Pursuing Metaphysics by Examining Successful Investigative Practices - C. Kenneth Waters

Abstract:
Naturalists presume that metaphysics should be informed by the success of science. This paper develops an approach that analyzes the best practices of inquiry rather than the current best theories of science. One way to inform our most basic ideas about the nature of the world is to examine what kinds of practices have enabled scientists to collect and organize data, control phenomena, construct technologies, and make successful predictions. Research in metaphysics includes two general aims: inferring or establishing basic metaphysical ideas; and developing these ideas in clear and coherent ways. In this paper, I suggest that the rigor of metaphysics is found in attempts to refine the ideas, not in attempts to establish that they are true.

Inferences from scientific theories or practices to general metaphysical claims have often been interpreted as inferences to the best explanation. But I follow Charles Peirce's later ideas about abductive inference and propose that such inferences provide reason to pursue ideas, not reasons to conclude they are true. I illustrate my proposal by considering the metaphysical idea that the world has lots of structure, but no fundamental structure (Waters 2017). The premises of my inference to this idea concern the way scientists investigate nature's complexities including complexities inherent in the development of individual organisms, the evolution of species, and the dynamics of ecological systems. Investigators employ modest, partial theories in local contexts to learn about aspects of parts of these complexities, and they do so in piecemeal fashion.

In the second part of the paper, I suggest that the best way to pursue metaphysical ideas is to relate them to scientific practices. Many investigative practices in biology rest on ideas about hierarchy. Wimsatt 2017 analyzes one conception of hierarchy is compositional: higher-level entities are composed of lower-level entities (e.g. tissues are composed of cells). This account is closely tied to the success of functional inquiry in biology and provided a central motivation for the new mechanical philosophy. Pimm et al. analyze a different conception of biological hierarchy, trophic hierarchy. This conception is non-compositional. It is useful for identifying and tracing material and energetic pathways in biological systems as well as revealing patterns of species abundance. The biological world has lots of hierarchical structure, but no general hierarchical structure.