

Computer Science & Electrical Engineering Seminar Series

Degeneracy in Cognitive Neuroanatomy
Carrie Figdor, PhD, University of Iowa

Friday, Nov 7th, 2008 in FH 557 at 2:00 pm

Philosophers and artificial intelligence researchers have long debated whether the same cognitive functions can be implemented in physical systems that are distinct, perhaps as radically different as humans, non-human animals, aliens, and robots. This debate over “multiple realizability” has recently shifted away from considering what might be the case for all these sorts of beings to focusing just on whether multiple realization is true in human and non-human animals. This focus makes it possible to conduct the multiple realizability debate on empirical grounds, using the results from biological sciences. With this in mind, I introduce a theoretical model in cognitive neuroscience that hypothesizes the possibility of “degeneracy” in cognitive neuroanatomy — which just is multiple realization in empirical terms. This shows that multiple realization in biological creatures is a legitimate empirical hypothesis and is considered so by neuroscientists, despite empirically-based philosophical arguments that use neuroscientific information to show just the opposite.



Carrie Figdor, Ph.D

Dr. Carrie Figdor is an assistant professor of philosophy at the University of Iowa, where she has been teaching since 2007. She received her doctorate from CUNY in 2005. Her main research interests are in philosophy of mind and cognitive science and metaphysics. Recent publications, both forthcoming and in print, include “Intrinsically/Extrinsically” (forthcoming, *The Journal of Philosophy*), “Semantic Externalism and the Mechanics of Thought” (forthcoming, *Minds & Machines*), “Is Objective News Possible?” (forthcoming in an edited volume in journalism ethics from Oxford University Press), and “Can Mental Representations Be Triggering Causes?” (*Consciousness & Emotion*, 2003).