Chapter V

DOCTRINE OF NEUTRAL MONISM (II)
(Causal Theory of Perception)

Preliminary Remarks

Russell's The Analysis of Mind appeared in 1921. This was followed by his another work with a corresponding title. The Analysis of Matter which appeared in 1927. This work is very important in that it contained Russell's most mature ideas regarding various philosophical issues and almost final words about the problem of perception. As far as the latter problem is concerned, his subsequent works An Outline of Philosophy (1929), An Enquiry into Meaning and Truth (1940) and Human Knowledge, Its Scope and Limits (1948) are merely rewrites in different contexts and in slightly abbreviated forms. Even when the wrote his philosophical work, My Philosophical Development in 1959, he did not have anything new to add in what he had already said in Analysis of Matter.

There has been a lack of clarity on the part of Russell's critiques and commentators and no less on the part of Russell himself as to his position in Analysis of Matter vis-a-vis his position in Analysis of Mind. In the latter, as has been seen in the preceding chapter, Russell committed himself to a theory
which was admittedly non-relational i.e. which repudiated
the causal connection supposed to be existing between the
object and the subject. Neutral monism held both mind and
matter to be nonexistent and hence any relation there-
between to constitute knowledge was a myth. Now in
**Analysis of Matter**, Russell advocates very explicitly a
causal theory of perception which presupposes the duality
of mind and matter and is therefore against the conclusions
of neutral monism. On the other hand, he continues to call
himself a neutral monist denying the mental and material
substances.

A failure in reconciling these two apparently divergent
traits in Russell's philosophy at this stage has made the
discussions of his various commentators on this subject
bristled with a lot of confusions. W.T. Stace, for example, in
a parenthesis of his article "Russell's Neutral Monism"
contributed to *philosophy of Bertrand Russell* (ed.by Shilp)
talks as though Russell in the **Analysis of Matter**, in the
main, drifted from his position in **Analysis of Mind**. "The
Analysis of Matter (1927)! he says, "though it contained
some elements of Neutral Monism, belongs on the whole to a
later phase of Russell's thought in which Scientific realism
and causal theory of perception finally gained the upper
hand. I understand (he continues) that Russell himself
does not recognise that there is any important difference
between what I would thus distinguish as two phases of his
thought ......")
On the other hand is Ronald Jager, the author of The Development of Bertrand Russell's philosophy who seemingly does not see any important difference in the philosophies envisaged in two books. He contrasts Russell's neutral monistic theory of perception with that which he (Russell) advocated as being a phenomenalist, implying as though the neutral monism were a single theory. At one place he says: "The theory of perception which he (Russell) builds into neutral monism is different in fundamental respects from the theory built earlier into his logical atomism." It is clear that for the author, there is some unitary doctrine which Russell adheres to in his two consecutive phases, which for him differs in fundamental respects with his earlier philosophy. The fact is however not so simple. The epistemology of A of Matter, as will be seen in ensuing pages, is radically dissimilar to that in A of Mind. And the two are radically dissimilar to that of phenomenalism.

What makes the matter worse confounded is the fact that Russell himself betrays on his part a lack of clarity as regards the issues at hand. Although in My Philosophical Development, he speaks of the "new problems" which allegedly arose "as a consequence of the abandonment of sense-data," he does not fully realise the extent of the change which his ideas underwent when he came to write his later book(s).
In the *Philosophy of Bertrand Russell* (ed. by Shelly), Russell, while replying to the criticisms raised by Stace says; "I am rather sorry that he (Stace) excluded the *Analysis of Matter* from the scope of his discussion, because, although there is some change of view in that book, in the main, there is a fuller and more careful statement of theories not very different from those of *The Analysis of Mind*. I cannot understand (he continues) why Mr. Stace holds that neutral monism must not regard physical objects as causes of sense-data."¹⁴ (Emphasis added)

But, to be sure, the change from an admittedly non-relational epistemology to a causal or relational epistemology was not a minor change. What is then the solution? The puzzle, it seems, can be resolved by distinguishing the epistemology of neutral monism from its metaphysics. It may be contended that Russell became epistemologically a causalist while metaphysically persisting as a neutral monist. It is generally presumed that a non-relational theory of knowledge is a logical concomitant of the doctrine of neutral monism as it denies the existence of dual realities of mind and matter which supposedly come in relation to each other to constitute knowledge. But, at least in the case of Russell, this presumption is not applicable. Various considerations from the quanta physics and theory of relativity enabled him to develop an ontology from which he was able to derive a causal theory of knowledge without indulging in any
inconsistency. This point will be elaborated and established in the pages that follow.

Another question that may be briefly considered here is this: what were the actual reasons which led Russell to abandon his nonrelational theory of perception and to adopt in its place a causal theory?

Here again no definite answer can be obtained from Russell's own writings. Although at one place in The Analysis of Matter he has dwelt upon to consider some objections against the doctrine of phenomenalism (defined by him as a view that there are only percepts which means that his actual reference is to the neutral monism of A of Mind, because phenomenalism in the sense in which it was presented in External World admitted mind too besides percepts), it should not be supposed that it were these objections which led him to abandon his former position. Infact, as may be gathered from the relevant text, he did not develop these objections prior to his re-adopting the causal theory but only later to it.

Allowing the use of a little imagination, it may be said that it was Russell's inner temperamental urge to conform his philosophy with the scientific hypotheses that led him to adopt causal theory. He seems to have thought this theory more in conformity with the results of physics
than the non-relational theory of Jamesian brand. Physics tells that knowledge occurs when some light currents proceed from an outside physical object and strike the nervous system of the perceiver and a message is thereby sent to the brain on which the image of that object is imprinted. This interpretation of knowledge, of course, involves inferences. But inferences are indispensable so long as we do not, as Russell really did not, wish to plunge into solipsism. Any theory of knowledge which is not solipsistic, must admit inferences i.e. the possibilities of objects which are not known by direct experience but are derived from it. Phenomenalism as well as neutral monism admitted inferences when they included among the sensations those ones which were not one's data at a given moment. Russell thinks the causal theory as "a good scientific theory" i.e. according to him" its verifiable consequences are never found to be false". Moreover he thinks that physics might collapse in case we do not accept the perceptions to have external causes.

**Fresh Formulation of the Problem**

According to Russell there are two ways to approach the problem of perception. One way is that of physics in which the subject of concern is the object of perception not its act. A physicist assumes the truth of Physics and then proceeds to ascertain the physical status of percepts.
A percept is something which is known and it is not necessary for him to discuss what it is that makes it known i.e. the process of knowing. The question that what is the nature of relationship between the knower and object known is a concern of psychologists.

The other way to approach the problem which may be called philosophical, on the other hand, takes into account the question of 'knowing'. The question of the intrinsic nature of the process of 'knowing', for philosopher, however, is important not for its own sake. He discusses it for the sake of light that it throws upon the character and extent of human knowledge.

Russell reformulates the problem of perception by first taking up the question of knowing. In his *Problems of Philosophy* and *Our knowledge of External World*, he described the relation occurring between the knower and the known as 'acquaintance' meaning by it a simple and straightforward encounter between subject and its object. But when in *Analysis of Mind*, he came to adhere to the theory of neutral monism, he dropped altogether the notion of acquaintance. There was no independent mind to be acquainted with the object. Therefore the whole notion of acquaintance was redundant. The data or the sensations were in themselves knowledge in being accompanied with mnemonic phenomena.
But again when he comes to his 

A. of Matter, he becomes sceptical about the feasibility of this view. He betrays a great sensitiveness towards the basic distinction and duality between the act of knowing and the object of it. In the experiences of headache or other such feelings and in smells and tastes this duality is not conspicuously manifest. The occurrence of toothache may be identified with the feeling of pain. But in visual and tactual experiences, the duality is irreducible. Memory also provides the instance in which the distinction between the act of recollecting and the object recollected is conspicuous. Jamsean theory of neutral monism was thus implausible now for Russell inasmuch as it denied this duality.

Should then Russell revert to his original notion of 'acquaintance' to explain the relation between the knower and the known. Partly yes, i.e. insofar as there is a duality in knowledge some sort of cognitive relation is inevitable. He however says that mere acquaintance i.e. a simple encounter of subject with object cannot wholly explain the exact nature of relation between the two. Take for example the case of a person who, walking in a wet day, suddenly steps aside after seeing a puddle. Obviously, his behaviour is not wholly deliberate or conscious i.e. he does not say to himself that there is a puddle and it would be bad to step into it. However, if asked why did he step aside, he would certainly say that because I did not wish to step into puddle. He knows
retrospectively, when the attention is drawn, that he had a visual perception to which he acted appropriately. The fact that he remembers the incident shows that he must, in some sense, have known it. But what would have he known and in what sense if his attention was not drawn to the matter? In other words what is the nature of his knowing the puddle as against merely seeing of it?

Russell refuses to accept the Behaviourist's reduction of knowing into 'acting appropriately'. According to behaviourism, it was the bodily action of stepping aside which is what the knowing of the puddle amounted to. But, Russell says, there may be other things to make me step aside. For example, there may be some thorns lying around the puddle and my stepping aside may be due to my desire to avoid them. In that case the same action would account for knowing the thorns and not knowing the puddle. Moreover, the word 'appropriate' may carry different meanings in regard to different subjective desires. It might be that the person walking may for some reason think it convenient to step in the puddle. In that case his stepping aside would mean that he did not know the puddle. It may also be added, in the last, that 'acting appropriately' is characteristics of scientific instruments like galvanometer and thermometer as well but no one would say that they know anything.

What then is the exact nature of knowing? Russell says that "noticing" may be an appropriate word to describe it. It
stands for the sensible presence of the object plus something more i.e. the attention. Certain occurrences, due to their intensity or emotional significance in our life, catch our attention and we say that we know them. A loud noise or a faint music which I like commands my attention and I immediately come to know that. This is not to say that the events which are not attended to, which are not noticed or which are thought to be experienced unconsciously are quite unknown. Russell, in fact, says that 'noticing' is a matter of degree. In one sense it may be said that an event is 'known' if it rouses in us any emotion, however faint if it pleases or displeases us, if it interests or bores, or if it makes us surprised or if it is just what we were expecting.

With the reappearance of the relation of 'knowing', the 'data' which was dropped along with it in Analysis of Mind is also resurrected. It is, however, now given the name "percepts", and its concept is also somewhat modified. It is no longer that mysterious simple logical entity necessarily known by virtue of being given in experience. Russell now defines it as "those matters of fact of which, independently of inference, we have a right to feel most nearly certain". They may even be true or false. It may be recalled that Russell in his Problems of philosophy and External World and in his lectures on logical atomism has given pretty much emphasis upon the point that sense-data
are neither true nor false. It is the beliefs or propositions about them which are either true or false.

But he now talks as if to make it as being proved true or false. "The essential characteristics of sense-datum", he says, "is that it is not inferred. It may not be true, and we may not feel certain that it is true." An obvious example is that of memory. We know that sometimes our memory betrays us. But still we believe in many things on the basis of memory alone. Another example is derived from faint perceptions. Suppose, we are listening to a sound which is growing more distant, for example of a receding aeroplane. At one time we are sure that we hear the sound but at another time we are sure that we do not hear it. During intermediary times we still hear it, but cannot be sure about it. Thus there is a whole variety of sounds ranging from more certain and certain to less certain and altogether uncertain. For Russell, all of these would be our data or percepts.

In regard to the nature of percepts, there is an important related problem that whether only the bare sensation should be treated as a particular percept or the element of interpretation or inference which usually spontaneously accompanies it should also be included in it. In almost every case of perception, some element of interpretation or inference is inevitably present. This is evident from the fact that the effects of a given sensory stimulus upon two men with indistinguishable sense-organs
but different history of experiences are very different. A child who is still in the stage of learning the words identifies each individual letters and only after that is he able to read the word. But a man who is habitual of reading passes quite unconsciously from the letters. Or to take another example, it is seen that an ordinary man, when he sees a familiar object, he also at once becomes aware of the tactual sensations which the object is capable of producing. This cannot be the case with a man who is born blind but is enabled to see as a result of operation. He cannot infer tactual sensations of the object when he is seeing it for the first time.

The problem is that the mnemonic associations upon which the 'interpretation' depends, although frequent and usual, are, however, by no means invariable. This would mean that if we allow the interpretation to be included in datum, there would be certain perceptions which would be erroneous. For example in the case of seeing water at a far off place in desert in sunshine, the seeing is interpreted when we associate with it also the tactual sensations which is characteristic of water. Clearly the occurrence inasmuch as it is seen is quite genuine. But it becomes erroneous when we add to it its usual mnemonic elements. Thus including the interpreted element in data indiscriminately would amount to providing room for some perceptions being erroneous.
But on the other hand the bare sensation is not usually directly experienced. In our most of experiences it is accompanied with its mnemic associates which can be separated from it only by an elaborate theory. And in the process, it may be feared that the bare sense-datum remains no longer a datum and become a hypothetical entity in being inferred from what is actually experienced i.e. interpreted datum.

This last argument seems to Russell to be conclusive. Perception, he says, "must include those elements which are irreducibly physiological". But, he goes on, "it need not on that account include those elements which come, or can be made to come, within the sphere of conscious inference". For example, the inference of a substantial entity dog from his barking is conscious, or at any rate, is capable of being easily made conscious. Thus, in this case, the bare noise of barking should be treated as datum instead of accompanying anything else along with it.

But perception being so defined, there remains the problem that in some cases at least, it would contain some element of error. Russell here distinguishes between two kinds of erroneous perceptions. There may be the case in which the perception is really unreal and there may be the case in which it is only made to be so by us. For example, the above case of mirage is really an illusive perception. But even in this what is unreal is not the visual datum which we are seeing, but the expectation that if we go to the
place and put our hands there we would experience certain 
sensations which water generally produces. When this
expectation is not fulfilled we dub the whole perception as
erroneous. It is quite feasible to separate the element
of expectation from our actual data and regard the latter
alone as real.

In those cases in which the total perception does
not involve expectation, Russell says, there is no need
to regard them as deceptive. The same coin looks to one
perceipient as round and to other as elliptical. It is
said that one of the two must be false. But Russell does
not think it so. Two different events occur in the brains
of two perceipients when they are in contact with coin.
And as both really occur, they are equally genuine and
real.

Russell, in the last, refutes instrumentalists who
claim that the very notion of pure datum is impossible as
all our knowledge involves inevitably and invariably some
element of inference. When we say "look, there is an
eclipse of the moon", a lot of our knowledge about astro-
nomy is presupposed in understanding this statement. But,
Russell says, this view underestimates the power of logic.
There is no denying that our everyday interpretations of
perceptive experiences and even all our everyday words
embody theories. But, he contends, "it is not impossible
to whittle away the element of interpretation, or to invent
any artificial language involving a minimum of theory". 20

"By these methods", he goes on, "we can approach asymptotically to the pure datum". 21

That there must be a pure datum, is for Russell, a logically irrefutable consequence of the fact that perceptions gives rise to new knowledge. Supposing, for example, that we have hitherto a certain group of theories but we now find that somewhere among these theories there is a mistake. This means that there is something which is inexplicable in terms i.e. not deducible from the previous theory. And this something would be a new datum for our knowledge of matters of fact, since 'datum' means simply "a piece of knowledge that is not deduced". 22

Causal Theory of Perception

Russell's renewed faith in the 'data' and 'relation' (between subject and object) amounted a retreat not only to his phenomenalistic position of "External World" but, in very important respects, to his original dualistic position of Problems of Philosophy. It may be recalled that in this latter work, Russell advocated a three term theory of perception in which the data mediated the subject and (material body) in their being caused by the latter and presented to the former. In the A of Matter too he believes in these three terms. The theory he terms as "causal theory of perception" in which the subject confronts percepts which reveal the structure of physical things which
cause them from outside. The basic difference between the two positions is that while in the former subject was a mind as a subsisting entity and object a material substance, in the latter, both are made of the same stuff. Russell retains the metaphysical position of neutrality of stuff upheld in *A of Mind* in this stage. Both subject and object are qualitatively the same realities. They are what Russell calls "events" which may roughly be understood by the term 'energy-units' to which Russell arrived through theory of relativity.

To put it in general terms, Russell's new causal theory of perception is this: At every moment in our cosmos, there are occurring an infinite number of events some of whom, at a particular moment, fall within the experiential field of a brain which is itself a composition of events. The occurrence of an event in the experiential field of a brain causes to start a process of events which ends in the nervous system of the body (itself a collocation of events). From the point upon perceivers' body where this process terminates, another process of events starts which passing through the nerves reaches at brain and produces an event into it. It is this last event in the brain which is to be addressed as the 'experiencing of the object' belonging to the world external to the perceiver's body. It is 'percept' and it is related to the original event through causal laws which are studied in physics.
When, for example, we say we see the sun, what happens is that a process of events starts from the sun which traversing the space between the sun and the eyes, reaches ultimately the brain and produces the event called "seeing the sun".

It is obvious that this whole process which constitutes 'knowing', comprises three terms: the external event which is causing the process, the brain and the percept all being events. It is also clear that what the subject i.e. the brain knows is 'percept' which refers (in being causality related) to external event. This means that the knowledge of external events is inferred and therefore amounts to begging the very question. The gulf between the world of sense and world of physics of which Russell spoke in his earlier works thus reappears. He makes a fresh attempt to bridge this gulf by evolving arguments which can make the existence of external physical things highly probable, if not certain.

But he had first to show that the universe is not solipsistic i.e. it contains the elements which are not our own percepts and recollections. There are no demonstrative proofs for this. Russell frankly admits that "at bottom our main ground is the desire to believe in simple causal laws". But "proximately there are other arguments". Some of these are as follows.

That there are percepts other than those possessed by our own body can be shown by the similarity of behaviour
which the bodies of other persons exhibit in the shared circumstances. When we speak to the people they behave almost in the same way as we ourselves would if we have heard those words. This is to say that in a certain circumstance our perceptions of their bodies change in the same sort of way as the perceptions of our own body would in the same circumstance. Now since my acting in a certain way is always a result of my hearing some particular word, it is natural to infer that others have heard (i.e. they had percepts) those words when they act in that certain way. I know that a word of abuse makes me frown and on this fact I can legitimately infer that a person heard the word of abuse I made against him when he displays similar looks. Similarly, an officer may think himself justified in inferring that his subordinates have heard the word of command since they exhibit the same behaviour as did he himself when confronted by the same words from his officer. Again Russell says,

"......Reading a book is a very different experience from composing one; yet, if I were a solipsist, I should have to suppose that I had composed the works of Shakespeare and Newton and Einstein, since they have entered into my experience. Seeing how much better they are than my own books, and how much less labour they have cost me, I have been foolish to spend so much time composing with the pen rather than with the eye......."

The task of bridging the gulf between the world of sense and the world of physics is accomplished by Russell
in three stages: First by regularising and arranging our own
different percepts of an object, then by inferring the existence of analogous percepts in the brains of other persons on analogical grounds and lastly by showing that a group of analogous percepts refer to an external physical object.

First there is the labour of arranging and organising our own percepts which we think are of one object. This is not a very difficult task and Russell had already, in his earlier works, devised the ways to build up a logical construct by grouping together sensations of different kind which in their correlation seem to refer to one object. We see a ball and expect what sensations would it produce if we touch it. Thus by correlating visual sensations with the usually accompanying sensations of touch we can form an idea of an external physical thing (in this case, of ball) without regarding it as something substantial.

The next task is to ascertain whether there are percepts connected with the brains of other persons. Its possibility has just been observe in preceding lines. But the arguments given are such as to rest upon analogy (analogy between our own acts and the acts of others) which prima facie seems to be obvious and straightforward. This, however, is not in fact the case. We are not in the position of having perceptions of our own bodies as we definitely are in having perceptions of bodies of others. For example, we cannot see our own face (except a part of nose, by squinting) or our head or our back.
Russell, however, says, their tactual perceptions are continuous with the perceptions of visible parts of our body. We can therefore easily imagine what their movement would be like when we are not seeing them. We cannot see what our face would look like when we frown but we can imagine it on the analogy of others frowning. And this analogy is justified on the basis of the fact that our bodily actions are results of imitations that we unconsciously do in our infancy. That we frown is due to our having repeatedly seen in childhood the frowning of others. So our inferring what our own frowning looks like from other’s frowning is quite justified.

With this clarification in mind, it is easy to set forth the above given argument in more formal language. Let us take what Russell says, is the simpler kind of analogy. In this, our perceptions of the acts of others are almost similar to the perceptions of our own acts. We clap when the singer finishes her song and the curtain goes down, or we say "Oh", when the rocket bursts. In such cases there is a sharp stimulus among us which is followed by some very definite bodily acts. We also find that our perceptions of the movements of bodies which we think are of other’s, closely resemble to our perceptions of the movements of our own body. It is then natural to infer that the perceptions which caused the movements of other’s bodies were similar to the perceptions which caused our own. The possibility of the perceptions other than those which are our own can, thus, plausibly be asserted.
There may, however, be an objection to this analogy. It may be said why to suppose separate perceptions stimulating the movements of different people's bodies? Why not to suppose the very same event producing similar reactions in different bodies? It is logically quite possible that a single event of the curtain's going down made all the appearances of bodies to appear to applaud. The objection, Russell says, may seem to be "far-fetched", but it is by no means "unreasonable". 26

We may, however, take another kind of analogy which would not admit this objection. In this, we find the movements of other people's bodies as appearing similar to what our own body is likely to make in response to certain stimulus which presently we are not experiencing. Supposing for example, A along with his some friends, is hearing commentary of a cricket match on radio. Suddenly, he hears a burst of cheering from his friends. He supposes that there is some big addition in the score of the favoured team which is heard by his friends but which he himself could not hear due to some reason. A moment later, the commentator repeats what he said earlier and this makes the supposition of A testified. Now this implies that the friends of A had perceptions and (as their perceptions occurred earlier) they were certainly other than those which were had by A himself.

The argument in favour of the perceptions connected with other's bodies (as exemplified above) is, obviously, not
demonstrative and for that reason cannot be at war, in points of cogency and plausibility, with the arguments for the existence of our own percepts. There is after all "Decartes' malicious demon" which can vitiate our faith in the argument. Being induced by drugs we mistake the non-existent things as real. It is logically possible that in any case what we think as the movement of an actual body and ascribe to it as its cause some percept, may turn out to be deception or delusion. Russell is constrained not to deny this objection. He, however, says that the deceptions or delusions can vitiate only some perceptions. It is highly improbable that all of our perceptions are delusive. He says:

"-----From the observed correlations of A and B we may argue, as regards cases in which B is observed but we do not know whether A exists are not, either: (1) A is always present, or (2) A is generally present, or (3) A is sometimes present. Dreams Suffice to show that we cannot assert (1)-----But (2) is more probable and (3) seems extremely probable. Now (3) is enough to allow us to infer a proposition of great philosophic importance, namely: there are existents which I do not perceive------The argument, though not demonstrative, is as good as any of the fundamental inductions of science". 27

Having thus established (though not without an iota of doubt) the possibility of percepts had by others, Russell proceeds to work on much more dubious and much more hazardous task of establishing an objective physical world. It is more dubious and hazardous because while in
the former case, the inference was of something very similar to our own percepts; in this, we have to infer what can never be experienced. Anyway, the procedure envisaged by Russell to establish it is this:

It has been seen that an observer can form a group of percepts which he thinks are of one object. Now the number of group can be enlarged by placing a number of perceivers around the object. If every perceiver is said to draw what he sees before him then we will find that the pictures drawn by them are similar in some respects and dissimilar in other. This means that in each case of perception both subjective and objective factors play their role. The similarity among different pictures suggests that the things seen are objectively existing whereas the dissimilarities would suggest that their seeing the object must have been in some sense private and subjective to each perceiver. Russell says: "It is the absence of identity which makes us reject the naive realism of common sense; it is the similarity which makes us accept the theory of a common origin for similar simultaneous percieptions."28 (Emphasis added.)

The argument for the unperceivable physical objects, as stated above, is corroborated by some other arguments. Suppose for example, a gun is being fired on a hilltop. How a person standing some distance from the gun is observing the
gunfire, he will find that there is a certain interval of time in seeing the flash and hearing the sound. If the distance between gunfire and observer is increased, then the interval between seeing and hearing will also increase and if the distance is shortened, the interval will also be shortened accordingly. Now if the naïve-Realistic theory were true there could not have been the fluctuations in the duration of intervals between the seeing of flash and hearing the sound. It must have been fixed. For both the visual and auditory sensations are emanating from the same source and therefore the fluctuations must be due to the variations in the position of observer. The fact that the duration of interval depends upon the distance of observer from gunfire also leads to have a causal view of sound. If the two sensations were internally stimulated, then the interval must have been fixed. It also follows that there is an actual intervening space between the observer and the gunfire which retards the movement of sound. The argument, Russell confesses, is perhaps not very strong, "but we cannot deny that it has some force". He, however, says that there are "much stronger arguments" that can be derived from other sources.

Suppose a room in which a number of people are engaged in merry-making. They chat, smoke, dance and dine. Now suppose again that all their activities are being photographed by a movie camera and simultaneously being seen by a person hidden somewhere in the room. Now if there
is an agreement between the photographs and what the hidden man observed, it would be natural to infer that something happened where the camera was which bore intimate relation to what the man perceived. The agreement also implies that what was recorded by camera and seen by the man was caused by some external common source. Any explanation of the agreement in terms of mere chance would be extremely and implausible.

**Non-Relational Theory Rejected**

It may be seen that in the three stages through which Russell's attempt of establishing an independent physical world and making thereby a causalistic view of perception proceeded, the movement was from more certain to less certain. The argument for our percepts supposed to be related to one physical object was absolutely certain as the percepts were obtained within the solipsistic world. The argument(s) for the percepts connected with other bodies (in being inferred from the fact of their similarity with our own percepts) were, at the most, in Russell's own words, "probable in highest degree".

But the arguments for utterly unperceived and unperceivable objects were logically least certain due to their wholly inferred nature. They could be accepted only by relaxing to a considerable extent the logical rigors.
Even Russell's own scientific formula of Occam's razor rendered this inference implausible. In his earlier works, he had shown sensibilia to suffice to construct an objective and permanent world. All the propositions of science could be established without committing to mind or matter. Now believing in a causal theory of perception amounted to a retreat to his position in Problems of Philosophy. Obviously, this retreat could be justified only by reconsidering the non-relational theory of perception and invoking fresh grounds against it. This Russell does by first giving a slightly modified version of what he said in Analysis of Mind.

A number of different percepts which are supposed to belong to one physical object can be arranged about a centre. In this arrangement, the place which falls between two actual percepts is never void. It is occupied by the events which can be perceived when a perceiver is placed there. The intervening space between the person and the object he is seeing, is "ideal" but successively its points can become actual when the person moves towards the object. There can thus be formed a group of ideal and actual percepts arranged about a centre —— the centre itself being the place where the object is.

The laws which correlate different analogous percepts forming a group are called the laws of perspective in a
generalised sense. On the basis of these laws we can infer ideal percepts when a certain number of actual percepts of a group is given. Similarly when a certain number of analogous groups is given, we can also infer from them other groups at different times. Two analogous groups obtained in two successive moments will be two successive states of a thing. The whole series of such groups obtained in succeeding moments will be called the 'biography' of the thing. If there is some gap between the times of obtaining analogous groups, the series can be completed by interposing ideal groups. A thing will be called 'real' when there is at least one real group in its biography (a real group itself is defined as having at least one real percept).

The above construction, says Russell, preserves the whole of physics, at least in form, if not in fact. He admits that logically, its soundness is unassailable. But at the same time, he says, its conclusions are incompatible with certain very strong beliefs of commonsense and science.

For example, it is believed in physics that the efficacy of causal laws depends upon its two terms i.e. when cause and effect are actually existent. Anything merely imaginary cannot be an effect of any cause or a cause of any effect. But, according to above theory, there may be occasions when we would have to explain an action without there being any actually existing cause. In the case of the camera photographing the activities of people in the room, the camera cannot be said to be
actually existing when it was taking photographs, for, then it was not seen. It was seen only before and after the photographing. In the meantime, it existed, at best only 'ideally'. But the problem is that, if the camera existed merely ideally, merely hypothetically, how its clean plates underwent the modification to give the appearances of men in the room. It is much more natural and scientific to suppose that an actual camera did exist there even though it was not our percept.

Moreover, the causal laws are derived from our observing in a number of cases certain things producing same effects. These laws we think to be practically invariably true in all the future cases i.e. we think that in future also; if a familiar event happens, its cause will be same which had been in previous observed cases. Now this sort of determinism is possible only because we invent a fictitious physical thing which is permanently there to cause the event. If we do not invent this fictitious permanent thing and confine our world merely to percepts, no such prediction would be possible.

A simpler but for Russell, the strongest objection comes from the consideration of continuity in our experience. When we observe a physical body, either fixedly or moving towards it, there is an unbroken continuity in the appearance of the object. But if we repeatedly open and shut our eyes, the object would appear and disappear accordingly. Now it is very difficult to maintain that this
appearance and disappearance is due to the corresponding existence and non-existence of the object, all the more so when another person is seeing it continuously. It is much more reasonable to say that the visual discontinuity is due to occurrence and non-occurrence of the percepts in us. 32

It may be concluded on the basis of above that supposition of external physical thing is natural and to a great extent valid and the non-relational theory which regards this supposition as unnecessary is not plausible. In Russell's own words: "Therefore, although it is logically possible to interpret the physical world in terms of ideal elements; I conclude that this interpretation is unplausible, and that it has no positive grounds in its favour". 33

**Objectivity in Perception**

A theory about the problem of perception cannot be complete unless it takes into account the problem of illusion and error. There is a separate chapter in *A. of Matter* under the title "Perception and Objectivity" in which Russell discusses different kinds of erratic perceptions such as illusions, hallucination etc in the light of his causal theory of perception. But before discussing the error or subjectivity in perception, is
necessary to discuss first the corresponding problem of objectivity in perception i.e. the problem that what makes a given case of perception, 'real', 'genuine' or 'objective'. Because it is its lacking in objectivity that makes a perception to be treated by us as false and fake.

Objectivity in perception, according to Russell, is a matter of degree. "The more correct", he says, "are the inferences we can draw from a percept as to other events (whether percepts or not) belonging to the same group, the more "objective" is the perception". Let this point be elaborated.

It has been seen in the preceding pages that, from a given percept we can infer other percepts which are members of the same group to which the given percept belongs, and also the events which are not percepts at all. For their comparatively more certain nature, the former are more important. But, for convenience, let us take the latter first.

Kant and subsequently many other philosophers have told that the external cause of perception, the thing-in-itself, is always unknown and unknowable. But Russell says that if we accept "the usual canons of scientific inference", this assertion is only partially true. His contention is that although it is true that the intrinsic character of the cause remains unknown, we can know a great deal about
its "structure." We distinguish two percepts and attribute their differences to the differences in their respective stimuli. This implies that a percept is in some respects similar to its stimulus. We may say roughly that there is a one-one relation between a stimulus and the percept it causes. This relation, says Russell, enables us to infer certain mathematical properties about the stimulus when we know the percept, and conversely enables us to infer the percepts when we know the mathematical properties of the stimulus."

For example, it can be said with near certainty that if sun looks round, it must be round i.e. if it is round perceptually, it is also round physically. We, however, cannot infer from the fact that it looks bright, that it is actually bright, because the brightness is not the structural property of the sun. Similarly, if a picture looks beautiful, it cannot be said that it is actually beautiful. Brightness, beautifulness or blueness etc. are not structural properties i.e. they are not parts of the physical constitution of the objects of which they are qualities. Had they been so, then we could also say that when a music is beautiful, the score which represents the music is also beautiful. Russell further says that so far as physics is concerned, the essential and intrinsic character of
events are not needed to be necessarily known. We can build physics merely by knowing the structure of percepts.

Now about the inference of other percepts of a group from an actual percept, Russell says that if the perceptions were perfectly regular and accurate, a few of the latter could suffice to infer the whole of former. This is, however, found not to be in fact the case. Perceptions are generally inaccurate, irregular and vague. A person seen from a far off place cannot be known whether he is handsome or ugly. Sometimes we hear a person speaking but are not clear about what he is speaking. Two things which appear to be similar from a distance, look different when we are near to them. In this sense, the more distant percepts are vaguer than the nearer ones and, Russell says, we can form a general law according to which the distant percepts are always inferable from the former but not the vice-versa.

This regular and general law is applicable to every case of perception except those in which some external thing intervenes between the observer and the object he is seeing. Fog, smoke, coloured glasses, opaque objects etc. distort in this way, the appearance of the objects. To take a concrete example, it is seen that a visible thing
towards which I am moving becomes invisible when I reach at a certain place. This is due to coming of some opaque object between myself and the object being seen. The effect of a near object upon the appearance of the farther object is, as a rule, gradual i.e. at first both are visible, gradually their angular distance becomes lesser and in the last only the nearer object remains visible. From this Russell concludes that while determining the appearances which a body would present at a given place, it is necessary to take into account the bodies which are between the perceiver and the object, besides its appearances at other place.

The law for the inference of bodies between the observer and the object he is perceiving can be stated in these words. "If we compare neighbouring members of a group of percepts, we find in a great many cases, that their first-order differences are in accordance with the laws of perspective, while their second order differences are functions of groups with other centres"; or more simply, "that the differences between neighbouring positions are compounded of the laws of perspective together with functions of groups with other centres". 37 On the basis of this whenever the appearance of an object is distorted or ceased, we would assume the existence of some
intervening body whether or not it is visible. More formally, whenever the fact of distortion or disappearance happens, it would be supposed that the laws of perspective in this case have come to be compounded up by the laws which are the functions of group with other centre. A colourless glass slightly distorts the appearances of the object although it is not visibly present. But, in this case, we would infer the presence of it in order to safeguard the regularity of the laws of perspective which has been interfered as the distortions indicate. This inference is subsequently justified when it is ascertained by touching it.

Russell says that a given perception would not be said to be failing in objectivity only because it is vague. The defect in a vague perception is not a qualitative defect; it is a quantitative one. That is, due to the vagueness, the number of inferences that can be drawn from a given percept diminishes but their correctness is not vulnerable. A perception would be not objective only when there is some radical distortion in it. For example, owing to the intervening smoke we may be mislead about the actual and shape of a thing which are fairly known to other persons. The difference between these two kinds of phenomena can be made clear by an example which Russell himself has given. Suppose you are seeing a man who is gradually
approaching you. The distance between you and the person is such that you are not able to recognise who he is. But when he gets sufficiently near, you recognise that he is Jones. The perception when you could not recognise Jones is vague. But it is by no means incorrect; it is objective and genuine. It would have, however, not been objective if, due to the intervening lenses, you saw the man up side down.

Technically, it would be said that a perception has no objectivity, if it is not a member of any group. Besides the cases above mentioned, the hallucinations and dreams are also the examples of purely fictitious and unreal perceptions. Because like the former, in latter also, the given percept does not belong to any group. That is, we cannot infer other percepts from the given percept and cannot arrange them into a group according to the laws of perspective.

**Problem of Subjectivity and Error**

That a given perception is subjective or erratic (i.e. it is lacking in objectivity) is known by our inability to draw correct inference from it. This is detected when two persons draw different and dissimilar inferences from percepts which they think belong to our group. If the
inferences of two persons are same, both's perceptions will be genuine. The disagreement would mean that one of them is drawing false inferences. From this, it also becomes clear that objectivity of a perception does not depend upon what the percept is in itself, but also upon the experience of the perceiver.

In all cases of erratic experiences, the error is always due to the intervention of some 'physical object' between the perceiver and the object perceived. This intervening physical object is not necessarily a material body; the physiological and psychological, or better, the sensory and cerebral phenomena are also 'physical objects' inasmuch as they distort the experiences and make them lacking in objectivity. There are, thus, three sources of subjectivity in experiences. First is the physical subjectivity which is caused by the coming of some physical object between the perceiver and thing perceived. When the physical object is meant for our physiological or sensory constitution, the subjectivity caused would be sensory subjectivity. And when, in the last, it is due to our brain, it will be cerebral subjectivity.

The most obvious example of physical kind of subjectivity is found in the case of straight stick appearing
bent when it is half dipped into water. Here the water which interferes the direct experience causes distortion. Photographs, gramophone records and different kinds of reflection and refraction are also examples of this subjectivity. The basic thing with this kind of subjectivity is that the distortion is already present in events which (though external to the body of observer) belong to the group in question and are very near to the sense-organ concerned in the perception. Russell says that mistaken inferences due to physical subjectivity can be corrected by the help of physics only; physiology or psychology are of no help in it.42

The second i.e. physiological subjectivity, as is said, is caused by some defects in sense-organs or afferent nerves. Distortions due to drugs, jaundice or any other disease in sense-organs are examples of it. It is detected when different people make different inferences from a percept which is supposed to belong to one group. For example, if, in a given situation, one person sees two colours, say, red and green, while another person sees only one, there must be some defect in sense-organs of the second person. And the subjectivity here would be sensory subjectivity. The underlying principle here is that if there are two stimuli, there must be two noticeably different
effects corresponding to two stimuli. If someone is unable to perceive this difference in the effects, his tools of perceiving must be defective.

It may, however, be observed that in this respect the intrinsic quality of the percept does not matter very much. For example if one observer sees red while another sees green or green when another sees red, it could not be said whose perception is genuine and whose not. Secondly, if a person, due to blindness or deafness, is unable to make inferences, he would not be called a victim of sensory subjectivity. Subjectivity consists in drawing false inference, not in inability to draw inferences. For example, if a person sees two candles, by pressing his eye balls and infers that tactually also there are two candles, then his perception would be sensory or physiological subjectivity.

The last kind of subjectivity which is cerebral or psychological arises due to past experiences. We find it, for example, in reading books. Usually, when we read something with a fast speed, we do not see all the letters of the words. Most of the familiar words are seen incompletely but are fairly understood as our past experience competes them. For example the letters "judgement", because we have always in the past experienced them in
the latter form. The omission of letters in the books are explained by this phenomena. Even the proof readers who scrutinize the words very carefully become a victim of this.

The principle that underlies the cerebral subjectivity is that when two things associated in a large number of cases in past, are suddenly, for some reason, dissociated, the past experience mistakenly continues to associate them. We have seen the conjunction of letters "judgment" always associated in past by the letters "nt" when at some occasion the latter is not there, we continue them associating unconsciously with the former conjunction. It may be seen that almost all of our perceptions are subjective in the psychological or cerebral sense, because all of our experiences are incomplete, but are completed by mnemonic phenomena.

One way to distinguish the objective perceptions from subjective or erroneous ones is, as just seen, to say that while in the former we are usually able to draw correct inferences, in the latter we always draw incorrect inferences. The other way to do the same is to say that the objective perceptions are governed by laws which have few or no exceptions whereas the erratic ones are anomalies to these laws or in other words they are subject to laws which have comparatively a large number of exceptions. These laws are generally formed on commonsense leveland perfected by science. That is to say, when in a number
of cases we find a certain event associated with another event we believe one as inferable from the other.

It may be observed that usually a single percept suffices to make us able to draw other percepts belonging to the group to which the given percept belongs. But this is because we are surrounded by things which are of familiar kinds. We see a black patch of colour with a certain shape and size and we say that it is a car. Or, we experience a certain tactual sensation and we say that it is ball. This is because we do not face any difficulty to associate the tactual sensations with the visual ones which have been, in our past experience, associated with them. But if we are suddenly transported to a world with unfamiliar things we would have to exert a certain amount of labour to have sufficiently complete knowledge of a thing. This is seen when we are confronted with something which we have not hitherto come across. To know it fully we repeatedly turn it from different sides, press it, smell it etc. This means that, in principle, from a single percept, very little can be inferred with confidence; we need observations from different angles and points of view and for a considerable period of time.

The Nature of percepts and their Location in Physical World

The discussion above made, completes, in a sense, the account of Russell's causal theory of perception.
which he propounded in the last stage of his philosophical career. There remains however to be discussed an important question namely: what is the nature of percepts and what is its physical status and also that where can it be placed in the general scheme of physical causal laws? The question is essentially ontological; but it has also considerable epistemological significance because it is the occurrence of percepts which with its psychological accompaniments which it itself produces which constitute the occurrence called knowledge.

Russell's theory of perception, as has been seen, is a dualistic, causalistic theory. It is however different from Locke's or Critical realist's dualism. Locke held that perception consists in the mind's taking cognizance of physical objects through certain qualities which depend upon the former but are product of the latter. Physical things comprise of primary qualities and these produce secondary qualities after coming in contact with mind. There were thus in the whole process, three terms, namely: the mind, the physical things and secondary qualities. The critical realists uphold the same three term with certain modifications.

Russell's theory is also basically a three term theory. It is however different with the former in that Russell does
not believe in the mind or body as substances which make contact with each other through certain 'ideas'. Russell's view of the world is such that there are in it an infinite number of physical entities (or non-entities) which he calls 'events'. These events are arranged into groups. A group consists of structurally similar or semi-similar events which are arranged in a symmetrical order having a centre. When this centre happens to fall within the purview of a brain (or a camera, or a dictaphone), the occurrence called 'perception' occurs. The process is crudely as follows:

Suppose for example that in dark night a momentary flash is experienced by a person. If the person happens to be a commoner, he will certainly think that the flash he experienced is what occurred at the place where he thinks the lightening took place. But what in fact happened is that a process of light waves stemmed from the 'centre' and reached the perceiver's eyes which is the collection of ontologically same centres. After reaching the eyes the process enters into a different sort of region which is physiological comprising the optic nerves and a part of brain. In this physiological region, the process observes and obeys different sort of laws and the event which comes in the end of this process further modifies its character having been already modified when the process reached the eyes.
There are thus three fundamental terms in this process. First is the event which occurred in the space outside the perceiver's body and from which the process started. The second is the event which occurred when the process reached perceiver's eyes which may be called stimulus-event. The third event which is 'percept' is the last event which occurs in the brain when the physiological constitution of perceiver is stimulated. Thus, to the psychological event called 'percept' correspond two other sorts of events namely, cerebral or physiological and the physical events.

It may be remarked by the way that although we said that the percept comes at the end of causal chain starting from the outside object, in actual fact, no causal chain has any beginning or an end. When the process stops at the percept-event, there starts another process. This is the process of reaction which travels through the same physiological region. The passage from stimulus to the percept is through afferent nerves and the reaction runs through efferent nerves. The percept is thus an event which is intermediate between the processes running the afferent and efferent nerves.

What holds in the case of 'seeing', holds also in 'hearing', 'touching' and in other kinds of perceiving. In the case of 'hearing a sound', for example, a physical process starts from its source observing certain laws in the air. It reaches ears and observing different kinds of laws traverses the afferent nerves and reaches the brain.
From there another process starts and running through efferent nerves produces reactions in the perceiving's body. In the case of touch also, when something comes in contact with a part of body, the electrons and protons at that place are disturbed and the electrical currents travel along the afferent nerves and reaches the proper part of brain producing corresponding disturbances there.

There is a minor difference in the case of tactual perceptions vis-a-vis visual perception. It is this: A printed letter or word can be perceived at a glance through eyes; but to read a word by touch, as blinds do, we are to move our fingers round the contours of the letters. Thus, the shape of an object, in the case of touch is inferred by means of movement. And being so, the inference can be justified only on the assumption that the object is not changed meanwhile.

It is clear that Russell believed percepts to be inside the brain, to be parts of brain. This was a radical view quite unprecedented in the whole history of philosophy. Philosophers who hold a causal theory of perceptions, are almost unanimous upon the point that things are in the time and space while the thoughts outside them. How can indeed thoughts be parts of brain as they are unseen and untouched. But Russell rejects this view saying that it is based upon two false assumptions: one
is that of thinking the percepts to be located in the physical objects and the other is treating brain as substantial physical thing. Russell’s position, on the other hand, is that the physical object and brain both are events arranged into groups. When an event becomes part of the group forming brain it comes to be called a percept. That a percept is an essentially physical events which can be easily fitted in the physical causal chain can be seen in the following way.

We have discussed in some preceding page the case of a person hideously perceiving the activities of a number of people in a room and of a camera simultaneously taking photographs of them. Now if we slightly change the analogy by substituting the camera by a dictaphone we will have following things to be compared:

(a) the sounds heard by listener
(b) the events just outside his ears when he hears.
(c) the events at the dictaphone at the same time
(d) the dictaphone record
(e) the sounds heard by man when he listens to the dictaphone.

The similarity between (a) and (e), Russell says is fundamental, and “is known by a comparison of a percept with a memory”. The person listens to the dictaphone
and finds that the sounds he is now hearing are similar
to what he remembers he had directly perceived. There
is thus involved into it the question of relation of
perceptions and memory. Russell, however, points out that
the inference from a recollection (which occurs now) to
what is recollected, is essentially similar to the inference
which we make from an actual percept to ideal percept and
then to the physical thing. In memory also we can only
affirm the structural similarity of the recollected event
and grounds for it also are the same as in percepts.

Aside from the similarity of (a) with (c), the
similarity between (a) and (b) is also obvious. (b) is the
stimulus of which the (a) is actual percept and their simi­
larly has already been discussed. For the same reasons
(d) and (e) can also be treated as similar (the sounds which
the listener hears while hearing the record are what reaches
his ears). Now if (a) is similar to (e) and (a) is similar
to (b), it follows that (b) is similar to (e). And if
(b) is similar to (e) and (e) is similar to (d), it follows
that (b) is similar to (d). Again since (d) is merely a
reproduction of what the dictaphone has recorded i.e. (c),
the (c) will also be similar to other processes. What
follows from all this is that "a percept, considered
physically, is not very different from other physical
events." 47