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Metaphor and Social Epistemology

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The phenomenon of metaphor is relevant to social epistemology in a number of ways. It is pervasive and crucial in the direction, development and understanding of scientific theories (e.g. cognitive psychology largely understands the brain/mind as a computer), has been used by scientists in conjunction with the media to exacerbate a climate of fear (e.g. bird flu as a natural bio-terrorist) in order to increase resource allocations from policy makers (Nerlich and Halliday 2007) and as tools of persuasion (e.g. the genome as a map or medical crystal ball) when scientists want to promote the value and social meaning of their science to the public (Nelkin 2001). Moreover, Lakoff and Johnson (1980a) have argued that we 'live by metaphors' in the respect they conceptually 'define our everyday realities' in terms of how we both think and act. Thus, it is much more than a figurative device or something merely associated with myths as I hope to explain below.

In essence, metaphor involves thinking about something in terms of something else. For instance, when we think of the brain/mind as a computer as in the example above, the brain is understood as a computer in a physical sense and the mind in terms of a computer programme. In addition, certain extensions follow from this. Hence, memory is conceived as a database, knowledge as the contents of that database, thinking as the manipulation of symbols and understanding as computation (cf. Lakoff and Johnson 1999: 257). Furthermore, this particular metaphor has even influenced cognitive science to the extent that some cognitive phenomena have no separate terminology for them other than expressions such as 'information processing' (Boyd 1993).

What transpires here is that we use something that we have direct or concrete experience of in order to give structure to something that is more abstract and does not have clearly defined boundaries, thereby making it easier to understand. As such, metaphor is among the most basic mechanisms we have for understanding our experience. Nonetheless, in addition to providing insight, they also constrain given that in the process of foregrounding certain elements of reality, their internal structure necessarily conceals others. Yob (2003, 133) has noted this is a problem inherent in all metaphors: 'Since in a sense metaphors are an artifice, a tool, for opening up possible conceptual territories for explanation, their connections and dynamics in constructing knowledge have inherent limitations. Primarily, a metaphor is not the thing being referred to but a symbol of it. If it were the same as the thing it was referring to it would not be needed.' The upshot of this is that a variety of metaphors is necessary to capture the different sides or modes of behavior of any given phenomenon or object. The more complex and abstract something is, the more metaphors will be required to contend with it.

Hence, while thinking about the brain/mind in terms of computers has been productive and fruitful, it has limitations that some involved in cognitive science would do well to be aware of. For instance, the computer frame does not easily fit into it elements such as

emotions, bodily experience and social relations that clearly affect cognition (Semino 2008, 136). The problem is not using metaphor to try and understand something -- this is clearly necessary for any abstract theorizing – it is simply that the mind is not a computer; therefore, thinking about it only in this way will constrain our understanding of it and inhibit new ideas and developments that might emerge if we also conceptualized the mind in other ways. Eliasmith (2003, 495) provides a good overview here of the development of the theory of the nature of light that is useful to compare with how metaphors function in contemporary cognitive science and other scientific domains:

> In the nineteenth century, light was understood in terms of two metaphors: light as a wave, and light as a particle. Thomas Young was the best known proponent of the first view, and Isaac Newton was the best known proponent of the second. Each used their favored analogy to suggest new experiments, and develop new predictions….As we know in the case of light, however, both analogies are false. Hence, the famed "wave-particle duality" of light: sometimes it behaves like a particle; and sometimes it behaves like a wave. Neither analogy by itself captures all the phenomena displayed by light, but both are extremely useful in characterizing some of those phenomena.

If no single metaphor is going to give us all the answers due to the aspects of reality it hides, it makes sense to use different metaphors that can offer different insights towards understanding the same concept. Lakoff and Johnson (1980b) claim that scientists generally hold an aversion towards using alternative metaphors because of a well intentioned insistence on consistency and suggest that while consistency may indeed be desirable, there are times when scientific understanding would be better served by making use of alternative metaphors. One possibility here that may add to our understanding of the mind is a rhizome (Duffy and Cunningham 1996). This metaphor conceives the mind as a labyrinthine root structure that suggests an open, dynamic and constantly changing constellation of interconnected pathways where there are no fixed points or positions, just connections (relationships). Understanding the mind as a living network without clearly defined boundaries that can make connections and integrate with other 'networks' clearly opens possibilities more useful than a 'container' based metaphor when trying to conceive of thought processes embedded within socio-cultural contexts.

It is also important to recognize however, that this cognitive process of 'framing' something in order to understand it is not always neutral or benign. For in actively 'shaping' how we perceive something via a 'lens' like effect, the resulting metaphoric image also carries a pragmatic dimension with implicit moral and social connotations that can be manipulated as an ideological tool. When issues of science and public policy are bound up with one another, misappropriation of such images can be dangerous. To take another example connected to the world of computers, DNA being framed as a 'code' that functions as a 'programme' or 'instructions' implies the notion that character traits

and behaviour are fixed and determinate – an idea that intermittently resurfaces and has been used by right-wing proponents to try and convince that welfare and education is wasted on those who have 'bad' genes (e.g. Herrnstein and Murray 1994). If people's essence is held to be in their genes, why spend money on trying to change something that cannot be changed? On the other hand, the code metaphor paradoxically also suggests the reverse -- genetic 'engineering' moots the very idea of change through facilitating various 'improvements' and other health benefits. How successful this can be, whether it should be legalised and, if so, how it should be regulated remains to be seen.

In any case, the main point being emphasised in this post is that while metaphors are an indispensable aid for purposes of illumination that function in meaningful ways, particularly with non-observables, they can come to be perceived as non-metaphorical and are also capable of and sometimes used for simplifying complex information in misleading and harmful ways. Hence, awareness of their modes of operation is important so as not to fall victim to their power of persuasion and to enable us to challenge ones that do not meet our needs by either substituting or supplementing them with alternative ones.

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