

# Differences between historical and scientific explanations



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**Topic: -What are the similarities and differences between historical and scientific explanations?**

An explanation is one which is 'rooted' or firmly embedded in psychology and in reality. An explanation is one which should make something vivid to the person inquiring. A young child asking why the sky is blue or why water freezes cannot be satisfied with an answer couched in scientific polysyllables that he does not understand. To be effective, an explanation must be one which is easy to understand. On the other hand, a proper explanation must rest on truth – that is, it must refer to reality. A good explanation is one which fulfils or satisfies the particular need of the inquirer and answers only that.

Let us take for example a priest enquiring about a robbery seeking an explanation from the robber. If he asks: 'Why did you rob the bank?', and the robber replied, 'Because that's where the money is.' This explanation, for the priest's purposes, as per the priest's question is not an explanation fitting to him. The explanation is supposed to be directed in order to fulfill the moral reasons behind the theft. However, the explanation of the robber is one which will satisfy any practical man: Any Scientific person. This explanation of the robber's is a scientific explanation looking more towards the practical side of the argument rather than the moral or ethical side of the argument. There is more than one way of explaining, including Common Sense, the Scientific, the Social Scientific and the Historical modes of explanation. This essay will be focusing more on the scientific and historical modes of explanation.

Science is a way of acquiring human knowledge. The three essential aims of science are prediction, control and explanation. However, the greatest of these is scientific explanation. Scientific explanations are nothing but tentative proposals. They are offered in hope of capturing the best outlook on the matter. Scientific explanations however, are subject to evaluation as well as modification. They are valid deductive arguments whose conclusion is the event to be explained. The Scientific mode of explanation is more properly named the nomological-deductive type. It is also known as the DN account. This means that the explanation is deduced from law-like statements (from the Greek *nomos*= a law). For example, there is the law, or universal hypothesis, that whenever the Earth passes between the Sun and the Moon there is an eclipse of the Moon. Thus any particular eclipse may be explained as an instance of that general law. The general rule that provides the explanation is strengthened if it can be shown to be consistent with a more fundamental law.

Historical explanation is the explanation of certain events which have taken place in reality. A historical explanation, in general terms is the explanation of a circumstance in the context of history. Historical explanations give causes of outcomes in particular cases. They are empirical, but can be altered. These explanations are limited to the past. A useful method for historical explanation is analysis in terms of power. This means assessing the power, or ability to affect the outcome in question, of focal actors and entities, determining their use of that power, and, perhaps, accounting for that use. The first of these depends, in part, methodologically on deductive theory: the power of one entity depends on what others can be expected to

do, and theory can help assess that. The second is mostly historical accounting, but may need theory to determine what goals are feasible for actors. In the third, theory such as rational choice may be especially useful when the power-holding actor is an aggregate of individuals.

There are a few ways of knowing through which these explanations, namely scientific and historical explanations can be deciphered: Perception, Reason and emotion.

One example in order to decipher and differentiate both types of explanation is the mystery of one of the most puzzling monuments of the world, the “Stonehenge” present in Great Britain. There have been many theories, posed by many, historians and scientists alike, all from different walks of life. These theories, as expected, happen to be as contrasting to each other as possible. However, all these theories are based on nothing but, one’s perception, reason and emotion.

A person’s perception of different events depends on the state in which his mind is at that particular point of time. Not only this, but also depends on the way the person is brought up in his life, the place, etc. A person who is brought up with one particular set of values will have a different perception from one who has been brought up elsewhere with another set of values. There have been various theories relating the existence of this monument to God and aliens. Some theories even spoke about wizards! However, there have been more relevant theories which justify its existence as an astronomical laboratory, a burial ground, etc.

In this case, a person, who has been brought up with different religious and mythological values inculcated with him, would obviously believe in the existence of God and attempt to justify the existence of the Stonehenge as that of a temple of God. However, an atheist would not do so since he does not believe in the existence of God and wouldn't think twice before rejecting the idea of the existence of God. This would be the cause of a reason or an emotion.

A religious person may be one of the many who can be termed as a person capable of meting out a historical explanation. However, this person may be able to provide a historical explanation for the existence of this monument, only if he is able one of the three methods of historical explanation.

Historians may believe in its existence by using the observations made from the archeological evidence which has been discovered. It is emotion which brings out the fear in their heart and it is this emotion which affects one's perception. When one is brought up with religious values inculcated in him, the priests or the higher order of the temple he goes to would probably build inside his heart, the element of fear of the almighty God. It is this fear itself which would lead a person like this to believe that monuments like the Stonehenge may be temples of the Almighty God built by God himself in order to conduct various rituals; a thought, which would most likely, immediately be cast away by an atheist or a person who is highly practical. However, this historical explanation provided here would not fulfill the question as intended by the inquirer. Again, it depends on the reason and the perception of the inquirer, whether he would believe in the existence of God or not?

Now, let us focus on the view of the scientific explanation about the purpose of the Stonehenge. A scientist, archeologist or a historian may clearly believe that this monument had been of some major significance to the people of that society. There are many theories which have been put forth by these scientists, archeologists and so on. However, no one of these theories has been proved true. Again, what one perceives to be true would depend on the emotion, and how one is brought up. A person with scientific beliefs may be considered as a practical person who, unlike a religious man would not readily believe in the fact that this was built by the Almighty God and was meant to serve Him. He would not hesitate to believe that it may have been a holy place of rituals, but would surely cast away the idea that it was a temple built by the Gods, for the Gods. However, he would be the one to put forth the theories that these were built for their astronomical significance of looking at the moon by observing the arrangements of the ruins, which are factual; an astronomical observatory in order to mark significant events on the prehistoric calendar. This is one explanation which would both suit the purpose of the question put forth and would fulfill the inquirer's desire. This, here is a scientific explanation.

Hence, we have seen as to how different scientific and historical explanations are in this case. Also, we have seen similarities as to how both the types of explanations are based on observations and as to how both the explanations serve to answer the question which has been put forward.

Now, let us take another example, this time, about the occurrences of daily life. Belief in superstitions is one which has been highly debated upon by people who believe in them and the people who think that it is solely a

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coincidence. People say, “ When a black cat crosses your path, it means that you will face bad luck in the day.” If, by any chance, this happens to be true at one instance, it means that it has occurred in reality, in the context of history. Hence, one can provide a historical explanation justifying the omen of bad luck only because the cat crossed the path. This explanation was based on facts which were purely based on facts occurring in reality. A historical explanation is supposed to be empirical, it may be altered. However, the other form of explanation to be discussed is scientific explanation. A scientific explanation is one which is always open to change, unlike historical explanations and the theory or the explanation has to stand the test of time. A man providing a scientific explanation would only say that the person who faced ill-luck was only a result of the person believing in the superstition and being too self-conscious about the incident. If he were to talk about a person who does not believe in superstitions, all he would say is that the incident was a matter of pure coincidence.

The examples above, about both the existence of an epic and the amount of truth in a superstition would only serve the purpose of showing us the differences between historical and scientific explanations. The key similarities that exist between both the explanations are that both the explanations are based purely on facts only that a historical explanation is based in the context of history and scientific explanation is based on theory, and the results of the thesis. Another similarity is that both the types of explanations serve as an explanation to the same question though in different contexts. The primary differences are that while historical explanation is based on facts occurring in reality, a scientific explanation is

one which is based on research and accumulated facts which are obtained as results. Hence, we have seen and examined the differences between historical and scientific explanation with the use of appropriate examples.