Thoughts on the Field of Neuroethics

Neil Levy, NS Member

Neuroethics is a multidisciplinary venture. It has different attractions for researchers working in different fields. For neuroscientists, it offers an opportunity to reflect on the social and ethical implications of their work, as well as to explore the mechanisms of moral cognition; for legal theorists, it provides avenues to explore the nature of excuses and of mens rea, and so on. It also offers opportunities to philosophers, opportunities that cannot be found elsewhere.

One important part of neuroethics consists in reflecting on the permissibility or advisability of using new techniques and technologies stemming from the sciences of the mind, either for individuals or for societies. Should we prohibit the use of psychopharmaceuticals as cognitive enhancers? Are fMRI-based lie detection techniques reliable enough for use in legal proceedings? Might a society which allowed individuals to dampen aversive memories be on a slippery slope to a point where we would not wish to reach? Obviously, philosophers bring to the discussion of these questions an expertise, at conceptual analysis, and a set of tools, that enables them to make important contributions to their discussion (which is not, of course, to say that philosophers should have a monopoly on discussion of these issues; just that they make an important contribution to such discussion). Now, given the significance of these issues, the importance of this discussion should not be underestimated; there is no doubt that the growth and fascination of neuroethics owes as much to the ways in which these issues grip many as to anything else. But for many philosophers, the true significance of neuroethics lies elsewhere.

The basic tool of philosophers, the tool that enables them to deploy their theories and skills, is of course the mind. But neuroscience and the cognitive sciences are engaged in the enterprise of reflecting on the mind. The sciences of the mind are therefore concerned with the nature of the central tool of the philosopher: with its strengths and weaknesses, its biases and its limitations. For the philosopher, then, neuroethics provides more than merely a new set of questions to ponder, but also an opportunity to learn about and thereby refine the tools used as we ponder these questions.

This is no mere academic enquiry: we do not simply satisfy our curiosity in learning about the mind. We might well discover things which ought to affect how we think, about ethics, about social policy and politics (among other things). Take Josh Greene and colleague’s (2001) now well-known studies focusing on an old philosophical chestnut, the trolley problem. Greene and colleagues gave subjects pairs of dilemmas. In each member of the pair, the subject had to choose whether to perform an action that will result in five people being saved, but one other dying. In one variant, a threat is directed away from the five and toward the one; in the other, the only action available that will save the five involves pushing the one into the threat’s path. Most philosophers think it is permissible, even obligatory, to redirect the threat but impermissible to push the one; most ordinary people agree (Hauser 2006). But Greene’s results provide a piece of evidence that might bear on the rationality of these responses. Greene showed that when people are engaged in cognitive processing that leads to the conclusion that it is permissible to redirect the threat, areas of the brain associated with working memory are very active, but when they are engaged in processes that lead to the conclusion that it is wrong to push the one, regions associated with emotion show significant activity, while those associated with working memory show a degree of activation below the resting baseline. One possible interpretation of these results is that when we contemplate directly causing harm, we experience a great deal of emotion, and that this emotion ‘crowds out’ rational thought. This is an interpretation that has been suggested by the prominent ethicist Peter Singer (2003), as well as by Greene (2003) himself.

Obviously, a great deal depends on the role played by emotion in rational decision-making; once again this is a question upon which neuroscience has a great deal to say. The challenge from the role played by emotions in some classes of decision is only one of the many challenges stemming from the sciences of the mind. Another comes, to take one more example from the dozen that come to mind, from the work of another Josh, Knobe, apparently showing that whether a person is taken to have intentionally caused an effect is sensitive to the nature of the effect: if the effect is bad, then the person is more likely to be seen as having intended it than if the effect is good (Knobe 2003). As Thomas Nafelhoffer (2006) has pointed out, if this is so then central aspects of legal procedure rest on shaky foundations: juries and judges will be likely to attribute mens rea to the accused just because they caused a bad effect.

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Meeting Round-up

From the Editors: Have you attended an interesting neuroethics meeting recently? Please send us a short report to publish in the newsletter. Submissions may be edited for length. Send reports to info@neuroethicssociety.org.

Neuroethics Social at FENS, Geneva, Switzerland
Judy Illes, NS Executive Committee

July 14, 2008: Judy Illes, Giorgio Innocenti and Pierre Magistretti hosted a social hour for the Neuroethics Society at the 2008 meeting of FENS in Geneva Switzerland. This time for connecting with old friends in the Society and meeting new colleagues came at the end of a day filled with vibrant neuroethics activity. Following a morning press conference organized by Elaine Snell from The Dana Foundation, FENS featured a special plenary panel on Neuroscience and Human Culture. Giorgio Innocenti moderated with more than 1000 conference participants attending. The panelists were: Jean Pierre Changeux (Collège de France, Paris): Hypotheses on the nature of man Francois/Ansermet and Pierre Magistretti (University of Geneva and Federal Institute of Technology, Lausanne): Neuroscience and psychoanalysisJudy Illes (University of British Columbia): The emerging new field of Neuroethics Rodney Douglas (Federal Institute of Technology, Zurich): The role of Neuroscience in the age of synthetic intelligence

We are grateful to the Evens Foundation for co-sponsoring this event, and also for hosting an "Aggressivity Salon" later in the day. The Salon is available for viewing at the Foundation’s website: http://www.evensfoundation.be/en/index.html. The Social was also a great opportunity for members to meet and talk with Barbara Gill, Elaine Snell and Beatrice Roth from Dana. Natural themes were funding for neuroethics, particularly in Europe, and also ways to better integrate the activities of the International Neuroethics Network and the Society. More news on this to follow. Until then, we hope to see everyone in the Fall at the first annual meeting of the Neuroethics Society, at the Neuroethics Affinity Group meeting of the American Society for Bioethics and Humanities and, of course, in DC at SfN.

Society for Philosophy of Psychology, Philadelphia, PA
Susan Schneider, NS Member

A number of presentations on mind, brain and ethics were on the program of the annual meeting of the Society for Philosophy of Psychology (SPP) at the University of Pennsylvania this June. The SPP was founded in 1974 to provide a place for exchanging ideas on empirical and philosophical approaches to the mind. The Society includes scholars from philosophy, psychology, linguistics, neuroscience, evolutionary biology, cognitive anthropology, artificial intelligence, psychopathology, and cognitive ethology.

A neuroethics symposium featured Kenneth Foster (Bioengineering, University of Pennsylvania), "Brain-computer Interfaces"; Kenneth Norman (Psychology, Princeton University) "Brain Reading"; Erik Parens (The Hastings Center), "Ethics and Neuroethics"; Martha Farah (Center for Cognitive Neuroscience, University of Pennsylvania), "Persons and Things" and Anjan Chatterjee (Center for Cognitive Neuroscience, University of Pennsylvania) "Cosmetic Neurology". Professor Foster showed some memorable videos of monkeys manipulating objects with brain-chip guided robotic arms, with one even licking his robotic "fingers" for the last bits of a marshmallow that remained. Professor Norman presented equally astonishing data from brain imaging studies that can, for example, allow the researcher to know which of 1,000 different pictures a person is looking at by analyzing the viewer's brain activity.

A last-minute addition to the program was a lunchtime discussion of neuroethics for interested parties; an unexpectedly large crowd showed up -- over 40 people -- and the group shared its thoughts on what's most interesting in neuroethics and where the field is going. The most frequently mentioned topic of interest was the neuroethics of psychiatry.
SL I felt consciousness was a neglected topic. My interest in studying consciousness is both clinical and scientific, coming in part from my experience with patients with consciousness disorders at the bedside. I agree with you that consciousness used to be quite a taboo topic in scientific inquiry. Nevertheless, I feel like it is now becoming a more legitimate field of inquiry.

MvV How did you get into the field of neuroethics?

SL I got into neuroethics through Dr. Martha Farah. She invited me to give a lecture as part of a symposium entitled Between Life and Death: Implications of Cognitive Neuroscience for the Mental, Moral and Legal Status of Severely Brain-damaged Patients at last year’s Cognitive Neuroscience Society meeting in New York.

MvV Following up on the previous question: do you actually consider yourself to be involved in the field of neuroethics?

SL Not necessarily, because I would say my field is brain damage and coma. Of course ethical issues do arise from this field, so in that sense I have started thinking about neuroethical issues, even when that was not my primary interest.

MvV Do you think or worry about policymaking implications of your research, e.g., do you serve in advisory roles about the policymaking implications of your work?

SL Yes, I do think about these issues very often. I serve as Member of the American Academy of Neurology Committee for the Development of Practice Guidelines for the Vegetative and Minimally Conscious State. I am also a Member of the European Federation of Neurological Societies Task Force for the Development of Management Guidelines for the Vegetative State.

MvV In some of your studies, you try to read the patients’ brain, e.g., you have them play tennis, or look at replay related to memories. Are you worried about or interested in the implications of this type of research for the privacy of our thoughts? And what do you think about its uses in lie detection?

SL At present, I think brain privacy is not yet an issue; we can decode BOLD in simple terms as s/he imagines playing tennis or saw a face, as we did in our Science paper with Adrian Owen and Melanie Boly. However, we do not know and we cannot decode whether the face they saw was their mom’s or dad’s face, and even less what they really felt when they were imagining playing tennis or seeing a face. It is hard to say whether and when such advances will be made. Although now it seems far away, you should never say never. For example, there was a recent paper in Nature showing another improvement in mind decoding. Research and technology are moving forward very quickly. This means there will be a lot of issues for neuroethicists to think about in the future! About lie detection, I feel that it’s clear that people are interested in this, and especially in the US there is a lot of money available for this kind of research. Also, lie detection using fMRI takes into account a lot more data than conventional methods like heart rate and skin conductance response, so it is probably better. And because the demand is there, I am sure that at some point the supply will follow.

MvV What do you think the future of the field of neuroethics will look like? What are going to be the most exciting topics that will be studied in the next few years?

SL If I only knew. To me technology determines what we can know, so I look at the engineers and physicians and await still more powerful scanners (higher and higher fields, and with simultaneous recording of high density EEG) and ways to measure brain activity in more and more detail.

MvV Do you think there are differences in the field of neuroethics between Europe and the US? Is there a larger public interest or more research done in general in this field in either continent?

SL (jokingly) The US leads in the field of ethics and science, and hence in neuroethics.

MvV Do you have any advice for younger people (students) wishing to enter the field of neuroethics? How to do it? Are there good careers in neuroethics inside and/or outside academia (e.g., policy making)?

SL I would advise first to be a neuroscientist, that’s a personal view. When you first become a neuroscientist, you have a better grasp on the developments in the field, and the possibilities and impossibilities of new methods and techniques that

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Looking forward to seeing you in Washington, DC

Dear Fellow Neuroethics Society members,

Preparations are nearly finalized for our first annual meeting in Washington, D.C., which will be held in the headquarters of the American Association for the Advancement of Science (AAAS) on November 13 and 14 (just prior to the Society for Neuroscience meeting November 15-19).

Register now! In addition to an exciting thematic program (see below), your registration will include two breakfasts and lunches, as well as a reception on the first day. Go to Neuroethicsociety.org to sign up and receive updated information.

We have a wide range of exciting topics and speakers. We will have several neuroethics panels, such as those on pediatric bipolar disorder, forensic neuroscience, the business of neuroscience, and decision-making and free will. We will have a debate on cognitive enhancement, featuring Julian Savulescu of the University of Oxford and Carter Snead of the University of Notre Dame. Jonathan Moreno, author of “Mind Wars”, will moderate a presentation of the National Academy of Science study on “National Intelligence and Neuroscience”. We will bring in a speaker from Capitol Hill to hear about the interrelation of neuroscience and policy. News about our developing field will be presented and exchanged by the gathered community in an “FYI” session. With all this program contents, we were mindful to ensure plenty of breaks and opportunity for participation and discussion.

Hope to see you in November!

Turhan Canli, Program Committee Chair
Program Committee: Turhan Canlin (SUNY Stony Brook), Martha Farah (University of Pennsylvania), Mark Frankel (American Association for the Advancement of Science), Elizabeth Phelps (New York University), Eric Racine (Institut de recherches cliniques de Montréal), Ilina Singh (London School of Economics), Paul Wolpe (Emory University).

Hotels in Washington are quickly filling up. If you have not yet finalized hotel arrangements, please see the website for more information. The Neuroethics Society has reserved rooms at the two official conference hotels:

- Club Quarters ($184/night) - Basic hotel with value rooms. Two blocks from the White House.
- Donovan House Hotel ($275/night) - Top-rated (#6 in Washington) contemporary/modern hotel, near Dupont Circle and the White House.

To access these specially discounted rates, please follow the instructions on the website at www.neuroethicsociety.org and click on “2008 Annual Meeting” and “Meeting Information.” Continue to check the site for updates and information.

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may impact neuroethical issues.

MvV Is there anything else that you would like to talk about? Any topics of interest, or advice for the readers of the neuroscience society newsletter?

SL What we need in the field of neuroethics is an ethical framework for applying new neuroimaging and therapeutic deep brain stimulation’s tools to severely brain damaged patients. The collaboration between Joe Fins and Niko Schiff from Cornell University is a good example of how we can make the field move on in my eyes.

MvV Is this something you want to be working on or are working on?

SL Yes, I definitely would like to be more involved in working on these topics. I recently had the pleasure to work on a paper to the American Journal of Bioethics on this topic: Neuroimaging and Disorders of Consciousness: Envisioning an Ethical Research Agenda. Fins JJ, Illes J, Bernat JL, J Hirsch, Laureys S, Murphy E et al. In addition, I was proposed as a research collaborator at the Oxford Centre for Neuroethics led by Julian Savulescu and have also given talks at various conferences related to this topic.

MvV Thank you very much for participating in this interview.

Marieke van Vugt is a neuroscience PhD student at the University of Pennsylvania. She works on relating mathematical models of human memory to brain oscillations, using both scalp and intracranial EEG. She is also very interested in consciousness studies and in neuroethical issues, and has therefore been grateful to be able to attend the monthly neuroethics lecture series organized by Martha Farah at the University of Pennsylvania, and learn more about this exciting field.

Marieke van Vugt
IBRO’s 2nd Neuroscience School was held in Montreal from May 22 to June 4 2008. The IBRO Neuroscience Schools are designed for graduate students from developing countries and this year consisted of 14 trainees from Africa and Latin America. The theme this year was neural mechanisms of pain and innovations in therapy. Dr. Ellis Cooper, Dr. Jonathan Dostrovsky, Dr. Sam David, Dr. Albert Aguayo, Ms. Astrid Eberhart and Dr. Catherine Bushnell organized the school with the support of SfN, INMHA and CAN, among others, and brought together leading scientists to teach in their area of expertise.

Dr. Eric Racine from the Institutes de recherches cliniques de Montréal (IRCM) and I co-led an evening session on bioethics and intersections of neuroethics and pain research. We introduced the students to key historical events in bioethics and contemporary issues in neuroethics, and then led a lively discussion with the students about different perspectives on the ethics of research. The students identified cultural and social practices that influence research ethics in their homes countries, such as autonomy, informed consent, privacy and confidentiality. One student pointed out that in Venezuela, making important medical decisions for an individual involves the nuclear family and extended family. Rarely is such a decision carried out as an independently of others. We heard that in some rural parts of Kenya, husbands are the interlocutors with physicians when they take their wives to medical clinics for treatment. Direct communication between these women and their physicians is unusual, even when it concerns reporting pain. The students also identified religion as a major factor that contributes to how the different groups handle medical or research concerns (see also a recent article brought to our attention by Dr. Steven Hyman about painful procedures in neonatal intensive care units (Carabajal et al., JAMA 2008)).

Teaching the ethics module at the IBRO School, with a focus on brain and on pain, was an outstanding opportunity to showcase the INN and to inform young neuroscientists about neuroethics. We hope that members of the INN will capture many other opportunities to be part of outreach and education efforts like this in the future.

New Neuroethics Funding

The National Core for Neuroethics recently received funding from the North Growth Foundation for a research initiative exploring concepts of autonomy, mental well-being and cognitive decline in aging and dementia in First Nations and Aboriginal groups in British Columbia. There are over 1.3 million people reporting some Aboriginal ancestry in Canada (Statistics Canada, 2001) but little research exists on concepts of mental health and illness in aging among them. Some First Nations groups view dementia-related cognitive decline as part of normal aging, and others hold the belief that declining cognitive behaviors are a means of communication during transition from one life to the next (Hendrix & Cloud-Lebeau, 2006). The perspectives held in a population shape support systems in a community and views about the relevance of medical treatment. By gaining an understanding about such culturally-relevant aspects of aging and dementia, we will begin to develop neuroethics models with the goal of bridging existing science and social divides that can jeopardize effective and meaningful care along the continuum of life.

If you are a member of the INN and recipient of a new grant, please let us know. We will be happy to serve as a clearinghouse for this kind of good news.

Canadian Association for Neurosciences

The Canadian Association for Neuroscience (CAN) annual meeting was held last May 26-28 in Montreal. Among the plenary lectures was Ravi Menon’s “Mind Reading in the 21st Century: fMRI Studies of Human Brain Function”. A number of posters also had neuroethics content, including Ghislaine Mathieu and Eric Racine’s on ethical and social issues of Deep Brain Stimulation (DBS), Constance Desaluriers and colleagues’ abstract on Canadian researchers’ perspective on ethics review of neuroimaging protocols, and Cynthia Forlini, Nicole Palmour and Eric Racine’s poster on stakeholder and public understand-

Inauguration of the National Core for Neuroethics at UBC

We will be hosting the inauguration of the National Core for Neuroethics at UBC on the 11th of September at the Chan Center for the Performing Arts in Vancouver, British Colombia. The academic session will feature Stephen J. Toope, Remi Quirion, Timothy Caulfield, Joseph J. Fins, Judy Illes, Michael McDonald, Barbara Sahakian and Eric Racine. Please contact nchahal@interchange.ubc.ca for more information about the event.

If you have any questions or comments please visit the INN website at www.neuroethics.ubc.ca/INN or contact Sofia Lombera at slombera@neuroethics.ubc.ca.
Because the sciences of the mind tell us about the contours, strengths and weaknesses of the very tool we use in ethical decision-making, neuroethics is an irresistible temptation for the philosopher. Indeed, everyone engaged in neuroethics should be concerned with these apparently merely theoretical questions, insofar as they have the potential to show that our ethical judgments are, in particular cases, questionable. Of course, given that neuroethics is a multidisciplinary venture, there is no need for everyone actively to pursue research along the suggested lines. Neuroethics is broad, and there is room for a multiplicity of people from a multiplicity of disciplines with a multiplicity of theoretical orientations. Neuroethics, the journal I edit aims to be a forum for work exploring avenues like those I just sketched. AJOB-Neuroscience has (so far) focused a little more on the first-order ethical issues. We would do well to listen to each other as we advance our shared discipline.

Neil is a Principal Research Fellow at the Centre for Applied Philosophy and Public Ethics, University of Melbourne, Australia, and Director of Research at the Oxford Centre for Neuroethics. He is the author of Neuroethics (Cambridge University Press, 2007), as well as about 80 papers on applied ethics, philosophical psychology, free will and human nature.

REFERENCES


Neuroethics Event Calendar

Members are encouraged to submit event listings for consideration to info@neuroethicssociety.org


September 18–19 “Law and Emotion: Re-Envisioning Family Law” University of Virginia Law School. This conference is the first broad, systematic effort to examine family law through the lens of law and emotion scholarship. Speakers will consider a range of intimate emotions in re-envisioning the role of law in regulating family conflict. www.virginia.edu/ccfl

September 25–26 “The Study of the Human Self” The College of William and Mary. An interdisciplinary panel will discuss our understanding of human agency in this two day conference. http://humanself.wmblogs.net/

October 6-8 “Psychiatry & Freedom: 11th International Conference for Philosophy and Mental Health” Dallas, Texas. This international conference will combine invited, submitted papers and structured discussions on a range of themes concerning the relation of psychiatry and human freedom. www.utsouthwestern.edu/psychiatryandfreedom

November 6-8 “Implanted Mind? The Neuroethics of Intracerebral Stem Cell Transplantation” University of Duesseldorf. Plenary lectures from eminent scholars in the field will be given alongside panel seminars, author-meets-critics sessions, outreach activities, and social receptions. The interdisciplinary dimensions and perspectives of the connections between neuroethics and intracerebral stem cell transplantation will be highlighted. http://www.h-net.org/announce/show.cgi?ID=161489

November 13-14 Annual Meeting of the Neuroethics Society, Washington, D.C. Our first meeting will feature an exciting line-up of invited and contributed papers, break-out groups, posters, a business meeting and ample opportunities for informal discussion and interaction. All members are encouraged to attend. http://neuroethicssociety.org

November 14-19 Society for Neuroscience Annual Meeting, Washington, D.C. This event will feature a number of lectures and symposia relevant to neuroethics, including the annual David Kopf Neuroethics Lecture, to be given by Patricia Churchland this year and entitled “How Do Brains Navigate Their Social/Moral Worlds?” Special lectures on decision-making and the brain, imaging states of consciousness, and addiction will be given as well as a Social Issues Roundtable on Global Neuroethics and the Burden of Nervous System Disorders. http://www.sfn.org/index.cfm?pgname=annualmeeting

November 30 – December 1 “Our Brains, Our Selves” Aarhus, Denmark. Mirroring the format and themes of the “Our Brains, Our Selves” workshop recently held at Harvard, this workshop intends to bring together scholars whose work addresses ethical, legal and social dimensions of neuroscience, and may help us to better understand why it is so vigorously asserted that we are on the cusp of immense changes in human and social forms. http://www.neurosocieties.eu/MIRROR/Call.htm

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