

9. "The knowledge that we value the most is the knowledge for which we can provide the strongest justifications."  
To what extent would you agree with this claim?  
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# TOK ESSAY

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Topic 9:

*"The knowledge that we value the most is the knowledge for which we can provide the strongest justifications." To what extent do you agree with this claim?*

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*"The knowledge that we value the most is the knowledge for which we can provide the strongest justifications." To what extent do you agree with this claim?*

Upon first reading this question, my immediate reaction was that of course we most value knowledge with the strongest justifications, why wouldn't we? It seemed that this would be most people's immediate reaction also, because this statement on the surface sounds logical enough; after all, why would we value knowledge which we could not justify. However, the more I thought about it, the more I realised how limited my first reaction had been, and that the statement was not as simple as I had first thought. I began thinking about different types of knowledge, ways of knowing, what justifications actually were, and how we define the "value" of knowledge.

In replying to this question, I have understood the word "we" to refer to the human race. "The knowledge that we value" does not have to be the same or even shared knowledge, it can be different for each person, but that as humans, we all use the same criteria to determine the ways we treat, understand and value knowledge. For the purpose of this discussion I have used the definition of knowledge as 'justified' true belief, and I have defined the extent to which we value knowledge, as the extent to which we would be prepared to base our actions upon that knowledge, or to use it as a 'touchstone' or 'axiom', a foundation for other knowledge. The "justifications" for our knowledge are the proofs, evidence and explanations for why we believe certain knowledge is true. These may come from authority, emotion, perception, or reason. Because I have a scientifically based mind, and am a strong advocate of good logic and reasoning, I define the "strongest justifications" are those with strong evidence to support them, as well as sound logic used to interpret the empirical evidence. This approach requires the use of both sense perception and reason as ways of knowing in justifying knowledge.

In the natural sciences, we rely on our own reasoning to interpret the factual information recorded by way of experiments or observations, as well as the reasoning skills and logic of others (by way of peer review) to confirm or disprove our knowledge claim. For example in 1816 Josef von Fraunhofer discovered that by refracting light emitted by different sources a pattern of lines could be seen missing

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from the spectrum produced<sup>1</sup>. Unfortunately he did not realise the significance of this discovery and did not follow through the reasoning to come to an accurate conclusion: that the light emitted by each element produced different lines in the spectra (now known as Fraunhofer lines) and these characteristic patterns could be used like fingerprints to identify the elements presence. In 1880, using von Fraunhofer's observations and his own reasoning, William Huggins made this discovery which has since been confirmed by numerous observations<sup>2</sup>. This knowledge has a strong base in sense perception and reason, and has been since confirmed and not falsified, providing strong justification.

This strongly justified knowledge has become extremely valued by the scientific community, having been accepted as an axiom, and further discoveries have been based upon it. The knowledge itself has been used as evidence for the existence of the sub shell configuration of atoms, the Doppler effect<sup>3</sup> and the expanding universe, and has been used as evidence to support Big Bang theories<sup>4</sup>. In the area of the natural sciences, knowledge that has strong justifications based upon reason and observations is most valued, and used as a basis for further actions. That is, the knowledge we most value is the knowledge for which we can provide the strongest justifications.

In religion, however, the justification of knowledge is not always based upon observation or reason. There are no solid facts or physical evidence that can prove any form of god exists; however millions of people around the world believe in the existence of a higher being. Although equally there is no hard evidence that a god or gods does not exist, this is no reason to assume that a god does exist. This is the 'god of the gaps' principle. For example some people will claim that miracles happen, and this is evidence of the existence of god. Just because something is difficult or almost impossible to explain by reason and logic, does not allow false reasoning to use such inexplicable events, as evidence of the presence of a god. This is not evidence of a higher being, but merely evidence of a gap in our knowledge or understanding of a situation. Although this does not rule out the existence of god, neither does it prove

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<sup>1</sup> Filkin, David 1997, *Stephen Hawking's Universe: The Cosmos Explained*, Basic Books, a Division of Harper Collins Publishers, United States of America, pp. 58-68.

<sup>2</sup> Ibid, pp. 61-62

<sup>3</sup> Ibid, pp. 63-68

<sup>4</sup> Ibid, pp. 66-68

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God's existence. Another justification used by people to support the claim for a god's existence, is that they feel an emotional connection with a higher power, something that cannot be explained, it can only be felt. Some people base their belief in god on authority, on what they have been told. Often people grow up in religious families or communities and are always told that god does exist by parents, churches, or other people. Children are very easily influenced by their parents and other authority figures and often accept their beliefs as their own. It seems that the justifications people use to support the existence of a god or gods are not strong justifications. Often perception and reason take no part in the process of justifying the knowledge, but in other cases false reasoning is used to support the claims, or authority and emotion are used to provide weaker, less testable justifications.

Although it seems that religion is supported only by weak justifications, still millions of people around the world continue to believe, and to act upon those beliefs everyday. Religion and the belief in a higher power are often very highly valued by people despite the lack of strong justification. People act upon their religion and go to extraordinary lengths to do so, sometimes making great sacrifices. For example there have been Islamic suicide bombers who have sacrificed their own lives for their faith and religion, a religion which promises paradise as a reward for acts of martyrdom. Other people have been known to spend long periods of time fasting as a sign of their commitment to their god. Another example of such commitment is the biblical story of Abraham<sup>5</sup> (which many religious people hold to be true, and I can provide no evidence to the contrary). God asked Abraham to sacrifice his first born son Isaac (who was probably more important to him than his own life) to him as a display of his faith and commitment. Abraham was prepared to do so in the name of God. This shows the extraordinary lengths to which some people are willing to go, in the name of religion and a god or gods. This willingness to act upon such religious knowledge is a clear indication of how highly valued this knowledge is, despite its lack of strong justifications.

Mathematics on the other hand, is an area of knowledge which is held in high esteem by many people as an objective and valuable discipline which employs sound

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<sup>5</sup> 'Why did God command Abraham to sacrifice Isaac?' 2008, *Got Questions?org*, Got Questions Ministries, [Online], Available: <http://www.gotquestions.org/Abraham-Isaac.html> [2008, August 8].

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reasoning and is strongly. It has applications in a range of areas such as computers, engineering, medicine, and other branches of the sciences; and as such is highly valued. However in maths, there are many axioms which we assume to be true and base further knowledge on that are not based on strong justifications. Many exact values such as ' $\pi$ ' and ' $e$ ' and root numbers such as  $\sqrt{2}$ , even negative numbers such as  $-5$  are simply abstract concepts, in the minds of mathematicians, they do not relate to anything in the physical world. You cannot have  $-5$  apples, and the exact values mentioned above only approximately relate to things in the real world, they represent an accuracy of measurement that is physically impossible<sup>6</sup>. Although these numbers do not relate to the physical world, they are extremely useful and have a number of applications in geometry, physics, engineering, and other areas of maths and science which does relate to the real world. Even whole numbers are mathematical concepts, or "artificial constructs"<sup>7</sup>. Our whole number system and the entire base of our mathematical knowledge lacks strong justifications as there is no physical evidence. Despite this lack of justifications, mathematical knowledge is highly valued as it is used for so many important applications by millions of people.

Religion and the belief in a higher power are often very highly valued by people despite the lack of strong justification, whereas in the scientific community, the knowledge that is most valued has strong justifications. In the area of Mathematics, the knowledge which is most valued is not always strongly justified, but can be accepted as an axiom nonetheless. This means that the statement that "The knowledge that we value the most is the knowledge for which we can provide the strongest justifications" does not hold true. In fact it may even be true that religious knowledge is more valuable than scientific or other types of knowledge, because it is extremely hard to find examples of such commitment and self sacrifice amongst those practicing science, as displayed by those practicing religion. This leads to the unexpected conclusion that the knowledge that we value the most is not necessarily the knowledge for which we can provide the strongest justifications. In some cases it is the knowledge with only the weakest justifications that is most valued.

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<sup>6</sup> Conway, John & Guy, Richard 1996, *The Book of Numbers*, Springer, n.p.

<sup>7</sup> Ibid, pp. 213

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