

UCI Interdisciplinary Center for the Scientific Study of Ethics and Morality

Annual Report, 2004-5

The Center was established in 2002 by a group of scholars interested in recent scientific research on the origins and causes of morality. The Center focuses on convening faculty, researchers, graduate students, and visiting scholars to conduct studies, present lectures and publish professional papers and proceedings from public talks and organized conferences. Faculty interests are wide-ranging, and our activities this second year reflect this breadth.

Publications.

The Center collected and edited the papers on stem cell research, focusing on the interaction of science, ethics and politics. Chapters include an introduction by Paul Silverman and chapters by Fanny Alahi (Oxford), Sidney Golub (UCI), Ronald Miller (UCI), Philip Nickel (UCI), Philip Schwartz (CHOCS), Larry Goldstein (UCSD), Mahtab Jafari (UCI), Ted Wrigley (UCI), Saba Ozyurt (UCI), Kristen Monroe (UCI), and Lee Zwanziger (VPI and staff member of the President's Council on Bioethics). The volume is now being sent to several presses for consideration.

Interns.

Alexis Etow (Princeton University)

Carolyn Dang (U of Chicago)

Jane Guo (UCI)

Kristin Fyfe (UCLA)

Gina Petracca (University High School)

Cathryn O'Neill (UCI)

Nik Lampros (UCLA)

Friends of the Center. A major goal of the Center is to reach out to the local community, drawing together UCI faculty and community members interested in discussing ethical issues. The Friends of the Center is dedicated to furthering this goal.

Co-Chaired by Frank Lynch and Bettye Vaughen, the Friends of the Center have played an important part in the Center's attempts to reach out to the local community. Special thanks go to Frank Lynch and Bettye Vaughen. Through generous financial gifts from Bettye Vaughen, the Center has documented all of its initial activities so talks and public addresses are available to the public through The Vaughn Archives. Frank Lynch has made a generous contribution to the Center so we can continue our activities next year. This is not the first time Frank has shared generously with the Center and our thanks to Frank for this financial support, as well as for his continuing and valuable good advice and friendship.

Committee Work. After our initial year, we tried to assess our organizational and institutional structure. To do so, we established several important committees.

Bylaws Committee. Willie Schonfeld and Mark Petracca served on a committee to draw up bylaws for the Center. The bylaws were considered and approved by the Center in the Fall of 2004. Bylaws are available on the website. In accordance with the bylaws, an Executive Board was elected. Members of the Board include: Francisco J. Ayala, Mark Petracca, Philip Nickel, David Easton, Jerome Tobis, and Roxanne Cohen Silver, plus Kristen Monroe as Director.

The Committee on Funding and Finance, headed by the late Paul Silverman, Frank Lynch and Bettye Vaughen, met to develop plans for community outreach. This committee is being reconstituted this year.

Silverman Committee. Jerry Tobis chaired the Paul Silverman Award Committee this year. *To honor his life and his work, the UCI Interdisciplinary Center for the Scientific Study of Ethics and Morality has established the **Paul H. Silverman Award Fund**. The Paul H. Silverman Award will be given annually for outstanding work on science and ethics. Nominations may be sent to the [Silverman Committee](http://www.ethicscenter.uci.edu/silverman.htm), care of the Center (See description of award, below and from our web site: <http://www.ethicscenter.uci.edu/silverman.htm>)*

Grants Committee, chaired by Kristen Monroe. The Center worked with Marjorie Beale to submit several grants, including one pending at the NSF and another at the Ford Foundation, plus a successful grant from the Spencer Foundation. Several members have submitted – and received – grants through the Center. These include Etel Solingen, Kamal Sadiq, and Kristen Monroe.

Tentative Schedule of Center Events for 2005-6 academic year.

Outside Speakers

- We have submitted a request to sponsor Amartya Sen (Cambridge and Harvard Universities, Nobel Laureate in Economics) as a Chancellor's Distinguished Fellow. In June, we received the funding for this and were proceeding with an invitation. We learned in July, however, that Professor Sen's mother is ill and he is canceling all his talks in order to spend more time with her. We will reschedule this talk in the future. We will offer to co-sponsor with appropriate units on campus.
- Through the good efforts of Julius Margolis, we are talking with Ken Arrow (Nobel laureate in Economics from Stanford) about giving a talk this year. Negotiations are still in progress. We will offer to co-sponsor with appropriate units on campus.
- We will invite Michael Gazzaniga, author of *The Ethical Brain*¹ by Michael Gazzaniga.² . Gazzaniga apparently spends much of the year at Santa Barbara so we will invite him during his time on the West coast. (See endnotes for details on Gazzaniga's work.)
- The Board asked Francisco Ayala to invite Jared Diamond³ (UCLA, Department of Geography and Physiology and author of *Guns, Germs, and Steel: The Fates of Human Societies*) to speak at the Center during the winter or spring term. This is being coordinated with the Schneiderman Lectures in Biological Science, with Dean Bryant taking the lead in making arrangements. (See Endnotes for details on Diamond's work.)
- Jerry Tobis had suggested Eleanor Greep as a speaker on health care, and the Board authorized Jerry to contact her to arrange a dinner talk, open to the public.
- Lee Ann Fuji (doctoral candidate at Georgetown University) has been invited to speak on her research on the genocide in Rwanda-Burundi. She has accepted and we will schedule the talk during the spring term.

CEM Faculty speakers. We have tentatively scheduled talks during the fall term by the following CEM faculty:

- Faculty lunchtime seminar talks: Arnold Goodman (agoodman@pop.uci.edu) and Ron Miller. Kristen will contact both Goodman and Miller to confirm and finalize dates.
- We will ask Tova Norlan (sponsored this past year as a Center Fellow and teaching at UCI next year) to speak about religious fundamentalism.

Awarding of seed grants

The CEM budget is small but we have been frugal and fortunate so we had some funds for seed grants for faculty research. A call was issued and we were able to award seed grant money to the following projects and individuals:

- A Conference on Counter-Terror and Human Rights: International Perspective on National Security. Alison Brysk (UCI) and Gershon Shafir (UCSD)
- Codifying Religious Beliefs and Ethics in World Politics. Cecelia Lynch
- International Sanctions in Nuclear Proliferation: An Alternative to War? Etel Solingen
- When Immigrants Challenge the State: Conflict over Illegal Immigration in Developing Countries. Kamal Sadiq.

These were the only four proposals submitted and all are from faculty in social science. To more fully reflect the inter-disciplinary nature of the CEM, the Board also allocated a small seed grant to go to a student who will prepare a review of work on animal behavior, asking if there are behaviors that suggest animals may have a moral sense. This review can be put on the Center website and will be used to determine which scholars to bring to UCI to speak during the 2006-7 year.

We are asking all recipients of seed grants to attend the Awards Banquet at the end of the 2006 year and give a short (5 minute) talk on their research on this topic. All recipients will be asked to acknowledge the Center's assistance in any publications related to this work and, in the case of the Brysk-Sharif conference, to list the Center as a co-sponsor of the event.

The Board also discussed criteria for applying for future seed grants and decided to divide future seed grant money into two categories:

- Center member grants. Open to all Faculty in the Center
- Incentive grants. Small grants designed to encourage appropriate new faculty to join the Center. The call for both grants will be sent to CEM faculty, who will be asked to forward the call for Incentive grants to any relevant faculty interested in the CEM's mission. Recipients of these Incentive member grants will be asked to attend CEM meetings for one year and to apply for membership in the CEM, if appropriate.
- Members of the Executive Board should not be prohibited from applying for seed grants. When a member of the Executive Board does submit a proposal, however, a smaller committee will be appointed to review grant applications.

Establishing an Award for Life Work on Ethics.

Mark Petracca suggested bringing in high visibility speakers who could attract public attention to the CEM's work on ethics. Since our mission is focused on scientific work on ethics, it was suggested that we might accomplish this goal most effectively through creating an award for non-academics who demonstrate unusual commitment to ethical principles. One suggestion is to establish The UCI Award for Moral Courage, to honor individuals who have gone to unusual lengths, in their personal or professional life, to encourage more ethical treatment of their fellow human beings. The kind of recipient could range from someone like George Soros or Bill Gates (for philanthropic work) to people like Romeo Dallaire⁴ or Mukhtar Mai⁵ (for personal moral courage) or a journalist such as Nicholas Kristoff (Pulitzer Prize winning journalist for the *NYT*

who has pushed the boundaries of journalism to raise issues of human and civil rights) or Chris Hedges (Pulitzer prize winner who has written about war and about religious intolerance). The Board approved the general idea and asked the Director to send the proposal to the CEM membership for further ideas and consideration. Members are asked to communicate their thoughts about this award to the Director at their convenience. The issue of funding such an award is an important issue for consideration.

Internship Program.

Students continue to contact the Director to ask about working on projects concerning ethics. Since we have no funding to support such students, we have designed an intern program to provide students the opportunity to work closely with a faculty on a project and to learn from that interaction. This summer, the Director is supervising 6-7 students, on the following projects:

- Carolyn Dang (U of Chicago) Psychology of discrimination
- Alexa Etow (Psychology, Princeton University) Research on moral psychology and empathy
- Cathryn O'Neill (Bio Sci and Computer Science, UCI). Teaching ethics via video and computer games
- Jane Guo (Earth Science, UCI) Cognitive classification and ethics, video archive
- Kristin Fyfe (UCLA, cognitive science and psychology). Moral psychology and cognitive stretching.
- Gina Petracca (Psychology, University High School). Moral psychology and cognitive stretching.
- Nik Lampros (English, UCLA) Teaching ethics via video and computer games.

The internship program has been informal, with most of the participants students who have seen one faculty member's work and contacted the faculty directly. The Board endorsed the idea of broadening the program so any faculty who is contacted by students wanting to work with them should be encouraged to take them on as interns and provide space in their facilities to work with the students. Dean Doshier has provided some space for the Center in Social Science Plaza A and this space can accommodate students in social science or social ecology; students in other parts of the campus probably need to be near their supervising faculty so such space requests should be made to the dean of the sponsoring faculty. The CEM requests that deans make every attempt to find such space, when appropriate. Faculty are encouraged to take on students in this program.

Research/Education Program on Teaching Ethics.

Grants have been submitted to several foundations – e.g., the NSF and Ford – to explore whether and how ethics can best be taught in a classroom setting. We continue to explore these outside funding possibilities; if we are successful in obtaining outside funding, this instructional/research program will become a major focus of the CEM's activities. We also are exploring ties to outside organizations interested in this kind of activity, from scholarly groups interested in ethics (the International Society of Political Psychology's Caucus of Concerned Scholars: Committee on Ethics and Morality) to local (Orange County Human Rights Commission) and international (the International Committee of the Red Cross) human and civil rights groups. The Board endorsed efforts in this area and encourages faculty to suggest courses they currently teach that might fall into this domain.

Public Talks.

“The Ethical, Legal, Political, and Medical Issues Surrounding the Terry Schiavo Case”
Mark Fisher organized a public seminar, in co-sponsorship with the Department of Neurology, Department of Political Science, and the School of Social Sciences, on Wednesday, April 20,

2005. Approximately 100 people attended, several of whom were intimately involved in the kind of agonizing decisions similar to those raised by the Schaivo case.

Participants:

- Moderator: Kristen Monroe, Political Science and Philosophy
- Judith F. Daar, Professor of Law, Whittier Law School,
- Peter H. Ditto, Psychology & Social Behavior, UCI
- Mark Fisher, Department of Neurology, UCI School of Medicine
- C. Ronald Koons, Clinical Professor, Radiation Oncology & Medicine (Ethics)
- Jerome S. Tobis, Research Professor, Department of Physical Medicine and Rehabilitation, UCI
- Stanley van den Noort, Department of Neurology, UCI Medical Center

A Public Forum on International Politics, Friday, January 14, 2005

In co-sponsorship with The International Society of Political Psychology, UCI Center for Global Peace and Conflict Studies, UCI Program in International Studies, Dialogue Society, Center for Global Environmental Change and Human Security Research, UCI Department of Political Science, Center for the Study of Democracy, Research Group in International Environmental Cooperation, and the UCI Program in Political Psychology

Participants

- Kristen Monroe and Janusz Reykowski
- Yael Aronoff, Hamilton College "Waging Peace: War Termination Through Peace Negotiation"
- Don Sylvan, OSU, "Understanding the Role of Identity in Israeli-Palestinian Relations." Paul Nesbitt-Larking, Political Science, Huron University College, "Muslim Voices in Canada: Globalization, Racism and Xenophobia."
- Peter Schmidt, Justus-Liebig-Universität, "Different facets of Anti-Semitism and criticism of Israeli policy: Results from the GMF Survey 2004 in Germany."
- Lunchtime Keynote Speaker: Etel Solingen, UCI. "Why some states pursue nuclear weapons."
- Martha Crenshaw, Wesleyan University. "Terrorism."
- Leonie Huddy, SUNY, Stony Brook. "The impact of public anxiety on political learning and Support for various anti-terrorism measures."
- Cheryl Koopman, Stanford University with Rose McDermott (UCSB). "The effect of Moore's "Fahrenheit 9/11" on voting and voting intention in the 2004 election"
- Maritza Montero, Universidad Central de Venezuela, "Hugo Chavez Frias and the Future of Venezuelan Democratic Politics"

"Understanding the Promise and Problems of Stem Cells" University of California, Irvine School of Medicine, Tamkin Building F-110, Monday, May 9th, 2005

In co-sponsorship with the University of California, Program in Pharmaceutical Sciences and School of Biological Sciences, The Dialogue Society at UCI, The Nour Foundation and The Ethical Society

Participants:

- **Sidney H. Golub, Ph.D.** Professor Emeritus, Department of Microbiology & Molecular Genetics, School of Medicine, University of California, Irvine
- **Hans S. Keirstead, Ph.D.**, Assistant Professor, Reeve-Irvine Research Center, Department of Anatomy and Neurobiology, School of Medicine, University of California, Irvine
- **Philip H. Schwartz, PhD**, Director, National Human Neural Stem Cell Resource Director, Human Embryonic Stem Cell Culture Training Course, Children's Hospital of Orange County Research Institute
- **Alan Zarembo**, Science Writer, Los Angeles Times
- **Vince Fortanesce, MD**, Assistant Professor of Biokinesiology and Physical Therapy, University of Southern California
- **Gary Robbins**, Science Editor, Orange County Register

“The 2004 Indian Election in Historical Perspective.”

Lloyd I. Rudolph and Susanne Hoeber Rudolph, University of Chicago

In co-sponsorship with the Center for Asian Studies, Center for Global Peace and Conflict Studies, Department of Political Science, and the School of Social Sciences

Tuesday, May 3, 2005

“Amar Singh between Two Cultures: A Diarist's Reflections on Self and Other in

Colonial India” Lloyd I. Rudolph and Susanne Hoeber Rudolph, University of Chicago. In co-sponsorship with the Center for Asian Studies, Center for Global Peace and Conflict Studies, Department of Political Science, and the School of Social Sciences. Tuesday, May 3, 2005.

Altruism in Action” Dr. Joseph Salim, Executive director of Virtue Foundation, May 17, 2005

In co-sponsorship with the Department of Political Science, and the School of Social Sciences

"Does Race Matter in the War on Drugs?"

Doris Marie Provine, Dean, School of Justice, Arizona State University,

Thursday, May 19, 2005

Fellows.

Tova Norlen, a Fellow at the Center during the 2004-5 academic year, is spending the 2005 summer term at the International Institute for Applied Systems Analysis in Vienna Austria. The Center is pleased to announce that Norlen, a Swedish PhD candidate at the Johns Hopkins School of Advanced International Studies in Washington, DC, was recognized for her work in the project on Processes of International Negotiations. Norlen's report is entitled "Sacred Stones and Religious Nuts: Negotiating Ethnic Disputes over Absolute Space". Her award comes from the IIASA's Young Scientists Summer Program, Science for Global Insight.

SURF-IT Projects

Supervision of Cathryn O'Neill as UCI CEM intern, Summer 2005.

In conjunction with Calit2.

Paul H. Silverman Awards: 2005 Recipients

F. Sherwood Rowland and Kimberley Anderson. Material on these is listed on the website.

Faculty Talks. We continued our quarterly workshops for faculty.

November 5, 2004. Faculty meeting. "The Ethics – or lack thereof – in Politics" Mark Petracca.

January, 2005. Etel Solingen. "Why some states pursue nuclear weapons."

Recent Activities by Individual Center Members

Cecelia Lynch has been awarded a "New Directions Fellowship" from the Trustees of The Andrew W. Mellon Foundation. The grant will support Cecelia's new project, "Islamic and Interfaith Religious Ethics in World Crises," over the next three years. Our congratulations to Cecelia [clynch@uci.edu] on this important recognition and source of research support.

Etel Solingen was the recipient of two grants sponsored by the Center... for her project on Nuclear Trajectories in the Middle East and East Asia, one from the Japan Foundation and another from the University of California's system wide Pacific Rim Research program. She also gave a talk at an international conference organized by the center: "Why Some States Pursue Nuclear Weapons," Lecture at A Public Forum on International Politics, hosted by UCI's Interdisciplinary Center for the Scientific Study of Ethics and Morality, co-sponsored by UCI's Center for Global Peace and Conflict Studies. January 14, 2005.

Selected Recent Publications:

Solingen, Etel, "Southeast Asia in a New Era: Domestic Coalitions from Crisis to Recovery." Asian Survey 44:2 (March/April) 2004: 189-212.

Solingen, Etel, "East Asian Regional Institutions: Characteristics, Sources, Distinctiveness," In T.J. Pempel, ed. Remapping Asia: Competing Patterns of Regional Integration. Cornell University Press (2005) pp.31-53.

Solingen, Etel, "ASEAN Cooperation: The Legacy of the Economic Crisis." International Relations of the Asia-Pacific (Tokyo) (Vol. 5 No.1, 2005):1-29.

Petrovic Bojan and Etel Solingen, "Internationalization and Europeanization: The Case of the Czech Republic." New Political Economy (UK) Vol. 10, No. 3 (September 2005 forthcoming).

Solingen, Etel, "East Asian Regional Institutions: Characteristics, Sources, Distinctiveness," In T.J. Pempel, ed. Remapping Asia: Competing Patterns of Regional Integration. Cornell University Press (2005) pp.31-53.

Solingen, Etel and Saba Senses Ozyurt, "Mare Nostrum: The Sources, Logic, and Dilemmas of the Euro-Mediterranean Partnership," In Emanuel Adler, Beverly Crawford, Raffaella Del Sarto, and Federica Bicchi, eds., The Euro-Mediterranean Partnership. University of Toronto Press (2005, forthcoming)

Selected Invited lectures:

"Designed to Fail or Failure of Design? The Origins and Legacy of the Arab League." Conference on Regional Institutions organized by Harvard University's Weatherhead Center for International Affairs, Nanyang Technological University's Institute of Defense and Strategic Studies, and the Lee Foundation (Singapore, May 17-19, 2004).

"The Reception of Globalization and its Regional Impact." Lecture at a conference on Globalization, National Self Determination and Terrorism, sponsored by the Carnegie Corporation, Harvard University, and UCLA. Institute of Politics, Kennedy School of

Government, October 22-23, 2004.

"Nuclear Claimants: Contrasting Trajectories in East Asia and The Middle East", Lecture at the Center for Global Partnership/Japan's Foundation's Headquarters, sponsored by the Japan Foundation's CGP (Tokyo, March 14, 2005).

"The Foundations of War and Peace in East Asia and the Middle East." Lecture at Dartmouth College, sponsored by the John Sloan Dickey Center for International Understanding (Hanover, April 8, 2005).

"Modelos de industrialización en el medio oriente y el sudeste asiático en perspectiva comparada: implicancias para la cooperación intra-regional," Lecture at the Facultad Latinoamericana de Ciencias Sociales –FLACSO (Buenos Aires, June 27, 2005).

"East Asian Security: The Role of Institutions," Presentation at a Japan Foundation Center for Global Partnership symposium on Non-Traditional Security: the Transformation of Cooperation between the United States and Japan." (Tokyo, July 19, 2005).

Kristen Renwick Monroe

The Hand of Compassion: Portraits of Moral Choice during the Holocaust was awarded the Robert Lane Award and an Honorable Mention for the Giovanni Sartori Award by the American Political Science Association. The book was the subject of special panels at the International Society of Political Psychology (Toronto July 2005) and the Social Science History Association in Portland (November 2005), and was nominated for a National Book Award. Monroe was invited to give the Guetzkow-Heyns-McKeachie Lecture at the University of Michigan, and spoke as the Keynote Speaker at the Holocaust Museum in Detroit. She gave numerous public talks in the local area during the year. These include,

- "Moral Choice during the Holocaust" Cal State University at Long Beach, March 2005
- "Moral Choices and Our Treatment of Others: Are They Driven by Religion, Reason or Identity?" The Social Science Dinner Club. October 7, 2004

ENDNOTES

¹ *The Ethical Brain*, by Michael S. Gazzaniga. An inquiry into an emerging field. Research is telling us more and more how the brain works. And as we learn more and more, a lot comes into conflict with what a lot of us want to believe. If evolution presented a crisis between the evolutionists and the creationists, wait until the raft of issues discussed here become more mainstream in the science textbooks.

Starting off with a strong step into when is a fetus alive, he jumps quickly to stem cell research he asks some very interesting questions: "Does the mother of five, hiding from the Gestapo have the moral duty or right to smother the crying baby so the whole family will not be caught and shot?"

The future offers the promise of many more such decisions in the future from "designer babies" to learning more that so called "free will" just may not exist at all.

As we live in a time of growing religions fundamentalism, be it Muslim or Christian, the future promises to be a most interesting place. This is a book that will make you think of many things in a different light.

² **Brain-Based Values** by [Patricia S. Churchland](#) *The Ethical Brain*. Michael S. Gazzaniga. xx + 201 pp. Dana Press, 2005. Envision this scene: Socrates sits in prison, calmly awaiting execution, passing the time in philosophical discussions with students and friends, taking the occasion to inquire into the fundamentals of ethics: Where do moral laws come from? What is the root of moral motivation? What is the relation between power and morality? What is good? What is just?

Ever modest, Socrates confesses ignorance of the answers. The pattern of questioning strongly hints, however, that whatever it is that makes something good or just is rooted in the nature of humans and the society we make, not in the nature of the gods we invent. This does not make moral rules mere conventions, like using a fork or covering one's breasts. There is something about the facts concerning human needs that entails that some laws are better than others.

From the time of Socrates to the present, people have sought to give a natural basis for morals—that is, to understand how a moral statement about what ought to be done can rest on hard facts, albeit facts about conditions for civility and peace in social groups. How can ethical claims be more than mere conventions? How can such claims be rooted in facts about human nature but have the logical force of a command?

Developments in evolutionary biology have helped to explain the appearance of moral motivation in humans and in other eusocial animals—animals that display behavior involving cooperation, sharing, division of labor, reciprocation and deception. In these species, various forms of punishment (shunning, biting, banishing, scolding) are visited on those who threaten the social norms. Ethological studies help us appreciate that, at a basic level, human social behavior has much in common with that of other species.

Developments in neuroscience hold out the promise of extending the naturalistic perspective to aid in the understanding of how the brain and its circuitry underlie the capacity to learn social norms and to behave in accordance with them. Many of us ponder the possibility that discoveries about brain function and organization will challenge the conventional wisdom on which our system of justice relies and will allow us to see more deeply into the biology of social behavior, including moral behavior. In his new book, *The Ethical Brain*, Michael S. Gazzaniga takes an unflinching look at the interface between neuroscience and ethics, and offers his own thoughtful perspective on some of the tough questions.

As a graduate student at Caltech, Gazzaniga studied under one of the towering figures of neuroscience, Roger Sperry, whose lab pioneered research into the cognitive effects of cutting the fibers connecting the two cerebral hemispheres (a procedure used to treat intractable epilepsy). Ingenious testing of these so-called "split brain" patients revealed that their two brain hemispheres operated independently, each hemisphere acting almost like a distinct person. These were profoundly important results, both for philosophy and for neuroscience. Gazzaniga went on to explore the neurobiology of higher mental functions—attention, memory, choice, consciousness—more generally, always with a philosophical question biting his heels. He currently serves on the President's Council on Bioethics. Thus it is especially fitting that he should now pen his thoughts on neuroethics.

The most fundamental neuroethical issue concerns free will and responsibility. The mind is what the brain does, and the brain is a causal machine. Consequently, deliberations, beliefs, decisions and ensuing behavior are the outcome of causal processes. Typically, the causal processes leading to awareness of a decision are nonconscious. The "user illusion," nevertheless, is that a decision is created independently of neuronal causes, by one's very own "act of will." Some philosophers—usually called libertarians—resolutely believe that voluntary decisions *actually are* created by the will, free of causal antecedents. Like flat-earthers and creationists, libertarians glorify their scientific naiveté by labeling it transcendental insight.

Gazzaniga, like many a philosopher, realizes that it would make a mockery of the criminal justice system if the accused could escape punishment simply by pleading that the brain is a causal machine and hence he or she lacked free will. So when and how ought we to hold people responsible for their behavior?

Gazzaniga's answer has two components: First, he claims that we hold a person responsible, causality notwithstanding, so long as his or her behavior was unconstrained—so long as the person could have done otherwise. Second, Gazzaniga identifies responsibility as a social, not a neurobiological, property. His point is that our institutions for assigning responsibility derive from the need to maintain and protect civil society, which must figure out suitable criteria for when and how to punish those who violate the rules.

Gazzaniga sums up his solution to the problem of free will by saying that "the brain is determined, but the person is free." The logic of this brain/person duality is not particularly compelling, or even coherent, yet as Gazzaniga's writing implies, it may be in our collective interest to live by this dualistic legal fiction.

The obvious test of the "let's pretend" solution is to see whether it can specify relevant criteria for distinguishing between those who could have done otherwise and those who could not have, and between those cases in which *mens rea* (literally, a guilty mind) obtains and those in which it does not. (*Mens rea* is a criminal law concept requiring proof that the mental state of the accused was such that he or she committed the crime purposely, knowingly, recklessly or negligently; strict liability, in which state of mind has no relevance, is fairly rare in criminal law.) Here, however, the wheels fall off Gazzaniga's solution.

Worried that ever-cunning defense attorneys will try to extract more exculpatory mileage out of neuroscience than the facts can support, Gazzaniga magnifies the incompatibility of responsibility as applied to persons and the causality that governs functions of a person's brain. He says, "The issue of responsibility . . . is a social choice. In neuroscientific terms, no person is more or less

responsible than any other for actions." This implies that there are no relevant factual differences between someone with, say, obsessive-compulsive disorder and someone who can resist impulses. Can this conclusion be right? As the British neuroscientist Steve Rose has pointed out, badness, just as much as madness, involves the brain.

The flaw in Gazzaniga's argument is that although responsibility is assessed in a social context, the capacity to learn social norms and the capacity to act in accordance with them are matters of individual brain function. It is precisely because an important difference exists between a normal brain and the brain of someone who is seriously demented or unreachably deluded that such people are not considered responsible for crimes they might commit. Moreover, judicial institutions rely on threat of punishment to deter. The late maturation of the prefrontal cortex (with reference to neuronal density, synaptic density, dendritic length and myelination) means that the brains of mature adults are critically different from those of young children—which almost certainly accounts for the child's more modest ability to appreciate the consequences of his or her choices and to resist temptation.

Satisfied that the brain/person duality is workable, Gazzaniga pushes the hypothesis further. He says that because assignment of responsibility is a social matter, not a matter of fact about the brain, neuroscience cannot possibly "settle" whether a person is responsible. Granted, determining legal responsibility is complicated, and neuroscientific knowledge cannot be substituted for knowledge of the law and of community standards. What kicks up sand, however, is the unfortunate choice of the word *settle*. Neuroscientific evidence can surely be *relevant*, even if the disposition of the case is *settled* by members of a jury whose brains follow some form of constraint-satisfaction algorithm. Yet Gazzaniga resolutely insists upon the stronger point: Neuroscientific data are not even relevant.

Why not? His reasoning goes like this: As a group, schizophrenics, for example, are no more prone to violence than individuals in the general population. Ditto, he says, for people with prefrontal lesions. If a given schizophrenic, Mr. Jones, kills someone, it is mere theater to display his brain scans in court, picking out some abnormality or other as "the cause" of his homicidal behavior. There are no relevant differences that neuroscience knows about that can explain why Jones killed, but Smith (also schizophrenic) did not. Not everyone with low glucose levels engages in violence; not all citizens raised in an inner-city hell become drug dealers; not all premenstrual women beat their children. We can assume there are differences in the brain, but whatever these differences happen to be, they are not, he believes, relevant to determination of responsibility. Why? Because there is no "responsibility" area whose functionality can be examined through a scanner or with electrodes—not now, not ever. Responsibility is a social construct, not a brain function. This point, he believes, holds generally—for schizophrenics, for patients with prefrontal cortex lesions, and so forth. And for good measure, he suggests that the insanity defense itself is too imprecise and problematic to be of practical value.

It is widely expected that neuroscience has, or soon will have, something to say about competence to stand trial, about whether the *mens rea* condition has been met and about appropriate sentencing. Thus Gazzaniga's bold thesis raises important concerns. I share his worry that defense attorneys and hired experts from neuroscience may get out in front of what current science can honestly say—it's bad enough that venal psychiatrists have sown wholesale distrust of their discipline by selling their "expertise" to the highest bidder. On the other hand, perhaps Gazzaniga overstates the case.

Consider the Virginia man who at around age 40 became obsessed with child pornography and eventually molested his eight-year-old stepdaughter. He had no previous history of pedophilic inclinations, and his interest in child pornography completely disappeared with the surgical removal of a tumor of the frontolimbic system, which had invaded the hypothalamic area of his brain. Along with other appetites, sexual drive is regulated in the hypothalamus. Some months later, when the tumor grew back, his preoccupation with pornography returned, only to vanish again with repeat surgery. Because the waxing and waning of his sexual compulsions corresponded to the waxing and waning of the tumor, his was not a standard molestation case. So long as his limbic structures are tumor-free, it seems rather pointless to punish him for a pornographic pursuit that was alien to his character. Punishment would not make sense either as deterrence or as retribution.

Consider a more complicated discovery. In a landmark longitudinal study in New Zealand that followed the lives of about 500 men from infancy to about age 26, a significant subpopulation showed a strong and unmodifiable disposition to engage in antisocial behavior, including irrational and self-destructive violence. Genetic analysis revealed that most of the men in that subpopulation carried a mutation for a particular enzyme, monoamine oxydase A (MAOA). The enzyme metabolizes three neuromodulators (serotonin, norepinephrine and dopamine, all of which are relatively concentrated in prefrontal areas of cortex), thereby inactivating them. Environment was also a factor: In the group with the MAOA mutation, the criteria for adolescent conduct disorder (a measure of antisocial behavior) were met in about 85 percent of those who had been severely maltreated as children, in about 38 percent of those who had probably been maltreated and in only about 22 percent of those who had not been maltreated. Among those who did not carry the MAOA mutation but had been severely maltreated, only about 42 percent had the conduct disorder.

These findings are preliminary, and further research is needed on the exact nature of the effect of early maltreatment on the circuitry affected by low MAOA levels. Still, on the face of it, the capacity of maltreated children with the MAOA mutation to acquire and act on social norms appears to be diminished. If Gazzaniga is right, however, these data are irrelevant to determining responsibility. The fact that the men are irrationally violent means that society needs protection from them—fair enough. Even so, it is important to distinguish between custody and punishment. Why? For the sake of the integrity of the institution of justice, because as a social institution, the criminal sanction depends on broad social support to keep functioning properly. When the criminal sanction is applied to cases that violate common beliefs about fairness—to young children, for example—support is replaced by resistance and reform. In order to be broadly accepted, the legal fiction that *the brain is determined but the person is free* will have to make peace with the widespread conviction that because of brain abnormalities, we are not all equally masters of our fate.

On other bioethical issues, Gazzaniga is just as forthright. The book begins with a discussion of the medical use of embryonic tissue and the debate over whether a blastocyst (which is a ball of a few hundred cells) is a person. This section is thoughtful, clearheaded and informed by developmental neuroscience. One fallacy Gazzaniga exposes depends on the common idea that graded differences block principled legal distinctions. In the version referred to as the fallacy of the beard, the logic goes like this: If we cannot say how long a man's whiskers must be to qualify as a beard, we cannot distinguish between a bearded man and a clean-shaven one. Although this form of argument fools nobody on the topic of beards, it has been seductively employed elsewhere, especially regarding embryos. Criticizing the blastocyst-as-baby argument, Gazzaniga

sensibly points out that we can draw a reasonable, if imperfect, line. When a distinction is needed, we devise laws that draw one, typically erring on the side of caution, given prevailing community attitudes. There is no precise moment at which a child becomes an adult, or a blastocyst becomes a sentient person, but reasonable humans unencumbered by superstition can nonetheless come together to "draw a line," and we can redraw the line when the facts merit a revision. Eighteen as the age of majority is not the perfect line for all adolescents, but on the whole it works well enough.

Gazzaniga also presents an eloquent defense of personal choice in end-of-life matters, while recognizing that there are bound to be fundamental differences across people regarding euthanasia. Most people understand the concept of brain death and see the wisdom in equating death with brain death. In large part, this acceptability may be owed to personal experiences concerning the remarkable benefits conferred by organ harvesting.

Other topics covered, if not fully, then sufficiently well to provoke thought, concern the neurobiological and evolutionary explanations of religious beliefs, in all their amazing variety and conflicting manifestations. Gazzaniga discusses also the remarkable nature of autobiographical memory, and the susceptibility of memory to suggestions, reconstruction, invention and wholesale confabulation. Because it is brief, compelling and free of technical jargon, the whole book can be easily read during a transcontinental flight.

At a time when intellectuals may feel cowed by the heavy hand of the fervently religious, it is a relief to see that Gazzaniga neither shies away from controversial opinions nor waters them down so as to offend nobody. At the same time, he is respectful of moral convictions that do not line up with his own. His opinions are delivered not as dogma but as part of an ongoing reflection and conversation, in which seeing all sides of a moral problem is itself regarded as a moral achievement.

Reviewer Information. Patricia Smith Churchland is University of California President's Professor of Philosophy and chair of the Department of Philosophy at the University of California, San Diego. She is the author most recently of *Brain-Wise: Studies in Neurophilosophy* (2002).

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JARED DIAMOND

Professor, Geography and Physiology jdiamond@geog.ucla.edu

Faculty Member Since: 1966

Ph.D., University of Cambridge, England

Research Interests: Regulation of nutrient transport; integrative and evolutionary physiology

Recent Awards: Pulitzer Prize for General Non-Fiction, 1998, Japan's Cosmos Prize, 1998

Representative Publications: J. M. Diamond. Logic of Life: The Challenge of Integrative Physiology. In: Evolutionary Physiology (D. Noble and C.A.R. Boyd, eds.), Oxford University Press, (1993), pp.89-111.

S. L. Pimm, J. Diamond, T.M. Reed, G.J. Russell and J. Verner. (1993). Times to extinction of small populations of large birds. *Proceedings of the National Academy of Sciences (U.S.A.)* **90**:10871-10875.

S.M. Secor, E.D. Stein and J. M. Diamond. (1994). Rapid up-regulation of snake intestine in response to feeding: a new model of intestinal adaptation. *Am. J. Physiol.* **266(4)**:G695-G705.

Diamond, J.M. (1999). Dirty eating for healthy living. *Nature* **400**: 120-121.

Diamond, J.M. (1999). Rivers in the sky. *Discover* **20**, no. 3, pp. 94-102.

Diamond, J.M. (2000). Blitzkrieg against moas. *Science* **287**: 2170-2121.

⁴ **Lt.-Gen. (Ret.) Roméo Dallaire**
Conflict Resolution, Leadership and Human Rights

Lt. Gen Roméo Dallaire is a true hero and an outspoken leader for the 21st century, who is passionate about the humanism necessary in leadership and conflict resolution.

A decorated Lieutenant General, Roméo Dallaire served for 35 years with the Canadian Armed Forces. A best-selling author, his recently released book, *Shake Hands With the Devil*, is a stirring account of his experience as the Force Commander of the United Nations Mission to Rwanda and exposes the failures by humanity to stop the worst genocide in the 20th century.

Lt. General Roméo Dallaire's story shares the most extreme results of being given responsibility without authority: limited by immovable parameters; being overseen by an organization who don't fully support the mission; and put into situations which force you to question your ethics every step of the way.

As Commander of the UN Assistance Mission in Rwanda and Uganda this is the situation that faced Roméo Dallaire. 10 years hence, Dallaire's leadership and courage in the face of the Rwandan genocide tragedy have earned him international respect, and he returned to Canada with ever-stronger beliefs in the value of our humanity.

Dallaire's areas of expertise, now shared with audiences around the world, include presentations on leadership and conflict resolution. His compelling presentations use military and business experience, addressing the whole arena of conflict, of ethical and moral decisions, of humanity; the arena in which one could sit back and ponder the following question: are all humans human, or are some more human than others?

He states that if our vision is our self-interest and the advancement of our nations, there should also be a strategic focus on that higher plane called humanity. We are not allowed to abdicate that responsibility.

General Dallaire has received a Fellowship at the Carr Center for Human Rights Policy, Kennedy School of Government, at Harvard University to pursue his research in conflict resolution.

Lieutenant-General Dallaire received the Order of Canada in 2002. His internationally-recognized book *Shake Hands With the Devil - The Failure of Humanity in Rwanda* was awarded the Governor General's Literary Award for Non-Fiction in 2004. It has garnered numerous international literary awards, and will be the basis of a full-length feature film due for release in 2006. He was recently presented with the United Nations Association in Canada's Pearson Peace Medal by Canada's Governor-General, Adrienne Clarkson.

On March 24, 2005, Prime Minister Paul Martin announced that Her Excellency the Governor General has summoned Lieutenant-General Roméo Dallaire to the Senate. Lieutenant-General Dallaire will be sitting in the Senate as a member of the Liberal Party of Canada.

⁵ In June 2002, 30-year-old Mukhtar Mai was gang-raped on the orders of a council of tribal elders from her village of Meerwala, Pakistan.

Mai herself was not charged with any wrongdoing, but a rumor had spread through the village that her 14-year-old brother had been seen in public with a girl from a rival tribe. In remote areas of Pakistan, tribal codes often take precedence over both Islamic law and the secular law of the land. Understanding the power of the tribal councils, when Mai heard that the rival clan was going to put her brother on trial she rushed before the self-appointed councilors to plead for mercy on his behalf.

The elders heard her plea. With the logic of wanton cruelty, they spared Mai's brother and ordered that she should be raped, explaining that the rape would shame her family and thus restore the offended tribe's honor. Four volunteers carried out the sentence in the presence of a cheering mob, taking turns, and Mai was thrown into the street, where her father covered her beaten body with a shawl and walked her home through a village of staring eyes. In the dark days that followed, Mai attempted to take her own life, overwhelmed by physical pain and a sense of personal and familial shame that is perhaps not possible for outsiders to understand.

But if Mai was momentarily ready to give in to despair, despair was apparently not ready to take her. Her family revived her physically and friends who had known and admired her throughout her life revived her spiritually, or, in Mai's words, "awakened my dead soul." This group of childhood friends - Nasreen Akhtar, Naseem Akhtar, and Jamil Anjum - stood by Mai as she began a process of recovery and a quest for justice that would, before long, change not only Mai and her friends but the entire village. The type of court that sentenced Mai, known as a panchiat court, is not at all uncommon in rural Pakistan and her punishment, known as karo kari, is not the norm but neither is it unheard of - more than 150 Pakistani women were raped by order of panchiat courts in the first half of 2004. For women in rural Pakistan, honor consists primarily in being thought of as pure - a raped woman has lost her virginity, her purity, and is therefore not marriageable. To steal a woman's virginity in Pakistan is thus, in many cases, to steal her future and her dignity.

But there are more kinds of dignity than that found in the perceptions of others. For Mukhtar, dignity also had its foundations in education and religion. In a region where illiteracy is the norm, Mukhtar had been educated and was herself a teacher of Islam. She understood her rights as arising not only from the esteem in which she was held by others, but also from her own understanding and abilities and from an innate value bestowed by God on all humans and codified in the Koran.

When the local imam, or Islamic cleric, heard of what had happened to Mai, he used his position at the pulpit to speak out against the injustice that had been done and to call for Mai's condemners and attackers to be brought to trial before a civil court. The balance of political power that had once favored the attackers was slowly beginning to shift. The imam encouraged

Mai to file an official complaint with the police. Mai filed the complaint, which was at first ignored.

She did not give up. Her attackers had assumed she would be too ashamed to reveal what had happened, but with the assistance of her friends and the imam, she got word out to the local and international media. In a post-9/11 world where the Pakistani government was eager to prove that it was on the side of law and order, this media attention was enough to shame the civil authorities into action. The tribal elders and the volunteer rapists were brought to trial; six were sentenced to hang.

Mai and her family were pleased with the verdict, not only because it represented justice for Mai, but because they felt it would help to break the authority of panchiat courts and discourage the practice of karo kari rapes.

"God has provided justice to me," Mai told reporters at the time. "If more courts start giving decisions like this, I am sure that rapes will be reduced, if not stopped totally. I am satisfied with the decision."

As part of the settlement, Mai was given the equivalent of about \$8,000 in compensation - a very large sum in rural Pakistan. Perhaps fearing that Pakistan's reputation would be hurt further if Mai were to suffer any retribution in her village, the government also offered to buy her a home in cosmopolitan Islamabad, where she would live a life of relative luxury in a place where no one knew anything about her past.

Mai declined those offers. Instead of leaving, she took the \$8,000 and used it to start a school for girls in Meerwala, the village's first. At this school, Mai and her friends work to provide young girls with the knowledge and understanding that will give them more power in the world, more awareness of their rights, and more dignity to fall back on when those rights are challenged.

"I hope to make education more readily available to girls, to teach them that no woman should ever go through what happened to me," Mai says. "And I eventually hope to open more school branches in this area of Pakistan. I need your support to kill illiteracy and to help make tomorrow's women stronger. This is my goal in life."

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FROM THE MAGAZINE

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Mukhtar Mai

Challenging a Tribal Code of "Honor"

BY ASMA JAHANGIR

It is a measure of just how terrible what happened to Mukhtar Mai was that news of the attack on her sent shock waves across Pakistan, where sexual assault and violence against women is commonplace. Mai, a 30-year-old woman who lives in the remote hamlet of Meerwala, was brutally and publicly gang-raped in June 2002 by four volunteers on the orders of a village court, or *jirga*. Mai's then 12-year-old brother Abdul Shakoor (pictured behind her) had been seen walking with a girl from the more influential Mastoi tribe; they demanded Mai's rape to avenge their "honor." Mai's family sat helplessly while she was dragged into a room, even as she screamed and pleaded for mercy. To further humiliate her, and make an example of those who would defy the power of local strongmen, she was paraded naked before hundreds of onlookers. Her father covered her with a shawl and walked her home.

Mai's case is hardly unique in Pakistan. During the first seven months of 2004, according to the independent Human Rights Commission of Pakistan, at least 151 Pakistani women were gang-raped and 176 were killed in the name of honor. The vast majority of perpetrators go unpunished. Yet Mai refused to remain silent. She said she would rather "die at the hands of such animals" than "give up her right to justice" and pursued her case despite the threat of further violence. Against the odds, she won. Six men involved in her rape have been punished, with two of them sentenced to death (although Pakistani human-rights groups and I oppose the death penalty), and the government awarded her compensation. Mai has used the money to open a school in her village so that the force of education can wash away this crime perpetuated in the name of tradition.

As long as the state refuses to fully challenge the brutality of tribal law, the plight of Pakistani women will continue. Mukhtar Mai is a symbol of their victimhood, but in her resilience she is also a symbol of their strength.

ASMA JAHANGIR is a founding member of the Human Rights Commission of Pakistan and U.N. Special Rapporteur on extrajudicial killings

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