

CHAPTER - 3

Fregean Distinctions

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Section - I

Frege: The Father of Modern Analytic Philosophy

German mathematician and philosopher Gottlob Frege (1848–1925), along with Meinong and Russell is the founder of the modern theory of reference. All of them tried in their own way to solve the problem of reference and the puzzles arising out of it, mentioned in the earlier chapter. The theory that is discussed here, namely, the 'Fregean theory of sense and reference' is considered by Russell as an alternative to his own theory in solving the problems regarding reference. As he was influenced by Meinong, Russell was equally, if not more, impressed by Frege's theory.

Frege had a marked influence on Russell and through him on analytic philosophy ; that is why some philosophers consider him to be the father of modern analytic philosophy. Frege was an introvert by nature and sadly, for his immense philosophical works, he did not gain much popularity or acceptance he deserved, during his lifetime; perhaps, the reason for this was that his doctrines were a bit complex. But his genius was recognized afterwards

through the works of other great philosophers like Russell, Wittgenstein and Chomsky who had read and understood Frege and was impressed by his ideas. In a way he also contributed to phenomenology by criticizing its exponent Edmund Husserl's early Psychologism.

Frege was more a mathematician than a philosopher. Modern mathematical logic was founded by him. In the realm of philosophy also, he worked mainly on philosophy of logic and philosophy of mathematics: two new areas of investigation of his interest. But his works were not widely read nor fully appreciated outside philosophical circles for being too restricted in scope.

Sub-Section — (i)

Development of Frege's Thought

Before entering into a discussion of Frege's theory, let us take a look at the background of the development of his thought. Though Frege was a professor of mathematics, half of his works were philosophical. His works on philosophy of logic contributed greatly to the advancement of philosophy and created a new awareness about the importance of logic. His theses on mathematics and logic were so vast that he is given the same status in mathematics as Aristotle enjoyed amongst philosophers.

What makes Frege highly respected, as a philosopher is that, even today his theories make interesting reading. Nowadays, there is much enthusiasm among the students of philosophy to rediscover and understand properly Frege's theories; for many of his ideas which at that time were not agreed upon, now seem to be relevant for dealing with contemporary problems. Many new disciplines arose out of his invention of mathematical logic, which in turn resulted in the invention of computers.

Like Meinong, Moore and Russell, Frege was also involved in the revolt against Hegelian Idealism which thrived in Germany some thirty years earlier than in Britain. His realism is now admitted as being more sophisticated than that of Meinong, Russell or Moore and while the others directly opposed idealism, Frege's objection to it was indirect –through his attack on psychologism.

In the first half of the nineteenth century, two German philosophers, Jacob Friedrich Fries and Friedrich Edward Beneke, who claimed themselves to be the followers of Kant, defended a trend opposing Hegelianism, which first came to be known as psychologism. As the name implies, their philosophy was rooted totally in psychology. The main point of their contention was that, truth could be attained only through introspection. They agreed with Kant in so far as he attacked pure reasoning as the source of knowledge, but criticised Kant on the point that he had tried to establish objectivity of human knowledge through the

a priori element in knowledge. According to them the only alternative to reason was experience, which can be gathered through self-reflection.

The term 'psychologism' was interpreted and used differently by another philosopher Vincenzo Gioberto during the same time. He meant by psychologism, the process of transcending from man to God as opposed to ontologism which means coming down from God to man. He held that all of modern philosophy that developed after Descartes was nothing but psychologism. The theory of psychologism was found to be similar to the British empirical theories whose main exponents were Locke, Berkeley and Hume. It even gained support in fields like logic and mathematics. "In Mill's *A System of Logic* it is explicitly stated that introspection is the only basis of the axioms of mathematics and the principles of logic."¹ Mill was a philosopher of British empiricist tradition and according to him logic was not very distinct from psychology as a science.

In Germany, the naturalist philosophers differed from Mill on the account that though they were also empiricists, they were realists and materialists at the same time. Philosophical naturalism arose in Germany in 1841 and was first put forward by Feuerbach in criticism of Hegeleanism, which can be called the culminating point of rationalism. The naturalist epistemology had an empiricist outlook. These philosophers opined that sensations were nothing but material

phenomenon. According to them, "thought was natural product of the activity of the brain, just as urine was the natural product of the kidneys." ² They tried to establish the absurdity of traditional philosophy, which believed in innate ideas and knowledge *a priori*.

Factually speaking, psychologism originated as a result of naturalism during the middle of the nineteenth century. By 1848 some philosophers like Karl Vogt, Jakob Molescott, Heinrich Czolbe, who were all influenced by Feuerbach, started developing on naturalism leaving no room for *a priori* truths and concepts. Among these philosophers, in Czolbe's writings psychologism became most pronounced.

Rudolf Herman Lotze was one philosopher who developed Kant's theory of knowledge properly and defended it by criticising Czolbe's theories. Lotze's attack on Czolbe's philosophy was supported by Frege and borrowed from him (Lotze) freely when attacking psychologism.

Though Czolbe was to be criticised by Lotze later, he was in fact initially impressed by the latter's works. In his physiological writings Lotze had tried to establish that all natural processes could be explained mechanically. Based on this view Czolbe reinforced his theory of sensualism, which excluded supra-sensualism completely. Lotze had however added that mechanical explanations of natural processes were not ultimate and had to be supported by metaphysics.

Disregarding this point, Czolbe developed a new kind of sensualism, which was identical with materialism. All *a priori* concepts including space and time were denied by him. Czolbe opined that acceptance of suprasensualism (in traditional logic) was one of the sources of false reasoning.

Lotze did not agree with Czolbe in the total rejection of the suprasensual and accused him of omitting the distinction between intuition and thought and also for analysing sensations so materialistically. Frege had also commented on this:

Psychological treatments of logic have their source in the error that the thought (the judgement, as one usually says) is something psychological just like an idea.³

Lotze's philosophy is a synthesis of the philosophy of Kant and Leibnitz. Similar to Kantian thesis Lotze also says that thought and intuitions are different. Thought adds something suprasensual to intuition. Lotze attacked any kind of realism saying that the assumption that things present themselves to our senses is wrong. This line of thinking is reflected in Frege's writings against psychologism. In 1918, Frege wrote :

Having impression is necessary for the seeing of things, but not sufficient. What has to be added is nothing sensory. And nevertheless that is precisely what opens up the world for us; without this non-sensory element every one would remain locked into his own inner world.⁴

Frege was thus an anti-naturalist formalist and his philosophical ideas are mostly derived from Leibnitz, Kant and Lotze. Frege's anti-psychologistic stand is also obvious in an attack on Husserl's book *Philosophie der Arithmetik* (1819), which was written in an entirely psychologistic spirit where logic was represented as the theory of judgements. But, for Frege, logical propositions were objective truths and had nothing to do with psychology. In response to Husserl's work, Frege wrote in a review in 1894 :

When reading this work, I came to recognize the devastations which have been brought about by the incursion of psychology into logic and I have considered it my task to bring the damage fully to light. The errors which, in my opinion, needed to be exposed are due less to the author than to a widespread philosophical disease.⁵

Though he never acknowledged it, this criticism led Husserl to abandon psychologism completely and concentrate on developing a new branch of philosophy called phenomenology, which deals with the theories of essential elements of experience.

Frege's bypassing of idealism was natural considering his approach to philosophy. According to Michael Dummett, the foremost commentator on Frege, Frege has introduced a new era in philosophy by de-psychologising it. Philosophers have always been arguing about the starting point of philosophy. Since Descartes, theory of knowledge was widely accepted as the starting point

of philosophy, till Frege rejected this view entirely giving the place to logic, thus causing philosophical development to change its course significantly. This change of perspective is found in the works of only one philosopher since Frege and that is in Wittgenstein's *Tractatus-logico-philosophicus*. Present day philosophers like Ayer however are not in total agreement with the view that logic was the originating point of philosophy. He says that interests in the theory of knowledge and meanings are still alive.

As a mathematician, Frege thought that mathematical statements and proofs in his days were not as precise and rigorous as they should have been. When he began, his main aim was to make up for these deficiencies. Frege's productive career can be divided into five well-marked periods. His first major work, published in 1879, was titled *Begriffsschrift* which may be called 'concept script' in English, but actually meant something like 'the putting of concepts into notation'; this was the first presentation of a modern logical system.

The second stage extended to the publication of *Die Grundlagen der Arithmetik* (1884), translated by J.L. Austin as *The Foundations of Mathematics* in 1950. In this work, Frege presented an informal philosophical theory that arithmetic is derivable from logic. It should be interesting to note here that Frege never in his life applied this theory to geometry, which he (following Kant) held to be based on synthetic *a priori* truths, which were irreducible to logic.

The third phase consists in the development of a highly activated system of philosophical logic in a series of articles in the 1890's, *Funktion und Begriff* (Function and Concept, 1891), *Begriff und Gegenstand* (Concept and Object, 1892), *Sinn und Bedeutung* (Sense and Reference, 1892), which is accredited to be his most celebrated contribution to philosophy.

The next period between 1893 and 1903, during which Frege produced his monumental work — two volumes of *Die Grundgesetze der Arithmetik* (The Basic Laws of Arithmetic) could have been called the climax of his philosophical career. However, the original work which deals with the formal construction of arithmetic on the basis of pure logic and set theory, received a tremendous blow when Russell discovered a paradox within the initial assumption and so the magnificent project was aborted before it was completed resulting in Frege never writing the third volume and withdrawing into a totally unproductive phase till 1917.

In the last years of his life (1918-1923) Frege began to write a book on philosophical logic of which the first three chapters were published as articles -- *Logische Untersuchungen*. Here he mainly discussed the relationships between logic and philosophical psychology. Before his death Frege had however become convinced that most of his previous theories were erroneous and he took up geometry as the fundamental mathematical theory.

Section – II

“Sense” and “Reference”

Über Sinn und Bedeutung (1892) is the most historically influential distinction introduced by Frege and is also central to his theory of meaning. This distinction, which is made in Frege’s most widely read work, still remains fascinating for contemporary analytic philosophy find it to be a very interesting area to cultivate. Though Frege is famous for his works in logic and philosophy of mathematics, his writing in philosophical logic is considered to be his greatest contribution to philosophy and within that the distinction between *Sinn* and *Bedeutung* is undoubtedly his most powerful theory.

It has to be kept in mind however, that though contemporary analytic philosophers are much concerned with Frege’s doctrine of sense and reference, their interest in it and the related issues differs from that of Frege. Frege introduced the theory at first to explain why the axiom of value-ranges should be considered a logical truth. It is one of the initial axioms on which he based his system of formal construction of pure arithmetic from logic and set theory.

In *Grundgesetze*, Frege considers the introduction of truth-values as the most significant achievement of his theory of reference. Frege’s application of the distinction between sense and reference to this theory of reference raises much

controversy among philosophers. Frege holds that the reference of a sentence is its truth-value. What followed this theory was another related theory that in a scientifically meticulous language every term must have a truth-value. As we will see, these theories were not without their problems.

The German expression *Sinn* is generally translated as 'sense', but there is difference of opinion about the expression *Bedeutung*. *Bedeutung* literally taken, replaces 'meaning' as its counterpart in English; however, philosophers in fact translate it as 'reference', keeping in mind Frege's use of the word. The terms 'denotation' or 'nominatum' is also used by some philosophers. According to Ernst Tugendhat these interpretations of *Bedeutung* are misleading and the error lies in the assumption that Frege's doctrine is basically a theory of referring expressions. Tugendhat rightly suggests that 'significance' be used as an alternative to *Bedeutung*. But since the use of the word 'reference' in place of *Bedeutung* has been widely accepted and a change in terminology at this stage would involve more confusion, we will keep to the established translation.

It was held by some philosophers that the distinction between sense and reference is a distinction between two components of the meaning of an expression. But this view is incorrect. By the 'reference' or denotation of an expression, Frege meant the object, which it names. For example, the reference of 'Jyoti Basu' is Jyoti Basu, the actual person. In other words, the bearer of a

name is its referent. The sense of a name, in comparison, is a part of its meaning, it contributes to the meaning of an expression.

For instance, if I just say, 'Tom' you may say to me "Who is Tom?" "Well, Tom is so and so's brother" or 'The person who invented such and such' or 'The first person to climb such and such a mountain'. And in this way, by attaching a sense to his name, I enable you to identify him.⁶

In this context Frege also added that two proper names might have different senses, but the same reference. Frege defined sense as the 'mode of presentation'⁷ of the object which is the reference of the expression whose sense it is.

The distinction between sense and reference, as Frege put it, will be clear with the help of an example from "Sense and Reference".

Let a, b, c be the lines connecting the vertices of a triangle with the midpoints of the opposite sides. The point of intersection of a and b is then the same as the point of intersection of b and c . So we have different designations for the same point, and these names ('point of intersection of a and b ', 'point of intersection of b and c ') likewise indicate the mode of presentation; and hence the statement contains actual knowledge.⁸

Thus the two expressions, 'point of intersection of a and b ' and 'point of intersection of b and c ' have the same reference but differ in sense. In the same way, the expressions "the morning star" and "Venus" refer to the same planet

though they differ in sense and that is the reason why "Venus is the morning star" adds to our knowledge while "Venus is Venus" does not.

According to Frege, when we use words ordinarily, our general intention is to speak of their reference. Sometimes, however, we also talk about the words themselves or their sense. This type of occurrence takes place in case of reporting of another person's words in *Oratio recta* or direct quotation. For example, if I say, "He said, 'the cat is on the mat'", my words have as their reference the words of the person whose speech is reported; and that is why the words between the quotation marks in *Oratio recta* cannot be said to have ordinary (customary) sense and reference.

Moreover, Frege also says that ordinarily speaking, the reference of our words is actually their customary sense and not their customary reference. To cite Frege's own example, in the statement "Smith knows that Venus is the morning star" the names "Venus" and "the morning star" do not have their customary reference, rather they have some indirect reference, for, if the expression "the morning star" supposedly has its customary reference (Venus) here, then we should be able to replace that expression by any other expression also referring to Venus, e.g. "the evening star". But when we eventually try to do so there arises some difficulty. In the statement, "Smith knows that Venus is the morning star" the replacement of the expression "the morning star" by the

expression " the evening star" might result in the statement becoming false because it is quite possible that Smith knows that Venus is the morning star without knowing that Venus is also the evening star. However, if we replace the expression " the morning star" in the above statement by another expression having the same customary sense, the statement could not possibly become false. It can be concluded therefore that the reference of words "the morning star" in the above statement is the customary sense (indirect reference). To quote Frege :

We distinguish accordingly the customary from the indirect reference of a word; and its customary sense from its indirect sense. The indirect reference of a word is accordingly its customary sense.⁹

In making this distinction, Frege follows Leibnitz whose definition of substitutivity is *Eadem sunt, quae sibi mutuo substitui possunt, salva veritate* which means --- things are identical which can be substituted for one another without change in the truth. Based upon this law is Frege's argument that if two expressions have the same reference, then one expression may replace the other in any statement in which it occurs, *salva veritate*. It seems that Frege has been bound to make this distinction between the customary and indirect senses and references of expressions by his adherence to Leibnitz's law. It can be shown with the help of examples that Leibnitz's law, on the other hand, is saved by

Frege's distinction, and otherwise cannot be given the status of law for it has many exceptions.

If we consider expressions containing verbs of propositional attitude, that is, expressions occupying positions within clauses governed by such words as, "knows", "believes", "thinks" etc, we will see that they cannot be replaced in those positions by other expressions standing for the same customary reference *salva veritate*. The statement, "Smith knows that Venus is the morning star", is an example of the case. After Frege pointed out that an expression occupying these positions is not its customary reference, but only its customary sense, there remained no problem about Leibnitz's law.

Frege holds that this distinction between sense and reference not only applies to proper names and definite descriptions, but also to whole declarative sentences containing those names and descriptions. When we utter a declarative sentence, it has both sense and reference. The customary reference of this declarative sentence is its truth-value, "the True" or "the False" and the sense of the sentence is the thought it expresses. By the 'thought' of a declarative sentence Frege means the 'proposition' expressed by it. He carefully denies any psychological connotation to The thought. In passage no. 32 of the *Grundgesetze*, Frege says that the sense of a sentence is "the thought that its truth-conditions

are fulfilled.” This formulation literally equates a thought or proposition with a truth-condition, a condition under which a sentence is true.

In case of declarative sentences also, Frege’s support of Leibnitz’s law of substitutivity makes it imperative for him to distinguish between customary and indirect sense and reference. Frege has considered the truth-value of a declarative sentence to be its customary reference. But in that case the law permits counter-examples. Let us take for example a whole declarative sentence, “Copernicus believed that the planetary orbits are circles.” Here the customary reference of the declarative sentence, i.e., its truth-value is false. But it would not be correct to replace this false statement with any false statement *salva veritate*, for that would mean to say Copernicus believed all false statements, which is absurd.

Frege goes about this problem saying that the statement, “The planetary orbits are circles” does not stand for its customary reference when it occurs in a whole declarative sentence about Copernicus. The reference here is indirect and that means the ‘thought’ or the ‘proposition’ that “the planetary orbits are circles”. Frege’s distinction makes it clear that sentences, which are part of whole declarative sentences, cannot be replaced by any other sentence having the same truth - value but by any other sentence expressing the same proposition. So, the paradoxes regarding substitutivity, is avoided by Frege.

Section – III

Frege's Problem & The Attempted Solution

The distinction between sense and reference occupies an important position in Frege's theory of reference. It is central to his theory of reference, which he devised in order to solve certain problems of reference --- the puzzle regarding identity in particular. In his article "On Denoting" (1905) Russell first pointed to a group of puzzles concerning reference to which he claimed to have provided solution. Russell had rejected the referential theories of Meinong and Frege in order to establish his own. In the previous chapter we have discussed Meinong's theory. Here we will turn to Frege's attempted solutions to the problems of reference. Meinong's theory of objects made central the problem of singular reference and existence. Frege's starting point is with a puzzle about singular terms and identity.

Identity is a relation, which holds between an object and itself. The relation is confusing even at the most superficial level. Let us consider the expression ' $6 = 3 + 3$ '. One may look at it and say truthfully that what is written on the right side ($3 + 3$) is definitely not equal to what is on the left (6). So, how can the statement ' $6 = 3 + 3$ ' be true? Yet we know that it is true, that what is written on the left is identical with that on the right.

The problem here actually lies in the confusion between use and mention of words. When we say ' $6 = 3 + 3$ ', what is claimed to be identical are not the signs ' $3 + 3$ ' and ' 6 '. It is only asserted that ' $3 + 3$ ' and ' 6 ' are different designations for the same number whereas, in the case of ' $6 = 6$ ' identical designations are used. The difficulty arises only because of confusing the number ' 6 ' with the numeral ' 6 ' or VI. Frege was not troubled by this puzzle over identity at the superficial level, for he maintained the distinction between use and mention of expressions very carefully.

However, the confusion does not end here. The more crucial problem over identity can be expressed as: "How then can an identity statement $a = b$ tell us anything other than just $a = a$, if $a = b$ is true?" Let us elaborate with the help of examples. What do we want to say in the proposition 'Venus is the morning star'? Initially, Frege's explanation was that though 'Venus' and 'morning star' are different, they refer to the same thing. But soon he disposed of this theory because this way of solving the puzzle would turn the proposition 'Venus is the morning star' into a statement about our use of words. The referent of words is decided by the language users conventionally. The dog is called a 'dog', as it has always been called so by English language users. So, it can be imagined then that in some language other than English the sounds 'the morning star' should refer to Mars. This analysis in turn would mean that 'Venus is the morning star' is true only because English language speakers use the

expressions 'Venus' and 'the morning star' to refer to the same celestial body. But this consequence has to be abandoned, for do we not know for sure that in fact Venus is the morning star? And this makes our proposition true and not some arbitrary convention.

There is of course another way of solving this puzzle, which is also not convincing. In the statement 'Venus is the morning star' what is said to be identical with the morning star is the planet Venus and not the designation 'Venus'. The difficulty that arises here is that we know that no two things are identical. If that is so, are we asserting that a thing is identical with itself? In the example cited, are we saying that Venus is identical with Venus and thus stating an uninformative sentence for everyone knows that Venus is identical with Venus? But, in actuality we know that it was a great astronomical discovery that Venus is the morning star.

So, the difficulty remains and it can be summarised in the form :

Since everything is identical with itself and nothing is identical with anything else, how can an assertion of identity ever be informative? Either what is referred to on one side of identity sign is the same as what is referred to on the other, in which case one is just saying something uninformative such as 'x is x', or else what is referred to on each side is different, in which case what we are saying is false. But 'Venus is the morning star' and host of other assertions of identity are neither false nor uninformative.¹⁰

Some philosophers have tried to solve this problem in yet another fashion. They hold that the 'is' used in the statement 'Venus is the morning star' is not meant

as a symbol of identity, but it is applied here as a sign of equality. So, Venus and morning star are not asserted to be 'identical in all respects', but 'equal' or 'identical' in some respects.' The term 'identity' and 'equality' have then to be clearly distinguished. The problem lies in the fact that 'identical in some respect' implies that Venus and morning star differ in some respect, and that is certainly not true.

Let us now see how Frege tried to solve by the application of this theory the puzzles regarding reference, viz. the problem of identity, the puzzle of negative existentials and puzzles concerning exclusive middle. The first puzzle we will discuss would be the puzzle of identity, which occupied the most important position in Frege's works. The puzzle is : How can 'a = b' be both non-vacuously true and different from 'a = a'?

In order to solve this puzzle over identity, Frege takes refuge in his distinction between sense and reference. According to him statements of identity are true and also informative for what lie on either side of the sign of identity differs in sense while their referent may be same. The puzzle is a result of our confusion between 'sense' and 'reference' of expressions. In the statement 'Venus = the morning star' both 'Venus' and 'morning star' refer to the same thing --- the planet Venus, which makes the above statement true. However, the statement is informative because they differ in 'sense'. That constitutes the difference in

cognitive value of the statements 'Venus is the morning star' and 'Venus is Venus'.

The sense and reference of a declarative sentence are the functions of the sense and reference of various signs occurring in that sentence. A point, which is to be kept in mind here, is that, the reference and (presumably) the sense of a sign change with sentential context in which it occurs. For, it is sometimes mistakenly assumed that the truth-value of a declarative sentence will remain unchanged if, in that sentence, we replace a sign by another sign having the same reference. This kind of assumption leads to the other puzzle of identity regarding George IV, Scott and the author of *Waverley*.

Let us consider the statement that George IV wished to know whether Scott was the author of *Waverley*. Now since 'Scott is the author of *Waverley*' is true, one concludes that 'Scott' and 'the author of *Waverley*' always have the same reference. But this is incorrect. In the context of the statement 'George IV wished to know whether Scott was the author of *Waverley*' the reference of the signs are as different as their senses. Thus it is incorrect to conclude George IV wished to know whether Scott was Scott. It is a mistake to substitute 'Scott' for the 'author of *Waverley*' here. Since the reference of a declarative sentence is its truth value, we may substitute for, 'the author of *Waverley*' any other sign having the same reference as it has in the sentence 'George IV wished to know

whether Scott was the author of *Waverley* without changing the truth value of this sentence. But, to substitute 'Scott' for 'the author of *Waverley*' in this case is a mistake.

One of the two other problems is the puzzle of negative existential statements: How is it possible to deny the existence of Pegasus? If 'Pegasus' has a sense attached, then 'Pegasus does not exist' also can have a sense, that is, it can express a proposition although 'Pegasus' does not have a reference. Frege held that sentences of fiction, myth, etc. did express thoughts or propositions even though they contained signs, which do not have any reference.

Of course such sentences would not have a reference (truth-value) because since the reference of a sentence is a function of the references of the constituent names contained in it, sentences containing names without references would be without reference themselves.¹¹

But surely 'Pegasus does not exist' has a reference (truth value), which is true though it contains a fictitious character 'Pegasus' which does not itself have a reference. How can Frege explain this? In fact, according to Frege, in a well-constructed language, there should not be any existence of names without reference. In such a language the problem of negative existentials would therefore not arise and the problem of the law of excluded middle will also disappear. The problem arises in the case of propositions like, "The present King of France is bald", because 'The present King of France' has no reference.

Since there is no king of France, he is neither on the list of bald people nor on the list of non-bald people. In a 'well constructed' language, 'the King of France' would have to appear on one of the lists.

According to Leonard Linsky, existence, for Frege, was a second level concept; a concept, which contained at least and at most one thing only. Again, Frege was of the opinion that sense of proper names and some definite descriptions were same. For example, the sense of 'Homer' may be the same as the sense of 'the author of *Illiad* and *Odyssey*'. If this is so, then 'Homer does not exist' would mean ---- 'It is not the case that one and only one person authored the *Illiad* and *Odyssey*'. Here also the problem of negative existentials cannot arise for there is not any reference less names. To quote Linsky :

I have found no evidence that Frege ever took this problem, which loomed so large for Russell, seriously at all. The solution which I have just offered is never explicitly formulated by Frege as an answer to the problem of negative existentials, rather this solution is a by product of Frege's treatment of existence as a second level concept.¹²

Russell we know did not accept Frege's solution and thought that the difficulty over identity occurs as a result of confusion between proper names and definite descriptions. We will later make an evaluation of Russell's criticism of Frege's theory and also the tenability of his own theory.

Notes and References on Chapter 3 :

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3. *Nachgelassene Schriften*, H. Hermes (ed.), et.al., Hamburg: 1969, p.155. Transl. quoted *Ibid*.
4. *Kleine Schriften*, I. Angelli (ed.), Hildesheim : 1969 p. 360. Transl. quoted *Ibid*.
5. *Ibid*, p.192.
6. A. J. Ayer, "Frege, Russell and Modern Logic" in *The Great Philosophers*, Bryan Magee (ed.), p. 304.
7. "On Sense and Reference", in *Translations from the Philosophical Writings of Gottlob Frege*, M. Black and P. T. Geach (eds.), New York: Philosophical Library, 1952, p. 57.
8. *Ibid*.
9. *Ibid*; all quotations of Frege are from this source unless specific indication to the contrary is given.
10. L. Linsky, - *Referring*, London: Routledge and Kegan Paul, 1967, p. 6.
11. *Ibid*, p. 28.
12. *Ibid*, p. 29.

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