

**Report on "Neurolaw in Australia" workshop,
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1. BACKGROUND

Neurolaw is a relatively new and highly-interdisciplinary field that brings together researchers from the social sciences, mind and brain sciences, law and philosophy, as well as public policy and law professionals to examine the potential for neuroscientific discoveries and techniques to address a range of pressing legal and social problems. These include for example, new ways of assessing individual responsibility and truthfulness (e.g. brain-based lie detection and mental health assessment techniques); using neuroimaging to predict dangerousness and recidivism (e.g. in sentencing, parole and involuntary commitment decisions); developing social policies and laws informed by the most up-to-date scientific findings; and treating conditions associated with crime, violence and social problems (e.g. treatments for drug addiction and restoration of mental capacity via direct brain interventions such as medications and brain stimulation). A critical strand highlights the potential for neuroscience to have adverse socio-legal effects. For example, the perceived objectivity of science and its glittering technologies may jeopardize rather than advance the law's legitimate social aims. It may shift the balance of power from policy makers and the legal profession to scientists and technologists, and the rights of offenders may be trodden upon in the zealous pursuit of objectivity and scientific impartiality by, for instance, infringing people's right to mental privacy, prematurely embracing untested science and technology, or by inflicting serious harm on vulnerable prison populations by forced treatment of antisocial personality disorder.

An Australian voice has been almost completely absent from this field within the international community of neurolaw researchers. The potential problems that this may bring about were a major motivation for running this workshop which had three explicit aims: (i) to introduce local researchers to work in the field of neurolaw by leading North American and European practitioners, (ii) to discuss a series of working papers which introduced the participants to current topics in neurolaw research that may have application in Australia, and (iii) to provide a forum that would encourage Australian research and enable distinctly Australian issues to be identified and studied.

2. WORKSHOP

The two day workshop program comprised two Neurolaw Primer sessions, six Working Paper sessions, and four Australian Focus sessions. In constructing this programme we made contact with approximately 60 potential participants. The generous funding provided by the Australian Academy of Social Sciences, Macquarie University and the University of Queensland made it possible for 21 Australians (from Melbourne, Brisbane and Sydney, 10 of whom were ECRs) to meet with 7 international visitors. The disciplinary areas and ECR status of each attendee are shown in brackets:

1. Wayne Hall, University of Queensland, AU (public health)
2. Jeanette Kennett, Macquarie University, AU (philosophy)
3. Nicole Vincent, Macquarie University, AU (philosophy) (ECR)

4. Francoise Baylis, Dalhousie University, CA (philosophy)
5. Steve Clarke, Oxford University, UK (philosophy)
6. Colin Gavaghan, University of Otago, NZ (law, public health)
7. Hank Greely, Law, Stanford Law School, US (law)
8. Gerben Meynen, Vrije Universiteit Amsterdam, NL (philosophy, psychiatry) (ECR)
9. Robin Pierce, TU Delft, NL (law)
10. Walter Sinnott-Armstrong, Duke University, US (philosophy, law)
11. Francesca Bartlett, University of Queensland, AU (law)
12. Adrian Carter, University of Queensland, AU (public health, neuropsychology) (ECR)
13. Caitrin Donovan, Macquarie University, AU (philosophy, cognitive science) (ECR)
14. Heather Douglas, University of Queensland, AU (law)
15. Gary Edmond, University of New South Wales, AU (law)
16. Michael Farrell, UNSW, National Drug & Alcohol Research Centre, AU (medicine)
17. Anson Fehross, University of Sydney, AU (history and philosophy of science) (ECR)
18. Madeleine Fraser, Macquarie University, AU (psychology) (ECR)
19. Denise Abou Hamad, Macquarie University, AU (law, philosophy) (ECR)
20. David Hodgson, Supreme Court of NSW, AU (law, judge)
21. Steve Matthews, CAPPE, AU (philosophy)
22. Allan McCay, University of Sydney, AU (law) (ECR)
23. Phil Mitchell, University of New South Wales, AU (psychiatry)
24. Dominic Murphy, University of Sydney, AU (history and philosophy of science)
25. Karen O'Connell, University of Technology Sydney, AU (law) (ECR)
26. Mehera San Roque, University of New South Wales, AU (law)
27. Mary Walker, Macquarie University, AU (philosophy) (ECR)
28. Murat Yücel, University of Melbourne, AU (neuropsychology)

The workshop opened with presentations by Professors Hank Greely (Stanford Law School) and Walter Sinnott Armstrong (Duke University), two figures who are widely acknowledged as world leaders in this field. Hank Greeley introduced participants to six central themes in neurolaw: prediction, mind reading, assessment of responsibility, consciousness, treatment, and enhancement. Walter Sinnott-Armstrong dealt in depth with the possible relevance of neuroscience to assessing criminal responsibility.

The working papers and subsequent discussions covered a range of topics. These included: the conceptual shifts that might take place if psychiatric expert testimony based on clinical assessment were replaced by assessments derived from neuroscience (Meynen); moral problems raised by the courts' use of physiological and possibly neural techniques to assess propensity towards paedophilia in offenders and persons working with children (Gavaghan); the interface between drug addiction and responsibility for criminal acts undertaken to support addiction (Hall, Carter & Sinnott-Armstrong); and the ethical permissibility of voluntary and involuntary methods of restoring mental capacity through direct interventions in the brains of offenders (Vincent & Pierce).

In one of the Australian Focus sessions Justice David Hodgson reflected on the use of neuroscience in a number of Australian cases, several of which have been identified by Nicole Vincent and Madeleine Fraser at Macquarie University. In another Australian Focus session Phil Mitchell from the University of New South Wales provided an overview of the different kinds of direct brain intervention based techniques that have historically been employed in an attempt to treat the causes of criminal behaviour. This included an outline of

his own current work on the efficacy of selective serotonin reuptake inhibitors as a possible treatment for persons convicted of violent offences. In the remaining two Australian Focus sessions, workshop participants focused on identifying key neurolaw issues of relevance to Australia and devising ways in which the study of these issues could be promoted by collaborations among Australian researchers.

3. OUTCOMES

We list this workshop's outcomes under five headings: education, networking, exposure, publications, and future research opportunities.

Education: Many of the participants expressed gratitude for the opportunity to meet and learn about neurolaw from world-acknowledged experts. Some expressed surprise at the diverse range of disciplines that could contribute to research in this field ranging from law, neuroscience, philosophy, addiction neuroscience, medicine, public health, therapeutic jurisprudence, etc. This increased their appreciation of the breadth of issues tackled under the banner of “neurolaw”.

Networking: The workshop provided a rare opportunity for a diverse range of people who work in areas relevant to neurolaw in Australia – e.g. addiction, psychiatry, public health, human rights and the neurosciences – to meet and discuss areas of shared interest. This included people who because of physical and disciplinary distances would not normally have had an opportunity to meet and realise that they shared a common set of intellectual and research interests. Links were also forged with a recently-formed centre for research in law and technology in New Zealand. There is therefore the promise that future antipodean research in this field will also involve colleagues from Otago (Gavaghan). Finally, we are attracted a high percentage of ECRs to this workshop comprising the type of people most likely to develop this field from a distinctly Australian perspective in the future. These included recent postdocs, current PhD and Masters students, and several final year undergraduate students.

Exposure: The workshop also drew the field of neurolaw to the attention of the Australian legal profession and even the general public. A spin off public event entitled “Neurolaw Symposium: the science of the mind meets the body of the law” was co-organised by Prof David Weisbrot and Dr Nicole Vincent on the Saturday following the workshop at the Supreme Court of NSW. This event included presentations by Greely and Sinnott-Armstrong as well as commentaries on cases from abroad by judges, QCs and SCs. This spin off event brought neurolaw to the attention of high-ranking Australian legal officers, and it also attracted an audience of approximately 100 people that included practicing lawyers, GPs, students, geneticists, representatives from government ministries, police forensic officers, psychologists, university lecturers, and members of the general public. The organisers indicated that the event was made possible by ASSA's sponsorship of the preceding workshop which enabled Sinnott-Armstrong and Greely to be brought to Australia. The event also attracted media attention — see the article in the Weekend Australian Magazine about neurolaw citing Walter Sinnott-Armstrong and David Weisbrot <http://www.theaustralian.com.au/news/health-science/the-truth-about-lie-detection/story-e6frg8y6-1226099248753>

Publications: The six working papers discussed at the workshop are being considered for publication in a special issue of the peer reviewed journal *Criminal Law and Philosophy*. The workshop discussions helped the authors to sharpen their arguments and provided some Australian content (in some instances reporting Australian research and in others Australian legal cases). The estimated date for publication of this special issue is around the end of 2011. A further opportunity for publication arose during the workshop. Professor Phil Mitchell reported that he had been unable to get ethics approval to conduct further research arising from the promising results of a recent pilot study in which convicted violent offenders were treated with SSRIs to help them control their aggression. In order to identify the ethical barriers in moving forward with this research, the suggestion was made that it would be useful to develop a commentary series for a special issue of a relevant journal (such as *Neuroethics* or *AJOB Neuroscience*) which would consider what ethical issues might stand in the way of conducting research on direct brain intervention-based treatments for the causes of violent behaviour.

Future research opportunities: The discussions confirmed that very little is currently known about the extent to which neuroscientific evidence is used within Australian jurisdictions, or about precisely how such evidence could even be used given procedural limitations. The exception was work that has recently started at Macquarie University on developing an Australian Neurolaw Database. In the cases surveyed by Justice Hodgson, a number of which were drawn from this database, neuroscientific evidence played only an adjunctive or supportive role to psychological evidence. It was never seen as directly relevant in establishing a particular legal claim (e.g. that the defendant possessed or lacked a requisite mental capacity).

Participants suggested that in order to promote Australian research in neurolaw it would be useful to extend the NEUROLAWau web site (www.neurolaw.com.au) by adding the following functions: mailing list; disciplinary sub-sections of the web site; guest blogs on each of the disciplinary sub-sections; discussion forums; links to relevant current Australian projects and funding opportunities, studies, journals, and other web sites from abroad.

Three specific suggestions were made about how to get a more complete view of the way that neuroscience is being used within the Australian legal system by extending the Australian Neurolaw Database at Macquarie University: (i) make the database available online as a public resource; (ii) by offering this public resource, attract Australian lawyers and enable them to submit their own cases (which will provide them with a way to advertise that they are working in this field); (iii) find and talk to experts who testify in Australian cases since many cases may be settled out of court and thus may never even be reported upon; and (iv) conduct a qualitative study of Australian judges' and lawyers' attitudes to using neuroscientific evidence in court.