

CRITIQUE OF BERTRAND RUSSELL'S LOGIC OF RELATION

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ABSTRACT

*The study is an examination of Bertrand Russell's logic of relations. In logic of relation, Russell aptly showed that while language is a tool for communication, logic serves as the instrument for the construction of the structure of language. However, the study discovered that Bertrand Russell's logic of relation failed to prove that the analytic or empiricist position about the rationalist conception of knowledge is not tenable. The study analyzed that Russell's conception of knowledge especially his logic of relations influenced the conception of his epistemology. The study further showed that while language is the tool for formulating scientific thought, logic is a tool of analysis of language, the reasoning process, and the manner in which language and reasoning are related to reality. The work employed the qualitative research design where data were sourced from books, journals and periodicals to examine Bertrand Russell's logic of relations. In line with the above, the work adopts the methodology of critico-analytic. Using the critico-analytic method, the study purposively examined some selected texts which are very relevant to the work. Some of the texts include: (1) Russell B., *Logic and knowledge*. (2) Russell B., *Principia Mathematica*. Vol. 12nd edition. (3) *The Problems of Philosophy*. The study observed that Russell's conclusion that "all human knowledge is uncertain, inexact and partial" is inadequate and a contradiction of his aim in his logic of relation. Russell's position in his logic of relation that logic could form the basis of a language that could accurately express everything that could be clearly stated is defective. This study concludes that strict empiricism leads predictably to radical skepticism and cannot sufficiently account for the a priori knowledge we possess.*

Keywords: Bertrand Russell, Logic of Relation, Knowledge, Language, Epistemology

Introduction

Studies in the relationship between language, Logic and knowledge have always caught the attention of philosophers. For instance, Wittgenstein in his *Philosophical Investigations*, *Tractatus logico-philosophicus* sees the structure of language as very flexible. According to him, language is far more systematic and regular than it appears on the surface and 'men' have always had a presentiment' that it must be so. Considering what people do with language in various 'language game'; instead of assumption of uniformity, as he earlier believed, he insisted on the irreducible diversity of ways of using words; rather than theorizing about the hidden essence of language and maintained that nothing is the meaning of a word, other than its use. Similarly, Immanuel Kant in his *Critique of Pure Reason* drew a "analytic/synthetic distinction". This distinction was partly anticipated by Leibniz, who distinguished, truths of

reasons from truths of fact, and had the idea of containment by Hume, who distinguished 'relations between 'ideas' from 'matters of fact.

In the same light J.L Austin considers language as an examination of performative words. He points out that we use language to do things as well as assert things. Austin emphasized the philosophical significance of the Nuances of ordinary language and in his theory of 'speech Acts' explains how to do things with words. Following the same tradition, but going much further argues; It is in the same vein that Bertrand Russell argues that the philosopher's job is to discover a logical ideal language that will exhibit the true nature of the world, in such a way that the speaker will not be misled by the causal surface structure of natural language. In his *Logical Atomism*, Russell advocates for atomic facts, here he contends that the association of universals, with an appropriate numbers of individuals that may be combined into molecular facts in the world itself, such a language he believes would allow for the description of such combinations using logical connectives such as 'and' and 'or'.

Language, according to Russell, consists of a unique arrangement of words, and the meaningfulness of language is determined by the accuracy with which these words represent facts. Words, in turn, are formulated into proposition. In a logical perfect language, Russell said “the words in a proposition would correspond one by one with the components of the corresponding facts”. By analysis, certain simple words are discovered. These are words that cannot be further analysed into something more primary and can therefore be understood only by knowing what they symbolize. He Further posit, that logic could form the basis of a language that could accurately express everything that could be clearly stated is inadequate and fundamentally defective. However, in this paper we shall argue that Russell position impinges on epistemic possibilities. Against this backdrop therefore, the work sets out to address this defects and inadequacies. To achieve this, the work seeks to examine the interface between language, logic and knowledge using Wittgenstein's language game theory. The paper apart from the introduction is divided into three, the first examines Husserl's position, the second looks the various criticism raised against Husserl's position, and finally the evaluation and conclusion.

Russell's Conception of Logic of Relation

Philosophers over time have paid serious attention to the philosophical study of natural language and its workings, particularly of linguistic meaning and the use of language. A natural language is any one of the thousands of various tongues that have developed historically among populations of human beings. This language has been used for everyday purpose including English, Italian, Swahili and Latin. This is opposed to the formal and other artificial “languages” invented by mathematicians, logicians and computer scientists, such as arithmetic, the predicate calculus, and LISP or COBOL (A programming language developed in the late 1950, especially for business applications (Robert A. 673). It can be reasonably inferred, here, that language is one essentially inevitable attribute of humans as rational beings. Language, thus, can be seen as a tool for communication, exchange of ideas and information. It might be fruitless trying to trace the emergence of language, as it relates to human history because language is as old as the history of man in the world.

The Idea of Relation

All deduction depends upon the logical properties of the relation. Relation cannot be defined without using words that are more or less synonymous. We all recognize that individuals in the universe are not isolated; they stand in various relations. Physical objects stand in spatial and gravitational relations. Human beings are related in numerous ways, e.g. by kingship, by enmity, or by friendship, by precedence etc. In short every individual object of every possible sort is related to some other individual, and also to the characteristics which they exemplify or which they fail to exemplify. Characteristics also stand in relation to other characteristics, e.g. implication; consistency, inconsistency. What then is relation?

According to David Hare et/al, a relation is a Deontic logic which studies logical relation between proposition. It is a subset of a Cartesian product: for example, the relation "is a daughter of" is a subset of the product {female humans} + {human}. Relations are denoted P,Q,R... possibly with subscripts (s). The implication of the foregoing is that, if A is a set then a relation on A is a subset R of A^n for some n. Hare adds that "the number n is called the arity of R. The relation R on A is called nullary, unary (or monadic) binary (or dyadic), ternary, or n-ary if its arity is 0,1,2,3, or n, respectively". It will suffice to infer from the above definition that relations relate terms as no term can stand alone. This position agrees with the opinion of Udoma when he asserts that "if thoughts were state-able only in isolated and unrelated propositions, there could be no "argument", no logical progression. Propositions would have no bearing upon one another. The truth or falsify of one would be completely irrelevant and indifferent to the truth or falsify of another and logical "proof" would be impossible" (103). These thought processes underscore the imperatives of logic of relation as very fundamental and sacrosanct in the operation of our thought and its expression via language in propositional form, either for affirmation or denial in logical inferences. Against this background, therefore, this work defines logic of relation "as a logical enterprise which concerns itself with the deduction of relations of equivalence from the rules of entailment which characterize the language.

Basically, the number of terms it requires in order to make sense, for example, the term "father" requires two; loving, governing. Hurting is also two termed. Such relations are called dyadic. Relations requiring three terms are triadic. For example, John gave a ball to Mark relates giver, gift, and recipient. Teaching, between, are other examples of triadic relation. Four terms are tetradic e.g. owing: Terlumum owes Ngbede N50 for this watch. Five terms pentadic, and so on. Relations requiring an indefinite number of terms are polydic. Every relation has a sense, i.e. a direction in which it goes, for example, loving goes from lover to loved, father from male parent to child. The term from which the relation goes is referent; the term to which the relation goes is relatum. In Sember loves Ochola; Sember is referent, Ochola is relatum. Let us substitute the illustrative symbols x, y for these respectively: let R stand for the relation; then we have xRy , which signifies something having a relation to something. It is sometimes convenient to write $R(x,y)$ instead of xRy , so that the same mode of symbolizing can be used for triadic relations, and those with more terms than three, e.g. $R(x,y,z)$, is a relational form into which we could fit the relational statements: Akasu gives Ten Naira to Olohi. Relations are said to hold or fail of a given term when R holds from x to y, then there is some relation which holds from y to x which will be the converse of the original relation. We

might symbolize the converse R by R^c xRy is always equivalent to $yR^c x$ but R and R^c are not necessarily the same relation. For examples, x loves y is not equivalent to y loves x since the loved does not necessarily love in return, and is thus not also lovers of the one who loves. Relation in its general form is implication; the things it relates are sentences, propositions or statements.

RUSSELL'S IDEA OF RELATION

A key feature in the history of modern logic since about the middle of the nineteenth century has been the development of logic of relations. This comes from realizing and taking seriously, that not all propositions consist of a subject and predicate linked by the copula, “is” (are). A close and careful examination of Russell's work “*Principia Mathematica*” (*Principles of Mathematics*), the *Problem of Philosophy*, and *Logic and knowledge* reveals Russell's sublime devotion to “the logic of Relation. It is very clear from these works that Russell's conception of relation has two significant underpinnings. Firstly, Russell intends to use logic of relations to serve as a foundation for mathematics secondly, Russell set out to employ and apply logic of relation in the service of philosophy, that is, philosophical logic. Our concern in this work shall be on the second which has to do with logical relations in philosophical enterprise. Russell's idea of relation is fundamentally predicated on the logical properties of relations. Russell aptly captures it thus:

...It follows from this that the fundamental properties of relations are expressed by ... it is however, the logic of relation which must serve as a foundation for mathematics, since it is always types of relations which are considered in symbolic reasoning; that is, we are not required to consider such and such particular relation, with the exception of those which are fundamental to logic, but rather relations of a certain type for example transitive and asymmetrical relations or one-one relation (*Logic and knowledge*, pg 3-4).

An apt understanding of the above quotation could enable us to extrapolate that logical properties of relations as meant by Russell are properties which belong to relation without reference to the terms they may happen to relate. Many of these properties can be stated only if there are certain limitations to the possible referents and relation. The relations holding between members of a family are familiar and can be used to illustrate important logical properties of relations. For example: the father of a father is not a father but a grandfather. But the ancestor of an ancestor is an ancestor. These family relationships suggest to us the importance of distinguishing relations according to the properties they have.

In the *Introduction to Mathematic Philosophy* Russell contends that “a great part of the philosophy of mathematics is concerned with relations, and many different kinds of relations have different kinds of uses” (51). It often happens that a property which belongs, to all relations is only important as regards relation of certain sorts; in these cases, one may not see the bearing of the proposition asserting such a property unless one has in mind the sorts of relations for which it is useful. Let us now examine the different kinds of relations as outlined in the *Introduction to Mathematical Philosophy* by Russell.

Symmetry: A relation R is symmetrical when $xRy \rightarrow yRx$. Thus if xRy , then yRx . Relations are

said to be symmetrical when they are such a type that if A stands in a given relation to B, B stands in the same relation to A: "A is as large as B" B is as large as A"; if A is a brother or sister of B, then B is a brother or sister of A. if Terwase is as old as Owoicho, then Owoicho is as old as Terwase. "This tomatoe is as red as that rose" "that rose is as red as this tomatoe; Mr. Y is as brilliant as Miss Z" "Miss Z is as brilliant as Mr. Y. If the colour of A is unlike the colour of B, then the colour of B unlike the colour of A. All relations implying identity, likeness, or similarity are of this type. If A is a spouse of B, then B is a spouse of A.

Asymmetrical: A relation R is asymmetrical when xRy is incompatible with yRx . Thus, if xRy , then never yRx . Relations are considered to be asymmetrical when they have a nature that does not and cannot permit that if A stands in an instantiated relation to B, B cannot in any possible way stand in the same relation to A: For example, A is larger than B. If A is husband of B, B cannot be husband of A. And similarly in the case of wife. Other examples include: "Benjamin is more handsome than Otaluwa" "Franca is more intelligent than Torkwase", "Ihua is the father of Shenge", "Angya is the successor of David ker". Other examples are: before, after, above etc and relations which imply degrees of differences in direction belong to asymmetrical relation.

Non-Symmetrical: A relation is non-symmetrical when xRy is neither equivalent to nor incompatible with yRx . Thus, if xRy , the perhaps, yRx and perhaps not yRx . Relations are considered to be non-symmetrical when they are of the nature that if A stands in a given relation to B, B may or may not stand in the same relation to A. for example, "brother" is non-symmetrical because if A is a brother of B, it may happen that B is a sister of A. "Terhide is in love with Dookwase" Dookwase may or may not be in love with Terhide, "Malu praise Ella, Ella may or may not praise Malu", "Danfo remembers Ada" Ada may or may not remember Danfo.

Transitive Relation: A transitive relation is based upon the consideration of pairs of terms with reference to some relation R. A relation R is transitive when provided it holds from X to Z, and also from y to z, if it must hold from X to Z. Thus, if xRy and yRx , then xRz . In essence, a relation is said to be transitive, if, whenever it holds between A and B and also between B and C, it holds between A and C: for example, ancestor, parallel to, before, after, great etc.

Intransitive Relation: A relation is intransitive when it is such that if xRy and yRx , then never xRz . This means that, when, if A has the relation to B, and B to C, A never has to C, for example, one year older than, next to, father of, one inch taller, one year later etc.

Non-Transitive Relation: A relation R is non-transitive when it is such that if xRy and xRy then perhaps xRz and perhaps not xRz . In clear terms, a relation is said to be non-transitive because a brother of one's brother may be oneself. All kinds of dissimilarity are non-transitive. Other examples include: Sister of, overlapping in time with etc.

Most significantly, the main aim of Russell's discourse and classifications of relations (just as mentioned in the statement of problem) is to show that the "analytic/synthetic distinction which form the basis for the rationalist conception of knowledge does not hold water. Russell

aptly captures it thus:

Traditional Logic, since it holds that all propositions have the subject-predicate form, is unable to admit the reality of relations. All relations, he maintains, must be reduced to properties of the apparently related terms and there are many ways of refuting this opinion (*Introduction to Mathematical Philosophy* Pg. 53).

Russell's argument in essence is that every relation, regardless of its specific nature, has its converse, and it is this fact which enables the logician to draw certain inferences from given relational propositions. Suppose now we are given the symmetrical relation "spouse", and we wish to derive the relation husband. Husband is the same as male spouse or spouse of a female; thus the relation husband can be derived from spouse either by limiting the domain to males or by limiting the converse to female. Essentially, when the relation expressed in a given proposition is symmetrical, its converse is identical with the original and the inference is for all practical purposes a simple conversion. For more insight, let us consider these examples:

Domain: (Line AB is [paralle to] line CD)

Converse: (Line CD is [paralle to] line AB)

Domain: (Torkwase) is [as beautiful a girl as] Ochonya

Converse: (Ochonya) is [as beautiful a girl as] Torkwase

We see from these instances that when a symmetrical relation is given Russell argues that it is sometimes possible, without the help of any further relation, to separate it into two asymmetrical relations though with exceptions in certain rare case such as spouse, where one term of the relation belongs to the class of males and one to the class of females, hence, the relation with its domain confined to X will be asymmetrical, and so will the relation with its domain confined to B. Here the domain and the converse do not overlap and it's thus excluded.

When the relation in the original proposition is asymmetrical its converse expresses the opposite direction or opposite quality.

Domain: (John) is [older than] (Oche)

Converse: (Oche) is [younger than] (John)

Domain: (Akajime) is [the father of] (Adaji)

Converse: (Adaji) is [the child of] (Akajime)

Domain: (Monday) [precedes] (Tuesday)

Converse: (Tuesday) [follows] (Monday).

When the relation in the original or domain proposition is non-symmetrical, its converse can be expressed only by a complex statement involving distinctively an affirmation and a denial:

Domain: (Ogbu) is [in love with] (Odiniya)

Converse: (Odiniya) is or is not [in love with] (Ogbu)

Domain: (Mr. X) [knows] (Mr. Y)

Converse: (Mr. Y) does or does not [know] (Mr. X)

It is important to note that inference by converse relation must not be confused with ordinary conversion. The results are quite different as we shall hereby further show with the following examples of relational conversion and ordinary conversion:

Relational Conversion

Domain: (John) [recognized] (Mary)

Converse: (Mary) did or did not [recognize] John

Ordinary Conversion: A

Domain: (John) is (someone who recognized Mary)

Relational Conversion:

Domain: (Dr. Nnamdi Azikiwe) was [a contemporary of] (Dr. Nkrumah)

Converse: (Dr. Nkrumah) was [a contemporary of] (Dr. Nnamdi Azikiwe)

Ordinary Conversion:

Domain: (Dr. Nnamdi Azikiwe) is (a person who was contemporary of Dr. Nkrumah)

Converse: (Some person who was a contemporary of Dr. Nkrumah) is (Dr. Nnamdi Azikiwe).

Relational Conversion:

Domain: (Okloho) is [younger than] (Metu)

Converse (Metu) is [older than] (Okloho)

Ordinary Conversion

Domain: (Okloho) is (a person younger than Metu)

Converse: Some (Person younger than Metu) is Okloho.

From the examples given, it is clear not only that relational and ordinary conversions differ in the result to which they lead, but also that, as a rule, the relational conversion expresses more obviously the purported or implied meaning of the proposition in the domain. Ordinary conversion leads to artificialities which are alien to prevailing modes or patterns of thought.

Another class of relations that has been given prominence by Russell is one many relations, i.e. relations which at most one term can have to a given term. In precise logical terms, one-many relation may be defined as relations such that, if x has relation in question to y, there is no other term x which also has the relation to y, (58). It can be reasonably inferred from this definition that one-many relation is such that the relative product of one of them and its converse implies identity, where the "relative product" of two relations R and S is that relation which holds between x and Z when there is an intermediate term y, such that X has the relation R to Y and Y has the relation s to z. for example, if R is the relation of father to son, the relative product of R and its converse will be the relation which holds between x and a man z when there is a person y, such that x is the father of y and y is the son of z. One many relations are also the converse of one-many relations, i.e. as relations which are both one-many and many-one. The implication of this assertion is that one many relations are involved in all phrases of the form "the so-and-so of such-and-such", for example, "the president of Nigeria", "The King of England", "The Wife of Socrates", the father of Joseph Neitlong etc. all describe some person by means of a one-many relation to a given term. A person cannot have more than one father, therefore, "the father of Joseph Neitlong" described some one person, even if we did not know whom.

One-one relations give a correlation of two classes, term for term, so that each tem in either class has it correlate in the other. For example, if x and y are husband and wife, then with respect to the relation "husband", x is referent "wife", y is relatum, but with respect to the relation "wife", y is referent and x relatum. We have already said that a relation and its

converse have opposite “sense”; consequently, the “sense” of a relation that goes from x to y is the opposite of that of the corresponding relation from y to x . We have established the fact that a relation has a “sense”. This is fundamental, and is part of the reason why order can be generated by suitable relations.

Russell argues that of all the different kinds of relations, asymmetrical relations are the most characteristically relational of all relations, and the most important to the philosopher who wishes to study the ultimate logical nature of relations. Asymmetrical relations are involved in all series in space and time, greater and less, whole and part, and many others of the most important characteristics of the actual worlds. All these aspects, therefore, the logic which reduces everything to subjects and predicate is compelled to condemn as error and mere appearance. Russell contends that when once the reality of relation is admitted, all logical grounds for supposing the world of sense of being illusory disappear. Hence, Russell's logic of relation has been created to repel the age-long attack of rationalism against empiricism in respect to how we acquire knowledge.

RELATION OF LOGIC AND LANGUAGE

Bertrand Russell's admiration for the precision of mathematics made him announced thus: “the kind of philosophy that I wish to advocate, which I call logical atomism, is one which has forced itself upon me in the course of thinking about the philosophy of mathematic (*Principia Mathematics* 52). Russell in this new advocacy thought that it was possible to form a logic by which the whole of mathematics could be derived from a small number of logical axioms. He believed that once logic had been cast into a perspicuous form, it would reveal the structure of the world. Logic contains individual variable and propositional functions; and corresponding to these the world contains (ed) particulars and universes. In logic, complex propositions (that is to say), their truth or falsity, could be determined solely from the truth or falsify of the constituent propositions. Russell posits that logic could form the basis of a language that could accurately express everything that could be clearly stated. Russell's logical atomism sees the world as consisting of a complete of logical atoms (such as “little patches of colour”) and their properties and relations.

Through his logical atomism, then, the world would correspond to his specially constructed logical language. The vocabulary of the new logic would, for the most part, correspond to particular objects in the world. To accomplish this task of creating a new language, Russell set out, first of all, to analyze certain “facts”, which he differentiated in “things”. “The things in the world” says Russell, “have various properties and stand in various relations to each other. That they have these properties and relations are facts. Facts constitute the complexity of the relations of things to each other, and therefore, “it is with the analyses of facts that one's consideration of the problem of complexity begin”. For example, when we say that there are relations of more than two terms, we mean that there are single facts consisting of a single relation and more than two things. This does not mean that relations of two terms may hold between A and B and also between A and C , as for example, a man is the son of his father and also the son of his mother. Facts as referred to by Russell constitutes of only “things” and relations. For example, when A is jealous of B on account of C , there is only of fact, involving three people; there are not two instances of jealousy, but only one. It is in such case that Russell

speaks of a relation of three terms, where the simplest possible fact in which the relation occurs is one involving three things in addition to the relation. Russell contends that the same applies to relations and for terms or five of any other number; "All such relations must be admitted in our inventory of the logical forms of fact".

Essentially, Russell's basic assumption was that "facts, since they have components, must be in way or sense complex, and hence must be susceptible to analysis" (*Logic and Knowledge* 178). The complexity of facts is matched by the complexity of language. Consequent upon this fact, the aim of analysis is to make sure that every statement represents an adequate picture of its corresponding reality. Our language, accordingly, would also have to be simplified, and improved; we have to redo our grammar, in formal logic of course, to more accurately reflect the structure of the world. Language, in the view of Russell, consists of a unique arrangement of words, and in the meaningfulness of language is determined by the accuracy with which these words represent fact. Words, in turn are formulated into propositions (a form of sentences which must be either true or false) "in a logical perfect language". According to Russell, "the words in a proposition would correspond one by one with the components of the corresponding fact". By analysis, certain simple words are discovered. These are words that cannot be further analyzed into something more primary and can, therefore, be understood only by knowing what they symbolized. The word red, for example, is not capable of further analysis and is therefore understood as a simple predicate. Other words, similarly and simply, refer to particular things, and as symbols of these things they are proper names.

Given any fact, there is an assertion which expresses the fact. Russell contends that the fact itself is objective, and independent of our thought or opinion about it; but the assertion is something which involves thought, and may be either true or false. An assertion may be positive or negative: we may assert, according to Russell, that "Charles I was executed, or that he did not die in his bed". A negative assertion may be said to be a denial which a positive assertion may on the other hand be said to be an affirmation given a form of words which must be either true or false, such as "Charles I died in his bed", or "Joseph Neitlong is a Catholic priest: We may either affirm or deny this form of words.

Language consists in part, then, of words, which in their simplest form refer to particular things and their predicates. For example, a "red rose" or "this is before that". A proposition states fact. When a fact is of the simplest kind, it is called an "atomic fact". Propositions that state atomic facts are what Russell calls "atomic propositions". Thus, atomic facts are what determine whether atomic propositions are to be affirmed or denied. Russell argues that whether some atomic fact such as "this is red" is to be affirmed or denied can only be known empirically. It follows that, if atomic facts are to be known at all, some at least must be known without inference. The atomic facts which we come to know in this way are the facts of sense – perception. If our language consists only of such atomic propositions, it would amount only to a series of reports regarding atomic facts.

The underlying logical structure of language becomes more apparent and void of ambiguities and vagueness when we use statement logical form or the machinery of first order logic, by

assigning symbols to our atomic propositions; for example, we can use the letter P to stand for atomic proposition “I am tired”, and the letter x to stand for “I am hungry”. We can then link these two atomic propositions together with logical connectives such as “and” and “or”. The result will be a molecular proposition such as “I am tired and hungry” which we can symbolize with the expression P and X (184).

Molecular propositions are propositions that contain conjunctions such as: if, or and, unless, etc. Another example of molecular proposition could be: “if it rains, I shall bring my umbrella”. This assertion is just as capable of truth or falsehood as the assertion of atomic proposition, but it is obvious, according to Russell, that either the corresponding fact, or the nature of the correspondence which must be quite different from what it is, in the case of atomic proposition. Whether it rains, and whether I bring my umbrella, are each severally matters of atomic fact, ascertainable by observation. In the same vein, Russell contends that there is no single atomic fact corresponding to the entire proposition “I am tired and I am hungry”. How can we test the truth or falsity of molecular propositions such as the one stated above? The truth of this statement rests on the truth of the component of atomic propositions. For example, if it is true that I am tired and it is also true that I am hungry, then the molecular proposition is also true, that “I am tired and I am hungry”. Essentially, Russell's contention is that we make statements about the world in molecular' propositions, which in turn are composed of atomic propositions which in turn correspond to atomic facts. This ideal language expresses all there is to say about the world that could be clearly stated.

Russell also posits that general propositions such as “all men are mortal”, “all equilateral triangles are equiangular”, “some men are philosophers” or some philosophers are not wise” are referred to as positive and negative general propositions. He calls propositions containing the word “some” negative general propositions and those containing the word “all” positive general propositions. Russell contends that general propositions, such as “all men are mortal”, cannot be known by inference from atomic facts alone since this required that we examine or explore the whole universe. Thus, general truth, according to Russell, cannot be “inferred from particular truths alone, but must, if they are to be known, be either self-evident, or inferred from premises of which at least one is a general truth”. But all empirical evidence is of particular truth (175-182).

Wittgenstein Conception and Critique of Russell Notion of Language

Wittgenstein's theory of language and logic is contained in his book titled '*Tractatus Logico-philosophicus*'. In the *Tractatus* a general theory of language is used to fix the bounds of sense. The *Tractatus* is a comprehensive work of extreme originality. The following propositions are distinguished by their numbering as the basic theses of the book:

1. The world is everything that is the case.
2. What is the case, the fact, is the existence of states of affairs.
3. A logical picture of facts is the thought
4. A thought is a sentence with sense
5. A sentence is a truth-function of elementary sentences
6. The general form of truth-function is not-p (p is false) is a truth-function of p.
7. Where one cannot speak, therefore one must be silent (Notebook, P.10).

Shortly after the emergence of his *Tractatus*, Wittgenstein, like Russell his mentor and friend, repudiated much of that work. He now believed that his former views were predicated on the erroneous assumption that language has only one function, namely, to state fact; and that sentences derived their meanings mostly from stating facts. In his picture theory, Wittgenstein posits that a sentence is a picture. He meant that it is literally picture. In any picture, according to the *Tractatus*, there has to be a one-to-one correspondence between the elements of a picture and the things in the state of affairs it represents. If one element of a picture stands for a man and another for a cow, then the relationship between the picture elements might show that the man is milking the cow. A picture is a fact, namely, the fact that the picture elements are related to one another in a definite way.

According to the *Tractatus*, a picture must have something in common with what it pictures. This common thing is the picture's "form of representation". There are different kinds of pictures, different pictorial notations, and different methods of projection. But all pictures must have in common with reality the same logical form in order to be able to picture reality at all, either truly or falsely. This logical form, also called "the form of reality", is defined as the possibility that things in the world are related as are the element of the picture sentences since there are pictures, they have the same form as the reality they depict (2.18, 2.151). It adds that "a proposition is a picture of reality. A proposition is a model of reality as we think it to be" (*Tractatus*, 4.01).

The picture theory of proposition at the same time renders an account of the nature of thought. Wittgenstein said; "A thought is a sentence with a sense" (4). This implies that thinking is impossible without language. Since a thought is a sentence and a sentence is a picture, a thought is a picture. The totality of true thoughts would be a true picture of the world. A thought 'contains' the possibility of a state of affairs, for the logical form of thought is the possibility that things in the world are combined in a way the constituents of thought are combined. Whatever is conceivable is possible. In a spoken or written sentence, a thought is 'made perceptible to the senses'. All thoughts can be stated in sentences, what cannot be stated cannot be thought. Thinking therefore is a kind of language (notebook P.82).

Wittgenstein in a letter written to Russell shortly after the *Tractatus* was completed explicitly denied the above position held in the *Tractatus*. He captures it thus:

A thought consists not of words but of physical constituents that have the same sort of relation to reality as words. What those constituents are I don't know". "I don't know what the constituents of thought are but I know that it must have such constituents which correspond to words of language. (Notebook, P. 129-130).

Wittgenstein, like Carnap, assumed that the skeleton behind all language is a logical one. What largely struck him now was the conviction that language has many functions besides simply 'picturing' objects. Language always functions in a context and therefore has as many purposes as there are contexts. Words, he said, are like "tools in a tool-box; there is a hammer, pliers, a saw, a screwdriver, a rule, a glue-pot, glue, nails and screws. The function of words is as diverse as the functions of these objects.

Wittgenstein holds that his earlier erroneous position that language had only one function was due to the fact that he was held captive by the view that language gives names to things, just as Adam in the Bible gave names to animals. He writes that we are all victims of “the bewitchment of our intelligence by means of language”. Our incorrect picture of language is produced by grammatical illusion. Analyzing grammar might lead us to discover some logical structure of language. But would that justify the conclusion that all languages have essentially the same rules, function and meanings? It occurred to Wittgenstein that the assumption that all language states facts and contains a logical skeleton was derived not by observation but by thought. We simply assume that all language, in spite of certain superficial differences, is like the way all games are alike. He uncovered the flaw in this analogy by taking the case of games and asking. He succinctly captures it thus:

What is common to them all? - don't say! There must be something common, or they would not be called 'games'-but look and see whether there is anything common at all – for if you look at them you will not see something that is common to all, but similarities, relationships, and a whole series of them at that. To repeat: don't think, but look (*Philosophical Investigation* P.63).

It can be reasonably extrapolated that Wittgenstein has clearly shifted his plan from a preoccupation with logic and the construction of a “perfect” language to the study of the ordinary usages of language. Wittgenstein now felt that language does not contain one single pattern alone, but that it is as variable as life itself. He writes, “to imagine a language means to imagine a form of life” (75). Analysis then should consist not in the definition of language or its meanings but rather in a careful description of its uses: We must do away with an explanation and description alone must take its place. We must “stick to the subjects of everyday thinking, and not go astray and imagine that we have to describe extreme subtleties”. Contusions arise not when it is “like an engine idling”.

A central concept in Wittgenstein's philosophy in furtherance of these latter views is his language games theory and following Rules. The *Tractatus* assumes that there is a universal form of language, just as it also assumes that there is a universal form of number –that which is common to all (6.022). *The Philosophical Investigation* rejects this assumption. The language game theory holds that there is nothing common to the various forms of language that makes them language. There is not something common to all language games, just as there is not something common to all games. We are asked to consider the various kinds of games there are, for example: board games, card games, ball games and the variety within each kind. If we pick out a feature common to two games, we shall find that it is absent from some other place in the spectrum of games.

Not all games are amusing, not all games involve winning or losing, not all require competition between players, and so on. What makes all of them games, what gives unity to these activities, is not some feature present in all games but a multitude of relationships “overlapping and criss-crossing”. Wittgenstein employed the analogy of a family

resemblance between several generations of the same family. Studying close hand one may find that there is no feature common to all of the family. The eyes or the build or the temperament are not always the same. The family resemblance is owed to many feature that “overlap and cross-cross”. The unity of games is like a family resemblance. This is also the case with sentences, descriptions and numbers.

All through our daily routines we engage in a variety of tasks that involve some kind of rules. We often copy the character of other people when, for example, we try to learn a dance routine. We often participate in ceremonies, such as graduation in which we wear special cloths, walk in a long line with fellow graduates. Similar rule following underlies all language. We say certain things in certain contexts and we follow specific grammatical rules when we organize our words. Not just our spoken words but our entire thinking activity involves rule following.

Wittgenstein suggests that the rules of language are likes the rules of different games language games that vary in different contexts. When a student asks questions in a biology class, such a student is expected to follow the rule of various language games, such as, the language game of an inquiring student in a formal classroom, and the language game of discipline of Biology. He writes, “but how many kinds of sentence are there? Say assertion, question, and command? – There are countless kinds: countless different kinds of uses of what we call “symbols”, “words” and “sentences”. And this multiplicity is not something fixed, given once for all; but new types of language, new language-games, as we may say, come into existence, and others become obsolete and get forgotten..... Here the term “language game” is meant to bring into prominence the fact the speaking of language is part of an activity, or of a form of life (*Philosophical Investigation* 50).

Due to the fact that philosophical problems emanate out of language, it is imperative to acquire a basic familiarity with the uses of language out of which each problem arises. As there are many kind of games, there are many sets of rules of the games. In like manner as there are many kinds of language. (that is, the many forms of ordinary language of work, play, work ship, science etc. There are many usages.) It is under this manner of analysis and circumstance that this work argues the inadequacy of Russell's thought process, which holds that logic could form the basis of a language that could express everything that could be clearly stated. This position is predicated on the fact that just as already discussed in the work, there exists a vacuum between our thought and language so that it is not everything that thought processed that can be translated using statement logical form. This is because logic itself is a tool; a means to an end, not an end in itself; language shows us something we cannot think. The function of philosophical logic therefore is to make clear what cannot be said but can only be shown by presenting clearly what can be said.

Conclusion

The study has examined Bertrand Russell's logic of relations. In logic of relation, Russell intends to show that while language is a tool for communication, logic serves as the instrument for the construction of the structure of language. However, the study has shown that Bertrand Russell's logic of relation failed to prove that the analytic or empiricist position about the rationalist conception of knowledge is not tenable. The study further reveals that Russell's

conception of knowledge especially his logics of relations influenced the conception of his epistemology. The study has brought to the force that while language is the tool for formulating scientific thought, logic is a tool of analysis of language, the reasoning process, and the manner in which language and reasoning are related to reality.

The study observes that Russell's conclusion that “all human knowledge is uncertain, inexact and partial” is inadequate and a contradiction of his aim in his logic of relation. Russell's position in his logic of relation that logic could form the basis of a language that could accurately express everything that could be clearly stated is defective. It is these inadequacies and defects that the work has attempted to address, by showing that there exists a vacuum between abstract logics and language. They cannot be a one to one relation or correlation between our statement and fact.

Drawing insight from Godel's analysis of Russell's work, the work observes that while Russell's classical logic is adequate for arithmetic generally, a full logic of relations might require a simpler second-order logic, in which it is possible not only to predicate properties of objects but of other properties. The work in the last analysis observes that knowledge that P (propositional knowledge) must though be grounded in some appropriate connection to the fact that P (or whatsoever it is in virtue of which P is true). This implies that “if I know that P, then (i) I can justify my belief that P. and (ii) I know the justification q, it is noteworthy that it is not enough if I can simply state q; it seems more reasonably to demand that I should also know why q is true and why q justifies P. This conception, however does not entail that knowledge must have any experiential ground at every circumstances. The work concludes that strict empiricism leads inevitably to radical skepticism and cannot account adequately for the a priori knowledge we do possess.

References

- Harel D. et al. *Dynamic Logic*, New Delhi: Prentice Hall of India Private Ltd, 2007.
- Robert A., *The Cambridge Dictionary of Philosophy* 2nd Edition, Cambridge University Press, 1999; Ebbensen, Sten, Language, Medieval Theories of; in E. Crcing (ed) *The Rutledge encyclopedia of philosophy* (1998).
- Uduma, O.O., *The Nature of Scope of Logic. In Philosophy and Logic for General Studies.* Jinunah (ed) Lagos: Foresight. Press, 1998.
- Russell. B., *Introduction to Mathematical Philosophy*, London: George Allen & Unwin. Ltd, 1919.
- Russell B., *Logic and Knowledge: Essays 1901-1950*, Edited by Robert C. Marsh. Great Britian: Unwin Hyman Ltd, 1989.
- Russell, B., *An Inquiry into meaning and Truth*, London: Allen & Union 1940.
- Wittgenstein, L., *Philosophical Investigation*, Oxford: Basil Black Well & Mott, 1967.
- Wittgenstein, L; *Tractatus Logico-Philosophicus*. C.K. Ogden (ed.). London: Rutledge and Kegan Paul 1922.