

Theory of Knowledge Essay #4

Does language play roles of
equal importance in different
areas of knowledge?

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4. Does language play roles of equal importance in different areas of knowledge?

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The acquisition and dissemination of knowledge is possible largely as a direct result of language; the purposeful employment of words, sounds, gestures, or physical expressions in order to convey ideas plays an equally paramount role of importance in different areas of knowledge. Language's "role", to facilitate truth-discovery by allowing communication, is "important" in that truth is difficult to find without the employment of language. The role language plays in mathematics and ethics exemplifies how this way of knowing is crucial to unveiling truth in many facets of life.

Before I delve into my discussion of language I feel it necessary to admit certain limitations and weaknesses in my central assertion. Above all, my perspective is limited by biases. My culture is one in which speech, oration, and literature are deeply valued. Therefore, since childhood, I, a Bahá'í of Iranian origin, have been taught that the expression of ideas through textual or verbal means is integral to life itself and am inherently inclined to believe that language is necessary to find truth. A second limitation in my analysis is that I am limited by my definition of language: while it includes nonverbal methods of communication, it presupposes that all language is purposeful. Hence, I am obliged to exclude discussions of subconscious communication. Also, my definition of "role" is limited because it does not consider language's role in creating or determining concepts. Finally, my discussion is limited because it postulates that language is a discrete way of knowing independent of others, although language is actually interlinked to sense perception, emotion, and logic. For instance, in the poem "I'm Nobody! Who Are You" (Dickinson, 1995, p. 69), language is used as a means to express Emily Dickinson's emotions. I understand her self-perception as an outsider as a result of the language, and I am able to empathise with her due to emotions language evokes. In this art form, then, ideas are communicated through the interaction of emotions and language. Nonetheless, I still feel as though my claim that language is equally important in different areas of knowing can be substantiated.

Mathematics is one area of knowledge in which language is central to the discovery of truth. In mathematics, language is used in two ways. It can either take the form of mathematical symbols such as numbers, operation notation, and variables, or it can take the form of words that constitute the word problems mathematicians solve. I have understood the importance of these forms of language in mathematics on a personal level. On a Higher Level Math test, I had to

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demonstrate that if $z = \cos\theta + i\sin\theta$, then $z^n + \frac{1}{z^n} = 2\cos n\theta$. I logically deduced that I had to employ De Moivre's Theorem in order to solve the problem, but I failed to correctly show the relationship because, as my teacher informed me, I failed to express $\frac{1}{z^n}$ in the more elegant linguistic form of z^{-n} . This showed me that even if my logic was sound, I could not find the true solution of a math problem without using language accurately. I understood that I must master math just as a poet would master English, because math, like other languages, has conventions for use and denotations for symbols and numbers needed for communication. Beyond my own personal experience, however, there is ample external evidence to demonstrate that math relies on language. Mathematics is a language whose function is to translate. For example, the probability to a 95% level of confidence Nicolas Sarkozy would be elected in 2007 could be found using mathematical formulae; ultimately, math becomes important, at least in this French political context, in that it can take opinions and ideas that are in words and translate them into definite numerical calculations. Math exists, therefore, because it can be applied to situations in natural or human sciences, and the use of words and symbols are what enable it to serve this purpose. If the logical processes of math were solely applied, then probability and statistics, which "translate" from words to numbers, would not exist. Therefore, though "truth" in mathematics may be found through logic, it cannot be discovered unless language in the form of words, numbers, or mathematical symbols be applied as well. Language is paramount in discovering truth in mathematics.

This assertion, though, is not incontrovertible; it is limited and can be rebutted with counterclaims. Language's role in mathematics is limited by its dependence on logic; language is "important" in that it allows the deductive logical processes in mathematical computation. It is not an independent entity. Furthermore, some may assert that the symbols of mathematics are not part of language; although my definition allows numbers to be considered language, the rigidity of mathematics and its use numbers as symbols with one, absolute denotation can separate it from "traditional" language in which interpretation is more flexible. Language is also a limited way of knowing because it has somewhat impeded my discovery of truth; the implication of my definition of "important", for instance, excludes language's significance in creating concepts. When definitions are vague, they allow excessive ambiguity, limiting precise

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expression; specificity, however, also limits. It is difficult to strike a balance. Also, there is a problem in my personal biased perspective on math. I consider math, when a discrete entity, a futile endeavour and hence consider it a “translator” intended for application. In *A Mathematician’s Apology*, however, the great mathematician G.H. Hardy expresses his pride that he has “never done anything ‘useful’” (Hardy, 1992, p. 142); he considers “pure mathematics” as a truth that is only theoretical, scorns mathematics with application, and hence does not consider lexical language as important in math. While I acknowledge that my opinion may not be valued vis-à-vis that of a seasoned mathematician, even Hardy’s math was ultimately put to “use” by geneticists (Godfrey Harold Hardy--Encyclopedia Britannica, 2007). Therefore, though I acknowledge limitations in my analysis, I still consider it valid.

Ethics, an area of knowledge often considered starkly dissimilar to mathematics, is no more or less reliant on language for the expression of its truths than math. Although people determine what is morally right or wrong differently and it is hence somewhat fallacious to make a generalisation about the ways in which people collectively find ethical truths, most rely on language to communicate and acquire the ideas that lead to truth. Some rely on religious dictates to determine their perceptions of ethical truths. For example, Shi’a Muslims rely on the *marja’i-taqlid*, the “sources to be imitated”, to communicate to them through writing or through oration what is ethical and what is not (Taklîf taqlîd va intikhâbi marja’i taqlîd, 2006). Without language to act as a medium for idea communication, Muslims would be cut off from their source of truth. Buddhists also rely heavily on language to realise ethical truths. In the Nichiren school of thought, nirvana can only be attained by chanting the mantra “*namu myoho renge kyo*” and these words contain in them supreme potentiality (Nichiren Buddhism: Practises, 2005). Pure Land Buddhists disagree. They consider the phrase “*namu amida butsu*” superior (Pure Land Buddhism, 2002). The schism between these two sects which is partly based on disagreement over which phrase to use indicates how critical language and its correct usage are in attaining truth. I can also personally understand the importance of language in ethical determination. Every morning and night, I read Bahá’í scripture, which is my source of ethical truths. For instance, in a Bahá’í prayer I say, “[f]rom the sweet-scented streams of Thine eternity, give me to drink, O my God, and of the fruits of the tree of Thy being enable me to taste, O my Hope” (Bahá’í Prayers, 2002, p. 163). The beauty of the language of my scripture, exemplified in this quotation, evokes my emotions and inspires my faith. In part because I am engaged by the quality of language of

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my faith, I am able to attain what I consider ethical truth.

Despite these arguments, I am fully aware that my assertion can be opposed. My argument is vitiated by steep personal bias; I make these assertions because I can personally appreciate them. However, I realise that about 16% of people are not affiliated with organised religion (Major World Religions Ranked by Size, 2007) and may rely on logic or emotion to understand ethics. For example, according to my Japanese teacher, avoidance of the emotion of shame--not belief in Buddhist or Shinto teachings--is a driving factor in Japanese people's determination of what is right to do in a given situation (Kawabata, 2004). My grandmother also tells me she has seen Sufis perform dizzying dances to enter a supernatural state in which they discover faith; they claim to attain ethical truth less by language than through revelation (Alizadeh-Katirai, 2007). Also, I do not believe in situation-based ethics, but many people do. For them, logic is the most important factor in determination of ethical truth; using past experience, they induce what course of action will yield the best results and decide what is best for them then (Richards, 2006). Therefore, I acknowledge that my perspective is deeply limited in that it is steeped in personal bias and limitations in my way of knowing. There are strong claims for the ability of humans to discover ethical truth through revelation, logic, or emotions with less reliance on language.

Ultimately, I feel as though there is solid evidence to substantiate my assertion that language is equally important in the discovery of truth in different areas of knowledge despite strong counterclaims. I have learned from others and have personally experienced and understood the value of language in mathematics and ethics--two areas of knowledge that are peripherally completely different--as a medium facilitating the discovery of truth. Language, therefore, is to me like a bridge whose function is to traverse the valley of search that separates the seeker from his truth (Word Count: 1596).

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References

- Alizadeh-Katirai, R. (2007, April 23). [Interview by author]. Ashiya, Japan.
- Bahá'í Prayers. (2002). Wilmette, IL: Bahá'í Publishing Trust.
- BBC - Religion & Ethics - Nichiren Buddhism: Practises [Electronic version]. (2005, July 13).
BBC - Religion & Ethics - Subdivisions. Retrieved April 30, 2007 from
http://www.bbc.co.uk/religion/religions/buddhism/subdivisions/nichiren_6.sh tml
- BBC - Religion & Ethics - Pure Land Buddhism: Pure Land Buddhism [Electronic version].
(2002, October 2). BBC - Religion & Ethics - Subdivisions. Retrieved April 30, 2007 from
http://www.bbc.co.uk/religion/religions/buddhism/subdivisions/pureland_6.sh tml
- Dickinson, E. (1995). *100 best-loved poems* (P. Smith, Ed.). Toronto: Dover Thrift Editions.
- Godfrey Harold Hardy--Encyclopedia Britannica [Electronic version]. (2007). *EncyclopA|dia*
Britannica online. Retrieved April 30, 2007 from <http://www.britannica.com/eb/article-9039242/Godfrey-Harold-Hardy>.
- Guthrie, K. (2007, April 11). Inferential Statistics: Part 3 [Lecture]. Canadian Academy, Room W408, Kobe, Japan.
- Hardy, G.H. (1992). *A mathematician's apology*. Cambridge: Cambridge University Press.
- Kawabata, Y. (2004). 日本の子供の育ち方 (*nihon no kodomo no sodachikata*) (Parenting of Japanese Children) [Lecture]. Canadian Academy, Room W201, Kobe, Japan.
- Major World Religions Ranked by Size [Electronic version]. (2007, April 19). World Religion Religions Statistics. Retrieved April 30, 2007 from
http://www.adherents.com/REligions_by_Adherents.html
- Myers, M. (2004, February). AREAS OF KNOWLEDGE [Electronic version]. Mr. Myers Homepage. Retrieved April 30, 2007 from
<http://salem.k12.va.us/staff/mmyers/shs/tok/AREAS%20OF%20KNOWLEDGE.htm>.
- Richards, S. (2006). Situation Ethics - Introduction [Electronic version]. Faithnet.org. Retrieved April 30, 2007, from
http://www.faithnet.org.uk/AS%20Subjects/Ethics/situation_ethics.htm
- Taklîf taqlîd va intikhâbi marja'i-taqlîd (Matters to be imitated and election of the supreme spiritual authority). [Electronic version]. (2006). *Bi sâyti madrisihyi ilmiyyi narjis khosh âmadid* (Welcome to the site of the Narjis Scientific School). Retrieved April 30, 2007 from
<http://www.m-narjes.org/maaref/ahkam/tafkik/ahkam8.htm>.