

May 09

5. "In expanding the field of knowledge we but increase the horizon of ignorance" (Henry Miller). Is this true?  
Thomas Christopher Barnard, King Edward's School Witley

Christopher Barnard

1,595 words

**King Edward's School Witley**

**Theory of Knowledge Essay**

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**Title:**

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increase the horizon of ignorance"**

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## "In expanding the field of knowledge, we but increase the horizon of ignorance"

(Henry Miller)

In this essay, I shall be evaluating the arguments that support and weaken the case of the statement "In expanding the field of knowledge, we but increase the horizon of ignorance." I shall be using the different ways of knowing to compare the significance which the level of knowledge we possess has on our ignorance, and I shall be comparing and contrasting these ways of knowing in three areas of knowledge; mathematics, science and ethics, to observe whether the statement holds true for all areas of knowledge, just one or two, or perhaps none.

This statement can summon up many truths concerning the equilibrium between the knowledge we possess and our ignorance. Besides the metaphorical imagery used in saying the "Field" of knowledge and "Horizon" of ignorance, there is also mathematical reasoning: to say that as the "Horizon" (which is only one side of a "Field") increases, the "Field's" size grows exponentially, gives us Henry Miller's view that although we are becoming more ignorant we are becoming more knowledgeable at a faster pace.

I agree with Henry Miller's statement for many reasons. As we develop more complex ideas in specific fields of expertise, the general population certainly becomes more ignorant, relative to the experts in their particular fields- who, in turn, are probably equally ignorant relative to other experts in different fields. However, as we go back in history the principle has remained the same, even when there were no experts, people knew relatively little about their surroundings: a caveman had little knowledge about the cell structures of plants for example, and (in relation to modern terms) almost everyone in the developed, modern world watches televisions, but a negligible percentage of these people know every principle that has been developed in science that would make a television function. I do still believe that the statement is true, however, because I see that this problem, for example, stems from the ways of knowing of perception and language.

In support of my belief, take this example: someone is studying the work of an expert of a scientific field of knowledge. This person knows the basic principles of the scientist's field, but the notes that the scientist has written concerning his new discoveries seem incomprehensible to the person, because the scientist has written his breakthroughs in complicated short-hand, using words he has coined to make things simpler for himself. In this way, the language involved has made the person much more ignorant (or rather, aware that they are ignorant) of the discoveries made by the scientist, because he cannot easily transfer his notes into words that other people can understand, without causing problems in how the text is perceived. The same is true of experts who speak different languages, even if they work in the same field of knowledge!

Ethical knowledge is an unusual field, as it cannot be quantified to yield any real results. Whether a relative or absolutist stance is adopted, ethical knowledge comprises solely of intuition and theory. And these theories are often so contradictory that it is arguable whether we even have knowledge in the form of theory, as there are no "Stronger" cases, only ideals that are more commonly agreed upon. If absolutism is ethics' nature, then we have certainly not gained any

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knowledge; because there is no matter upon which all of humanity agrees. The difficulty in terms of communication *and* perception in ethics arises when those confronted with traditions (whether brought about by culture, pragmatism or reason) refuse to accept that particular moral code as conducive to building a bigger knowledge base in ethics. Thus, knowledge in ethics (seen through the ways of knowing of perception, reason *and* language) will only be seen as increasing relative to ignorance therein by accepting ethical relativity.

In terms of mathematics, language is a small issue, as there are comparatively few expressions, and rules in mathematics compared with science, and thus there is also little in the way of a language barrier and perception issues, thus in mathematics, it must be said that as our knowledge increases based upon the axioms we have developed, our ignorance has not grown, since most problems we encounter can be easily resolved using the laws we have established. It is not just the ideas of experts that increase the horizon of ignorance for the general population, it is also their terminology that obstructs or confuses people's *perception* of their knowledge. However, this only holds true when comparing the detailed knowledge in small fields with the knowledge of an average person. If we look at humanity's overall knowledge, in comparison with what we knew previously, this certainly suggests that our knowledge has by far increased, and so our ignorance has surely decreased.

However, I believe that as we gain knowledge more questions arise, regarding what we don't know. In science, for example; a scientist added iodine solution to a piece of bread, and the orange iodine turned a dark purple colour. But when the scientist added iodine to a stone, nothing changed. This experiment raises far more questions than answers it gives; because now we know the answer to: "What happens when we add iodine to bread?", but we now also become aware that we do not know the answers to: "Why does iodine turn bread dark purple?", "Why does it not turn a rock dark purple?", etc. And this is not a single-faceted issue, for every time the answer to another of these questions is discovered, an equal number of questions may arise, and these will tend to be questions of a more complex variety, for example the answer to the question "Why does the iodine not turn a rock dark purple?" is that the rock has no traces of starch. This may bring to scientist's mind questions of "What makes iodine able to turn starch dark purple?", "Does starch react the same way in the presence of any other molecule?", etc.

Yet another way of discussing the title could be to say that we wrongly interpret things we believe to be correct. Scientists, no matter how devout toward their cause, do not always take pleasure in getting results that seem to have no correlation with their hypotheses. Emotion can broaden our ignorance in the following way: a scientist is testing a new theory; he is under pressure from his benefactors, since he has not performed a successful experiment all year. His experiment goes exactly as planned, but the last result is completely anomalous and does not agree at all with his theory. Frustrated, and adamant that he is correct, the scientist alters the result to agree with his theory. Thusly, we have become more ignorant as a cause of our emotions distorting the truth and leading us to false conclusions. Emotion does not, however, have the same impact upon mathematics, since for most equations or problems there is only one answer, and this is the only correct answer, thusly our ignorance is not increased through mathematical advances. Emotion can frequently interfere with ethical principles, for example; it may be hard to take into account utilitarianism's principles when faced with choosing between the life of your best friend or a room full of strangers.



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However, it goes against the statement to use reason in science, since we can deduce reasons for an experiment to give certain results through inductive reasoning, in this case it can be said that we gain knowledge at a pace exponential to our ignorance. Reasoning, in mathematics, can help to develop new axioms by drawing links between formulae, etc. through deductive reasoning, and in this case it can be seen that there are many more connections to be made between mathematical terms than exist now. In this way perhaps our own knowledge of our ignorance is increased as our knowledge grows, but does this not also count as knowledge?

Is the perception of knowledge not judged relative to that of which we are unaware? For example, how can we begin to know how well founded our mathematical principles are without knowing their boundaries. This principle of axioms also raises the question, is knowledge 'synthetic', a man-made concept? Certainly, other animals do not appear to strive for the furthering of their knowledge, they survive on instinct. If this is the case, ignorance could also be a man-made idea, or it could be the absence of human creation. If ignorance is constructed by us as a means of torturing ourselves and creating the will to further our discoveries, then our knowledge will surely never outweigh our ignorance until the 'truth' is found. If, on the other hand, ignorance is simply an absence of human creation, we will be decreasing the unknown factors in the equation of the universe as we proceed in advancing our understanding of it. Another possibility is that we cannot know all the truths of the universe *at the same time*. Heisenberg's uncertainty principle states that the one cannot know both the exact position of a particle and its precise velocity. The principle carries into larger things than atoms, but is much less noticeable, perhaps this is the case for all knowledge – that is, it cannot be entirely measured at the same time.<sup>1</sup>

In conclusion I can say that in biological or chemical sciences our ignorance does indeed expand as we advance our knowledge in specific fields, as a cause of perception, language and emotional issues. On the other hand, in mathematics, it is much easier to establish more knowledge through advantages in perception, language and emotion, yet our ignorance can be displayed through reasoning, which identifies many missing links between mathematical "truths". There is, of course, extreme cultural variation in the way in which knowledge is interpreted and its importance, for example; countries with harsher climates might rely more heavily upon perception and reason (especially in terms of ethics) as a way of surviving, than those in which we are generally comfortable, where our primary source of information can afford to be emotivism. In short, our ignorance does grow as our fields of knowledge increase in size, to some extent, in all fields: it is only the depth of the ignorance that varies.

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<sup>1</sup> <http://www.bbc.co.uk/dna/h2g2/A408638>  
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