

What kinds of explanations do scientists offer and how do those compare with thos...

[Science](#)



“ What kinds of explanations do scientists offer and how do those compare with those offered in other Areas of Knowledge? What are the differences between theories and myths, as forms of explanation? ” The kinds of explanations offered by scientists compare and contrast to those offered by myths. But what are explanations? An explanation is a description, clarification, or justification of any claim or event. People tend to frequently look to scientists for these explanations, a scientist as in someone who studies science and actively tries to find knowledge in any science including Physical or social sciences; however, for the purpose of this essay, I will mainly be focusing on physical sciences. In addition, according to the title, theories and myths are both forms of explanation. Theories are explanations of any aspect from the natural world and are accepted knowledge that is organized to figure out a specific set of phenomena, whereas myths are traditional, typically ancient stories dealing with supernatural beings, ancestors, or heroes that serve as a fundamental type in the worldview of a people, as by explaining aspects of the natural world or delineating the psychology, customs, or ideals of society. But which is more reliable, and why? I believe that, usually, scientists offer explanations that are more logical and rational compared to those offered by other Areas of Knowledge, specifically History; however sometimes science has explanations that seem logical and yet, are not much better than those offered by History. Furthermore, I believe that theories are more hypothetical than myths and can offer more truth and are based on facts and ‘ knowledge’.

Personally, as a student, I believe that scientific claims are more reliable than historic claims, this is due to the fact that in school, we were taught <https://assignbuster.com/what-kinds-of-explanations-do-scientists-offer-and-how-do-those-compare-with-those-offered-in-other-areas-of-knowledge-essay/>

that Science is a very objective subject and involves no emotion whatsoever. It felt right to me; science seemed to have theories and hypotheses that were very believable and reliable compared to the story telling of history. Myths come from history, they are a form of storytelling also.

The Greek, for instance, used to believe that Zeus is a god who controls the weather. They thought that when he was angered or was arguing with his sibling gods, lightning strikes and storms occur. Here, the Greek simply tried to explain natural disasters and why they happen. They had neither the technology nor the knowledge, at the time, to explain these occurrences otherwise. Scientists usually give solid conclusions and base their theories on facts, whereas, historians usually base their theories on biased data and end up with debatable conclusions. Scientists attempt investigating something new and consequently, need to go through the whole investigation, research, and problem solving process.

They use facts and scientifically explained knowledge to base their theories upon; therefore they can arrive at very solid conclusions. They can test their theories repeatedly (if they have the technology) and, considering different circumstances, the results should be unchanging and constant. They don't necessarily use emotion to explain their results. Historians, conversely, make theories based upon bias human ideas and manmade events. The historian also may not have experienced the event and never would because it is unrepeatable. Moreover, the historian would be basing his theories on other sources by others who have their own bias and may have used language that exaggerated and or depleted some facts and translation can also limit the

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true meaning of the findings and some implications may be lost with it. And with the historian's on nationalism or bias, he/she won't be able to arrive at such solid conclusions; in fact, his conclusion would end up being controversial and with many perceptions. Although reasoning is used in History, there is more assurance connected with the logic in science, making it more convincing than history.

For example, Newton's first law '  $F = ma$ ' is much more believable than sources of the occurrence of The Nanking Massacre in 1937. This is because the scientific theory can be proven repeatedly and there are no counterclaims found and therefore makes the theory true, whereas the Nanking Massacre, where soldiers from the Japanese Imperial Army marched into the Chinese city of Nanking, murdered thousands and raped thousands of women was different. The information from one source to another changes dramatically. In fact, the Japanese hid this event from Japan and did not teach it in schools so as not to make the citizens lose their sense of nationalism. According to BBC news, Beijing claimed that 300, 000 citizens were killed and even more injured or raped, however, when Japan officially acknowledged the massacre, it said the level of rape and murder was much less than the Chinese claimed.

BBC reporters, themselves, are not sure about the real number because the only witnesses were the Chinese and the Japanese. In this example, bias and nationalism can really be observed and the conclusion of the event is very arguable. Scientists may sometimes make theories that may seem logical to society but are, in fact, very irrational. This can be caused due to the

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scientist using facts that were not validated and were later found to be false, this can also be due to the fact that scientists have their own personal goals and opinions and so if a scientist spent most of his life trying to prove his theory and ended up failing, he will lie and make up this 'scientific' rubbish that doesn't prove his theory whatsoever. But because no one will be bothered to falsify his claim, they will end up agreeing and believing the scientist. They may also agree with the scientist because he is an authority figure and has 'more knowledge'. Human limitations and bias profoundly cloud their perception and distort real logic. Like in the previous example of the Nanking Massacre, the witnesses of both sides were clouded by their nationalism and therefore the information they gave was deeply affected and misinterpreted.

When a historian wants to theorize about such an event, even his own bias adds on to more bias made by the witnesses or reporters. And even if someone had a small degree of bias, his human limits would be impactful upon the historian's investigation; a human does not have a good memory and the brain may not have been able to make correct sense of what really happened. Alternatively, inanimate objects in a scientist's theory do not have emotion or bias, making the theory made by the scientist more reasonable and the scientist's process of investigation a lot less bias. The only time a scientist has bias is if he fails multiple times in achieving his goal. A scientist is a human and so it makes sense for him to be disappointed to not be able to prove his theory right. This can lead him to be deceitful and he may make up facts and claims that only seem true and are hard to counterclaim.

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Human bias can really alter knowledge and claims. Myths, especially because they are related to the Roman and Greek studies so much, may be taught in history sometimes. Theories, in contrast, are closer to science; but how are these two forms of explanation different and which one is more reliable? Myths are usually used to describe phenomena that could not be explained by any other means at the time. Slovenia, for instance, had many troglodytes (beings that live in caves).

Most of these creatures never leave caves and due to the caves' environment have no need for pigments, making their body colourless or white and no eyes. When it rained and some troglodyte salamanders were washed out of the cave, the Slovenians thought the creatures were dragon larvae. The troglodytes looked too different to surface animals and the Slovenians used mythical beings to clarify something they didn't have the technology or the knowledge to logically understand. Theories do not deal with superstitious ideas like myths; instead they deal with hypothetical, rational ideas. Theories suddenly started coming up when people really started looking for answers to describe the phenomena that were once explained by the myths. People started believing in what they thought was more reasonable and accepted it as knowledge as they once accepted myths as knowledge. Theories are now more believable than myths due to the fact that they are explained by logical tests and factual evidence. Despite all the differences between myths and theories, there are similarities between the two.

Theories and myths are both believed to be true sometimes because people are too afraid of the unknown. When a theory is presented by a scientist to explain something, people tend to believe it because a scientist is an authority figure or maybe because they believe a false explanation is better than none at all. For instance, some may not believe in Greek gods or dragons, but we can't see string theory either.

String theory is a recent study made by scientists, with the help of Einstein's previous theories, to attempt explaining why humans and the world exist, what the world is made of, and where we come from. The theory simply tries to answer questions that have kept humans in the dark. Myths do the exact same things; they are stories that tell of supernatural beings so as to describe unexplainable events. Scientists offer explanations that are more rational compared to those offered by other Areas of Knowledge, specifically History. This is because scientists base their findings on factual evidence and historians base their findings on others' findings. "Your theory is only as good as your experimental evidence" (Barry Green, nuclear physicist) which determines what is more reliable. This is also what separates or combines theories and myths; unless a theory used real tests and was proven multiple times, it is not any better than a superstitious myth.