive states of moral judgments, A.J Ayer is the most prominent philosopher. Ayer points out that one class of ethical statements- exhortations to moral virtue - are in fact not propositions at all, but rather commands designed to provoke the reader to act in a particular way. Most of the ethical words are emotive. A highly suggestive and original version of emotive theory is propounded by C.L Stevenson. His work *Ethics and Language* testifies the versatility of the positivistic theory and the fruitfulness of positivistic analysis in clarifying non- cognitive status of ethical sentences.

Check Your Progress II

1) What is the function of philosophy according to positivists?

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2) Why do positivists reject metaphysics?

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1.6 LET US SUM UP

Bertrand Russell's Logical Atomism as opposed to the monistic logic of the people who followed Hegel shares the commonsense belief that there are separate things in our world of experience and this multiplicity is real and true. It is logical because the atoms that Russell wants to arrive at as the last residue in analysis are logical atoms and not physical atoms. The basic thesis of Logical Atomism is that if one could construct an ideal language that language would be identical with the structure of reality. This ideal language will be precise which is capable of taking up a deep analysis of the object in the external world in to descriptions of sense data. In order to conduct this a few elements of this are to be sorted out, such as propositions, proper names, Individuals, atomic facts, general facts, and Intentional facts.

Logical Positivism stands for a method and not for a theory and maintains that there is no special way of knowing that is peculiar to philosophy. Positivism confines knowledge in philosophy to factual assertions and shown that it can be decided by the empirical methods of science. Factual questions are to be determined by appeal to observation, and what cannot be decided by empirical methods is either mathematical or logical. What is distinctive of Positivism is its attention to mathematics and logic and emphasis upon linguistic aspects of traditional philosophical problems. One may, in general identify the core of positivism as the employment of verifiability criterion of meaning. According to this theory, an empirical statement is significant *iff* it is verifiable by appeal to experience.

One of the prime motives of Logical Positivism has been to investigate the formal or *a priori* aspects of knowledge and the *a posteriori* or empirical ones. Based on this distinction they rejected the whole of metaphysics. The function of philosophy according to them is nothing but conceptual clarification.

1.7 KEY WORDS

Theory of Verification

- : The Theory, which holds that an empirical statement is significant/meaningful *iff* it is verifiable by appeal to experience.

Positivism	: A method that holds that there is no special way of knowing that is peculiar to philosophy and factual propositions can be known resorting to scientific method. Positivism combines mathematics with empiricism by a new interpretation of mathematical propositions.
Logical Atomism	: The school that holds that a logically perfect language can mirror the relations of a small number of readily describable types of ultimate constituents of the world.
Proposition	: Those sort of things expressed by sentences which are either true or false.
<i>Iff</i>	: If and only if (expressing a set of necessary and sufficient conditions)
Proper names	: Proper names are words used to name particulars.
Individuals	: Ultimate entities of the world revealed through sense data
General Facts	: That category of facts, which would account for general propositions.
Negative facts	: Kinds of atomic facts construed to account for positive assertions that are false.
Intentional facts	: Propositions containing verbs such as wishes, wants, believes and the like which are not truth functional propositions and therefore are classified as a separate type of fact.
General facts	: That category of facts, which would account for general propositions.
<i>A priori</i> Propositions	: Those propositions, which are formal and known prior to experience.
<i>A posteriori</i> propositions	: Those propositions, which are empirical and known after experience.

1.8 FURTHER READINGS AND REFERENCES

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1.9 ANSWERS TO CHECK YOUR PROGRESS

Answers to Check Your Progress I

1. Bertrand Russell has advocated a species of realism in terms of the logic, which characterizes it, namely atomic. It's logic is atomistic unlike the monistic logic of the people who more or less followed Hegel because it shares the commonsense belief that there are separate things, a multiplicity in its real and true sense of the term. It proclaims that a logically perfect language can mirror the relations of a small number of readily describable types of ultimate constituents of the world.
2. Propositions are the sorts of things which are true or false and are expressed by sentences to assert facts. Propositions are either atomic or molecular. However, propositions are not real constituents in the world. Among the furniture of the world we find only facts and particulars, but not propositions.

Answers to Check Your Progress II

1. For Positivists the prime task of philosophy is to analyze philosophical concepts and resultant clarification of philosophical meanings. Apart from this philosophers may also formulate speculative generalizations of a cosmological sort based on the factual evidence of empirical sciences like physics, biology, astronomy etc. Yet another function of philosophy is to construct conjectures regarding the past history of the physical universe, the origin of life etc. Philosophical analysis of the linguistic type may be significant and fruitful even though it cannot be expected to yield synthetic truth.
2. Given that only analytical or empirical statements are knowledge producing, Positivist philosophers observe that metaphysical statements that are neither empirical nor analytic tautologies are nonsensical.