UNIT 3: LOGICAL ATOMISM: BERTRAND RUSSELL

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3.1 LEARNING OBJECTIVES

After going through this unit, you will be able to:

- analyse the meaning of the method of *analysis* advocated by Bertrand Russell.
- explain Russell's theory of definite descriptions.
- discuss the philosophy of logical atomism as advocated by Russell.
- explain various kinds of facts and propositions.

3.2 INTRODUCTION

This unit introduces to you the concept of logical atomism propagated by Bertrand Arthur William Russell. Towards the end of the

nineteenth century Bertrand Russell and G. E. Moore revolted against idealism at Cambridge led by Hegel, Bradley, Bosanquet etc. and brought about a new turn in the history of philosophy. This new turn is known as analytic philosophy. Analytic philosophy came to dominate different regions particularly in Great Britain and United States towards the end of the nineteenth century. The philosophical tradition called analytic philosophy is characterized by an emphasis on the analysis of language. They think that clarification of language can be used as an effective weapon to understand the world since it is in language that thought finds its expression.



LET US KNOW

Analytic philosophy: Analytic philosophy is a style of philosophy that came to dominate different regions more specifically in Great Britain and United States towards the end of the 19th century. The philosophical tradition called analytic philosophy is characterized by an emphasis on the analysis of language. They think that clarification of language can be used as an effective weapon to understand the world.

3.2.1 Types of Language Analysis

Analytic philosophy has two types of language analysis:

1. Artificial language analysis and
2. Ordinary language analysis.

1. Artificial language philosophy/Ideal language philosophy: Analytic philosophers like Russell and Ludwig Wittgenstein (early) emphasized on the formulation of an ideal language for philosophical analysis. This language which will be free from the ambiguities of ordinary language. Russell and Wittgenstein both developed the philosophy of logical atomism. They sought to solve philosophical problems by the analysis of language. According to Wittgenstein, the world is the totality of actual states of affairs and that these states of affairs can be expressed by the

language of first-order predicate logic. He said that language is a picture of reality. This theory of meaning is known as picture theory of meaning.

2. Ordinary language philosophy: Wittgenstein's philosophy had two phases. One is the early phase and the other is the later phase. His later philosophy was reflected in his work *Philosophical Investigations*. In contrast to the artificial language philosophy, Wittgenstein in his later philosophy, emphasized ordinary language analysis. This type of philosophy emphasizes the use of language by ordinary people. Gilbert Ryle, J. L Austin etc. are known as the ordinary language philosophers.

Russell used modern logic as a weapon to understand the nature of the world. Thus the philosophy of logical atomism is an attempt to explain the nature of the world by means of mathematical logic. The phrase 'logical atomism' was used by Russell to describe a position which states that the world is made of logical atoms together with facts composed of these atoms. In his famous essay "Logic as the Essence of Philosophy" Russell remarked, "Schools should be characterized rather by their logic than by their metaphysic". In order to understand Russell's theory of logical atomism you must be acquainted with the biography of him first, because this theory cannot be understood unless one is acquainted with the philosophical background of Russell.

3.3 BIOGRAPHY

Bertrand Russell was born on May 18, 1972 into an English Whig family in Wales. Russell was a British philosopher, mathematician, historian, educational innovator, social critic, campaigner for peace. His parents died by the time he was four. So, Russell was brought up by their grandparents. His grandmother, Lady Russell was the dominant family

figure for the rest of Russell's childhood and youth. Russell's adolescence was very lonely and he often attempted to commit suicide. He cited in his autobiography that it was mathematics that hindered him from committing suicide. At the age of 11 his brother introduced him to a book of Euclid, which he considers to be one of the greatest events in his life. Russell was also deeply influenced by the works of P. B. Shelly and John Stuart Mill.

Russell won a scholarship to read for Mathematical Tripos at Trinity College, Cambridge and pursued his study there in 1890, taking Robert Rumsey Webb as his coach. He dedicated his first three years in Cambridge to study mathematics. But his keen interest in philosophy was deeply rooted in mind. During his study of mathematics, at the undergraduate level was not up to the mark and he did not find mathematics inspiring. After completing his study at Tripos he vowed not to study mathematics and made his excursion into the vast world of philosophy. Russell came in touch with the brilliant English idealist J. E. M McTaggart at Cambridge. Under the influence of McTaggart Russell proceeded to the direction of German idealism, either Kantian or Hegelian. Therefore it is said that Russell started his career as an absolute idealist. But soon Russell revolted against idealism led by Hegel and Bradley. Towards the end of 1898 Russell joined hands with G. E. Moore, a fellow student at Cambridge and both of them led the British rebellion against idealism. Russell's first break with idealism was made in 1903 with the publication of the book *The Principles of Mathematics.* In 1905 he published famous paper 'On Denoting' in the journal 'Mind'. Russell, in collaboration with A. N. Whitehead authored the monumental *Principia Mathematica* (1910-13) in three volumes. Russell lived for 98 years and during this period he published over sixty books and many scholarly articles to his credit. He died on 2nd February, 1970 due to influenza.



ACTIVITY 3.1

- Why did Russell revolt against idealism advocated by Hegel and Bradley?

Answer. .....

- What is the difference between ordinary language philosophy and artificial language philosophy?

Answer. .....



CHECK YOUR PROGRESS

Q 1: Define logical atomism.

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Q 2: Fill in the blanks:

a) ——— and ——— are the founding fathers of analytic philosophy.

Q 3: State whether the following statements are True or False

a. Russell is a realist/idealist philosopher.(True/False)

b. Wittgenstein/Russell is one of the founding fathers of analytic philosophy. (True/False)

C. Artificial language analysis is concerned with ordinary language/ symbolic language. (True/False)

d. Early/ Later Wittgenstein was influenced by Russell's artificial language analysis. (True/False)

e. Russell is an American/British philosopher.(True/False)

3.4 THEORY OF DESCRIPTIONS

According to Russell, some words point to things as their meanings, but some words do not express meaning referentially. In 1905 Russell wrote an essay "On Denoting" in the journal *Mind*. Here, he attempts to address the problem about how we can have sentences containing definite descriptions in which the definite descriptions denote nothing and yet the sentences turn out to be completely meaningful. This

is known as Russell's famous **theory of descriptions**. In this essay Russell analyzes the logical form of the sentences containing denoting phrases. He divides these sentences into three groups:

1. Denoting phrases which do not denote anything, for example, 'the present king of France'.
2. Phrases which denote one definite object, for example 'the present king of England' (Edward VII at the time Russell was writing).
3. Phrases which denote ambiguously, for example 'a man'.

Definite descriptions involve the first two groups of denoting phrases, and indefinite descriptions involve the third group. Propositions containing descriptions typically appear to be of the standard subject-predicate form. But in Russellian analysis these propositions turn out to be different in form.

The fundamental point in this theory is that the grammatical form of a may not reveal its actual logical form. Russell gives the following example:

I met Jones.

I met a man.

Russell holds that there is a *logical* difference between the forms of these two propositions. The first proposition names an actual person, i.e. Jones. But the second proposition involves a propositional function, i.e. "The function 'I met *x*, and *x* is human' is sometimes true." Thus according to Russell, an ordinary sentence may assert something, but actually it does not denote anything. It is by means of propositional function Russell shows the logical difference between the forms of these propositions. The following is the meaning of a propositional function:

Propositional function: A propositional function is defined as any expression containing an undetermined constituent, or several undetermined constituents, and becoming a proposition as soon as the undetermined constituents are determined. For example, '*x* is a dog' is a propositional function, since no truth value is assigned to this. We do not know what '*x*' means unless some value is put here.

Russell formulated the theory of descriptions to solve certain philosophical problems. The famous illustration that Russell gave of a sentence in which a definite description is present which denotes nothing is: 'the present king of France is bald'. The descriptive phrase or the definite description found in the sentence is the following: 'the present king of France'. We know that at present there is no monarchy in France and therefore this phrase denotes nothing. Russell points out that in such sentences definite descriptions cannot actually function by denoting. According to Russell, the proposition 'the present king of France is bald' can be analyzed as the conjunction of three propositions. These three propositions are:

1. There exists at least one person who reigns in France at present.
2. There exists at most one person who reigns in France at present.
3. Whoever reigns in France at present is bald.

When the original sentence, i.e. 'the present king of France is bald' is translated into these three propositions then the constituent 'the present king of France' is found to be gone. We can see that the sentence is replaced by a propositional function which is not satisfied by any value and is therefore always false (the propositional function is 'x reigns at present in France.' Here no replacement of the variable x by any value will result in a true proposition). Russell showed that definite phrases like 'the author of *Waverley*' appeared as names in sentences, but these phrases disappear after analysis. He called these phrases 'incomplete symbols' which did not have meaning in isolation and became meaningful when used in a sentence.

Russell's theory of definite descriptions had many advantages.

1) This theory enables Russell to account for true negative existential judgments. A famous negative existential judgment is the following: 'the golden mountain does not exist'. This negative existential judgment, according to Russell cannot be understood as a statement about something which does not exist.

2) This theory enabled Russell to understand propositions like 'the author of Waverley is Scott' as something other than identity statements. Russell distinguishes between **proper name** and **descriptions**. Proper name is simple symbol, since it designates an individual directly, and it has meaning in isolation. A description, on the contrary, does not designate an individual directly. That is why Russell calls it an 'incomplete symbol'. An incomplete symbol has no meaning in isolation but which obtains a meaning in a context with other symbols. The description 'author of Waverley' does not therefore mean 'Scott'. If it would have been the case, the resulting proposition would be 'Scott is Scott' which is a tautology. King George the fourth wanted to know whether Scott was the author of Waverley. George the fourth definitely did not want to know whether Scott was Scott.



ACTIVITY 3.2

- What is the difference between grammatical form of a sentence and the logical form of a sentence?

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- How did incomplete symbol play an important role in the in the philosophy of Bertrand Russell?

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CHECK YOUR PROGRESS

Q 4: In which year Russell's famous paper 'On Denoting' was published?

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Q 5: What do you mean by Russell's theory of descriptions?

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Q 6: How many groups are there in which Russell divided the logical form of a sentence?

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Q 7: Give an example of a denoting phrase.

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Q 8: Define: propositional function

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Q 9: State whether the following statements are True or False

a) Proper name is a complex symbol.(True/False)

b) According to Russell, grammatical form of a proposition is different from its logical form.(True/False)

C) Incomplete symbol is a complex symbol.(True/False)

Q 10: Give example of an incomplete symbol.

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3.5 ATOMISM: ITS MEANING

The word 'atomism' comes from the Greek adjective '*atomos' which literally* means 'indivisible.' The history of ancient atomism is not only the history of a theory about the nature of matter, but also the history of the idea that there are indivisible parts in any kind of magnitude—geometrical extension, time, etc. A number of important theorists in ancient Greek natural philosophy held that the universe is composed of physical 'atoms'. For example, in the 5th century BC, Leucippus and his pupil Democritus proposed that all matter was composed of small indivisible particles called atoms, in order to reconcile two conflicting schools of thought on the nature of reality. On the one hand, Heraclitus believed that the nature of all existence is change. On the other hand, Parmenides believed that all change is illusion. The metaphysical

atomism of Leibniz states that there are innumerable spiritual atoms. These atoms are called monads and they are the centres of force. These monads are spiritual in nature. Again, David Hume advocated psychological atomism since he states that there are only 'impressions' and 'ideas'. He rejects both matter and mind.

Russell talks about a different kind of atomism which is known as 'logical atomism'. With the advent of analytic philosophy, philosophy turned towards language to understand the world.

3.6 LOGICAL ATOMISM: ITS MEANING

In 1912 Wittgenstein went to Cambridge. He met Russell there and they began to spend long time with each other. Wittgenstein used to listen to Russell's lectures. In 1918 Wittgenstein completed his monumental work Tractatus-Logico Philosophicus. In the same year Russell gave a series of lectures at Gordon Square, London on 'The Philosophy of Logical Atomism'. Russell calls his doctrine logical atomism because the atoms that he wishes to arrive at as the sort of last residue in analysis are logical atoms and not physical atoms. This means that the atoms he wishes to arrive at are the atoms of logical analysis and not the atoms of physical analysis.

By 'logical atoms' Russell means particulars, such as little patches of colour or sounds, momentary things and predicates or relations etc. But prior to that we need to understand did Russell apply logic as the 'essence' of philosophy.



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Particular: Particulars are simple things. Russell defines particulars as terms of relation in atomic facts. He holds that 'this' or 'that' can be regarded to be particulars.

3.6.1 Logic as a tool of philosophy

Logic is said to be a 'tool' for every enquiry, because if an enquiry is not logical it cannot be called an enquiry. But in a more specific sense logic is used as a tool of philosophy because the techniques and results of logic are used by philosophers in the formulation of their theories in a much more important manner than by non-philosophers. Russell and Wittgenstein sought to solve many philosophical problems by employing modern logic as a tool. Russell sought to establish a logically perfect language to solve philosophical problems. Logically perfect language is also known called 'artificial language' or 'ideal language'. Logically perfect language will have the perfect syntax and perfect vocabulary. A perfect language will reflect the logical structure of the proposition and the logical structure of the facts asserted or denied. Russell believes that ordinary language is quite adequate for ordinary purposes, however it is inadequate for logical analysis. Russell states that for philosophical purposes it is necessary to reconstruct ordinary language so that its fundamental structure becomes evident.

3.6.2 Isomorphism

Russell followed a special type of principle known as 'Occam's razor'. Occam's (or Ockham's) razor is a principle attributed to the 14th century logician and William of Ockham. The principle states that "**Entities should not be multiplied unnecessarily."** Russell used this principle to minimize the number of basic entities, thereby to minimize the possibility of error, and it was a passion for brevity for Russell**.**

According to Russell, there is a structural similarity between language and reality because of which language is capable of representing reality. This structural similarity between language and reality is called isomorphism. Russell begins his

lecture on 'The Philosophy of Logical Atomism' with the concepts of 'fact' and 'propositions'. There is an isomorphic relation between fact and proposition. There is a one-to-one correspondence between fact and its corresponding proposition. In order to know the isomorphic relation between 'fact' and 'proposition' you have to know the meanings of these two terms first.

3.6.3 Facts and Propositions

Fact: According to Russell, a fact is a sort of thing that makes a proposition true or false. For example, if someone says 'It is raining', it will be true in a certain condition of weather and false in other conditions of weather. A fact is not a particular existing thing such as Plato, the river or the mountain. Russell states that when he speaks of a 'fact', he does not mean one of the simple things in the world, he means that a certain thing has a certain quality, or that certain things have a certain relation. For example, Napoleon is not a fact, but if someone says that 'Napoleon is ambitious' or 'Napoleon marries Josephine', he states a fact. A Fact cannot be said to be either true or false, there are just facts. They are independent of our thinking; they belong to the objective world.

Proposition: A proposition states something. A proposition, for Russell, is an indicative sentence. It either asserts or denies something. It is that which we believe truly or falsely: 'typical vehicle on the duality of truth and falsehood'. A proposition is also defined as a complex symbol. It is complex symbol in the sense that it has parts that are symbols, for example, the word 'red' is a simple symbol, but the phrase 'roses are red' a complex symbol. Thus propositions are complex symbols and the facts they stand for are also complex.

There are certain species which Russell considers to be valid:

- Atomic propositions and facts
- Molecular propositions and facts
- Existence propositions and facts
- General propositions and facts and
- Completely general (logical) propositions and facts.
- Intensional propositions and facts

Atomic Facts:

According to Russell, the simplest imaginable facts are those which consist in the possession of a quality by some particular thing. For example, 'this is while' is such a fact. In other words, the simplest atomic fact is the possession by a 'particular' of a certain quality. Thus, there may be dyadic relation between two particulars, for example, 'A is next to B'. Likewise, for triadic relation three terms are required and so on. Generally, for *n* particulars we get *n*-adic relation. The infinite hierarchy of facts can be mentioned in the following way:

1. Monadic fact: A thing and a quality, e.g. 'this is white'.
2. Dyadic fact: Two things and a relation, e.g. 'A is next to B'.
3. Triadic fact: Three things and a relation, e.g. 'A gives B to C' etc.

Atomic facts correspond to the atomic propositions. These facts are the simplest kinds of facts which consist in the possession of a quality or relation by some particular or particulars. In every atomic fact there is one component which is expressed by a verb. This component, if it is a quality, is expressed by a predicate or an adjective.

A proposition is atomic, if it contains only one relation or predicate. An isomorphic relationship is thus seen between atomic proposition and atomic facts. Corresponding to the subjects (proper names) in an atomic fact there are terms (particulars) in an atomic proposition, similarly adjectives correspond to qualities, and verbs correspond to relations.

Molecular Propositions and Facts:

According to Russell, there are molecular propositions. Formal logic regards a proposition or a statement to be either true or false. The linguistic account of propositions holds the view that propositions are truth-functionally accountable. A truth function is defined as a compound expression whose value is uniquely determined by means of its component simple propositions. Defining a molecular proposition Russell wrote: "I call them molecular propositions because they contain other propositions which you may call their atoms, and by molecular propositions I mean propositions having such words as 'or', 'if', 'and', and so forth". In other words, a molecular proposition is produced when two or more atomic propositions are conjoined. The words 'or', 'if', 'and' are known as logical constants are logical connective, since they are used to used to logically connect atomic propositions. There are different kinds of molecular propositions:

1. Conjunctive
2. Disjunctive
3. Implicative

Let us take an example: '*p* and *q*' is a molecular proposition and it is to be regarded as truth-function as its truth value depends on the propositions *p* and *q* separately. The proposition *The weather is cloudy today and Smita brings an umbrella* is true provided the proposition *The weather is cloudy today* is true and the proposition *Smita brings an umbrella* is true separately. Propositions are the representations of facts. A proposition is true if it represents a fact and false if it does not represent a fact. Russell denies the existence of molecular facts. Russell did not admit the existence of molecular facts. He says: "I do not suppose there is in the world a single disjunctive fact corresponding to '*p* or *q*'. It does not look plausible that in the actual objective world there are facts going about which you could describe as '*p* or *q*'." (Ref L &K, p 209)

This means that the truth or falsity of the proposition '*p* or *q*' depends upon two facts, one of which corresponds to *p* and the other to *q*. Russell's doubt regarding the existence of molecular facts comes to an end in his discussion of general facts.

General propositions and facts:

A general proposition is defined as that which asserts or denies the truth of all values of a propositional function.

A general fact corresponds to a general proposition. Russell's acceptance of general facts can be seen from the following: Russell argues that general propositions are not equivalent to the conjunction of singular propositions. For example, the general proposition 'All men are mortal' cannot be established by a complete enumeration of each and every individual man's death, one is further to know that these are the 'all men' there are. To know that 'these are the all men there are' is to know a general proposition. But this knowledge does not come from induction or any inference. Hence he says that the knowledge of general proposition is a *primitive* knowledge which is not derived from inference. Russell says: "…..when you have enumerated all the atomic facts in the world, it is a further fact about the world that those are all the atomic facts there are about the world, and that is just as much an objective fact about the world as any one of them are." (Ref, p 236)

Corresponding to the general propositions Russell feels obliged to admit the existence of general facts. A general fact is irreducible to any other fact.

Though Russell was hesitant to admit the existence of molecular facts in the beginning, he finds that the acceptance of general facts necessitates the admission of molecular facts as well. He says that in the example "trespassers will be prosecuted" or in "all men are mortal", he says that these sentences imply that if there is a trespasser, (it does not say that there is any), then he will be prosecuted. Similarly "all men are mortal" has the

implication that if *x* is a man, then he is mortal. It also does not assert that *x* really is a man or that *x* is mortal. Now if we are to admit that corresponding to general propositions there are general facts, we cannot deny the existence of molecular facts corresponding to the molecular propositions – the obvious implication of the general propositions.

Completely general (logical) propositions and facts:

A completely general proposition is defined as that which contains only variables and nothing else. However, Russell admits that there are some propositions which are expressed logically but they are not proved logically. E.g. 'there is at least one thing in the world'. This proposition is to be known empirically. (Ref, p 240)

Negative facts:

"Are there such facts as you might call the fact that 'Socrates is not alive'?" asked Russell in the lecture III of 'The philosophy of Logical Atomism'. He says that the idea of negative facts created a 'riot' at Harvard. Russell accepts correspondence theory of truth. If 'Socrates is alive' is false, it is because it is out of correspondence with facts. It is false because of the fact 'Socrates is not alive'. Hence, Russell admits negative facts. He states: "A thing cannot be false except because of a fact, so that you find it extremely difficult to say what exactly happens when you make a positive assertion that is false, unless you are going to admit negative facts.(Ref, p 214)

Intensional Facts:

There are some propositions which contain words like 'wishes', 'wants', 'believes' etc. The truth or falsity of these propositions cannot be established, for example the proposition 'John believes that the earth is flat' no truth value can be assigned to this propostion. Thus the propositions about intensional facts cannot be treated truth functionally.



ACTIVITY: 3.3

- What is the role of 'fact' in Russell's philosophy of logical atomism?

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- Distinguish between fact and proposition.

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CHECK YOUR PROGRESS

Q 11: State the meaning of logical atomism

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Q 12: In which year Russell delivered his lectures on "The Philosophy of Logical Atomism" at Gordon's Square?

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Q 13: What is Occam's Razor?

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Q 14: What is Isomorphism?

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Q 15: State whether the following statements are true or false.

a) A fact is either true or false.(True/False)

b) Napoleon is a fact.(True/False)

C) The simplest imaginable facts are atomic facts.(True/False)

Q 16: What is truth function?

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Q 17: "Entities should not be multiplied unnecessarily". – state the name of the principle.

Q 18: Define: Atomic proposition.

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Q 19: Define: Molecular proposition.

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Q 20: Define: General proposition

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3.7 SENSE-DATA

Russell, being a mathematician by background wanted certainty in philosophy too. Russell's quest for certainty is reflected through the opening line of *The Problems of Philosophy*: Is there any knowledge in the world which is so certain that no reasonable man can doubt it? When Russell talks about physical objects, he says that we cannot suppose to be in direct and immediate contact with the objects themselves. When we see a table, we are not directly acquainted with the table as such. Instead we are immediately acquainted here with the colour, hardness, shape etc. of the table and to know anything about the table; it is possible only through sense data. This means that knowledge of the table involves more than just awareness of sense data. It involves a belief that besides sense data, there is non-empirical something which *causes* sense data and also persists even when there are no sense data. In this context Russell says that which causes sense data, supposedly the physical objects, are not given in experience, hence they have only an inferential existence. Russell came to the conclusion that the existence of physical objects can be constructed out of the elements which are *least susceptible to doubt*. Defining or identifying sense-data Russell writes:

Let us give the name of 'sense-data' to the things that are immediately known in sensation: such things as colours, sounds, smells, hardnesses, roughnesses, and so on. We shall give the name sensation

to the experience of being immediately aware of these things. Thus, whenever we see a colour, we have a sensation of the colour, but the colour itself is a sense-datum, not a sensation. (Principles *of Mathematics*, p. 4)

Russell holds that when we begin to analyze our common knowledge, the first thing appears is that some of them are derivative and some are primitive. Knowledge involving inferences are called derivative while those accepted on their own account are called primitive. The immediate facts perceived by sight or touch or hearing are self-evident, that is, primitive, which means that they need not be proved by any argument. An example of derivative knowledge is: we unconsciously make assumptions, e.g. about the persistence of objects even when we are not actually perceiving them. Russell draws a vague but useful distinction between 'hard' data and 'soft' data:

I mean by "hard" data those which resist the solvent influence of critical reflection, and by "soft" data those which, under the operation of this process, become to our minds more or less doubtful. (*Our Knowledge of the External World*, pp. 77-78)

Russell characterizes 'hard data' as those which can resist doubt; these are those propositions which are luminously certain. For example, facts of sense (i.e. of *our own* sense data), the laws of logic, recent memory, introspection, relations of time and space. Hard data are contrasted with soft data. Soft data are concerned with those propositions which are susceptible to doubt which include our knowledge of physical objects and other minds. Some common beliefs are excluded from hard data, for example, we cannot include our beliefs that object persists when we are not perceiving them, or that other people have minds because this belief arises from the psychological derivation from our perception of their bodies. Testimony of others is also excluded from hard data. The problem of the nature of external objects such as tables, chairs etc., according to Russell, a problem of justifying an inference from the perception of sense data to physical objects.



CHECK YOUR PROGRESS

Q 21: Define: sense-data

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Q 22: Give example: Sense-data

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Q 23: What is hard datum?

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Q 24: What is soft datum?

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3.8 LET US SUM UP

- Bertrand Russell and G. E. Moore revolted against idealism at Cambridge led by Hegel, Bradley, Bosanquet etc. and brought about a new turn in the history of philosophy that is known as analytic philosophy.
- Analytic philosophers like Russell and Ludwig Wittgenstein (early) emphasized on the formulation of an ideal language for philosophical analysis. In contrast to the artificial language philosophy, Wittgenstein in his later philosophy, emphasized ordinary language analysis. This type of philosophy emphasizes the use of language by ordinary people.
- Russell calls his doctrine logical atomism because the atoms that he wishes to arrive at as the sort of last residue in analysis are logical atoms and not physical atoms. This means that the atoms he wishes to arrive at are the atoms of logical analysis and not the atoms of physical analysis.

- Definite descriptions are nothing but the sentences which denote nothing, still the sentences are meaningful, and so the sentences are to be known as definite descriptions.
- Proper name is simple symbol, since it designates an individual directly, and it has meaning in isolation. A description, on the contrary, does not designate an individual directly. That is why Russell calls it an 'incomplete symbol'.
- Occam's (or Ockham's) razor is a principle attributed to the 14th century logician and William of Ockham. The principle states that "**Entities should not be multiplied unnecessarily."**
- According to Russell, there is a structural similarity between language and reality because of which language is capable of representing reality. This structural similarity between language and reality is called isomorphism.



3.9 FURTHER READINGS

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