

**SYMPOSIUM
ON
EMOTIONS, NATURAL SELECTION
AND RATIONALITY**

SATURDAY - SUNDAY
MARCH 21 - 22, 2009

To register, please visit this website:

[http://business.richmond.edu/news_events/current_events/3-21-09 Econ Symposium](http://business.richmond.edu/news_events/current_events/3-21-09_Econ_Symposium)

UNIVERSITY OF RICHMOND



Convenors:

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Sponsor:

The E. Claiborne Robins Distinguished University Chair, University of Richmond

Supporters:

Robins School of Business, University of Richmond
Jepson School of Leadership Studies, University of Richmond
Faculty of Business and Economics, Monash University

Venue:

Jepson Alumni Center, University of Richmond, Richmond, Virginia, USA

Synopsis

The symposium focuses on how the emotions are related to morality, on one hand, and to rationality, on the other. The recent discovery of the mirror neuron system, conceivably the basis of sympathetic emotions, highlights the biological basis of moral and rational behavior. Adam Smith, 250 years ago, highlighted in his book, *The Theory of Moral Sentiments* (1759), how morality is ultimately based on sympathetic sentiments. On the other hand, Charles Darwin stressed the biological basis of morality. This symposium brings together scholars in economics, biology, psychology, and other disciplines to evaluate and debate these issues in light of recent discoveries in neuroscience.

AGENDA

Friday, 20 March 2009

7:30 Dinner (on your own—or by invitation at Embassy Suite Hotel)

Saturday, 21 March 2009

8:00 pick up registration package

8:25 Welcome

8:30-10:00 *“Expected Utility Theory, the Emotions and the Stages of Knowledge Ahead Theory”*

Reinhard Selten

Department of Economic, University of Bonn, Germany
(Nobel Laureate of Economics, 1994)

Robin Pope

Department of Economics, University of Bonn, Germany

10:00-10:30 Coffee Break

10:30-11:30 *“The Moral Molecule”*

Paul Zak

Center for Neuroeconomics Studies and Dept. of Economics,
Claremont Graduate University

11:30-12:30 *“Two Neural Systems for Trust”*

Kevin McCabe

Interdisciplinary Center for Economic Science
George Mason University

12:30-1:30 Lunch (on your own/by invitation)

1:30-2:30 *“Doing and Saying: Does Transparent Leadership Really Matter?”*

Daniel Houser

Interdisciplinary Center for Economic Science
George Mason University

2:30-3:30 *“On Intrapersonal Conflict”*

David Haig

Department of Organismic and Evolutionary Biology
Harvard University

3:30-6:00 Bus tour of historical Richmond (free/priority to non-Richmond residents)

6:45 Dinner (on your own/by invitation)

Sunday, 22 March 2009

- 8:30-9:30 ***“The Mirror Neuron System: How Cognitive Functions Emerge from Motor Organization”***
Leonardo Fogassi
Department of Neurosciences
University of Parma, Italy
(co-discoverer of the mirror-neuron system)
- 9:30-10:30 ***“The Human Mirror Neuron System –
from Actions to Morality”***
Istvan Molnar-Szakacs
UCLA Semel Institute for Neuroscience
and Human Behavior
- 10:30-11:00 **Coffee break**
- 11:00-12:00 ***“The Mirror-Neuron Paradox: How Far is Sympathy from Compassion, Indulgence, and
Adulation?”***
Elias Khalil
Department of Economics, University of Richmond
and Monash University, Australia
- 12:00-1:00 ***“On the Darwinian Afterlife of The Smithian Distinction Between Natural and Moral
Sentiments, and Their Rationality”***
Eric Schliesser
Department of Philosophy, Leiden University, Netherlands
- 1:00-2:00 **Lunch (on your own/by invitation)**

End of Symposium

**Sarah F. Brosnan, Department of Psychology & Neuroscience Institute, Georgia State University
Title: An Evolutionary Perspective on the Moral Emotions (see attachment)

** The paper by Brosnan will not be presented at the symposium, but it is part of the proceedings.

Abstracts

Robin Pope and Reinhard Selten: *“Expected Utility Theory, the Emotions and the Stages of Knowledge Ahead Theory”*

ABSTRACT: The paper re-expresses and complements arguments against the normative validity of expected utility theory in Robin Pope (1983, 1991, 1985, 1995, 2000, 2001, 2005, 2006, 2007) and in Pope, Leopold and Leitner (2006). The objections concern the neglect of the evolving stages of knowledge ahead (stages of what the future will bring) when such evolution is fundamental to an experience of risk of whether or not there will be a particular outcome. This neglect entails a disregard of emotional and financial effects on well-being from limited knowledge ahead before learning about this particular outcome. After learning, the person has full knowledge ahead concerning this particular outcome.

Kreps and Porteus (1978, 1979) extended axiomatised expected utility theory to seek to comprehend some financial effects of the person’s evolving stages of knowledge ahead, as did Caplin and Leahy (2001) to comprehend some emotional effects. It will be shown that there are serious objections against these temporal modifications of axiomatised expected utility theory. By contrast the umbrella theory proffered by Pope that she has now termed SKAT, the Stages of Knowledge Ahead Theory, offers an epistemically consistent framework within which to construct particular models to deal with particular decision situations.

The conference presentation will in its examples focus on two sets of emotions important for well-being and also for learning and maintaining adequate decisionmaking and adequate mental health. One set are emotions such as hope and fear that are experienced in the pre-period in which the person has only a limited degree of knowledge ahead and thus uncertainty about the outcome. The second set are emotions such as thankfulness that the previously bad outcome did not occur or frustration that the previously possible good outcome did not occur. This second set of emotions are experienced in the post-outcome period when the person has full knowledge ahead. The person’s memory generates a historical legacy of what was previously possible that accentuates her positive emotions when a good outcome occurs and accentuates her negative emotions when a bad outcome occurs.

Paul J. Zak: *“The Moral Molecule”*

ABSTRACT: In *The Theory of Moral Sentiments*, Adam Smith argued that “fellow feeling” or empathy was the basis for moral behaviors. Recent neuroeconomics experiments have shown that Smith was correct. These studies have identified the peptide oxytocin as the moral molecule. This talk reviews these experiments and draws implications for economics, business organization, and public policy.

Kevin McCabe: *“Two Neural Systems for Trust”*

ABSTRACT: not available

Daniel Houser: *“Doing and Saying: Does Transparent Leadership Really Matter?”*

ABSTRACT: Does transparency change behavior? We address this issue by means of a public goods experiment featuring a leader whose only power is sending a non-binding contribution suggestion. Transparency is affected by making the leader's words and actions common knowledge. Co-operation of leader and followers flourishes in a transparent setting relative to institutions with varying degrees of opacity.

David Haig: *"On Intrapersonal Conflict"*

ABSTRACT: Humans have evolved general-purpose problem-solving mechanisms, and the ability to learn from others, to compensate for the limitations of hard-wired adaptations. We are rational, cultural, and instinctive beings. Sometimes these alternative sources of behavioral guidance promote different choices. Instinct summarizes the wisdom of past natural selection and recommends actions that have worked before under similar circumstances. Culture also summarizes wisdom from the past and can respond much faster than gene sequence to environmental change, but, from a gene's eye view, has the disadvantage of evolving by rules that need not promote genetic fitness. Reason can respond to unique features of the current situation and to weak selective forces, but may lack the historical judgment of either instinct or culture. Our passions, both positive and negative, are the carrots and sticks employed by genes to mold our actions to their ends. Reason may be a slave to the passions, but reason pursues pleasures as ends in themselves rather than as means to an end.

Leonardo Fogassi: *"The Mirror Neuron System: How Cognitive Functions Emerge from Motor Organization"*

ABSTRACT: The neurophysiological studies of the last two decades have provided evidence that the motor cortex is not simply involved in movement programming and execution, but plays a main role in coding the goal of motor acts. Thus, the motor system is endowed with a storage of motor representations (motor knowledge) that can be addressed by different types of sensory inputs through dedicated parieto-frontal circuits. The matching between sensory input and motor representation allows the emergence of different types of cognitive abilities. An example of the outcome of these matching mechanisms is represented by mirror neurons, found in both ventral premotor and inferior parietal cortex of the monkey, that activate both when a monkey executes a hand or mouth goal-related motor act and when it observes a similar motor act performed by another individual. This capacity of matching action execution with action observation suggests that these neurons underpin action understanding.

The purpose of this presentation is to give an overview on the mirror neuron system, with particular reference to monkey studies. First of all I will describe the main features of these neurons, including also some recent studies extending the knowledge on their properties. Then I will revise recent monkey data suggesting an important role of mirror neurons in understanding action intentions. Finally I will relate monkey studies with those on the human mirror system. Although some of the functions attributed to this system in humans appear to be fully developed only in our species, they very likely derived from the basic organization of mirror neurons in non-human primates. I will provide some examples that suggest this continuity.

Istvan Molnar-Szakacs: *"The Human Mirror Neuron System – from Actions to Morality"*

ABSTRACT: Work in macaques has provided direct evidence of a neural system for understanding the actions of others, as well as the intentions behind those actions. The firing pattern of neurons within this system appears to ‘mirror’ an action performed and seen, linking action to perception and actor to observer. Indirect evidence acquired through various neuroimaging techniques, including functional Magnetic Resonance Imaging (fMRI) and Transcranial Magnetic Stimulation (TMS) indicates that a similar system, termed the Mirror Neuron System (MNS) also exists in the human brain. This fronto-parietal neural system, which seems to be intimately connected to both sensory and higher-level frontal regions, as well as the emotion centers of the brain has been implicated in a variety of functions including imitation learning, non-verbal gestural communication, music perception and self-perception. In this paper I will discuss some evidence suggesting that this system for linking perception and action, observer and actor, may be involved in empathic concern, the capacity to recognize or understand *another's* state of mind or emotion. From this evidence, I will try to make a case that the human MNS may serve as a neural substrate for tolerance and compassion – the active desire to alleviate another's suffering. I will also discuss implications for ingroup – outgroup relations and morality.

Elias Khalil: “*The Mirror-Neuron Paradox: How Far is Sympathy from Compassion, Indulgence, and Adulation?*”

ABSTRACT: How could the same mirror-neuron system (MNS) be involved in *understanding* and *reflexivity*—whereas understanding attenuates, while reflexivity escalates the emotions? These two functions of fellow-feeling is the core of the disagreement between Adam Smith and David Hume, and reappears with the recent discovery of MNS. This paper promises to solve the paradox of these apparently contradictory functions by distinguishing two axes of decision making: the *rationality axis* and the *niyya axis*. The rationality axis asks whether the action is efficient and proper (i.e., rational), while the *niyya* (a word from Arabic, which means approximately “intention”) axis asks whether the intention is good-will or ill-will. The proposed solution provides a theoretical framework that help us to distinguish among four types of fellow-feelings: sympathy, compassion, indulgence, and adulation.

Eric Schliesser: “*On the Darwinian Afterlife of The Smithian Distinction Between Natural and Moral Sentiments, and Their Rationality*”

ABSTRACT: The distinction between (instinctive) natural and (cultivated) moral sentiments is of utmost importance in Smith's *The Theory of Moral Sentiments*. It is almost always ignored (but see Carrasco 2005). This is no surprise because Smith does not call attention to the distinction and the title of his book only mentions the moral sentiments. The distinction is very important in Smith's moral philosophy because it helps underwrite the two-fold nature of his ethical/political theory in (a) very thin universal moral code, based on common humanity (and the wide scope of sympathy, even with other animals and nature) and the proper functioning of resentment, and (b) the application of more localized moral norms (based on cultural evolution of sets of rules). In this paper I, first, explore the separate rationality conditions of the natural and moral sentiments. For Smith, their rationality is determined by historical (and distinctive selective) processes. In the second part of the paper, I explore how Darwin's use of 'social instincts' in opposition to J.S. Mill (who had transformed the

Smithian conceptual apparatus) elides Smith's distinction. While Darwin saw deeper into the nature of selection than Smith, it is by no means obvious that the Darwinian social instincts can provide the conceptual resources such that *we* would call them "moral."

Sarah F. Brosnan: "*An Evolutionary Perspective on the Moral Emotions*" (see attachment)

ABSTRACT: Moral behavior and concern for others is one of the traits that humans believe set us apart as different. However, it is very likely that humans are not the only animal species to possess these characteristics. Functionally, it seems unlikely that these traits evolved *de novo* in humans, and practically, work from behavioral biology and neuroscience has indicated that some of these traits – or at least, their precursors – are present in other species, particularly the non-human primates. Darwin would clearly approve of this approach; in his less well read book "On the Expression of Emotions in Man and Animals" indicates clear evolutionary links between the emotions of animals – including sympathy – and those of humans. Smith, too, indicates sympathy with this view in some of his writings. Others, however, may be concerned about whether non-human species could truly show precursors to humans' moral behavior, or how we can legitimately identify these as such. I will focus primarily on evidence from behavioral biology to argue that there is a basis for the moral emotions in nonhuman primates and, hence, an understanding of how this sense evolved to the form we see in humans.