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## **Gray Matters: Philosophical Thoughts on the Cognitive Neurosciences**

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**Keywords:** Cognitive Science; Neuroscience; Philosophy; Philosophical Issues; Emotion; Reasoning; Neuroimaging, Clinical methods; Neuroethics.

### **Panel Overview**

The panel will discuss some of the philosophical implications of recent research avenues and methodological commitments in the cognitive neurosciences. Topics will include: 1) What is the definition and scope of neuro-ethics, and what should it be, if neuro-ethics is to be a worthwhile endeavor? 2) Does our new knowledge of the processes of human understanding change our philosophical notions of *knowledge*, *truth*, and *goodness*? 3) In light of new findings in neuro-ethics, how should we re-interpret recent experimental results? For example: Can studies that inform conclusions about moral experiences disregard the socially constructed nature of language that subjects must use to describe inner experiences? Further, how must philosophical theorizing about the human condition change as a result of our understanding of the embodied mind? 4) Ethical questions concerning the practice and recommendations of neuro-ethics, for example: Is neuro-ethics the next ethical step in neurological progress? Of particular interest are the implications of neuro-scientific discoveries for normative judgments, motivation, and moral agency and whether facts about the structure of the brain place constraints on plausible philosophical moral theories.

These issues will be highlighted by two philosophers and one neurologist. One philosopher (Waller) specializes in epistemology & legitimacy of inference, and has spent several years working in neurology laboratories (at UCSD and University of Pennsylvania Hospitals) to examine techniques of data gathering and inference used in the cognitive

neurosciences. The second philosopher (Meyers) specializes in ethics and metaethics, and is currently researching motivation and morality, and the empirical measures thereof. The neurologist (Whitehouse) asks questions about the ethics of neuroethics, and advocates a neuroskeptical approach to the development of new subfields.

### **Timeliness, Diversity, Appropriateness, Balance**

Several recent works (Arnold & Lindsay 2002; Farah & Heberlein 2006; Hauser 2006) suggest models of human thought, knowledge, and morality based on recent findings in the neurosciences. This multi-disciplinary panel will address issues raised by neuro-scientific research that impact both neuro-scientific practice and philosophical theorizing. Because all science is based on philosophical premises, philosophical questions are important to consider in the enterprise of cognitive neurology. Because all philosophy has emerged from human neural architecture, data describing cognition and neurological structure and function must inform philosophical ventures. Our panelists are selected from the fields of neurology, epistemology, cognitive science and moral philosophy, and will present these questions and issues from several points of view to ensure a balanced, informative, and lively discussion.

### **Speaker #1 & Moderator: Dr. Sara Waller “Measuring our Measures of Conscious, and Moral Experience”**

Neuroethics is a field that asks questions about the power of new discoveries in the neurosciences to change human lives. As such, it is a field that is based on our moral experiences. By what standard do we determine that we measure moral experience well, neatly, and

unequivocally? Experiments purporting to measure human moral responses presuppose that we have a well-honed definition of ‘moral response.’ I will first review recent studies in an attempt to coalesce a workable notion of ‘moral response’ for discussion. Reliability and repeatability are hallmarks of good science, but our fleeting, unreliable and unique conscious reactions to moral quandaries are by nature difficult to quantify. We rely on our subjects to participate with sincerity and motivation, and we rely on our experimental design to reveal that which the subject might otherwise keep hidden. I will discuss the potentially problematic nature of this divide between subjective worlds and objective measures, and examine the strengths and weaknesses possible bridges (shared venues of information gathering, such as language) across the divide. The talk will reveal our philosophical standards for creating standard empirical measures of human consciousness, rationality, and response to moral quandaries. This will lay an introductory foundation of philosophical questions surrounding the neurology of ethical response and the field of neuro-ethics, and differentiate the two in a preliminary way.

**Speaker #2: Dr. Chris Meyers**  
**“Neuropsychology and Ethical Theory”**

I will examine some of the implications that neuroscientific discoveries might have for moral theories and moral judgments. Can certain facts about the brain help to answer philosophical questions about what it is to be a moral agent or what makes certain actions right or wrong? Equally important, can theories in moral philosophy (such as theories about motivation or what counts as a normative belief) cast doubts on some neuroscientific conclusions?

**Speaker #3 Peter Whitehouse, M.D., Ph.D.:**  
**“Neuro-skepticism and the Neurology of Philosophy”**

I will define and explore what I call “neuro-skepticism,” as applied to neuroethics, a new field on inquiry into the value issues in clinical neuroscience. We raise concerns about adding the prefix “neuro” to human activities in order to enhance their power and influence. Examples, include neurolaw, neuroeconomics, and neuropsychotherapy, as well as neuroethics itself. This is an approach to cognitive neurology that demands deep reflection about of its own tentative conclusions about human inference patterns to its own processes for drawing these conclusions. We ask whether we fall prey to the common cognitive errors we research in our own discipline. I will spotlight ethical questions both within and about the emerging field of neuro-ethics, and ask whether it is ethical to create new normative ethical doctrines using findings from our research, and/ or unethical to neglect known boundaries of our understanding when developing laws and norms. Further, I ask whether ethical questions currently being discussed as a result of our new neurological knowledge are right and just questions to ask.

**References**

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