

# **International Baccalaureate**

## **Theory of Knowledge: The Essay**

**"In expanding the field of knowledge, we but increase the horizon of ignorance" – Henry Miller.  
Is this true?**

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Date of submission: 12/08/2008

Word count: 1599

November 08

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**"In expanding the field of knowledge, we but increase the horizon of ignorance" – Henry Miller. Is this true?**

The difficulty with the horizon is that no one can ever reach it. As we advance, it retreats. The question posed by the title of this essay is like a horizon in itself. It opens up many possibilities of meaning for which it is difficult to reach conclusions, thereby demonstrating that pursuing knowledge is anything but a finite task.

I expect that the initial reaction of many people to the topic statement would be to confirm its truth – it was certainly mine. At first reading, Miller's statement seems to be a rare pearl of wisdom encapsulating a truth that we recognise, but have not articulated. I can think of numerous general examples of knowledge discoveries that resulted in more questions, more ignorance. But the topic has a personal significance for me. It reminds me of a period of my life when, by broadening my field of knowledge, I not only increased, but became aware of the extent of my own horizon of ignorance.

At fourteen, like many adolescents, I imagined that I "knew it all". This spurious confidence followed a few years of intense learning, which gave me many facts and skills, but neither the wisdom nor the emotional maturity to realise how much more there was to know. I made that realisation when I began studying Biology in Year 10. In expanding my knowledge of living organisms by a fraction, I increased my horizon of ignorance enormously, and came to the humbling realisation of just how little I knew.

Although this experience sprang to mind when I first read the topic, it does not confirm the statement's truth because it is concerned with my field of knowledge, which is not synonymous with *the* field of knowledge. I have an idea of what my personal field of knowledge comprises, although it is not static. Even as I expand my knowledge, I forget things. But does the field of knowledge include lost knowledge; or does it only represent knowledge which is accessible? Significantly, our access to knowledge also determines the extent of our ignorance.

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The essay title provokes so many questions that it illustrates the problem it poses, because of the difficulty in defining its key terms. Knowledge may be defined as true, justified belief<sup>1</sup>. So by "field of knowledge", does Miller mean the field of true, justified belief? Does it include all known Areas of Knowledge such as science, religion, philosophy etc; and also unquantifiable knowledge based on instinct and emotion? The discrete areas of knowledge differ so greatly that to make a general, accurate statement encompassing them all is almost impossible. How can one juxtapose empirical and intuitive knowledge, for example? Suffice it to say, the exercise of defining the field of knowledge in itself expands the horizon of ignorance.

The field of knowledge is too vast to encompass for the purposes of this essay, I will therefore attempt to illustrate my thoughts on the knowledge issues raised by examining examples from specific Areas of Knowledge – small patches of earth in that immeasurable field – to help reach a conclusion. The Sciences is one Area of Knowledge which, as it expands, is likely to increase the horizon of ignorance. One scientific example for which Miller's statement is true is what I refer to as the "deep-sea phenomenon". Recent technological advancements have allowed scientists to travel deep into the ocean to explore a new frontier of knowledge. In his groundbreaking TV series, "*The Blue Planet*", David Attenborough says; "*There are just five manned submarines in the world that can reach the abyssal plain so less than one percent of it has ever been explored... Since... 1979, a new species has been described every 10 days.*"<sup>2</sup> We have expanded the field of knowledge through the discovery of these organisms, but in doing so raised questions about their biology and environmental niche that open up chasms of ignorance. One discovery prompts the search for another.

Sometimes one discovery prompts the search for another in a different Area of Knowledge, thus broadening the horizon of ignorance even further. In the case of science, the differing Area of Knowledge is often Ethics, as the two fields are inextricably related. Recently, more and more scientific discoveries have increased

<sup>1</sup> In *Ways of Knowing: An introduction to Theory of Knowledge* by Michael Woolman. IBID Press, Victoria, 2006.

<sup>2</sup> In *The Blue Planet TV series – The Deep* by David Attenborough, 12 September 2001.

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the horizon of ethical ignorance by prompting new scenarios for which we do not have ready-made moral guidelines. For example, we have the capacity to select embryos to produce a child which will be a close genetic match for a sick sibling. This child may provide bone marrow, for example, for its sibling. But is it ethical to engineer a child to provide "spare parts" for another? Or is it reasonable to do anything scientifically possible to keep the older child alive? The title of one article I read when researching this example summarises the issue; "*Born to Heal: Screening embryos to treat siblings raises hopes, dilemmas*"<sup>3</sup> Certainly scientists can uncover new knowledge, but they can also expand the horizon of ethical ignorance.

It is more difficult to confirm the truth of Miller's statement for the Arts than for the Sciences, because of art's subjective nature. What constitutes knowledge in terms of a work of Art such as Shakespeare's *Hamlet*? The text is not the sum total of the oeuvre. A work of art is only fully "known" when it is experienced. In the case of *Hamlet*, that experience lies in the performance of the play. Therefore the knowledge relating to *Hamlet* lies partly in the text, partly in the performance, and partly in the emotional and intellectual response of the audience. Because the play is rich in meaning and because its themes are universal, it has been interpreted and re-interpreted for hundreds of years. The text offers potentially infinite possibilities. There many interpretations of Hamlet's greatest soliloquy, "*To be, or not to be, that is the question...*"<sup>4</sup> have all been influenced by their respective historical and cultural contexts; yet the text remains unchanged.

As an audience, we respond to *Hamlet* with emotion: a Way of Knowing. Emotion is inextricably linked to the Arts in the way that Ethics is linked to Science. Emotion is difficult to quantify. It differs for each individual, and even one individual's emotional knowledge of a work of art may vary with each new experience of it. In this way, the concept that we increase the horizon of ignorance by expanding an Area of Knowledge can also be true for the Arts and Emotion.

<sup>3</sup> In *Born to Heal: Screening embryos to treat siblings raises hopes, dilemmas* by Ben Harder. From *Science News* Volume 165, No.11, 13 March 2004.

<sup>4</sup> In *Hamlet* by William Shakespeare, edited by Roma Gill. Oxford University Press, Oxford, 1992. Page 66

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The above examples support Miller's statement. I originally believed that the discovery of knowledge invariably entailed increased ignorance. Whilst watching a documentary on bacteria, I realised that there were, in fact, situations relating to knowledge for which Miller's statement is not true. For decades doctors believed that stomach ulcers were caused by stress. In 1982, doctors Barry Marshall and Robin Warren discovered that, "...*inflammation in the stomach...as well as ulceration of the stomach or duodenum...is the result of an infection of the stomach caused by the bacterium Helicobacter pylori.*"<sup>5</sup> Marshall and Warren then applied existing knowledge of bacteria and their treatments to the newly-discovered knowledge - that stomach ulcers are primarily caused by bacteria, and devised a cure for stomach ulcers. Because they applied a pre-existing medical solution, there was no increase in the horizon of ignorance. This example demonstrates that the application of existing knowledge to newly-discovered knowledge can sometimes result in no further questions arising, thus no new ignorance is generated. If there is one such example, there may be many more.

The question posed in the essay topic may, by its nature, be unanswerable, because of the difficulty of conceiving the field of knowledge, with its scope and limitations. We may never finally define the field of knowledge, or even grasp the limits of our own ignorance. The horizon is as far as the eye can see, thus it could be argued that the "horizon" of ignorance refers to ignorance of which we are aware. But what of the ignorance of which we are unaware, and how can we judge the extent of our own ignorance?

Humanity has greatly improved its ability to acquire new knowledge. As that knowledge increases exponentially, might we eventually learn everything there is to know about the universe and everything in it, thereby reaching a stage where new knowledge no longer entails increased ignorance? And will we, as a species, survive to this point?

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<sup>5</sup> Press release by The Nobel Committee for Physiology or Medicine, 3 October 2005. Acquired from <http://nobelprize.org> on 10 August 2008.

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In response to Miller's statement, I will quote American astrophysicist Charles Bennett;

*"Throughout history philosophers and mystics have sought a compact key to universal wisdom, a finite formula or text which, when known and understood, would provide the answer to every question."*<sup>6</sup>

At this stage, the key to diminishing, or even eradicating the horizon of ignorance, is still somewhat distant, and, as a ToK thinker, I do not feel that I am able to confirm the statement's truth or falsity, largely because of my own ignorance.

**1599 words**

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<sup>6</sup> Charles Bennett, quoted in *The Mind of God: Science and the Search for Ultimate Meaning* by Paul Davies, page 141. Penguin Books, 2001.

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