

# [Relationship between doubt and knowledge philosophy essay](https://assignbuster.com/relationship-between-doubt-and-knowledge-philosophy-essay/)

” Doubt is the key to knowledge” (Persian Proverb). To what extent is this true in two areas of knowledge? Some definitions of doubt emphasize the state in which the mind remains suspended between two contradictory propositions and unable to assent to either of them. Doubt makes us aware and allows us to assess the reliability of the source of knowledge we are using. Doubt brings into question some notion of a perceived “ reality”, and may involve delaying or rejecting relevant action out of concerns for mistakes or faults or appropriateness. The concept of doubt covers a range of phenomena: one can characterize both deliberate questioning of uncertainties and an emotional state of indecision as “ doubt”.

Doubt could be the key to knowledge but till it doesn’t make the person reject everything he discovers. For example, if I doubt that I am going to flunk in IB then it is not a serious key to knowledge. If this motivates you and makes you study like mad then it is. If it discourages you then it is not. So, doubt is only a key to knowledge under certain circumstances. Moreover, there is always the danger of skepticism, that endless tendency to doubt and question. Regarding to skepticism and doubt it should be mentioned that regarding to Cartesian skepticism there is an aim to eliminate every belief that could be doubted and so Descartes keeps only the basic beliefs from which he will gain further knowledge. So doubt is the key to knowledge under certain circumstances.

Doubt makes us aware and allows us to assess reliability of the source of knowledge we are using. In Science this means questioning things (attempt to falsify). Every discovery begins with a point for doubt. We see and perceive the world with the help of our senses but we don’t know what is real. Natural Sciences are a quite reliable body of human knowledge, exactly because it is based on experiments and proof and has at its base the scientific method. In order to test the doubts and lead to a conclusion we follow a scientific method. First of all we ask a question which is associated with the doubt that we have and want to investigate. Then we evaluate information and so we are led to form a hypothesis. After that, we test our hypothesis with the help of an experiment in order to justify our doubt or not. In the end we observe what happened in the experiment and we draw a conclusion by either justifying our doubt or rejecting it. Avogadro, who was a scientist having studied mathematics and science, proposed his now famous hypothesis that equal volumes of gases, at the same temperature and pressure, contain equal numbers of molecules  and made the distinction between atoms and molecules, which today seems clear. However, Dalton rejected Avogadro’s hypothesis because Dalton believed that atoms of the same kind could not combine. Since it was believed that atoms were held together by an electrical force, only unlike atoms would be attracted together, and like atoms should repel. Therefore it seemed impossible for a molecule of oxygen, O2, to exist. Avogadro’s work, even if it was read appears not to have been understood, and was pushed into the dark recesses of chemistry libraries and ignored.

In Science we can never be 100% confident in our results because during investigations many errors can occur and that’s why doubting is legitimate in science. There might be some possible errors in the application of the scientific method (errors due to instruments, biases, problems of deduction/induction) which may lead to a weird result of an experiment and this would be confirmed by repeating the experimental procedure. A personal example is that in Chemistry class we had to observe water transport in a celery stalk. Due to a mistake in the method that we followed (we didn’t stop the timer in the right time but later) the results came out to be strange and wrong. So, we had to repeat the investigation in order to be more accurate with time and therefore gain the results that we expect.

In an IB Biology class the aim of the investigation was to see whether there is an effect of varying concentration of a certain sugar solution on the amount of osmotic activity between the solution and a potato chip of given size or not. So, we followed a certain method and then we proved that our doubt, which was that the lower concentration of the sugar solution in the beaker the larger the mass of the potato will be, was justified. This is a hypothesis not a doubt. It looks like a doubt though. This example makes us understand the fact that we cannot reach a point where everything important in a scientific sense is known because through the doubts we investigate and find everyday new things that provide us knowledge.

All the above points are associated with theories that are provisional. Provisional theories are theories that are accepted until we reach a point where we reject them. What leads us to the point of rejection is doubt. Moreover, it should be mentioned that similar to provisional theories is falsification. Falsification is again based on doubt. Falsification includes theories that are provisional and need justifications and evidence in order to prove the doubt or not. At that point it should be mentioned an example of Paradigm shift which means that some established theories that were doubted have been revised. Paradigm shift is a term used by Thomas Kuhn to describe a change in basic assumptions within the ruling theory of science. An application of Paradigm shift can be seen in the natural sciences and is the acceptance of Charles Darwin’s theory of natural selection replaced Lamarckism as the mechanism for evolution.

Gregory Mendel, before he demonstrated the whole issue for monohybrid crosses he doubted it and made a falsification. His theory was seen as a provisional explanation but after he gained evidence by crossing varieties of pea plants which had different characteristics, he demonstrated his theory which is left in the history of science as Mendel’s Monohybrid Crosses. In conclusion for one more time this example shows that doubt is the key to knowledge.

In Mathematics like in other subjects, we built on things that we previously learned or proved. We built on axioms which are self-evident statements. We take axioms without question and from these we can use the rules of logic to work out problems. An example of an axiom is that, an odd number is a number which can be written as 2n + 1, where n is a whole number. We could not gain knowledge if we have doubt on a fundamental assumption. On the contrary some theorists believe that having no doubt can lead to error in some cases. They believe that a little sense of doubt can mean that someone is open-minded and can gain further knowledge.

But in pure mathematics, everything (logic, axioms, mathematical structure…) is within the laws and conventions. Everything is deductively reasoned, and once something is proved, it is true no matter that space and time. Therefore, doubt in mathematics is not necessarily the key to knowledge. But again sometimes depends on how we define ‘ doubt’. If we for example ‘ doubt’ that something in mathematics missing and trying to find it, we will certainly bring the development of the knowledge.

One such example is Godel’s Incompleteness Theorem. Kurt Gödel is most famous for his second incompleteness theorem, and many people are unaware that, important as it was and is within the field of mathematical logic and beyond, this result is only the middle movement, so to speak, of a metamathematical symphony of results stretching from 1929 through 1937. These results are: the Completeness Theorem; the First and Second Incompleteness Theorems; and the consistency of the Generalized Continuum Hypothesis (GCH) and the Axiom of Choice (AC) with the other axioms of Zermelo-Fraenkel set theory. The first incompleteness theorem states that no consistent system of axioms whose theorems can be listed by an “ effective procedure” (essentially, a computer program) is capable of proving all facts about the natural numbers. For any such system, there will always be statements about the natural numbers that are true, but that are improvable within the system. The second incompleteness theorem shows that if such a system is also capable of proving certain basic facts about the natural numbers, then one particular arithmetic truth the system cannot prove is the consistency of the system itself.

Pythagoras theorem based on trigonometry was firstly demonstrated by Euclidis, a famous mathematician in Ancient Greece but because of his sudden death another couple doubted about the context of the theorem and therefore they reconstructed his theory centuries after his death. This example shows us that doubt is the key to knowledge since the couple guided by their doubt continued the theory and therefore expanded the mathematical knowledge.

Cartesian doubt is methodological. Its purpose is to use doubt as a route to certain knowledge by finding those things which could not be doubted.] The fallibility of sense data in particular is a subject of Cartesian doubt. There is a debate on whether doubt in Ethics can or cannot be a key to knowledge. Critic and doubt in ethics examine our decisions in our everyday life and our actions from private and personal to public and political. Sometimes doubt in ethics tries to provide us with a guide for moral decisions and generally choices. Ethical axioms are tested not very differently to the axioms of science. Truth is what stands the test of time. As an example, let us suppose that abortion on demand is wrong. We want to collect relevant evidence and information to test whether our belief is reasonable and valid. One way to justify our belief is to say that abortion is wrong because abortion is murder and so murder is wrong too. Of course I should demonstrate the truth of the fact that abortion and murder are wrong and therefore to suggest that abortion which is wrong is true because the baby is alive and murder occurs since the life is taken unnecessarily.

The philosopher Kant has worked with Ethics and doubt and has claimed that in order to judge an act, we should first consider what principle governs the act and to imagine what would happen if someone obeyed the principle. Kant also suggests that we judge on whether the act is good not by seeing if it produced good effects but by seeing if a consistent world is produced. Moreover another point that should be mentioned on ethics and doubt is the ethical theories. Philosophers came up with theories that help a person to define morally right behaviors. One such theory is the Deontological theory which says that people have a duty to refrain from actions that this duty will be determined by the nature of the action itself, therefore individuals should perform their duties regardless of the consequences, individuals have a duty to refrain from bad behavior and the bad behavior will be determined by the nature of the action. This theory can be applied to real-life situations where individuals have the option of doing right or wrong. The individuals should refrain from the bad behavior no matter which the consequences are.

In both areas of knowledge we justify the fact that doubt is not always the key to knowledge. Actually in the second area of knowledge (mathematics), we observed that doubt can be a key to knowledge regarding to the definition that we give to ‘ doubt’ as a word. Therefore the starting statement of the essay, whether ‘ doubt is the key to knowledge’ is right but it should also be added ‘ under certain circumstances’. What we would do overall is first of all not to doubt everything around us because on the one hand we gain knowledge from doubt but on the other hand, some things are deductively reasoning and once they have been proved, they are true for all time regardless of space and time.

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