

Center for Ethics in Science and Technology

ETHICS CENTER UPDATE

FALL 2007

Message to our Supporters

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I want to begin this newsletter with a welcome to two new members of the Ethics Center Leadership Council. Our Leadership Council consists of individuals who lead San Diego institutions and organizations that have a special commitment to addressing the ethical dimensions of science and technology. Because so many ethics questions lead to questions about the law, we are delighted to announce that **Dean Steven Smith** of California Western School of Law and **Dean Kevin Cole** of the University of San Diego School of Law have both agreed to join our Leadership Council.

Since our last newsletter, two major events are of particular note. The first of these was our Neuroethics Week, October 1-6. Participants throughout the week were enthusiastic about the importance and effectiveness of our programs. Some of the most exciting brain research conducted today also raises some of the most difficult ethical

challenges. We do plan changes in our program format, but we also plan to spend more time on these important issues.

A second major event in October was of course the wildfires. We were all saddened by the many losses in our community. One impact on the Ethics Center was that we decided to move an event (MySpace or Your Space II) from November to this coming February and to delay publication of this Fall newsletter by a few weeks.

In addition to an update on the re-scheduled MySpace event, this newsletter includes summaries of the Neuroethics Week, a public lecture about stem cells by Daniel Sulmasy, and descriptions of two new Ethics Center programs. One of these programs is a fellowship opportunity at San Diego State University to encourage faculty to seek grant funding in areas relevant to the mission of the Ethics Center. The second is a reminder of a program announced earlier this year to engage High School Science Fair students in

thinking about ethics and science.

Before closing I want to call your attention to two other items in this newsletter. On the back page, a continuing feature is a summary of some examples of ethics and science in the news by Torrey Velasquez, an Ethics Center intern. And a new feature, on page 3, will allow us to hear from community leaders, beginning with members of our Board and Leadership Council. We thought it was fitting to ask Peter Ellsworth, President of the Legler Benbough Foundation, to be the first to be featured in this column. For those of you who don't know, Pete is responsible for asking the questions and finding the community support that resulted in the creation of the Ethics Center.

I hope you will find the contents of this newsletter of interest and that you will find the time to join us at Ethics Center events during the coming year.

Michael Kalichman
Co-Director

The Ethics Center and its activities have enjoyed generous support from:

Legler Benbough Foundation ~ The Parker Foundation
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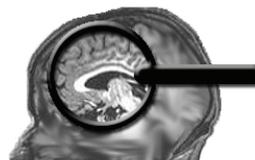
RECENT EVENTS

October 1 – 6, Neuroethics Week, San Diego Community

The goal of Neuroethics Week was to establish a high-visibility forum linking the public with top thinkers in neuroscience. The focus of this initial program was on new and proposed technologies that may allow others to “read” our thought processes or “predict” our behavior. Participants had the opportunity to hear about the status of new developments in brain science and to hear diverse perspectives from science, medicine, law, and religion.

Public events were scheduled throughout San Diego and included:

- Oct. 1 - *Keynote Lecture*, Salk Institute for Biological Studies
- Oct. 2 - *Panel: Science*, The Neurosciences Institute
- Oct. 3 - *Panel: Law*, California Western School of Law
- Oct. 4 - *Panel: Religion*, University of San Diego
- Oct. 5 - *Promises and Perils*, San Diego State University
- Oct. 6 - *Erasing Memories: Ethical Implications of Developments in Neuroscience* - Movie & Discussion, Reuben H. Fleet Science Center



In addition to the evening, public events, daily focus groups representing the disciplines of science, medicine, law, religion, humanities, and the social sciences were held at UCSD, USD, and SDSU.

This project was presented by the Ethics Center in collaboration with the University of California San Diego, University of San Diego, San Diego State University, California Western School of Law, San Diego Reuben H. Fleet Science Center, the Kavli Institute for Brain and Mind, and The Neurosciences Institute.

November 7, Daniel Sulmasy, University of San Diego

Dr. Sulmasy, Franciscan brother, physician, professor of medicine and ethics, bioethicist and prolific writer, serves at St. Vincent's Hospital in New York City and New York Medical College in Valhalla, NY. His extensive expertise in medical ethics and spirituality establishes him as an outstanding resource on this timely and complex issue. Sponsored by the USD Center for Christian Spirituality and co-sponsored with the Ethics Center, Dr. Sulmasy summarized some of the science of stem cell research as well as some of the moral problems that he identified through his perspective as a Catholic theologian.

UPCOMING EVENTS

February 27, 2008, MySpace or Your Space? II, Reuben H. Fleet Science Center



We will be joined by renowned science fiction author David Brin for Part II of this timely and relevant topic. Dr. Brin is a winner of multiple Hugo and Nebula awards and the author of the non-fiction book, *The Transparent Society: Will Technology Force Us to Choose Between Freedom and Privacy?* One focus for discussion will be to work with students and others in answering some of the same questions asked during our first MySpace event in July of this year:

- Who reads what is posted on their blogs?
- How might what they post today affect their job prospects tomorrow?
- Would a code of conduct for online forums help protect their privacy or be an invasion of social networking?

This program is jointly sponsored with the Reuben H. Fleet Science Center for high school students and the public. See the Ethics Center website for more information and registration details.

NEW PROGRAMS

Ethics Center Fellowships in Research Ethics for San Diego State University (SDSU) Faculty Fellow

In collaboration with SDSU, the Center for Ethics in Science and Technology is inviting applications for SDSU Faculty Fellowships in Ethics Research, 2007-2008. These Fellowships will provide a stipend of \$2500. Up to seven fellowships are available each academic year. Each award is for 4 months from the date of receipt, with the final report in the form of a submitted grant proposal expected at the end of that period. For more information and an application, see <http://www.ethicscenter.net/Programs/SDSUFacultyFellowships>.

Ethics in Science: 2008 Awards Program

As announced earlier this year, the Center for Ethics in Science and Technology is inviting senior division 2008 Greater San Diego Science and Engineering Fair participants to apply their interest and skills in science to address the ethical dimensions of their work.

The purpose of this award program is to encourage the next generation of scientists to see ethics as part of their research, and not as a question to be handled by others. For more information, see <http://www.ethicscenter.net/Programs/GSDSEF>.

ETHICS IN SAN DIEGO

We introduce this new section of the Ethics Center Newsletter with an interview of Peter Ellsworth, a founding member of the Board of Advisors for the San Diego Center for Ethics in Science and Technology.



PETER K. ELLSWORTH, J.D.
President, The Legler Benbough Foundation

Mr. Ellsworth is President of The Legler Benbough Foundation and the Benbough Operating Foundation. He also serves as:

- Chairman, Ellsworth Marine, Inc.
- Member of the Board of Directors, San Diego Neighborhood Funders
- Member of the Working Group for Arts and Culture of the San Diego Foundation
- Chair, The Family of Funds of San Diego Neighborhood Funders
- Member of the Advisory Board, Balboa Park Cultural Partnership

From 1957-1986 he pursued a successful legal career. From 1986-1996 he served as President and CEO of Sharp Health Care and Sharp Foundation and built Sharp Health Care from a single hospital to a health care system that was the largest private employer in San Diego providing health care for one third of all San Diegans. He has also served as President of the San Diego Blood Bank, the Children's Dental Health Association, the Stanford Club of San Diego, and Combined Arts of San Diego

(COMBO), and as a member of the Board of Directors of the San Diego Chamber of Commerce, the Committee on Primary Care of the Institute of Medicine of the National Academy of Sciences, and San Diego Conference of Barristers of the State Bar of California, and Chair, San Diego Business Task Force on Health. Mr. Ellsworth is a founding member of the Board of Advisors for Center for Ethics in Science and Technology (Ethics Center).

Interview

Why have an ethics center?

Science and Technology are rapidly changing the world that we live in. These changes raise significant ethical issues which will be decided over the long term by the people who vote. It is imperative in a free society that the electorate have the opportunity to discuss these issues in an unbiased, professional setting so their decisions will be based on correct information. The purpose of the Ethics Center is to provide a setting for these discussions.

What is special about San Diego that means we need an ethics center?

Science and Technology provide a significant part of the San Diego economy. Decisions by an uninformed electorate could do significant damage. Because we have such an emphasis on this area in San Diego, we have considerable natural interest in these topics and we have people in the community who are qualified to participate in the discussion. This, therefore seems a logical place for the Center.

In its short history, what do you view as one of the most important achievements of the Ethics Center?

The programs have been excellent. But, for me the most important achievement was bringing all three of our large Universities together to address these issues. This kind of collaboration has given the Center a credibility that could not have been achieved in any other way and has been the basis for providing people for the programs who are best qualified to address these issues.

What do you see as the most important challenge to the continued success of the Ethics Center?

We are competing for busy people's time and attention and our major challenge is presenting this material in a way that promotes participation by a larger and larger segment of the public.

Are there any topics that you think particularly need attention of the community and the Ethics Center?

We need to address those topics that have relevance to the largest possible segment of the community and to present them in a way that emphasizes that relevance. I think that our current areas of emphasis are fine. The trick is to package these and to focus them so that the public will realize their importance to them without getting into speculations for marketing purposes that are not scientifically justified.

IN THE NEWS: ETHICS AND SCIENCE*

Is It Possible to Erase a Single Memory? - Jessica Ruvinsky, *Discover Magazine*, July 31st, 2007

Summary: Recently, New York University neuroscientist Joseph LeDoux and his research team used sound, electric shocks, and the drug U0126 to test whether it is possible to erase an individual memory. In experimentation using rats, the scientists claim to be among the first to have erased a single memory. LeDoux and his team began this experiment by teaching the rats to fear particular sounds, like a beep or siren, by administering mild electric shocks whenever the sound occurred. Half the rats were then treated with U0126, a drug notable for its ability to hinder memory storage, and the sounds were replayed without the use of shock. The next day the scientists replayed the same sounds for the rats and found that the rats who did not receive U0126 continued to be fearful of the sounds. Conversely, the rats who had received the memory altering drug were no longer fearful of the sounds. Though it remains unclear how U0126 operates in the brain, these scientists hope that in the future similar drugs will be used to help human subjects tormented by traumatic memories without affecting the individual's memory bank.

Ethical Challenges: The creation of a drug that may allow memory erasure or lessen the effects of a single memory brings us a step closer to the realities fictionalized in Hollywood movies, but also raise fundamental ethical concerns. What is the underlying purpose behind the use of such memory-blocking drugs? By eliminating or even lessening the traumatic impact of a single memory via a pill would we be profoundly altering the role of human suffering? Would such pills be made widely available to anyone who qualifies as having suffered a traumatic experience now stored in their memory? Furthermore, what would such a qualification look like and what measures would be in place to prevent such technologies from being abused?

Jaron's World: Can Computers Recognize Faces? - Jaron Lanier, *Discover Magazine*, August 6th, 2007

Summary: In recent years, it is increasingly common for neuroscience to direct or even inspire the rapid development of various technologies. Six years ago at a trade show for musical instruments called NAMM, scientist Jaron Lanier created a rhythmic beat using his own facial expressions that were being recognized by a computer. The software used in this project, originally created by neuroscientist Christoph von der Malsburg and his students at USC, was an attempt to learn more about the functions of the visual cortex. Last year this software and the company funding it were taken over by Google. Such technological change is leading some scientists to predict that in the next ten years various "pattern-recognition tasks", such as facial tracking, will be routine. For example, using image-recognition algorithms, a system of security cameras could mechanically establish the location of every individual and track their facial expressions at each moment.

Ethical Challenges: Proponents of pattern-recognition technology argue for this technique on the basis that it has the potential to give us greater knowledge of the processes that occur inside the brain and thus can give us "...a scientific understanding of ourselves." But, does this knowledge come at great cost to the individual? Will this technology be used in ways that would greatly alter our present understanding of privacy rights? Can the subtleties of a person's facial expressions, for example, be tracked and used without seriously undermining that person's right to privacy? If others can read facial expressions without our knowledge, then what is the status of "personal information"? Additionally, what will be the legal scope of use for these technologies? Will the implementation of such security cameras be allowed in retail stores, for example, to manipulate the consumer's purchases? Where will the boundaries be drawn?

The Most Important Future Military Technologies - Sharon Weinberger, *Discover Magazine*, October 4th, 2007

Summary: The 2008 Department of Defense budget is an estimated half a trillion dollars. Seventy-five billion dollars of the budget is allocated specifically for research and development, with a major area of the military's research being devoted to using neuroscience and information technology "...to combine human and machine on the battlefield." The Pentagon, along with its research agency DARPA, has focused its efforts in two areas: improving battlefield technology with tools such as "Luke's Binoculars" and creating "human terrain preparation." Both areas rely heavily on advances in neuroscience. "Luke's Binoculars" is a Cognitive Technology Threat Warning System that combines the powers of an EEG system with optics to track brain waves in the prefrontal cortex. The goal is to monitor brain activity and then alert a soldier when his or her brain has subconsciously detected a threat, allowing the soldier to respond more quickly. "Human terrain preparation" proposes to use an understanding of the interactions of individuals, groups and culture to aid military efforts. Among other things, the aim is to use an understanding of the brain to better predict enemy locations and anticipate behavior. Such efforts would also make use of tools to predict group behavior and possibly even "...scan for evil" intent.

Ethical Challenges: Technologies that rely on "reading" an individual's mind and "predicting" future behavior raise numerous ethical concerns. Technologies that better detect potential terrorists plots may be useful, but could the implementation of such technologies have consequences that we would not choose? For example, do the devices capable of "predicting" behavior and scanning for evil intent have the potential to create preemptive punishment? Can someone justifiably be punished for an act they have not yet committed? And does "evil intent" necessarily guarantee the manifestation of evil? Since no technology is "perfect," are the possible successful uses enough to justify the mistaken identification of innocent individuals?

*Torrey Velasquez, UCSD Research Ethics Program intern and UCLA graduate, identified these stories, summarized the science, and suggested some ethical questions.

ABOUT THE ETHICS CENTER

The Center for Ethics in Science & Technology is an independent center that has a close working relationship with the University of California San Diego, the University of San Diego, and San Diego State University.

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