There have been in twentieth century, in the main, two kinds of approaches to study the problem of perception. In one kind of approach, the concern was merely to make the existence of physical world free and independent from its experience. The reducibility of existence of things into their experiences was one of the chief grounds upon which the idealistic philosophy based itself. The argument was embodied in Berkeley's famous dictum esse est percipi. Now a refutation of this proposition was what solely and simply interested the anti-idealist philosophers of this century. That there is a physical world existing independently of our experiencing it was a matter of faith for the realists and their task was merely to disprove all those philosophies which did not admit it. A typical representative of this approach was G.B. Moore in Britain who allegedly set himself to work for 'refuting idealism' and 'defending common sense'. In America, both the schools of Neo-Idealism and Critical Realism were concerned to refute idealism and establish the possibility of the existence of an objective physical world independent of experience. The difference between the two
schools consisted only in their respective claims of the
direct and mediated knowledge of the world.

The other approach of which Russell has been the
chief representative does not, like the first, start with
any prefixed aim. It's aim is rather to resolve the para-
dox which is issued when a logical analysis of the problem
is made. It first makes a critique of commonsense or naive
realistic view of perception according to which perceptual
knowledge consists in a simple confrontation of mind with
an outside physical object through which the former comes
to know the latter and the latter becomes known to the
former. There are a number of corollaries which follow this
view which philosophers found reason to doubt in. One
corollary is, for example, that the perceived object is
something public and objective and not merely a private datum
of an observer. The other one is that through perception
the real characteristics of the object is revealed.
Philosophers on the other hand say what we experience is
always private to us and that perception always gives a
partial and mutilated view of the object perceived.

The chief reason upon which philosophers reject common-
sense propositions about perception, stems from what is called
'the argument from illusion' which is also corroborated by
elementry scientific facts. It is realised that things as they appear must be different and distinct from what they are really in themselves. A straight looking stick looks bent when it is half placed in water. Now it cannot be said that the stick itself has undergone such drastic modification when put in water. It is much more natural to say that its appearance has changed. This change in appearance due to changed condition is characteristic not only of illusive perceptions but of genuine perceptions as well. Because, the two are qualitatively quite a like. A table gives different appearances to different persons or even to same person in different positions and it is clear that neither of the appearances can be said as the real table.

There is thus a duality between the appearances of a thing and its reality in each case of perception. What we directly come across are appearances and the real things are known, if at all, by virtue of their being inferred from the appearances. It is clear that if we adhere to empiricist theory of knowledge strictly i.e. if we hold that only experienced things can be said to be existing, then the external physical things will be non-existent. On similar grounds the minds or selves can also be shown to be non-existent. Because, in our introspection we never experience our bare selves. We, instead, experience only bits of
sensations which we suppose are inhered by mind. External material things and minds are, thus, both non-existent in as much as they are not known to exist. What we can be sure of at a given moment is the sensation occurring to me at that moment. Sensations of past moments or of moments to come are also not knowable because they also involve inferences.

The theory according to which our whole knowledge of universe is confined to the sensation occurring to me at that moment is called in philosophical terminology, 'solipsism' and historically it was first upheld by British philosopher David Hume in seventeenth century. As is clear, it rendered our whole knowledge of past, present and future fallible and foundationless. This was, obviously, an odd and unpalatable theory and many philosophers after Hume tried to reconstruct knowledge by providing it new bases. One such attempt was made by Immanuel Kant in eighteenth century who, in his own words, was awaken by Hume from his dogmatic slumber. Kant's reconstructive philosophy, although profound and sublime as it was, contained many lacunae and was therefore considered implausible by the subsequent generation of philosophers. In late nineteenth century this problem was again taken up by British philosopher John Stuart Mill. But as by that time Hegelianism has come to dominate the philosophical environment
Mill's theory, due also to some of its own inherent defects, could not receive much attention and the problem was thrown into background.

In twentieth century, as just said, most of the philosophers preoccupied themselves with refuting idealism taking for granted the realities of mind and material things. They, thus, did not come to the grip of the riddle which was rendered exposed by Hume. It was to the credit of Bertrand Russell that he realised what was at stake. Like Kant, he also tried to overcome Humean challenge by developing a philosophy which could provide knowledge with new bases and foundations.

For about fifty years, he grappled with this problem. He developed successively a series of theories to answer the Humean challenge to knowledge. Barring his position in his first philosophical work Problems of Philosophy in which, he was, like his other contemporary realists, an epistemological dualist, his alleged aim in philosophy was to bridge the gulf between the world of sense (or of perception) and the world of physics. In physics we assume the existence of objective material things which we think cause their appearances to human mind and it is this causation which makes our knowledge of external world possible. But what in fact happens is other way about. In actual fact it is our mind
which becomes aware of appearances and then we infer from them an external world. The external physical world being inexperienced and inferred is strictly not known to be existent. There is thus created a gulf between the world of what we experience and the world of physics which, Russell thought, every philosophy of perception must bridge.

Russell was pretty clear in his mind that if we wholly exclude the inferred things from the scope of genuine knowledge then we will inevitably be led to solipsism, which due to its "barren" and "unpractical" nature was altogether implausible. He never lost sight of the fact that a logical carrying out of the empiristic analysis of knowledge leads by necessity to the negation of the very possibility of knowledge. His endeavour then was to make minimum of assumptions to dispense as much as possible with the inferred entities. The inferred entities should be admitted only when they are indispensable. Moreover when there is freedom to choose between inferring something, though unexperienced but is experiencible and something which is wholly inexperiencible it is more proper to choose the former because that would be a 'lesser evil'.

It is important to note that Russell's interest in theory of perception — or in philosophy in general — has
not had any independent source. He was driven to discuss this problem due to certain considerations of his logical theories which seemed to him to have direct bearing upon the problem of knowledge. His early distinction between knowledge by acquaintance and knowledge by description was resultant of a corresponding distinction that he made in the domain of logic between names and descriptive phrases. Generally we think that descriptive phrases stand for their objects in the same wise as the names. But Russell found that this would involve some great difficulties. George IV wished to know whether Scot was the author of Waverley and if the phrase 'author of Waverley' stood for the object Scot then what George IV wished to know becomes whether Scot was Scot? Clearly this is absurd. Names and descriptive phrases, therefore, must be distinguished. For Russell, the latter does not stand for an object but stand for certain characteristics which we think apply to an object.

Logically, a name is what refers to an object which is purely existent. Now in strict logical sense what is purely existent is what is given in our experience i.e. direct experience. Clearly, what is given in our direct experience are sensible qualities like red, hardness, sweetness etc. Russell calls these sensible qualities sense-data and their knowledge, knowledge by acquaintance. Knowledge
of things which are inferred from these sense-data are knowledge by description as they are described by and analysable into 'names' (simples or individuals) which stand for sense-data. It may be seen that according to these definitions most of our words which we take as names are not names at all. The words like 'Scoot' or 'table' or 'horse' are not names as they are known to exist only through sense-data i.e. the qualities which they supposedly inhere.

Knowledge, in strict logical sense, is knowledge by acquaintance i.e. of sense-data. The datum occurring to me at present moment is all what I can be sure of knowing at present. The descriptive knowledge of material things is inferred and therefore uncertain. When I say I see a table, what actually I know is a red patch of colour; my knowledge of table to which I think the given datum belongs has grounds other than experiential. I think that table must exist whether or not I see it. When the table is covered by a cloth, we do not see the table. But as the cloth cannot rest miraculously in the air, we infer that there is a table which the cloth covers. Similarly, if I reduce for example the cat into the data that it gives to me, then our saying that cat is hungry would mean that sense-data are hungry which is preposterous. Again, I cannot say that the cat becomes non-existent when I shut my eyes and comes again in existence when I reopen them. It is much more natural
to say that the reasons of my seeing and not seeing the cat are to be found in myself and not in the cat itself. Thus, our "instinctive faith" in the persistence of material things to cause different appearances leads us to assert our knowledge of them.

In his first philosophical work, *Problems of Philosophy*, Russell admitted the knowledge of material things as based upon instinctive faith. But what about the mind whose contact of sense-data constituted a case of knowledge? Is it known directly i.e. by acquaintance or indirectly i.e. by description? Russell is hesitant to give any clear and categorical answer to it. On the one hand, it is clear that when I think introspectively of myself, what I come across are bits of thoughts and not the self disembowelled of its contents. This means that the bare self is known only indirectly. But on the other hand, man is said to be privileged in being self-conscious as against the animals who are only conscious. An animal only sees the sun, but I know that I see the sun. This means that in a case of knowing the whole object of my knowledge is 'I (or self) acquainted with-sun'. That is to say, the self and datum both are objects of my acquaintance in a case of knowing.

The knowledge of bare selves or minds, whether direct or indirect, must be admitted, as it is indispensable in
explaining the perceptual knowledge. Russell, indeed, refuses to believe the mind as known by acquaintance in his subsequent philosophy of phenomenalism. He however retained asserting it on the ground that it is a necessary term in the occurrence of relation called 'knowing'. Knowledge, according to him, is essentially a relational occurrence. When mind comes in relation to data that the knowing occurs. Both the subject and object are necessary and any attempt to reduce one into other is, according to Russell, doomed to be a failure where the explanation of perceptual knowledge is required.

Idealists reduce the objects into subject saying that in every case of knowledge, it is our knowing of a thing that makes that thing known. Were the mind non-existent, the knowledge and for that reason known object also could not exist. But for Russell this was a fallacious reasoning. In a case of experiencing, the object experience must be distinguished from the act of experiencing. The latter is mental, but the former need not necessarily be mental. we are conscious of data; or, in other words, data is what is given or presented to my mind which means that it is independent of and external to mind. The knowing is a mental occurrence while the object known is something physical.

Russell also rejects the content theory upheld by American critical realists according to which the sensa being
dependent upon mind are part of it. One stick looks straight and bent in two different conditions and it is argued that the dissimilarity must be in the appearances not in the stick itself. Thus, the appearances pertain to mind and parts of it. It is not the stick itself which has become bent when dipped into water, but our experiencing it has made it to appear defectively. Russell, however, denies the argument by saying that the so-called defective appearances are in fact not defective. The stick, in as much as it is seen bent, it is bent. It is not at all wrong to say that visually the stick is bent. It would however be wrong to say that tactually also it is bent. A ghost may also be real in as much as it is seen. Thus, the fact of a thing as appearing in an unusual manner cannot make it unreal or a fancy of mind. The appearance is quite real, objective and external to mind.

Besides idealism and content theory there is the Jamesian doctrine of neutral monism which stands for the reduction of mind and making the mere sense sufficient to explain knowledge. Both mind and material substance are inexperience and therefore non-existent. Only sense are known and it is their inter-relation that constitutes knowing. But Russell rejects this doctrine also. James said that one sensum comes in contact with other sensum and the event called knowing occurs. From
this it followed that if only one datum occurred in the
biography of a person, he could not know anything. But this
is incorrect. Russell says that logically it is perfectly
possible that a mind exists for a fraction of second, experi-
ces a datum and ceases to exist. Moreover, when I experience
a sensation, there is a sort of immediacy and immediacy between
myself('I') and the object ('this'). This immediacy cannot be
explained by the non-relational theory of neutral monism.
The argument is what Russell calls argument from optative par-
ticulars. Russell also says that even if you explain perceptual
knowledge without invoking mind, you cannot explain the 'beliefs;
'remembering', 'knowledge of non-temporal objects' etc., which
are purely mental occurrences. In all of these no external
presentation is involved, yet we know that we know something.
Positively, Russell says that the mere fact that mind is not
directly known does not make it to be non-existent. That there
is a mind is shown by the fact of privacy and subjectivity that
characterise an experiencing. When I experience something,
what I experience is strictly mine. The object I experience
may be experienced simultaneously by other people. But my
experiencing of the experienced object is my own and cannot
be experienced by another person. Thus, though inexperience,
mind must be believed because in its terms alone we can
explain the essentially relational character of perceptual
knowledge.
In our knowledge of the external world which represents Russell's second stage in the development of his ideas concerning the problem of perception, Russell felt it necessary to assume the mind to render perceptual phenomena explicable. He however did not feel the same necessity in regard to material substance. The principle of Occam's razor made it desirable to reduce, if possible, the inferred entities into their functions. Russell, in this book, formed a construction of what he called "sensibilia" and showed it doing all the functions that were done by substantial material things. Sensibilia included actual sensa plus those hypothetical which were inferred from the former. This inference of hypothetical sensa from actual ones admitted lesser risk as compared to the inference of substantial things from them. It was less hazardous to reduce from the sense-data the entities of same nature and status than to deduce from them the things of radically different nature. And this was the justification behind Russell's endeavour to replace the material things by their sensible functions. The greatest advantage of it was that if it was believed there did not remain the gulf between the world of sense and the world of physics which is caused when we admit physical things on an a priori basis.

But phenomenalism is a half neutral monism. The analysis of knowledge that leads to phenomenalism, when carried further, leads to neutral monism. We reject the
material substance on the ground of its inexperienced and inferred character and we can do the same with regard to mental substance as well. The theory of neutral monism was, indeed, for many reasons, quite luring for Russell. For one thing it involved minimum of assumption and being so conformed fully to Russell's formula of Occam's razor. Moreover, it was in consonance with the results of some of new theories in physics and psychology. Quanta physics and theory of relativity disembowelled matter of its 'materiality' and behaviouristic psychology eviscerated mind of its 'mentality'. It was thought that a synthesis can be made between these two opposite trends by treating the ultimate stuff as metaphysically neutral. In Russell's own philosophy, the sensibles were already doing the function of material things and if mind could be dispensed with, they could also shown to be doing the function of mind.

Russell wished he believe in neutral monism. But above stated objections prevented him doing so. He, however, made great efforts to overcome these objections and when he wrote Analysis of Mind, he was a full-fledged neutral monist. He abandoned the objection based upon emphatic particulars saying it too abstract and farfetched. The mental occurrences like beliefs, memory etc. were explained by saying that they are not mental in their essence. They are intrinsically alike
with sensations which are physiological and neutral. Only they observe laws which are different from the laws observed by sensations and physical objects. Physical objects are governed by physical laws and are studied by physics. Beliefs, memories and other such occurrences observe psychological laws and are studied by psychology. Sensations are neutral in being subject to both physical and psychological laws.

Perception, according to this theory, consisted in a sensation coming in relation to 'mnemic phenomena' to which it itself gives rise. When, for example, I experience a prick due to the pinching of some needle, the occurrence becomes associated with a similar occurrence occurred in my biography in past. Photographic plates also experience the events in as much as they record them, but they are not said to 'perceive' them, as there does not arise in their context the mnemic association characteristic to men. Experiences do not only give rise to mnemic phenomena but are also influenced and modified by them. My present experience of the words which I see in the books would have been different if I had not already experienced them on many occasions in past.

This definition of perception was non-relational in that it explained perception without bringing in the notion of mind. A sensation with its mnemic associates constituted
perception. Russell presented this theory in his *Analysis of Mind* which was published in 1921. But when again he came to write his *Analysis of Matter* (published in 1927) he abandoned this theory. Russell thought that this theory, although logically unassailable, was against certain very strong assumptions of commonsense and physics. In physics, for example, we believe in universal causal laws. We see on many occasions a certain event producing another event and postulate a law about the causal connection between the two events. On the basis of this law, we infer the presence of an unexperienced cause-event when the effect-event is experienced. It is clear that if in a case the effect-event is actual, its cause-event must also be actual whether or not experienced. But according to non-relational theory a cause-event, when unexperienced, existed only hypothetically or 'ideally'. This implied that even an ideally existing cause could produce an actual effect. This is clearly improbable; it is much more natural to say that an actual cause exists whether or not experienced, when the effect is experienced.

Our belief in causal laws of physics, thus, leads to our belief in the external causation of our knowledge. Russell in the last phase of his philosophical development, commits to this belief and thereby makes a retreat to his original dualistic theory. He calls his new theory "causal theory of
perception" and in this he reasserts the notions of sense-data (now called 'percepts') and the relation of knowing (termed here as 'noticing'). He however, does not now believe in mind or material things as substances as he did in his early formulation of the problem. He continues to be a neutral monist believing in the neutrality of world stuff. He develops here his event-ontology according to which our universe is composed of a countless number of events. A group of structurally similar or semi-similar events arranged about a centre constitute a thing. The external things, the human organism and the brain are all compositions of events. When an external event falls within the experiential field of a human organism, there starts a process of events which ends upon the body of person and from that place another process of events stems and reaches the brain in which the event called 'percept' occurs. The 'percept' is the knowledge of event outside the body of observer and is structurally similar to it. From percept we can know only the structural properties of external event, but not the intrinsic properties of it. For example, if our 'seeing' of the sun is round then the sun is physically also round; but what sun is in itself cannot be known by the seeing.

It may not be misunderstood that Russell's retreat from non-relational epistemology to causal epistemology in
which both mind and external material cause were admitted, amounted a betrayal of his own logical principle of economy as embodied in Occam's razor. For, as just said, the mind and matter now believed by Russell were not substances which were abandoned due to their being radically dissimilar in nature with percepts from which they were to be inferred. What Russell called mind and matter at this stage were only events which were similar in their status and structure with the percepts and therefore their inference from percepts involved only that amount of risk which was involved in inferring the ideal elements. The amount of risk in both theories was equal. The latter theory had, however, an edge over the former in being more in conformity with the assumption of science and this was the ground for Russell's preference of it.

Our statement of Russell's causal theory, by the way, clarifies a confusion which has featured the discussions of many of Russell's commentators about his position in A. of Matter vis-a-vis A. of Mind. They have failed to resolve an apparent contradiction which arises due to Russell's believing on the one hand a neutral monistic theory of reality and on the other a causal theory of knowledge. Neutral monism means a denial of the duality of mind and matter whereas for causal theory there must be a material cause to produce percepts and there must be a mind to receive them. The riddle can be
removed by seeing that Russell's present distinction of mind and matter was epistemological rather than metaphysical. Metaphysically, both the percept and the external material event causing it were same. Former was called mental because it was known "otherwise than by inference" and the latter was called material because it was known only by inference. Thus, Russell became a causalist while being within the framework of neutral monism.

Now summing up the entire discussion, it may be said that Russell, in his philosophical endeavours, had both his achievements and failure. Russell's philosophy was, in a sense, a big failure because he could not achieve what he was originally after. His problem was a Kantian problem. That is, he wanted to rebuild the edifice of knowledge by providing it with new foundations which were shaken by Hume. Hume had shown all knowledge to be having inevitably a subjective element; objectivity in knowledge, according to him, was a myth. The things which we think we know are in fact not known to us; their knowledge is inferred from what comes in our direct experience. There is thus a gap and gulf between our experiential and non-experiential knowledge. This gulf could be bridged only by eliminating the element of inference and showing the knowledge of world as being grounded in pure experience. Russell directed his efforts to this end but
despite persistent efforts, success eluded him. The logical
destiny of empiricism remained solipsism. Knowledge of the
world could be established only by assuming apriori the truth
of what Russell called "non-demonstrative inferences".

Besides this failure which Russell was frank enough
to admit in very clear words, his successes are also immense.
No other philosopher of his time could claim to have thought
upon this problem so passionately and so 'dispassionately' as
Russell did. He was at least able to state what was the nature
of human knowledge and what were its scope and its limits.
The limitations of Russell’s theories were not due to any
faulty reasoning on his part; they were the limitation of
human knowledge itself. Man could not transcend or overcome
these limitations and Russell has the credit to bring this
fundamental truth home.

We may conclude our discussion by giving here three
passages from what Russell wrote by way of "biographical notes
which he contributed to the library of living philosophers’
edition on B. Russell’s philosophy. We find in this, in
Russell’s own words, what was Russell’s problem and what
successes or failure he achieved and how.

In some respects, my published work, outside
mathematical logic, does not at all completely
represent my beliefs or my general outlook. Theory
of knowledge, with which I have been largely concerned,
has a certain essential subjectivity; it asks "how do
I know what I know?" and starts inevitably from personal experience. Its data are egocentric, and so are the earlier stages of its argumentation. I have not, so far, got beyond the earlier stages, and have therefore seemed more subjective in outlook than in fact I am. I am not a solipsist, nor an idealist; I believe (though without good grounds) in the world of physics as well as in the world of psychology. But it seems clear that whatever is not experienced must, if known, be known by inference. I find that the fear of solipsism has prevented philosophers from facing this problem, and that either the necessary principles of inference have been left vague, or else the distinction between what is known by experience and what is known by inference has been denied. If I ever have the leisure to undertake another serious investigation of a philosophical problem, I shall attempt to analyse the inferences from experience to the world of physics, assuming them capable of validity, and seeking to discover what principles of inference, if true, would make them valid. Whether these principles, when discovered, are accepted as true, is a matter of temperament; what should not be a matter of temperament is the proof that acceptance of them is necessary if solipsism is to be rejected."

"My intellectual journeys have been, in some respects, disappointing. When I was young I hoped to find religious satisfaction in philosophy; even after I had abandoned Hegel, the eternal Platonic world gave me something non-human to admire. I thought of mathematics with reverence, and suffered when Wittgenstein led me to regard it as nothing but tautologies. I have always ardently desired to find some justification for the emotions inspired by certain things that seemed to stand outside human life and to deserve feelings of awe. I am thinking in part of very obvious things, such as the starry heavens and a stormy sea on a rocky coast; in part of the vastness of the scientific universe, both in space and time, as compared to the life of mankind, in part of the edifice of impersonal truth, especially truth which, like that of mathematics, does not merely describe the world that happens to exist. Those who attempt to make a religion of humanism, which recognizes nothing greater than man, do not satisfy my
emotions. And yet I am unable to believe that, in the world as known, there is anything that I can value outside human beings, and, to a much lesser extent, animals. Not the starry heavens, but their effects on human percipients, have excellence; to admire the universe for its size is slavish and absurd; impersonal non-human truth appears to be a delusion. And so my intellect goes with the humanists, though my emotions violently rebel. In this respect, the "consolations of philosophy" are not for me."

"In more purely intellectual ways, on the contrary, I have found as much satisfaction in philosophy as any one could reasonably have expected. Many matters which, when I was young, baffled me by the vagueness of all that had been said about them, are now amenable to an exact technique, which makes possible the kind of progress that is customary in science. Where definite knowledge is unattainable, it is sometimes possible to prove that it is unattainable, and it is usually possible to formulate a variety of exact hypotheses, all compatible with the existing evidence. Those philosophers who have adopted the methods derived from logical analysis can argue with each other, not in the old aimless way, but cooperatively, so that both sides can concur as to the outcome. All this is new during my lifetime; the pioneer was Frege, but he remained solitary until his old age. This extension of the sphere of reason to new provinces is something that I value very highly. Philosophic rationality may be choked in the shocks of war and the welter of new persecuting superstitions, but one may hope that it will not be lost utterly or for more than a few centuries. In this respect, my philosophic life has been a happy one."