

# CONFERENCE

## Investigating Justice: Applying Evolutionary Biology to Right and Wrong in the Law

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### **Highlights of the 2002 Squaw Valley Conference: Investigating Justice**

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The Gruter Institute hosted its annual Squaw Valley conference at the Plumpjack Squaw Valley Inn from June 13th through June 17th. Entitled "Investigating Justice: Applying Evolutionary Biology to Right and Wrong in the Law," the conference focused on the human capacity for distinguishing and choosing between right and wrong. Margaret Gruter and Oliver Goodenough, directors of the conference, recruited participants from the fields of economics, biology, neuroscience, and law. This limited account includes some highlights of the conference.

The conference opened with a discussion entitled "Law and the Mind – 20 Years On." Michael McGuire (Neurology, UCLA) noted that the resistance once encountered to a biologically based theory of human behavior has waned and that the idea is now taking hold. Owen Jones (Law, Arizona State) reflected on the Institute's increased momentum, and Oliver Goodenough (Law, Vermont) wrapped up the session with a call for empiricism in the law.

Sessions such as "What Could the Sense of Justice/Fairness Be For?" and "From the Five Senses to Action: Following the Pathways of Thought in the Brain," focused on the sense of justice, a long-standing interest of the Gruter Institute. A wide spectrum of ideas were presented on this subject. Timothy Goldsmith (Biology, Yale) argued that there is an evolved moral sense while Kevin McCabe (Economics, George Mason) discussed the shared sense of justice in the context of game theory.

Medical opinions included those of Vera Morhenn (Medicine, UCSD), who related findings on the sense of touch, massaging, and its relation to nitrous-oxide production, and Michael Stryker (Physiology, UCSF), who covered the neuroscience of the senses and asked whether you can literally change your mind. Stryker's studies showed that cortical plasticity is controlled by cortex responses. From this, he suggested, we can infer that an individual's preparation or "set" at the time she has an experience controls the effect that experience has on brain connections. Additionally, Hauke Heekeren (Neuroscience, NIMH) spoke on "Neuroscience, Choice, and Action," discussing how the brain reaches decisions as evidenced by fMRI tests. Surrounding the themes of economics and justice, Vernon Smith (Economics, George Mason) focused on impersonal exchange in trust games. He presented the results of a market experiment in which he attempted to make predictions about reciprocity, concluding that the subjects' minds

interacted with institutional rules, resulting in market equilibrium. Additional presentations on societal rules and decision-making by Kevin McCabe, decision-making processes in the brain in relation to IQ by Paul Zak (Economics, Claremont), and the question of whether money or a desire for an apology motivates resolution by Erin O'Hara (Law, Vanderbilt) initiated lively discussion.

Robert Frank (Economics, Cornell) spoke about economic fairness and gave several hypotheticals that illustrated a cost-benefit analysis in transfers of goods/services in the marketplace to determine whether a willingness to pay is the right basis for making such allocations/decisions. He continued with examples where this opportunity of redistribution has been missed, thus evoking inefficient responses to distributional concerns. Russell Korobkin (Law, UCLA) commented on Frank's presentation, focusing on its theoretical approach and several puzzles that it raised such as a cooperative surplus and the question of who is entitled to it. He also discussed the endowment effect in relation to land use in which someone who already has something will value it more and ask for more to give it up simply because it is hers. On the topic of the biology of justice, Oliver Goodenough attempted to bridge the gap between evolutionary biology, neuroscience and law by focusing on the methods and models used, suggesting obstacles that make it difficult to bridge the gap. Michael Stryker began with a primer on how the brain works and then discussed various techniques for studying neuroscience in humans, pointing out the pros and cons of each method.

Later, panelists explored the area of neuroesthetics. Oliver Goodenough began with a presentation that focused on stimulus, creation, exaggeration, balance, and satisfaction in justice and art. He proposed that neuroesthetics helps us to understand art and the brain, postulating that the choices artists make are successful because a work of art embodies in itself a description of human brain function. Dr. Bernd Schottdorf, Augsburg, Germany, an artist and medical doctor, then gave his outlook on artistic creation. He asserted that neuroesthetics helps us to understand how the brain works and how art is perceived, proposing that art is not just an action of the cortex but requires many processes of creating and perceiving as well as modular processes that use all parts of the brain. Later that evening, examples of artistic creation included an exhibit of Schottdorf's captivating paintings and three beautiful pieces performed exquisitely by the Ariel Quartet and composed by the host of the conference, Gordon Getty.

In a discussion of utility and happiness, Alois Stutzer (Economics, Zurich) offered statistical verification that persons with higher incomes are happier than those with lower incomes. Robert Frank stressed that "context matters," that both low and high relative incomes have corresponding psychological costs and benefits. Jake Barnes (Law, Seton Hall) emphasized that good laws must recognize individual self-interest and the desire to maximize genetic reproduction. Rick Geddes (Economics, Cornell) in analyzing the economists' fondness for the utility function, concluded that since it is difficult for individuals to learn which consumption choices are likely to enhance fitness, the right choice must be embedded or hard-wired in the individual over time.

The panel, "Applying What We Know: Applications and Education," was comprised of Dorothy Glancy (Law, Santa Clara), Raymond Coletta (Law, McGeorge), and Fritjof Haft (Law, Tübingen, Germany). Glancy discussed the law's avoidance of aesthetic judgments as seen in copyright law and land use regulations while Coletta urged that an understanding of human

behavior is critical to a comprehensive evaluation of the law in legal education. Haft lamented the near impossibility of teaching basic skills such as negotiation, mediation, and conflict resolution with words and textbooks and suggested that the language of art may enhance the communication of such ideas.

During a discussion on "Topics in Property: Sense of Property; Property and the Environment; Property and Economic Justice," Ray Coletta suggested that we have little plasticity regarding our concept of property and that innate human predispositions may constrain our ability to conceive of property other than in limited ways. Jeffrey Stake (Law, Indiana) similarly argued that notions of first in time, possession, and adverse possession may be encoded in our genes and that property text-books and classes are deficient of this understanding. Timothy Goldsmith, through his allegory of the fisheries, asked whether a private property regime is really the best way to allocate resources and whether there is a better system that looks more toward the future. William Rodgers (Law, Washington, Seattle) theorized that, although the fee simple absolute may have at one time been the best estate for sustained development, it is now anachronistic and should be replaced with a system that restricts an owner's right to destroy and waste. Dorothy Glancy explored the evolution of the sense of property over time from Blackstone's relationship between an individual and a thing to Hohfeld's concept of property as a relationship between owners and the people around them. Monika Gruter Morhenn explained how a clearer definition of intellectual property laws will serve to promote the creation and protection of intellectual property.

Kathleen Wermke's (Institute of Medical Anthropology (Charité), Humboldt-University Berlin) presentation illustrated empirical approaches used in connection with language and music. She proposed that both language and music belong to the universalities of human evolution and demonstrate rich variations between individual populations. She discussed her research on infants and their distinctive cries, hypothesizing that there is a genetic component to produce different melodic cries in babies shortly after birth.

On the topic of sentencing, Susan Bloch (Law, Georgetown) gave an overview of the Federal system before and after the 1984 Sentence Reform Act. She stated that the act has been both highly criticized as giving too much control and discretion to prosecutors and too little to judges. Judge Gilbert Merritt (United States Court of Appeals, 6th Circuit Senior Justice), a collaborator on the creation of the 1984 Act, gave a history of the guidelines and used them as an example of the law of unintended consequences. He reviewed the three goals underlying criminal sentencing: deterrence, retribution, and rehabilitation, suggesting that the latter may be a product of genetic predispositions, such as reciprocal altruism. Judge Alex Kozinski (United States Court of Appeals, 9th Circuit) followed with an explanation of how the guidelines really work in practice. Judge Kozinski argued that there is too much discretion for judges and that this has caused too much disparity in sentencing. Sara Beale compared the uniformity of sentences imposed under the guidelines in 2nd, 3rd, 4th and 9th circuit courts, which showed a vast inconsistency ranging from 35.7% of sentences falling within the guidelines in the 2nd Circuit, Northern District of New York, to 89% in the 4th Circuit, Eastern District of Virginia. Ruth Jones (Law, McGeorge) explored how theories of the mind should influence punishment and sentencing. She explained that the cornerstones of criminal culpability are rationality and free will and suggested that if scientists can understand how the mind works, there will possibly be

great implications in criminal law and sentencing. Finally, Albert Alschuler (Law, Chicago) summarized the discussion, highlighting key points such as the motivation for promulgating the guidelines and the result of enacting such legislation.

The conference fittingly came to a close with a discussion by the five federal court justices in attendance. Judge Morris Hoffman (District Court, 2nd District) began with the analogy that trial judges are to justice as piano tuners are to music, illustrating his point that a judge's contribution to achieving justice comes in the form of process utility not outcome utility. Judge Merritt noted that everyone, including judges, has some sense of justice that leads us in different directions when dealing with complex and difficult problems. Judge Terry Hatter (District Court, Central District of California, Western Division) revealed that his guiding focus as a judge is to balance between the safety of society and the needs of the individual in seeking a sense of justice. He then conceded that judges need all the help they can get in coming to a decision, and added that areas such as biology, economics, and neuroscience add much needed insight to the legal system. Alschuler chaired the discussion and turned the focus toward the workings of the judicial system, asking whether, in actuality, cases that go to trial are those that could be decided in either party's favor. Judge Kozinski concluded that justice can be accomplished even when what is perceived to be an unjust result occurs. Judge Milton Shadur (District Court, Northern District of Illinois) finished the discussion by noting that the most significant factor a judge must remember is to be conscious of not using cultural or social characteristics in making a determination.