TENTH SEAL SCHOLARSHIP CONFERENCE

VANDERBILT UNIVERSITY LAW SCHOOL

NASHVILLE, TENNESSEE

APRIL 16—18, 2009

The Society for Evolutionary Analysis in Law (SEAL) is a scholarly association dedicated to fostering interdisciplinary exploration of issues at the intersection of law, biology, and evolutionary theory, improving the models of human behavior relevant to law, and promoting the integration of life science and social science perspectives on law-relevant topics through scholarship, teaching, and empirical research. Relevant disciplines include, among others, evolutionary and behavioral biology, cognitive science, neuroscience, complex adaptive systems, economics, evolutionary psychology, psychiatry, behavioral ecology, behavioral genetics, primatology, memetics, chaos theory, evolutionary anthropology, and gender relations. SEAL welcomes all those with serious scholarly interests in evolutionary processes and law.

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DAY ONE – THURSDAY, APRIL 16, 2009

12:00 to 1:15 **Lunch in Law School, North Lobby**

1:15 to 1:30 **Introduction/Welcome, Jeff Stake & Owen Jones**

1:30 to 2:00 **Simmelian Ties in Chimpanzees: Social Structure and the Evolution of Reciprocity**

Gregory Todd Jones, Director of Research, Georgia State University College of Law

Sarah Brosnan, Assistant Professor, Georgia State University

Would an understanding of the relationship between social structure and reciprocal behavior inform the design of institutions, including legal systems? In this talk, we will use computational simulations of social networks to demonstrate the relationship between social structure, including average degree (connectedness), heterogeneity of degree, and clustering on the evolution of reciprocal behavior. Using this theoretical foundation along with Simmel's work on the importance and characteristic distinctiveness of triads, we report on our recent study that partitions empirical Chimpanzee social networks into sub-net architectures and demonstrates that reciprocity is driven largely by fully symmetrical triadic relationships.

2:00 to 2:30 **The First Law of Jurisdynamics? The Emergence of Scaling, The Development of Community Structure and its Implications for the "Evolution" of the Law**

Daniel Martin Katz, Ph.D. Candidate, University of Michigan

How can developments in complexity theory and network science help enrich positive legal theory? A significant amount of recent scholarship documents the tendency of the American common law and its constitutive institutions to self-organize in what has been characterized as "crystalline" "fractal" or "highly-skewed" manner. Building upon this prior research and leveraging advances in complexity theory, computational linguistics and applied graph theory, I outline why these developments are the prerequisite to an enriched consideration of law's fitness landscape.

2:30 to 2:45 **15-Minute Break**

2:45 to 3:15 **Places, Boundaries, and Crime: Using Evolutionary Analysis to Understand Spatial Dynamics in Criminal Law**

Adam Benforado, Assistant Professor, Drexel University Earle Mack School of Law

How might evolutionary analysis help elucidate key spatial dynamics in criminal law? Although largely overlooked, physical space and the meanings that we attach to landscapes, places, spatialities, and natures actively shape our legal structures, order interactions, and determine outcomes. A systematic spatial analysis of criminal law provides the foundation for understanding the origins of our legal system and assessing whether our current legal structures—from the laws on the books to the practices of police officers to our approaches to punishment—align with our current societal needs and values, and, thus, whether the structures we have in place ought to be changed. In building its normative conclusions, the project employs the insights of evolutionary analysis and human behavioral biology to investigate and explain identified spatial dynamics (e.g., why laws are frequently built around protecting the physical boundaries of the body, the home, and the community).

3:15 to 3:45 **Metaphysics and Patenting Life**

Andrew W. Torrance, Associate Professor of Law and Research Associate, University of Kansas

What are the consequences for the patentability of living organisms, and for the rational administration of a patent system, when a country's highest court bases its understanding of biology on pre-Darwinian conceptions of organic evolution? The Supreme Court of Canada negated the patentability of animals and plants in Harvard College v. Canada (2002), variously justifying its decision on the basis of "commonly understood" distinctions between "higher" and "lower" life forms, and the striking hypothesis that "higher," though not "lower," life forms "transcend" their genomes, despite the fact that Canadian statutory patent law is silent on any such distinctions. The Supreme Court offered no scientific evidence whatsoever to justify its demarcation of the border between patentable and unpatentable organisms, nor could it, because no scientific evidence exists that the evolutionary history of life can be divided into "higher" or "lower" organisms. Rather, through its rhetoric the Supreme Court majority revealed its prescientific and pre-Darwinian Weltanschauung, in which evolution progresses ever onwards and upwards toward an identifiable endpoint (notably the apex of evolution, Homo sapiens) and the ancient belief in a "Chain of Being" prevails over the accepted scientific view of evolution first published a full century and a half ago in Charles Darwin's The Origin Of Species, thus revealing worrying implications for the rational administration of a patent system whose existence is otherwise premised on the societal value of scientific advances.

3:45 to 4:00 **15-Minute Break**

4:00 to 4:30 **Reciprocal Altruism as the Basis for Contract Proposed**

Scott Fruehwald, Professor of Legal Writing, Hofstra University School of Law

Does Evolutionary Biology provide a basis for contract through reciprocal altruism? This presentation will discuss the connection between reciprocal altruism, a characteristic of human behavior that evolved to deal with the "selfish gene," and contract law. This author believes that reciprocal altruism illuminates the basis of contract and that it provides a better explanation for the development of contract law than traditional theories. This presentation will analyze reciprocal altruism and contract in connection with contract formation, damages, gap filling, unallocated risks, good faith in performance, and unconscionability, and it will show how neuroscientific studies support the existence of reciprocal altruism.

6:30 to 7:00 **Cocktails at The Bound'ry (second floor)**

7:00 **Dinner at The Bound'ry (second floor)**

DAY TWO - FRIDAY, APRIL 17, 2009

ROOM 231 – BASS BERRY SIMS

8:00 to 9:00 **Breakfast in Law School, North Lobby**

9:00 to 9:15 **Introduction**

9:15 to 9:45 **Neuroscience, Mechanism Design, and the Role of Emotion in Law**

Oliver Goodenough, Professor of Law, Vermont Law School

What can neuroscience and mechanism design tell us about the role of emotion in law, and vice versa? This essay lays out a framework for thinking about institutions, emotions, and law. It combines work that links our emotions with internal, psychological commitments, and an understanding of institutions as mechanisms that re-frame the strategic landscape in a world of potential cooperation and conflict between social actors. This combination suggests a positive theory of moral sentiments, a clearer way to understand the role of emotion in law, and a reframing of the old is/ought distinction, sometimes called the naturalistic fallacy.

9:45 to 9:55 **10-Minute Break**

9:55 to 10:25 **Black Boxes**

Julie Seaman, Assistant Professor of Law, Emory Law School

How might advances in neuro-imaging based lie detection techniques impact the role of the jury in our criminal justice system? In our current system, the jury is the lie detector. Most deception researchers agree, however, that humans are not very adept at detecting untruthfulness. This presentation will describe recent advances in brain-based lie detection and will then engage in a thought experiment that asks whether a perfect lie detector would render the jury system obsolete.

10:25 to 10:35 **10-Minute Break**

10:35 to 11:05 **The Neural Substrates of Participation in Legal Systems: Evidence from Economic Experiments**

Michael D. Guttentag, Associate Professor of Law, Loyola Law School, Los Angeles

How much do we already know and how can we learn more about the neural substrates of participation in legal system from fMRI studies of participants in economic experiments? fMRI studies of participants in economic experiments can provide insight into the neural substrates of participation in legal systems, as suggested by the important new article in "Neuron" by Buckholtz et al. I delve into the relationship between behavior in economic experiments and participation in a legal system by exploring the overlap between the necessary and sufficient existence conditions for participation in a legal system and behavior in economic experiments. This analysis offers suggestions for studies that could further advance our understanding of the neural substrates of participation in legal systems.

DAY TWO - FRIDAY, APRIL 17, 2009

ROOM 105 –ALEXANDER

8:00 to 9:00 **Breakfast in Law School, North Lobby**

9:00 to 9:15 **Introduction**

9:15 to 9:45 **Kinship Foster Care: Implications of Behavioral Biology Research**

David Herring, Professor of Law, University of Pittsburgh School of Law

Does evolutionary theory and behavioral biology research provide a foundation for a research agenda that would produce information useful to caseworkers and judges who seek to place children in kinship foster homes? This paper describes how evolutionary theory and behavioral biology research on kinship allow for the development of a rank listing of second-degree kin in terms of their expected level of investment in a related foster child. The paper also describes how child welfare researchers could use the rank listing to formulate and test hypotheses concerning expected levels of investment by different types of kin. In addition, this paper discusses how the findings from such research could allow for the development of sophisticated kinship foster care placement policies and practices.

9:45 to 9:55 **10-Minute Break**

9:55 to 10:25 **Cohesion and Trust: Evolutionary Psychology and the Implications of Admitting Women to Ground-Combat Units**

Kingsley Browne, Professor of Law, Wayne State University Law School

How might evolutionary psychology shed light on the effects of lifting the ground-Combat Exclusion for Women in the Military? Group cohesion is critical to military performance, and trust is critical to group cohesion. Women in military groups often seem to adversely affect cohesion, especially as danger increases, at least partially because of men's reluctance to trust them in dangerous circumstances. This reluctance to trust may reflect men's evolved psychology, and it may pose an obstacle to implementation of any regulatory change opening ground-combat units to women.

10:25 to 10:35 **10-Minute Break**

10:35 to 11:05 **The Paradox of Statistical Discrimination**

Deborah Weiss, Research Fellow, University of Texas School of Law

What are the implications for discrimination law of evidence of a biological basis for statistical aptitude differences between men and women? A growing body of research suggests a biological basis for some of the differences in the distribution of aptitudes between men and women. Such statistical differences, however, produce a paradox: while they suggest that men and women will never be equally distributed among occupations, they will almost inevitably cause discrimination in professions that make use of sex-linked aptitudes. This paradox poses challenges both to those who would reduce antidiscrimination efforts because of evidence of difference and to those who advocate statistically based theories of recovery.

11:05 to 11:15 **10-Minute Break**

11:15 to 11:45 **In Quest of the Fundamental Principles of "Neurolaw"**

Federico Gustavo Pizzetti, Associate Professor of Public Law, University of Milan, Italy

Which should be regarded the fundamental, constitutional principles of the new field of Law called:"neuro-law"? The growing use of brain imaging technology and the developing of cognitive neuroscience pose new challenges to legal scholars, legislators and courts. Until now, the fields of Law most involved in discussions and controversies about the relevance and the implications of neuro–imaging and cognitive neuroscience have been civil and criminal law and procedure, although the constitutional dimension of "neurolaw" should not be underestimated. As the capacity to investigate and to trace brain mechanisms and functional neural activities dramatically increases, it becomes urgent to recognize and define the several unalienable rights and fundamental values that must be protected and safeguard by the Constitution in respect of this new techno-scientific power.

11:45 to 1:00 **Lunch in Law School, North Lobby**

1:00 to 1:30 **"Minding" Civil Law's Regulation of Adolescents**

Jennifer A. Drobac, Professor of Law, Indiana University School of Law-Indianapolis

Should the civil law that regulates teenagers respond to recent scientific discoveries concerning adolescent neurological and psychosocial development? Sexual harassment law gives legal significance to adolescent consent, despite the science regarding adolescent development. Courts are re-examining adolescent capacities and the question arises how much further, if at all, the law should adapt to new scientific evidence.

1:30 to 1:40 **10-Minute Break**

1:40 to 2:10 **Brain Laterality and Deception Detection in the Courtroom**

John Lanou, Attorney, Washington, DC

Is the jury box evolution-compliant? Humans identify emotional facial expressions more accurately when they see those expressions in their left visual field, and humans detect lies more accurately when they can identify the liar's emotional facial expressions. Is the jury box on the wrong side of the room? We present the results of our lab research.

2:10 to 2:20 **10-Minute Break**

11:05 to 11:15 10-Minute Break

11:15 to 11:45 The Evolution of Stalking

Joshua Duntley, Assistant Professor of Criminal Justice & Psychology, The Richard Stockton College of New Jersey

Can the legal system benefit from an evolutionary analysis of stalking? We hypothesize that stalking tactics have ancient origins that were shaped by evolutionary processes to help solve recurrent adaptive mating problems, including: (1) acquiring a new mate, (2) guarding an existing mate to prevent defection, (3) fending off potential mate poachers, (4) regaining sexual access to a mate who has defected, and (5) interfering with the new romantic relationships of former mates. We hypothesize the existence of several, sex-differentiated psychological design features of stalking psychology, including: (1) sensitivity to adaptive problems for which stalking was an ancestral solution, (2) maintaining false beliefs in stalkers, and (3) motivating stalking tactics. Evidence from a university sample (N=975) of stalking victims provide preliminary support for several hypothesized design features and demonstrates that stalking tactics are sometimes effective.

11:45 to 1:00 Lunch in Law School, North Lobby

1:00 to 1:30 The Normativity of Contract

Peter A. Alces, Rollins Professor of Law, The College of William & Mary School of Law

To what extent is the normativity of our Contract law doctrine the product of evolutionary forces? The paper draws extensively on the rich evolutionary psychology and experimental ethics literature to support a positive theory of morality and morality's operation in the Contract law. It engages evolutionsry theory in terms that demonstrate the failure of the prevailing normative approaches. The resulting empirical morality makes clear that the doctrine accommodates, even encourages, resolution of recurring controversies by reference to a dialectic between deontology and consequentialism; that is, the doctrine is best understood not as either deontological or consequentialist, but, instead, as mediating a persistent tension between those two normative commitments to which human actors are evolutionary predisposed.

1:30 to 1:40 10-Minute Break

1:40 to 2:10 The Natures of Universal Moralities

Bailey Kuklin, Professor of Law, Brooklyn Law School

Do the moral impulses that stem from theories of evolutionary psychology offer a sufficient normative grounding for legal principles? Three theories of evolutionary psychology have been advanced as giving rise to moral impulses: kin selection, reciprocal altruism and sexual selection. The consequences of all three theories depend upon a variety of contingencies, including the conditions in the EEA, the cognitive abilities of the organisms, and the particular payoff matrix of the games played by interactors. Hence, the question of evolved norms is an empirical matter that cannot be accurately predicted from theory alone and such norms are likely to vary greatly.

2:10 to 2:20 10-Minute Break

2:20 to 2:50 **TBA**

2:50 to 3:00 **10-Minute Break**

3:00 to 3:30 **Normative Neuroscience and Criminal Law**

Theodore Y. Blumoff, Professor of Law, Mercer University

How might recent findings in neuroscience not only "challenge our sense of self," but lead to both substantive and procedural changes in criminal law? Although neuroscience and the tools of brain imaging are sufficiently well developed to evidence our neurobiology at a level of detail unimaginable until even decade ago (roughly the size of a grain of rice), they are not yet sufficiently developed to be consistently useful in the guilt phase of most criminal trials. Given the advances in imaging and behavioral genetics, however, neuroscience is sufficiently mature today to effect some global procedural and substantive changes in our criminal law jurisprudence – e.g., definitions of, and burdens of proof on the issue of competency. In this work, I survey many of the presuppositions that guide work in a jurisprudence grounded in neuroscience and behavioral genetics and suggest how the findings in these could useful in effecting real change.

3:30 to 3:40 **10-Minute Break**

3:40 to 4:10 **Changes in U.S. Bankruptcy Law and the Toleration or Punishment of Freeriders**

Christina Pomianek, Ph.D. Student, University of Missouri

Johnathan Stone, University of Toledo

How can an evolutionary analysis of the treatment of freeriders inform a better perspective on the historical changes in Bankruptcy law? Given the obvious incentives associated with freeriding at any scale, effective strategies for the detection, deterrence, and sometimes punishment of non-reciprocators are essential to the maintenance of order. However, the actual treatment of freeriders is based on the costs and benefits of monitoring and sanctioning. When the costs of punishment outweigh the benefits, free-riders are more likely to be tolerated. Conversely, when the costs do not outweigh the benefits, freeriders are less likely to be tolerated. Changes in U.S. Bankruptcy Law over time reflect larger changes in economic conditions at institutional and individual levels, which influenced the perception of the costs and benefits associated with tolerating or punishing freeriders.

4:10 to 4:20 **10-Minute Break**

4:30 to 5:00 **Open forum**

7:00 **Transportation to The Standard for dinner**

2:20 to 2:50 **Are Critical Bio-Legal Histories Possible? Some Thoughts on Comparative Law and Evolutionary Social Constructivism**

Bart Du Laing, Postdoctoral Fellow of the Research Foundation – Flanders (FWO), Ghent University

To what extent are attempts to bridge the gap between evolutionary approaches to human behavior and social constructivism relevant to comparative legal theory, or put differently, are there interesting ways in which to combine bio-legal histories and critical legal histories? In my talk I aim to assess to what extent evolutionary biologist David Sloan Wilson's recent proposal for an evolutionary social constructivism (as further elaborated upon in De Block & Du Laing (2007), 2(4) Biological Theory 337-348) can contribute to the comparative study of law and legal cultures. Contrasting both different evolutionary approaches to human behaviour and different ideas about comparative legal theory, and taking into account some specific social constructivist core theoretical elements, I will argue that evolutionary social constructivism, by investigating cultural transmission mechanisms, as well as the characteristics that make cultural variants attractive to individuals, does provide possible bridges between 'critical legal histories' and 'bio-legal histories'. Especially to some extent 'indirect' evolutionary approaches (like Robert Boyd and Peter Richerson's dual inheritance theory and similar recent efforts) would seem to offer promising perspectives to take into account 'human nature' as it relates to law and legally relevant phenomena, without at the same time dismissing as largely irrelevant their (equally) socio-culturally constructed dimension.

2:50 to 3:00 **10-Minute Break**

3:00 to 3:30 **Worldwide Patterns of Incest Regulations: A Window on Biolegal History?**

Anita Sue Jwa, LL.M student, Vanderbilt University Law School

How might evolutionary analysis of incest regulations around the world illuminate biolegal history, the common legal structure reflecting the evolved human brain? The present study undertakes a "biolegal history" (O. Jones (2001)) through comparative research regarding incest regulations. Incest aversion in identified circumstances is a well demonstrated predisposition in evolutionary biology, appearing in humans as well as other species. If incest regulations around the world appear in evolutionarily predicted patterns, this fact may provide a preliminary illustration of biolegal history, a common legal structure arising from cross-species similarities in the evolved human brain.

3:30 to 3:40 **10-Minute Break**

3:40 to 4:10 **Toward a Universal Juridical Grammar: A Return to Physis**

Ana Rosa Tenorio de Amorim, Lawyer/Graduate Law Student, Federal University of Pernambuco – UFPE

Can evolutionary psychology and neuroethology provide the basis for a Universal Juridical Grammar? Recent legal studies based on evolutionary psychology and neuroethology have suggested that right to property has a biological origin. That idea can be a point of departure toward the development of a Universal Juridical Grammar, where some natural rights could function as Chomsky's principles and parameters theory.

4:10 to 4:20 **10-Minute Break**

4:30 to 5:00 **Open forum in Bass Berry Sims Room 231**

7:00 **Transportation to The Standard for dinner**