Indian Philosophical Quarterly Vol. XXII, No. 4
Oct., 1995

CAUSATION, EXPLANATION AND UNDERSTANDING*

The topic of Causation, Explanation and Understanding continues to attract philosophers' attention. This is due to the fact that the whole topic carries with it certain metaphysical presuppositions which have always been worth considering. The topic also provides for configurations of certain aspects of philosophies of Science and Action theories. In this paper, I will try to explore some of these. For the sake of elaboration, I will draw from Strawson's *Individuals*[1] which, in analytical circles, have still retained its intellectual charm. I will also draw from one of Strawson's not-so-very-frequently-anthologized paper entitled *Causation and Explanation*[2]. In that paper, Strawson takes up a specific issue of an event or action 'under description'. Strawson's discussion hinges upon a full-scale theory of Causation and Explanation which in my opinion has its roots in *Individuals*. As is well-known, the descriptive metaphysics Strawson develops centers round the primacy of substance. It will be useful to remind ourselves that for Kant space and time are pure forms of intuition whereas substance is a pure concept. Here, I will not go into the contrast between Kant and Strawson as far as the metaphysics of substance is concerned. What immediately interests me is the primacy of substance as Strawson views it, which I think, lends validity to some of our assumptions in Philosophy of Science and Action theories.

I

We often associate causality with explanation and there is nothing wrong in doing so atleast *prima facie*. In fact, in ordinary

* For the exposition of Strawson's position in this paper I am indebted to Professor M.P. Rege for valuable discussions I had with him.

speech the distinction between causality and explanation is hardly recognized and the vocabulary that is used is in fact common to expressions which we use to record causal relations and explanations. But the two, i.e., causality and explanation are *different* types of relations. For example,

"(1) The use of inferior material in the construction of building was responsible for (2) its collapse.[3]

does not tell us whether the relation between (1) and (2) was that of causality or of explanation. But consider :

A) "His death, coming when it did, was responsible for the breakdown of the negotiations"[4]. AND

B) "His death's coming when it did, was responsible for the breakdown of the negotiations".[5]

His *"death"* as in (A) is an event in nature. In (B) it is not. "'Death" in (A) marks an occurrence of an event. In (B) it is the *fact* that a certain event occured in nature at a certain time. In ordinary language we do not draw this distinction since there is no need to do so, but in philosophy, Strawson argues, the distinction should matter.

Causality is a natural relation that obtains between two *events, things, states of affairs,* which are extra-linguistic, natural or extensional. The relation that holds between these is also extra-linguistic, natural or extensional. Explanation, on the other hand, is a non-natural, linguistic, intentional relation that holds between *facts, truths* or *propositions.* Some philosophers have referred to this distinction by using alternate but corresponding terminology. For example, J. L. Mackie talks about two kinds of causes. viz. *productive and explanatory.*[6] Events on this distinction are productive causes, whereas facts or propositions (involving occurance of events) are explanatory causes.

Causality is as much a natural relation as are the relations of temporal succession or spatial proximity. For example,

t^1 (to the left of) t^2 indicates a spatial relation.

- C^2 (after) C^1 indicates a temporal relation.

Now, the relation of causality as it holds between t^1 and t^2

or between C^1 and C^2 will hold *howsoever* one refers to t^1 or t^2. That is to say, a statement which asserts that the relation *R* which holds between t^1 and t^2 will continue to hold irrespective of referring phrases one may use to make that statement. For example, I can refer to t^1 as *'this'* and t^2 as *'that'* or as *"Probal's book"* or as *"the thing Probal brought from Calcutta"* provided they refer correctly and respectively to t^1 and t^2. In this sense, a spatial relation obtaining between t^1 and t^2 or the temporal relation obtaining between C^1 and C^2 is *Extensional.* Thus, a causal relation subsists between events which occur in nature. This relation either subsists or does not subsist. If it subsists it is true to say that C^1 is the cause of C^2 *howsoever* one may refer to C^1 and C^2. There can be various referring expressions used for referring to C^1 and C^2 but the statement couched in them would assert : *that* C^1 *is the cause of* C^2- *will remain true*. Causal relations are natural in this sense. To say that causal statements expressing natural relations among events are extensional is to say that various modes of referring to entities involved in that relation make no difference to the truth-value of the statement which is made by using those referring phrases.

Suppose I say :

(C) the explosion of the Bomb on the third Floor (e^1) brought about the falling of the terrace (e^2)

(D) The lightning of a thin wire attached to a stick which John had brought from Bombay (e^1) brought about falling of the terrace (e^2)

(E) The burning of the fuse of what John had brought about from Bombay (e^1) brought about the falling of the terrace (e^2)

(C), (D) and (E) are alternate descriptions of the same happening to the effect that a certain relation holds between two events viz. e^1 and e^2. One and the same event, thus, can be described in several ways and since every event can be described in terms of a causal relation, how one refers to the terms of that (causal) relation makes no difference to the relation itself. If the relation between e^1 and e^2 holds, it holds *howsoever*

e^1 and e^2 are described. This is what is meant by saying that Causal relations and statements expressing such Causal relations are extensional. To use Frege-Quinean terminology, the statement which states that a causal relation obtains between e^1 and e^2 is *referentially transparent.*

As causal relation holds between events, states of affairs, objects, which are in nature, explanation or explaining relation holds between *facts*, or *truths*, or *propositions.* What explains i.e., *explanans* and what stands explained. i.e., *explanandum* is always a truth, a proposition, a fact. Thus for instance, e^1 and e^2 are events in nautre and that there is a causal relation between the two. Now, when one gives an explanation as to *why* e^2, it is not e^2 (an event) that is explained, but what is explained is the *fact that* e^2 occured at t^2. Similarly, when someone asks for an explanation of an event e^1, it is not e^1 that stands explained, but what is explained is the *fact that* e^1 occured at t^1. Thus the relationship that obtains between two events is that of *causation* and *not* that of *explanation.* But the relationship that obtains between two facts is not that of causation but that of *explanation.*

While taking the distinction between causality and explanation to be sharp one, how do we further relate it to our *understanding* of explanation in general? Strawson suggests that there is a certain connection between explanation which is a non natural relation and 'a certain natural facts about our human selves'. The natural facts about ourselves, according to Strawson, refer to our "coming to know that p will tend—to induce a state—which we call understanding why q".[7]

One of the ways in which one explains the given event is by giving a cause of it, i.e., by making a statement that such and such is the cause of that event and because the cause has occured, an event in question has occured. This is what we call explanation. Now, what Strawson is saying is that when someone, say A, notices that e^2 has occured and finds the occurance of e^2 puzzling and if someone, say B, tells A that e^2 has occured because e^1 has occured, then this will provide an explanation as to *why* e^2 has occured. The statement explaining the occurance of e^2 will be of the form :

An event of such and such type occured before e^2 OR
An event of such and such type brought about e^2.

Now, A who was earlier puzzled about an occurance of e^2 is no longer puzzled. So a certain mental change has been brought about in him. He has now come to understand *why* e^2 has occured. But what brought about this *understanding* of succession of events in him? His hearing and *understanding this* statement. A's coming to understand this statement is a certain kind of occurrence and therefore an *event* in nature. Similarly, his coming to understand why e^1 is another mental event in nature and the relation that holds between these two events is that of causation. But the entities between which this causal relation holds have an intensional content.

The distinction between *causality* and *explanation*, if not properly articulated gives rise to a confusion of a special type. The confusion relates to our describing an event in question. As we have noticed above, the causal relation which obtains between two events, if holds, holds irrespective of how we refer to or describe the terms of that relation. If so, can we say, as we seem to say, that an event *e* under some description is the *cause* and under some other description an explanation?

An answer to this question will depend upon how we take explanations to be. If all that what we want are explanations then what matters are the appropriate *facts* about events in question rather than their *descriptions*. "Selecting an appropriate *fact* about an event or condition may involve *choosing* among different possible descriptions of the same event or conditions".[8] Explanation, i.e., a statement to the effect that *why* a certain q does not involve "choosing among different descriptions of the same fact. The fact is in this connection something to be *stated*. not *described*".[9] So whether it is a statement about a causal relation or about explaining relation it is misleading to say that one thing *e* under one description causes the other and explains under another.

Singular events are individuated by singular terms of the scientific language employed. For example, "Excessive alcohole intake caused his death". His "death" as we have noticed earlier is a singular event in nature, so also his intake of excessive alcohole is a singular event in nature. We, thus, employ singular

causal claim : e caused e^1. But what makes the sentence "e caused e^1" a singular causal statement? In Strawsonian account on this point, we have noticed that if 'e caused e^1' states a causal relation which obtains in nature, then "e caused e^1" would be a causal statement. But this sounds tautological or even trivial. Those who are developing causal account of Human action believe that a singular causal statement is the one which is backed up by causal laws. This general view has been expounded differently by different philosophers. For example, Davidson would say that "when reasons and actions are appropriately redescribed in a physical vocabulary, they may instantiate causal laws and thereby be regarded as causes and effects".[10] Thus, when events are described in purely physical vocabulary, they instantiate physical laws. Some philosophers, like Tuomela, put a stricter condition. "Singular causal claims" like e^1 *causes* e^2 do not "display the structure of events and not generic properties in virtue of which the singular events can be shown to be causes and effect".[11]

In order to turn a given singular event into a 'cause', that event must be backed up by a law. This is the principle of various Causal theories of events, or of event-causality in general. The statement of a causal law is *linguistic* whereas the *law* itself, is natural. This is the point which Strawson makes when he says that *explanations* are *intensional.* An intensional explanation is a move from a singular causal statement like e *caused* e^1 or *e is the cause of* e^1 to a corresponding linguistic expression of the type *"that* e has P caused that e^1 has Q" "without affecting the truth of Singular Causal statements".[12]

One important observation made in this regard is by Tuomela. He says, "We seem to be able to go back and forth between ontological (or material) talk and linguistic fact-talk".[13] The ability to "go back and forth" between the *extensional causal statements* (understood as Strawson suggests) and *intensional* explanation is, I think, due to the functioning of ordinary language itself.

II

What is true of causal statements is not true of explanations. As noted, mode of referring to entities involved in causal relations viz. causal relata, makes no difference to the truth-value of the

statement made by using these referring phrases. To continue our example :

A) The explosion of the bomb on the third floor brought down the terrace.

B) The lightening of the fuse of what John had brought from Bombay brought down the terrace.

Of the two, A has an explanatory power; whereas B deos not have. Supposing further, that as a matter of fact what "John had brought from Bombay" happens to be a bomb then the phrase "John had...." will refer to the same event. But even then that phrase of its own will have no explanatory power. The reason why B has no explanatory power is that we have certain knowledge in terms of which A turns out to be an explanation while B does not. An explanation which is offered presupposes certain *context* and our *knowledge* of that context. In the above example the context is that of regularity in nature, causal process, etc., and our knowledge of these. It is in this context that A is and B is not a satisfactory explanation. The explanation will be genuine and not spurious provided what it seeks to explain is described in a certain way and *not* in any arbitrary way.

An explanatory power of a statement which is offered as an explanation and the truth value of that statement are two different things. This is illustrated by B above. B has truth value Truth but lacks explanatory power. Similarly, there could be a false explanatory sentence i.e., a sentence may be false and yet used as an explanation. Suppose I am a corrupt builder and my engineers have warned me that due to the use of inferior materials used the newly constructed building will collaps during the rains. What I do is to explode an ordinary cracker and create an impression that the bomb had exploded. And if I tell the people that the building collapsed because of the explosion of bomb, this will be counted as an explanation or even as a relevant explanation. But as a matter of fact it is a false statement. So, that the statement's having an explanatory power is one thing and that statement's being true or false is another.

One seeks an explanation out of curiosity, out of wonder

as to how a certain thing has happened. Explanation seek to satisfy this curiosity- eliminating a sense of surprise so that one can see that what has happened, happened 'naturally' or "as a matter of course". To create such an understanding, such a mental state, that one gives an *explanation*. That causal relations *obtain* in nature and we may either describe them correctly with the help of true causal statements or we may describe them incorrectly by making false causal statements. All this may happen. But when we give explanations we give them in such form and manner that the relation between cause and effect becomes clear or explicit. But when we make a causal statement it is not necessary that the implicit causal relation becomes explicit. This seems to be Strawson's position. When he says that causal statements of the type e caused e^1, such causal statements are only descriptive but not explanatory in nature. But causal statements are always made with an eye to explanation, an eye to a possible querry as to why and how something has happened. This is the usual context for anyone to make a causal statement.

Part of the above discussion, especially the one pertaining to the distinction between causal statements and explanations, suggests that the distinction has to be made if we recognize that causal statements are extentional whereas explanations are intensional. We have also noted that as far as the relation of causality is concerned it is a natural relation and it does not matter which terms, phrases or linguistic marks do we use to refer to it. If the relation holds, it holds irrespective of referring phrases. Thus,

A) Sir Walter Scott wrote only historical novels.

B) The Author of Waverlely wrote only historical novels.

Since *'Sir Walter Scott'* and *"The Author of Waverley"* refer to one and the same entity, we have seen on the earlier occasion, that, it makes no difference how one refers to the individual provided one refers to him successfully. Success in this case will be determined by *procedure of identification* and *criterion* of *identity*. The question now is about the alternate ways of referring themselves. The fact that there are such alternate ways of referring to one and the same particular is obivious. One trivial reason, as far as the above example goes, for referring

to Sir Walter Scott as 'the Author of Waverley' would be that to use the phrase 'Sir Walter Scott' again and again becomes boaring and is certainly repetitive. But when someone says that the auther of Waverley (instead of Sir Walter Scott) wrote historical novels one may be making a point, which can be made sharply only by referring to the "Author of Wayerley" and not "Sir Walter Scott". For example, referring to "Sir Walter Scott" as "The author of Waverley" might have something to do with the phenomenal success of Waverley or that Scott didn't write anything except historical novels, or in the legal context of copy rights etc., It is possible, that when we make alternate descriptions, use different phrases for referring to one and the same particular, such descriptions or phrases might have explanatory power of differing degrees. That the statements we make to describe particulars has to have truth value is well taken. But it is not merely the truth value of a statement that matters. The *manner* in which the statement is made i.e., the phrases used for referring to the individuals, or events or actions— i.e., the *mode* of referring also matters since they have explanatory power.

Suppose.

A) John gave Peter half his wealth and distributed the remaining half among Tom, Dick and Harry.

B) John gave his youngest son half his wealth and distributed the remaining half among his three elder children.

Both A and B have the same truth value. But A does not have the explanatory power which B has. The reason why we use different phrases for identifying the same particular very often lies in the explanatory power which those phrases have and which other phrases may lack and therefore, substituting one phrase for the other and although there is no change in the truth value of both the statements, even then these two statements serve two different *purposes*. For, as in the above example, it may be that Peter is John's son from his first wife and Tom, Dick and Harry are his sons from his second wife. And what John did is to be communicated to John's first (or even the second) wife. Here the person to whom John gave half his wealth is to be referred to by his name would be

practical. But suppose what John did is to be situated in the legal context, then referring to the person to whom John gave half his wealth will have to be referred to as "The youngest son". Thus, the two statements serve two different purposes. And this is also true of causal statements where our interests in causes are primarily *practical*. The theoretical interest develop much later and even when they develop there is always an eye to the practical application of such theoretical knowledge that we may acquire. So, causal statements carry with them *context of explanation*. This is what Strawson rightly points out when he says that in the ordinary discourse the two, i.e., causal statements and explanations are not sharply distinguished because there is no need to do so. In fact, the common speech will be frustrated if the distinction is sharply made. Because a causal statement has to have an explanatory role the causal statement cannot be divested of its explanatory role except in philosophical contexts where philosophers want to emphasize that causal statements are merely extentional whereas explanations are intensional.

III

If Strawsonian distinction between causality and explanation as two types of relation is correct, then, according to him there are two levels.[14]

a) A causing B *simpliciter*

That is, what we have talked about, namely, the causal relation which obtains in nature.

b) The *truth* of *A* explaining the truth of B.

That is, what we have talked about as explaining relation.

Now, *descriptions* of A (as in 'A' causing 'B' simpliciter) and *descriptions* of *the truth of A* are to be distinguished clearly. What Strawson says is that if these are not so distinguished then the *content* of these descriptions begins to appear the same, which it is not.

This raises the question of the *suitability of descriptions* (as long as descriptions enter into statements about events and

facts), *the rightness of facts* (as long as the right kinds of facts lend explanatory power to explaining relation) and the *validity of the causal relation itself* (as long as we believe that causal relation obtains in nature). But again, what is the connection between the three?

Surely, and this is the quest of Science, that "the power of one fact to explain another must have some roots in the nature itself where events occur, conditions obtain and the causal relations hold."[15] But if we do not hold this, then "causal relation itself has no natural existence or none outside our minds"[16] or our belief in causal relation or causality in general is simply "the projection upon the world of some subjective disposition of ours, the disposition, perhaps, to take some facts as explaining others."[17].

Two questions arise in the above argument. But lest we proceed, it is clear that this is the familiar *empiricist* understanding of the issue at hand. Empiricist position, in general, recognizes that there is a natural basis for our "disposition" to take some facts (about events) as explaining facts. The two questions now are (i) What is the nature of this *disposition* and (ii) whether the "natural basis" for the operation of these dispositions 'was intrinsically capable of being detected or observed or established *in any particular case*."[18] The history of empiricism, atleast in its Philosophy of Science aspect and all the consequent developments in such aspects of Philosophy of Science where methodological issues are taken seriously, is full of this intense debate over the nature of 'dispositions' to take some but not all facts as explaining facts and the nature of the "intrinsic ground" for such dispositions to operate upon. The debate over causality, if we may so understand, centers round a certain tension, if not a *paradox*. If there is a natural basis for causality it must be intrinsically detected in any (arbitrary) particular case, but that there is such a basis is validated not by any particular case but by some other relation like that of generalization. In other words, "causal generalizations are not generalizations of particular instances of causality, rather, particular insitances of causality are established as such only by the particularizing of causal generalizations".[19].

This, as Strawson has termed, is an "accepted view" of causality in the Western Tradition. As per this view, it is through observation of *repeated* instances of one event following after the other that we form the notion of cause. This view, further, has met with objections from within as well as from outside the empirisist tradition. The view has two aspects :

(1) It is true that there is no singular or plural relation *as such* which is detectable in particular cases and be termed as causal. In this respect, the notion of causality or that of cause differs from that of Substance with which, according to Strawson, it is traditionally associated. Both these notions, viz. cause and substance, are 'highly abstract' and are not rooted in particular observation.

(2) But in the case of individual substance we can make a distinction between "an instance" and 'a kind' of which something is an instance. But this distinction is not available in the case of the notion of cause. History of empiricism attaches a far greater Significance to this fact, i.e., the non-availability of 'an instance' and "kind" distinction in the case of the notion of cause. According to Strawson, one has to distinguish between *the notion of cause* and *the notion of causation.* He writes, "Though the notion of cause, *understood as a relation between distinct particular events or circumstances,* finds, in the observation-vocabulary no footing which exactly parallels... in the case of the notion of substance, yet the notion of causation in general does find a footing or rather a foundation in the observation vocabulary."[20]. Strawson, thus points out that the notions of *cause* and *causation* differ in that the former has no basis in observation vocabulary, the latter has. ''There is an enormous variety'', to quote further, "a great multiplicity, of kinds of *action* and *transacion* which are directly observable in the particular case and which are properly to be described as causal in so far as they are varieties of *bringing something about,* of producing some effect or new state of affair"[21].

A point of clarification : What is the nature of action and *transaction* leading to bringing something about? Consider, for example,

a) X pulls Y

This is a schema involving a two-place predicate and a transitive verb. It is not filled up by designations of distinct particular events or circumstances. It will be filled up by designations of particular substances. e.g.

b) A pulls B

Now, Strawson's contention is that such predicates signify 'some specific exercise of causal power by an agent'. Generalizing from this, Strawson contends that observations of specific varieties of the bringing about of effects by things is a commonplace knowledge. "The observation-vocabulary is as rich in names for types of effect producing *action* as it is in names for types of substances"[22]. Names for substances and names for actions (i.e., substances and corresponding actions or actions involving corresponding substances) are "indissolubly linked with each other", that is to say, vocabularies concering names of substances and names of actions are converging upon one another.

Thus, something acts to bring about an effect in another by "a characteristic exercise of causal power; and in observing such a transaction one already possesses an explanation"[23] about the change which has been brought about. Strawson's contention is that since "one has *observed* the change being brought about in some characteristic mode", there is no need of "dissolving this transaction into a sequence of states of affairs— a sequence of distinct existences and wondering whether or in virtue of what, the sequence constitutes a causal sequence."[24]

Explanations are required, as per the above account, where the outcomes are observed but not their bringing about. In such cases observable action of bringing about an outcome is explained to someone who has not observed the said action. In such cases explanation rests upon observable relations in nature. But explanations are not always so straightforward and when explanations are not so straightforward, one requires further *causes.*

The search for further causes, or for causes themselves, depend upon 'models of bringing about' of the exercise of causal power, which nature presents to a gross level and observation of regularities of association of distinct existences"[25]. Thus, there

is always a two-way process between our understanding of effects by observing their "grosser modes of production..... and investing the minuter processes which underlie the grosser."[26] But in the process of the evolution of a physical theory, the utility and the use of gross models of bringing about wears out and so also the notion of cause loses its role in theory.

What is the distinctive feature of causality as a natural relation? According to Hume, it is the idea of a *necessary connection*. The language-game concerning causality in Hume's philosophy also has synonyms like "efficacy", 'agency', 'power', 'force', 'energy', 'necessity', 'connection', 'productive quality', etc. This language-game in Hume's philosophy is determined by his general principle : Seek the *impression* from which the idea of cause, effeciency, etc. are derived. If we concentrate, Strawson asks, on "Power", "Force" and "Compulsion" what will be their groundings in terms of sense impressions? The most obvious answer will be in terms of our experience of physical bodies exerting force upon one another. Examples of "pulling" something (something is being pulled by) or "pushing" something (something is pushed by) and thereby experiencing the force, power or compulsion which either *we* exert or is exerted upon us. An impression of force which is exerted or "suffered" then is the source of one of the ideas, namely, force which is synonymous to that of cause. We not only use the idea of force with reference to mechanical push and pull which are instances of action of natural relatios which are directly observable and which, because they are observed and properly recorded provide appropriate explanations of outcomes of changes. ''We see the man pick up the suitcase and lift it on to the rack". The outcome is that the suitcase is lifted and is on the rack. *That* is the explanation of why the suitcase is there.

The point Strawson is making is that mechanical transactions are fundamental to the notion of causality in general.

What are mechanical transactions? For example, my pushing the stone, or my lifting the stone, my pulling a tree and so on. These are basically the push and pull type of primitive actions. They are fundamental for our introducing changes in the states of affairs of the world. For example, that a certain

stone at a certain point of space is pushed by me, an outcome of which is that the stone is pushed to some other point of space. The mechanical transactions of the type considered here, involve bodily movements, power and force, compulsion and constraint. Each of these have a great bearing upon the notions of action and changes introduced in the world. Mechanical transactions of the push-pull, lift, put, remove, open, close, bend, stretch, dent, compress, type involve bodily movements, are subject to the Newtonian Laws of gravity power and force, as well as compulsion and constraints as understood in terms of relevent physical/bodily abilities. Further, the mechanical transactions of these categories are also natural. A gust of wind pushes the vessle or the aeroplane, the stone on the slope pushes the hut. Strawson's contention is that when we look for the sophisticated causal 'mechanisim' where we usually talk of causal connections or causal links.

Notions of *attraction* and *repulsion* confirm the claim that mechanical transactions provide a base for the sophisticated causal explanation. Mechanical interaction model is paradigmatically explanatory. It accounts for the interaction of physical bodies as well as fluids. "The search for causal theories", Strawson contends "is a search for modes of action and reaction which are not directly observable at the ordinary level. and which we find intelligible because we model them on those various modes of action and reaction"[27] which we notice at the macro experience level. But this needs a qualification, because this suggests a sharp distinction between *theory* and *observation*.

But is the model Strawson is providing satisfactory for answering the empiricists' position which, due to its own logic, finds it difficult to defend causality beyond a certain point? Strawsonian model takes "mechanical transactions as fundamental in our examination of causality in general". After all what we seek is a "why" of a certain mechanical transaction, i.e. why *that* particular manifestation occurred, why the type of which it was an instance was then and there realized".[28]

This question takes us further into the nature of the relationship between the types of substance and types of action and reaction. That there is a link between the notion of substance and action

is evident but, as Strawson points out, it is often missed or underrated due to the influence of Humean theory of Causation.

The conceptual link between the notion of substance and the notion of action is seen through the "characteristic dispositions" substances have to "act or react in certain ways in certain ranges of circumstances."[29] It is a dispositional characteristic of any substance that it acts and reacts. This assumption seems to be fundamental to the empiricists as well as the rationalists despite their differences in their respective understanding of what exactly is the nature of substance. Strawson, in his *Individuals* has developed this point i.e., of dispositionality of substance concepts in a larger context. There he argues that there are certain basic elements which comprise our conceptual system. These basic elements are material bodies and persons and they are basic amongst objects in general. What makes them basic among all other particulars is that they are directly in space and time and have certain positions and relations in a single spatio-temporal order because of which their identification or re-identification is possible. In the present context of explanation (of action) the general position of Strawson's descriptive metaphysics can be restated. The extension will be something like the following.

Basically, all action is reaction. This follows from the dispositionality of substance concepts. As per the doctrine of dispositionality of substance, "a thing has a disposition to become F in a situation G if it is such, were G to come about, it would become F."[30] Thus, it is an *outcome* which validates dispositions, potentials, powers substances have. Dispositions, as the doctrine of dispositionality states, are realized or manifested in the appropriate circumstances. Categorial properties of substance, on the other hand, are so defined that they are thought to be present in substance despite circumstances. In the history of philosophy and of science it is the argument for the dispositionality of substance which has gained more acceptability than that of the categoriality of certain properties of substance. "The modern physical thinking finds no categorical basis underlying the notions like that of a charge, or a field or a probability wave, that fundamentally characterize things, and which are apparently themselves dispositional"[31]. The modern physical theory thus prefers the dispositional rather than the categorical (and thereby the atomistic) conception of substance.

This understanding is relevant for our understanding of an issue on hand, namely mechanical transactions as fundamental in our understanding of causality in general. To be more specific, the issue is that of the *necessity* which causation or the idea of cause claims to have. In the empiricist framework, as the histroy of empiricism tells us, the necessity of causality is explained in terms of the observed regularities in terms of the succession of events. Our concept of necessity is thus rooted in the observed similarities amongst occurrences of the relevant phenomena. But the necessity implicit in the causation has to have an independant theoretical ground than the observed similarities in the relevant phenomena. One possible move in this direction would be to recognize the "thorough going dispositionality of our ordinary pre theoretical concepts of things and their qualities"[32]. It is with this dispositionality Strawson claims, the 'generality' which is the core of empiricist argument, is already given. But this dispositionality of substance is not available to an atomist-empiricist combine since for them our concepts of things and qualities are analyzable into and alternately constructed out of "wholly non-dispositional concepts (of sense qualities) plus generalizations relating them"[33].

On the other hand, our pre-theoretic concepts of substance having dispositions despite all attempts of empiricism, in general, are not so analyzable. Despite analysis, they retain their core. They are thus, "basic conceptual stock; and to think otherwise is to misrepresent us as being theorists before we have the means of theorizing."[34] The means of our theory formation, of our theorizing, are in terms of our notion of substance or, as Strawson puts it in *Individuals* material bodies and persons.

Of such basic-to-theory-concepts, it is necessary that they regularly *act* and *react* in certain ways, just as it is necessary that substances are directly in space and time and occupy certain spatial positions and locations in time. "*This* is the conceptual setting in which dispositionality carries generality within it"[35]. It is on the setting of this conceptual scheme that observation of regularities, of sequences of similarities among substances having "powers" and "properties" will make sense. The routine empiricist argument fails to recognize the *setting in which* our notions

of substance and the regularities observed in their motions, are used. That is to say, "mere regularities of succession do not themselves satisfy us that we have found causes."[36] The regularities *as such* demand something more than their being objects of observation of repeated occurences or similarities of the other form. What is needed when we are seeking *explanation* is an understanding of the 'inner mechanism' of the regularity which *connects* two items of the relation. When we are seeking explanation we are seeking *how* this inner mechanism works. As remarked earlier, such is the full knowledge, a satisfactory explanation. Such an explanation, as stated above, need not be and in fact is not theoretical. It is always intended to be practical.

The general point which emerges then, is "though we do indeed learn much about the operation of causality—through the operation of regularities of succession, we do so because the general notion of causal efficacy and causal response, of effects being brought about in a variety of specific ways, is already lodged with us, is already implicit in a wide range of concepts of things, quality, action and reaction which belong to our basic stock of concepts of observable"[37]. Kant, as we know, had clearly anticipated the difficulty in explaining causation with its alleged necessity or generality in terms of experential concepts. "Causal efficacy is not derieved from the world of objects, but is a presupposition of it"[38].

Causal theories are mapped on the twin notions of mechanical action and physical force. This is the basic model underlying causal theories which seek to explain the relationship between natural phenomena. But what about *Human Action*? Here too, one can think of some primary or even primitive model for explaining human action. It is usually offered in terms of *action* and *motivation*. The question, why we are acting the way we do demands both : Causation as well as Explanation. Before one begins to theorize on this, it is natural to suppose that we have *immediate* causal knowledge of our motivations which are complexes of our desires, and aims which "lead" us to their fulfilment. Is such knowledge *intuitive*? It seems to be so. That human beings possess this knowledge is a unique fact, a unique feature about human beings i.e. agents who perform certain actions. An agent not only "knows", in this intuitive

sense of 'know' what are his motivations, what is in his power to introduce or avert,but he also knows that what is within *his* powers is also within the power of *ours*. It is in this awareness lies the root of the notion of *agency* on the one hand and of refinement of the causal theories on the other.

Explanations are sought under the state of ignorance of *what* induces or causes *what*. This is our common and immediate understanding of explanations. But they are also sought when we possess a certain amount of knowledge of expected responses or effects but find them not occuring. This paves for a theoretical pressure, a demand for further improvization of theory. The situation seems to be that (i) human beings uniquely possess a pre-theoretic, intuitive knowledge of the types of substance or of natural kinds and of the qualities in respect of which individuals of the same kind differ from one another and this being inseperable from the knowledge of causal propensity and power (ii) this pre-theoritic or intuitive knowledge gets refined so as to possess more and more certainty and predictive power (iii) this process marks the development of science i.e., from the pre-theoretic to the full scale theory. In the process some pressures are generated. Remaining at the level of ordinary observation one can refine one's conception of causation. But the theoretical pressures are greater. What such pressures demand are propositions of greater generality, or propositions stating laws. What the theory demands is an abstraction of particularities and adherence to the terms which a given theory employes as tools of explanation. But the gap remains in this process of abstraction of particularities and our ordinary causal explanations. The question now is : should the gap be bridged or should one recognize the difference of the two domains viz. that of theory and practice.

We find some one falling down the staircase. He misses the steps due to insufficient light or due to oversight etc. and these should count as sufficient explanations for us to know how did he fall. We do not understand his falling in terms of *laws* which would cover all such cases, though we suppose that there are laws and have bearing upon individual cases. But the formulation of such laws is an activity of a different type, at different level.

But how are laws of a theory established and how are they applied in practice? These questions belong to philosophy of science. What at present, as far as the above argument goes, we need to notice is that the explanations sought and offered at the level at which we employ the common vocabulary of description do not presuppose the existence of general laws and further, in doing so our ordinary language explanations do not turn to be deficient.

Department of Philosophy,
Pune University.
Pune 411 007.

SHARAD DESHPANDE

NOTES

1. Strawson P.F. : *Individuals : An Essay in Descriptive Metaphysics* London, Methuen 1959.
2. _____ : Causation and Explanation, *Essays on Davidson : Actions and Events*, Bruce Vermazen, Merrill Hintikka (ed) OUP, 1986. (*Hereinafter C and E*)

3 to 5 *C and E* P. 116.

6. Mackie J.L. : *The Cement of the Universe*, Clarendon Press Oxford, 1974, p. 265.
7. *C and E* p. 117
8. *Ibid*, p. 118
9. *Ibid* p. 118
10. Davidson, Donald : Causal Relations, *Journal of Philosophy*, Vol. 74, 1967, pp. 691-703
11. Tuomelo Raimo : Causes and Deductive Explanation : *Proceedings of the 1974 Biennial Meeting of Philosophy of Science Association* (ed) Cohen, Hooker et. al Reidel Publishing Co. 1976 p. 327
12. *Loc Cit*
13. *Loc Cit*

14. *C. and E* p. 118
15. *Loc Cit.*
16. *Loc Cit.*
17. *Ibid. p. 119*
18. *Ibid.* p. 119
19. *Loc Cit.*
20. *Ibid.* p.120
21. *Ibid.* p. 120-1
22. *Loc Cit*
23. *Loc Cit*
24. *Loc Cit.*
25. *Loc Cit*
26. *Ibid.* p. 122
27. *Ibid.* p. 125
28. *Loc Cit*
29. *Loc Cit p. 126*
30. *The Oxford Dictionary of Philosophy* : 1994 (ed) Simon Blackburn p. 107
31. *Ibid* p. 108
32. *C and E* p. 127
33. *Loc Cit*
34. *Loc Cit*
35. *Loc Cit*
36. *Ibid.* p. 128
37. *Loc Cit*
38. *Loc Cit.*

INDIAN PHILOSOPHICAL QUARTERLY

Life Members (Individual)

333. Nilesh N. Dalal
112/5348 Pant Nagar,
Ram Narayan Narkar Marg,
Ghatkopar, Bombay 400 075.

334. Prof. R. C. Sinha
Head, Philosophy Department,
B.N. College, Patna University,
PATNA 800 005 (Bihar).

335. Prof. Praveen Sharma,
98 Vijay Nagar,
Jalandhar City 144 008 (Punjab).

336. Prof. Mishra Binapani,
IVB Quarters, Nl. 27/2 Unit 3,
Bhubaneshwar 751 001 (Orissa).

337. Shri. Kiran Desai
Centre for Social Studies,
P.O. Box No. 69 Nanpura,
SURAT 395 001 (Gujarat).

338. Prof. M. K. Mohanty
Philosophy Department
Delhi University,
Delhi 110 007.

339. Shri. Laxmikant V. Bansod
Near Parmartha Mandir,
Panchpakhadi, Thane 400 602.

340. Fr. George Mathew
Professor of Philosophy
Sadupdesa College
281, Hennur Road,
P.O. St. Thomas Town,
Bangalore 560 084.

Institutional Permanent members

52. Institute of Management Development and Research
Fergusson College Campus,
Pune 411 004.