

THE NATURE AND FORMS OF SOCIAL EXPLANATION

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Abstract

The enterprise of explanation has often been mistakenly limited to the provision of causal analysis of events. Because of this mistaken limitation, some scholars have often doubted the ability of social science to explain. This paper is aimed at analyzing the nature and forms of explanation in social science. It identifies the seven forms of explanation in behavioural science and establishes their utility in the understanding of social phenomena. It examines the requirements and functions of each type of explanation. It further analyses the controversial relationship between explanation and prediction. It concludes with a cautionary note about the need for social explanation to include an awareness of the social context of the events.

Nature of Explanation

The verb "explain" is used in connection with many different things. It is used as a synonym for a number of more specific items. So in clarifying a point, expounding a view, interpreting a character, one is often according to common speech, giving an explanation.

For instance, "what distinguishes social science from social observer?" To give a full answer to this question we must include some scrutiny of the methods by which their conclusions are reached, and to examine their methods is to examine the structure of the arguments that support the conclusions. So the advancing of such an argument is called "giving an explanation".

According to Brown (1968:41), explanations "are efforts to deprive puzzles, mysteries, and blockages of their force, and hence, existence." In essence, explanations are attempts to remove impediments to understanding of some kind. To Kaplan (1964), an explanation could simply be a translation or paraphrase, a set of words having a meaning equivalent or similar to what is being "explained" but more easily or better understood. This he called *semantic* explanation. He went further to say that, some semantic explanations may turn out to be intelligible to one person and may still not be clear to another. This is probably why such well known instruments of semantic explanation as dictionaries, have to be repetitive in an attempt to find as many different and simpler ways to make their *clarifications* and *definitions* intelligible to the widest range of readers and applicable to as many different contexts of usages. But even in general parlance, there are different forms of semantic explanation. Thus if one is asked: "Please explain yourself, our impediment to understanding can be removed in *any or all* of the following ways namely, by giving a definition, providing more details which implies the act of description, by giving several illustrations, or by elaborating an argument (Brown, 1968). The function of semantic explanation therefore seems to be simply the improvement of communication with the audience.

The difference between semantic explanation and *scientific* explanation is like the difference between a statement being *clear* and its being *true*. It is important however to note that certain explanations contain as components both semantic and scientific explanations and these are called interpretations.

Interpretations occur when what is being explained is viewed both as a symbol and as a fact. A statement has a meaning but it is also an object or event occurring at a particular time and place. We interpret a gift by showing its meaning and the reason why the person made the gift on that particular occasion. So also we interpret a dream by making manifest its *latent* content and showing also *why* the dreamer produced the symbol he did. Interpretation is very vital in the behavioural science because of the interplay between act meaning and action. The etymology of the word "explain" is to take out the folds to make something level or even. An explanation makes something intelligible or comprehensible. Kaplan (1964: 358-363) has undertaken a detailed analysis of the principal forms of interpretation. Essentially, interpretation involves giving contextual meaning to an act, in other words "An action is an act with a certain act meaning, and operation considered in a particular perspective, as voting is the act of

making a ballot when this is performed in the framework of certain political institutions" (Kaplan, 1964:358). The implication of this is that interpretive explanation can vary from perspective to perspective. To some scholars this variety is what gives interpretive explanation its richness, while to others it is exactly what makes it uncertain.

There is a difference between having an explanation and seeing it. In the case of semantic explanation we do not have one unless we see it, but in the case of scientific explanation either the having or the seeing may occur without the other. That explanation is often resisted when it is first offered is commonplace in the history of science. Because both semantic and scientific explanations provide understanding, it is easy to confuse the second with the first. The confusion between them is based on familiarity. Familiarity helps us see an explanation but it does not necessarily give us one or help us have one. This is because what is familiar to one man may be quite strange to another. So familiarity cannot be the key to explanation.

In order for us to understand explanation in its full concept, Abraham Kaplan, gave us two accounts which provide understanding and thereby explanation. These two accounts, he called Pattern and Deduction model. According to the pattern model something is explained when it is so related to a set of other elements that together they constitute a unified system. We understand something by identifying it as a specific part in an organized whole." (Kaplan, 1964:333)

Pattern model explains by discovering the essential relationship which makes things fall into place. Rather than saying that we understand something when we have an explanation for it, the pattern model says that we have an explanation for something when we understand it. But this difference does not make the pattern model pejoratively psychological (Kaplan, 1964:335).

The deductive model has an advantage over the pattern model in the fact that it is more exact by virtue of a display of a number of premises. The deductive model of explanation requires more of the premises namely, that they should be true and entail their conclusion. In the deductive model the enterprise is to demonstrate that the conclusion is necessarily so.

It is of enormous importance for methodology to recognize that in the deductive model the necessity does not lie in the premises but rather in the relation between the premises and the conclusion which they entail (Kaplan, 1964:339).

The relationship that is demonstrated need not be that of a *cause*. The relationship may be mathematical, it may be a purpose, it may even be a disposition. All that is needed is a demonstration of a logical necessity.

Methods or Forms of Explanation

Brown (1968), has identified and discussed in great detail several methods of explanation. The analyst may separately identify them but in practice they are by no means independent of each other. They are as follows: Genetic, Intentional, Dispositional, Rational, Functional, Empirical Generalization, and Historical.

Genetic Explanation

Genetic explanation provides a temporal sequence of the acts under investigation and it is this temporal chain or sequence that provides the answer to the puzzle. Unlike other forms of explanation, genetic explanation is distinctly structural. In the words of Ernest Nagel, "The task of genetic explanations is to set out the sequence of major events through which some earlier system has been transformed into a later one" (Nagel, 1961:25). Like a causal law it has a temporal feature but unlike it, genetic explanation is marked by a *sequence* of several 'If A, then B' statements. Essentially, this form of explanation tries to account for a present (or past) state of affairs by demonstrating how it developed over a period of time presumably through stages. Historians or developmental analysts often use this form of explanation. But genetic and historical explanations though similar, are not identical, as we shall see later. What is most striking about genetic explanation is its narrative style,

which selects only those antecedents that are considered *relevant*. This form of explanation however, is not just a listing of prior events or states in a chain-like manner. It is important that each selected event be a "contingently necessary condition, for subsequent events. This notion implies the nomological nature of genetic explanation (Isaak, 1971:128). It implies that one stage of development is an *effect* of a prior stage. We therefore agree with Hempel when he argues that:

In genetic explanation, each stage must be shown to 'lead to' the next, and thus to be linked to its successor by virtue of some general principle which makes the occurrence of the latter at least reasonably probable, given the former (Hempel, 1962:22).

Genetic explanation includes three types of cases: those which refer to origin and development, those which refer to origin, and those which refer to only development.

In conclusion, genetic explanations provide statements which are neither universal nor . statistical. Unlike the Marxist historical explanation of *A* leads to *B*, and *B* leads to *C*, there is no inevitability in the progression that is typified in genetic explanation. The form of genetic explanation is: "At stage I, *A* happened, which because of events 1 and 2 at stage II, helped cause *B*, which because of events 3 and 4 at stage II, helped to cause *C*." (Isaak, 1971:129). In summary these are statements reporting or describing specific events, processes and situations which are either dated or datable.

Intentional Explanation

The importance of intentional explanations in daily life does not seem open to serious doubt. We constantly refer to our intentions in our explanation of our own actions and we very frequently wish to know what a person's intentions are in the performing action. Surprisingly, intentional explanations do not play an important part in social science. That is not to say however, that the concept of intention is unimportant to social sciences.

Intentions are consciously purposive actions in pursuit of an objective. However, intentional acts may or may not be successful. Moreover, not all intentions are even carried out. This is one basis for the problem associated with intentional explanation. To be «a satisfactory explanation therefore, there must be at least implied, the generalization that whenever *A* intends, he/she always or usually carries it out. If we say that *A* did *B* because he-wanted *C*, the direct generalization that is implicated is "persons who want *C* tend to do *B* under these conditions". Some philosophers like Brown see intentional explanation as logically unique and not necessarily homological. They attribute the explanatory power of intention to the meaningfulness of the phenomenon under study. Writes Robert Brown:

The explanatory force of learning an agent's intention depends upon the author's familiarity with intentional behaviour; the explanation must solve a puzzle and in order for the puzzle to exist there must be a 'previous stock of knowledge and beliefs' with which the perplexing event is at variance" (Brown, 1968:65).

We tend to agree with the opposing view as espoused by Isaak namely, that intention explains an event only insofar as it is directly or indirectly lawfully related. "That the fact is thereby made psychologically meaningful is neither a necessary nor sufficient condition of the explanation" (Isaak, 1971:120).

Dispositional Explanation

The dispositional can be distinguished from intentional explanation in that the former does not identify any conscious purpose on the part of the agent. Disposition here encompasses attitudes, beliefs, values, personality traits which predispose to certain actions under certain conditions. It enunciates that people with a certain disposition tend to act in a certain way. For a dispositional explanation to escape the trap of circularity, it must have four parts:

- a. What is the disposition in question?
- b. Who has the said disposition?
- c. How is the disposition related to the behaviour in question?

d. What evidence is provided to support the relationship?

It is important to note that in respect to (b) above, the agent concerned may be individuals, groups, a class, of persons, a nation or even 'all men'. We should also note that the relationship between the disposition and the action should not simply happen by chance, but rather of high probability or better still should be lawlike. The distinction between a probabilistic and a lawlike or deductive relation is that in the former *most* but not all persons that have the disposition may perform the given behaviour, but in the latter *all* persons identified with the particular disposition act in the given manner (Nachmais and Nachmais, 1996:9). The other difference between dispositional and intentional explanation is that the disposition is not out there in the open as compared with one's avowed intentions. It is noteworthy that a great deal of survey researches on attitude use dispositional explanation in their analysis.

Rational Explanation

Rational explanation provides a justification for the action being explained. It is a logical linkage which shows that reason dictates the action taken. Rational explanation is a special case of intentional explanation but is different from it. The form it takes is: *A* happened because *B* is rational and in situation *S* a rational person does *B*. The most sophisticated example of rational explanation is found in the use of Game Theory. Rational behaviour is goal directed and this is why it resembles intentionally. A rational action is that which most efficiently targets the objective. The main difference is that rational explanation claims that the behaviour is the best way to attain the goal, while intentional explanation makes no such claim.

Functional Explanation

There are two different kinds of questions which can be answered by functional explanations. The first takes the form "To what goal is it a means?" Thus to ask: "What is the function of a fan belt in a car engine? And to receive the answer: "The fan belt turns the fan which cools the radiator" is to ask for and be told the purpose of the fan belt. In the above circumstance we have been given an explanation in terms of the particular end to which a given means is directed.

The second kind of question is represented by: "What is the function of the parliamentary custom of committee public hearing?" Here we are asking how the custom fits into the *set* of practices which make up the parliamentary procedure in passing a bill under consideration by the legislature. A purposive explanation, if it makes reference to goals that the actor in some sense thinks of before hand may be called a motivational explanation and otherwise a functional explanation.

Functional explanations are appropriate to a great deal of animal behaviour but there is nothing intrinsically unscientific about functional explanations where evidence is forthcoming that the behaviour in question is purposive. Interestingly, the particular function said to be performed need not to have been intended by the *agent* in question. Take for instance the explanation for the existence of wings on birds. If asked: "Why do birds have wings?" We can explain that the wings are there to enable the bird fly. Notice that in this case it is not the bird that intentionally put the wings there to enable it fly; indeed some other agent put the wings there, like in the case of the fan belt example discussed above. This is different from the explanation of the committee public hearing which presumably was purposefully designed by the legislators themselves to accomplish an end (Dore, 1976).

Empirical Generalization

This form of explanation is sometimes called *causal* or *deductive* explanation. Causal explanation is notoriously nomological in structure because it demonstrates that the phenomenon to be explained [i.e. the *explanandum*] can be logically deduced from the thing that explains it [i.e. the *explanans*] (Hempel and Oppenheim, 1953). The relationship is clearly put by Nachmais and Nachmais thus:

A deductive explanation calls for (a) a universal generalization, (b) a statement of the conditions under which the generalization holds true, (c) an event to be explained, and (d) the rules of logic.

(Nachmais and Nachmais, 1996:9).

In this form of explanation, if the premise is true then the conclusion must be true. If on the other hand the premise is not true., every conclusion that is dependent on it becomes false. There is therefore a compelling necessity for the conclusion to be true once the veracity of the premise is established. These premises or conditionals may be necessary or sufficient conditions or both. The peculiarity of causal explanation is that within this class called empirical explanation it establishes a necessary temporal sequence between the explanans and the explanandum (Feigl, 1953; Nowak. 1960; Blalock, 1961; Isaak, 1971). An example of an explanation in terms of a law can be seen when economists try to explain inflation in an economy: Suppose we wish to explain why the price of crude oil rose in the commodity market, then we might argue that there was a sharp shortage in the supply of crude oil and that all short supplies of crude oil cause price increase, hence this particular price rise in crude oil. There is therefore, established a law-like relationship between short supply and price rise. It is therefore, used as one of the premises of an argument in which the particular fact (explanandum) is derived as the conclusion. All that is required for the higher-level hypotheses to provide an explanation is that they should be regarded as established, and that the law should logically follow from them.

Historical Explanation

Historical explanation depends heavily on the transformation of acts into actions. Writes Kaplan:

The sheer chronicle of events gives much less substance to history than might be given by a corresponding record of acts to, say, demography, physical anthropology, or learning theory. And the succession of actions is seen by the historian, not as a bare sequence, but as a configuration made meaningful by purposive or causal connections. The process of putting the raw data into such configurations has been called 'colligation', 'explaining an event by tracing its intrinsic relations to other events and locating it in its historical context', which is then said to yield a '*significant narrative*'" (Kaplan, 1964:367).

Colligation Can Be Seen as an Interpretation of Events Rather than their Explanation

It is pertinent to observe here that this colligate., interpretive nature of historical explanation fits more into the pattern model than the deductive model of explanation which we have discussed earlier. Because historical explanation shows us a pattern it is easier to understand. One has to agree with Frankel (1957:369) when he asserts: "The greatest historians do not merely explain events but also allow us to see them".

Explanation and Prediction

As would have been obvious from our discussion so far, while the pattern model of explanation provides understanding, the deductive model helps us to predict. Explanation and prediction are important elements of the scientific enterprise. This linkage between explanation and prediction is important because of what is sometimes referred to as the *technological* function of explanations. By technological we mean that when we have an explanation, we are able to adapt better to our environment. This is based on the presupposition that if we know that X causes Y , and that X is present, then you can predict that y will occur.

Both explanation and prediction require laws and conditionals. They are similar in structure except that the prediction process is the reverse process of explanation. If our predicted outcome does not come true, it is either because (i) the law is incorrect or (ii) the antecedent conditions have not been correctly perceived. In the second condition, it is often because all the conditions have not been discovered. Consequently, partial or incomplete explanations are unlikely to produce invariant perfect predictions.

The question is whether the ability to predict is a necessary consequence of having a good explanation. If we can predict so much the better for the explanation, but if an explanation does not allow predictions does it follow that it is unacceptable? The ideal explanation from the standpoint of I

the philosopher of science would be the one that allowed for prediction. It can however, be asserted that predictions can be and often are made, even though we are not in a position to explain what is being predicted. This interesting condition of being able to predict without being able to explain can actually occur when a child sees an invariant pattern, sequence or correlation. For instance, if the child observes that night always followed day, he/she as tartly as sunrise can confidently predict that (here will be night. And yet he/she may not know *why* night follows day. Conversely, a geophysicist may know that a major fault in a rift valley exists and that a slippage in the geological formation causes an earthquake, yet he may not be able to predict an earthquake in that rift valley. This inability is surely because he does not know when the slippage will occur. But once the earthquake occurs he will confidently explain the occurrence!

This shows that explanations provide understanding but we can predict without being able to understand, and we can understand without necessarily being able to predict. It remains true that if we can predict successfully on the basis of a certain explanation we have good reason and perhaps the best sort of reason for accepting the explanation.

Conclusion

The conclusion to be drawn at this stage of the discourse is that the different forms of explanation are useful for a science of social phenomena. The highest (but certainly not the only) aim of science is concerned with establishing causal relations and general laws. To do this the social scientist must concentrate on systematic patterns of human conduct. It follows that the primary usefulness of science in scrutinizing cultural events is in the area of established behaviour patterns. But social events must *also* be treated from the inside. Hence the establishment of systematic patterns of behaviour must be supplemented with the subjective meaning of those actions. This cautionary note also suggests that to predict is not equivalent to explanation. For example, we can observe the ebb and flow of the ocean, and then use that observation to predict accurately when the ocean will be in or out. Yet, this is not an explanation. These observations apply with even greater forcefulness in social inquiry, where the commonsense explanations of actions must be taken into account. A statistical correlation, therefore, is not in itself an explanation, although it may function as a tool to make predictions. This requirement extends over both the physical and social sciences.

Further, inasmuch as the social event is a social event only from the perspective of the participants, it is also necessary for the social analyst to share the mental framework assumed by the participants whom the analyst studies. This is what makes all social inquiry a conceptual as well as an empirical task.

Historical explanation is not the application of generalizations and theories to particular instances: it is the tracing of internal relations. It is also important to note that like the physical scientist, the social analyst must also convey his knowledge in the form of publicly validated conclusions.

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