EUROPEAN SCIENCE FOUNDATION
SETTING SCIENCE AGENDAS FOR EUROPE

ensn
european **neuroscience** and **society** network

FINAL REPORT

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Contents

1. About the ENSN

The European Neuroscience and Society Network (ENSN) was dedicated to the advanced study of the key social, political, legal and ethical aspects of contemporary developments in the brain sciences. From its inception in 2007, aided by the funding commitment from the European Science Foundation, the ENSN made excellent progress towards fulfilling its mission: to develop an infrastructure of interdisciplinary European scholars that enables and supports theoretical and empirical investigations into the ethical, legal, political and social implications of the neurosciences. Through our conferences and workshops, the funding of interdisciplinary exchange scholars, and our innovative 'NeuroSchools', and through maintaining a focus on the involvement of early career scholars at all stages, the ENSN has addressed the main intellectual aims set out in its objectives – i.e. setting a European research agenda in social, legal, political and ethical aspects of neuroscience; exploring the sources of the neurochemical self; examining the economic bases and implications of developments in neuroscience, and examining the public health implications of the neurosciences.

Importantly, the ENSN also rapidly developed a vibrant network of international scholars who are actively engaging in interdisciplinary dialogue and research on the neurosciences and has built successful links with scientific and social science communities in the UK, Europe and worldwide. We believe that the ENSN has provided a valuable infrastructure to support a wide range of scholarship on the ethical, legal and social dimensions of the contemporary neurosciences.

The ENSN was directed by a Steering Committee consisting of representatives from Austria, Denmark, Estonia, Finland, Germany, Netherlands, Norway, Portugal, Switzerland and the UK. Chair of the ENSN was Professor Nikolas Rose. The programme ran for five years, from June 2007 to June 2012.

2. Objectives of the ENSN

The objectives of the ENSN were:

- To develop an interdisciplinary, European network of social scientists, bioethicists and neuroscientists whose work engaged with recent advances in the new brain sciences.
- To develop an infrastructure that would enable and support theoretical and empirical investigations into the ethical, legal, political and social implications of the neurosciences, with a focus on the following four key Theme Areas:
    - Neuroethics and beyond: setting an agenda for Europe
    - Public health and the politics of the neurosciences
    - Neuroeconomies: markets, choice and neurotechnologies
    - Sources of the neurochemical self: consciousness, personhood and difference
- To provide forums for the mutual exchange of ideas, dialogue and research findings, through the hosting of conferences and workshops, and the development of publications broadly based on the key Theme Areas identified above.
- To foster discussions and analyses of the clinical implementation of emerging neurotechnologies, asking critical questions of the use and distribution of new technologies both within Europe and abroad.

3. Results of the ENSN

Over the five years of funding from the ESF, the ENSN developed and funded many highly successful events – including six interdisciplinary conferences, four intensive workshops, and four innovative and demanding 'NeuroSchools' (see Appendix Three). In every case, events included a balanced mix of social scientists, bioethicists and neuroscientists that was comprised of both senior and early career scholars, and were carefully structured to provide ample opportunity for the mutual exchange of ideas, dialogue and research findings within highly interdisciplinary groups. We also co-chaired and co-organized two additional high-level international conferences through our partnerships with ESF-COST and the European Molecular Biology Laboratory. Finally, we supported twenty three early-career scholars in short-visit and exchange grants to further innovative and original interdisciplinary collaboration, and we also were able to support an ongoing group partnership between an international group of early-career researchers and an fMRI team at Aarhus University. In total, the number of scholars directly involved in these ENSN activities significantly exceeded 500; many others who were unable to attend our events also engaged in our activities from a distance.

The ENSN made progress in developing each of our key research themes. Theme Area 1 in particular – *Neuroethics and Beyond: Setting an Agenda for Europe* – was the focus of our work from 2007-2009, extending our originally proposed two-year focus for this theme area. The field of 'Neuroethics,' a largely American academic movement which had only emerged as a research field approximately five years before the ENSN launch, has continued to rapidly expand over the past few years as a result of both academic and public interest. However work in this area has often notably lacked an empirical social science research base, and central to the ENSN has been the development of such a base. ENSN events[1] have certainly explored matters of concern considered to be 'neuroethical' – such as the ethics of neuro-enhancement, identity issues raised by neuro-pharmaceuticals, and the potential role of neuroscience in the courtroom. However, participants in our events have often brought a very different focus to these neuroethical concerns, suggesting that neuroethical investigation of the ethical, legal and social implications of the neurosciences ought to be grounded in *empirical scholarship rather than abstract speculation* about how neurotechnologies might be used in practical, everyday, and real-world contexts. Events have thus also suggested that European researchers might be leaders in the development of an alternative research agenda which: 1) builds an empirical knowledge base about the use and context of modern neuroscientific technology; 2) draws upon a *realistic* understanding of the present and likely genetic and neuroscience; and 3) potentially incorporates the methodological and analytical strengths of social science traditions beyond bioethics – including sociology, anthropology, social studies of science and technology, etc.

Theme area 2 - *Public health and the politics of the Neurosciences* – examined the ways in which the neurosciences are reshaping both strategies of public health and individual understandings of mental health and illnesses through widening the scope of conditions seen as treatable mental disorders. Over the first two and a half years of the Programme, this Theme Area was developed in two ways. Firstly, via the hosting of conferences and workshops that allowed high-level and early-career European researchers to collaborate and share their work – for example, on the politics of changing diagnostic categories, and on currents of resistance to 'cerebralization.'. Secondly, via capacity-building NeuroSchools in which scientists and social scientists have been brought into direct contact with cutting-edge laboratory work in neuroscience and neurogenetics in order to further their understanding of the sciences' methodologies, practices and potential. Some of our early-career participants have already produced new analytical work on neuroscience, public health politics, and diagnosis that

directly benefits from the productive exchanges about neuroscientific practice that arose at these Schools (see Appendix Four for examples). Work in this theme area came to a culmination with our Final Conference in London in April 2012, On the Mutual Challenges of the Neurosciences and Public Health, which once more brought together an interdisciplinary membership of leading neuroscientists, clinicians and researchers – notably Professor Norman Sartorius and Professor Steven Hyman, formerly Director of the NIMH, with social scientists, philosophers, anthropologists, psychologists and political scientists-- and also continued our commitment to providing a forum where early career researchers could present their own research and enter into discussion with leading figures in the field. A notable feature of this event was the participation of the editor of *Nature*, who presented his project to take forward our concerns via a charitable organization currently in development.

Theme Area 3- *Neuroeconomies* – was explored throughout the five years of the ENSN. It was the topic of discussions with Neurotechnology Industry Organization founder Zack Lynch at the 2007 launch conference, and of presentations by research-area leaders Natasha-Dow Schull and Caitlin Zaloom at our 2008 Harvard workshop. This work culminated in a well attended conference in December 2010 organised through our partnership with the Said Business School at Oxford University which dealt with questions ranging from the economics of the neurosciences themselves to the current and potential role of neurobiological knowledge in understanding and reshaping economic decision-making processes, and in the contentious and often disingenuous field of 'neuromarketing'. Neuroeconomic issues related to the impact of neurotechnologies on economic, social and health inequalities were also interrogated from a public health viewpoint at our final major ENSN conference in London in 2012. These included critical analyses of the current estimates of the economic 'burden' of brain disorders, and of assessments of the gain in therapeutic efficacy that has resulted from several decades of very significant public and private investment in neurobiology, particularly in relation to the development of novel pharmaceuticals claiming to be based on an understanding of the neurochemical underpinnings of mental disorders. Keynote speakers Professor Carol Brayne, Professor Norman Sartorius, Professor Steven Hyman and Dr. Phillip Campbell made suggestions for a new future agenda in this area which we hope will be taken forward.

The ENSN developed Theme Area 4 – *Sources of the Neurochemical Self: Consciousness, Personhood and Difference* in presentations at our 2007 launch conference and in early-career researcher presentations at our 2008 and 2009 workshops. These included Francisco Vidal's work on the Cerebral Subject, Simone do Vale's work on the histories of diagnostic categories, and Beatrix Rubin's work on brain plasticity and self-concept. The Theme was also a focus of several of our exchange grants and short visit funding, including Dr Maurizio Meloni's work on 'The Cerebral Subject,' Orkideh Behrouzan's work on the use of Prozac in Iranian psychiatry, and Jonna Brenninkmeijer's research on neurodevices (see Appendix Three). Focused investigation of this theme area was further developed through a conference in Basel on Brain Plasticity, co-sponsored by Neurex; a workshop on addiction in Helsinki on Addiction; and a conference in Groningen, Netherlands, on 'Brain Gear,' which focused on neural technologies that seek to intervene directly into the brain to modulate mental states (see Appendix Three). Work in this area also fed in to a the final international symposium of the Brain Self and Society project, 'Personhood in a Neurobiological Age', which was organized by ENSN Chair Nikolas Rose and Joelle Abi-Rached, and which took place in London on September 2012. Work has also been carried forward in a number of further international events that were not funded though this programme but which featured ENSN members.

4. Impacts of the ENSN

Beyond development of Theme Areas, with the impacts noted above, one key indicator of the ENSN's success is the degree to which it was able to provide linkages for the diverse scholars that made up the Network's membership. We were able to create opportunities for collaboration and cross-fertilization that extended well beyond the timeframe of our structured workshops and other events. Participants have also frequently thanked the ENSN for providing them with a sense of academic community that they often lack at their home institutions; they have noted that while there is a growing number of researchers engaging with the ethical, legal and social implications of neuroscience, these are often widely spread among different institutions and individuals frequently feel somewhat isolated. Our NeuroSchools in particular have provided opportunities for scholars to engage in extended dialogue across disciplines, and to create lasting collaborative partnerships by engaging scientists and social scientists in intensive discussion and shared learning. While some of these partnerships are ongoing, they have already resulted in collaborative publications and conference presentations.

Outside the forums provided by our events, the ENSN has provided, via our website and mailing lists, essential infrastructure for members to communicate with one another once they return to their home institutions. At the close of the programme, over 650 international scholars and academic department representatives have requested inclusion on our ENSN mailing list and receive our regular updates about ENSN funding opportunities and events. Members also use this list to engage with the Network membership directly, for example by sending notifications of job postings, funding opportunities, calls for papers, conference announcements, and other items of interest. At the close of the programme, all members were given the opportunity to transfer their allegiance to a new list(neuro-l -- Social science research in the neurosciences) maintained by the Department of Social Science, Health and Medicine at King's College London.

5. Management and Finances

The ENSN was directed by a Steering Committee consisting of representatives from Austria, Denmark, Estonia, Finland, Germany, Netherlands, Norway, Portugal, Switzerland and the UK, as well as three Advisory Experts based in Europe. Their details are available in Appendix One. The Steering Committee developed and reviewed the programme to ensure it met our objectives, and individual members of the Steering Committee acted as local organisers for many of the events, which ensured maximum possible geographical coverage.

Finances were overseen by the Chair and the Programme coordinator, and reviewed at regular Steering Committee meetings. The bulk of yearly funds outside of salary and ESF contributions have been expended on Scientific Meetings and on Short Visit and Exchange Grants, with a smaller section of funds set aside for Publications and Publicity, Steering Committee meetings and Chair's travel. Appendix Two contains detailed program finance information as provided by the ESF office. Although we occasionally over-budgeted and under-spent for some ENSN events (particularly during the first year of Programme funding) we remained roughly on target as concerns yearly spending and ended the programme with our finances in budget and in balance. We minimised expenses in two areas to maximise funding for events. We have consistently under spent in two areas: Chair travel and Publications. ENSN Chair Nikolas Rose travelled extensively throughout Europe, China and the United States over the course of the Programme and promoted the ENSN activities; however, he was able to do this without drawing on ENSN funds, benefiting from supporting funds locally or from host organizations. These funds were

vired to fund other activities. We also under spent on Publications and Website budget items, as we were able to undertake these at lower cost than anticipated. In addition, we arranged Steering Committee meetings to coincide with Conferences or Workshops, and significantly reduced the budget for travel and expenses for Steering Committee members.

6. Publicity and publications

The ENSN promoted network activities widely through online and digital means. Our electronic mailing list included approximately 650 international ENSN members who signed up and requested to be notified of ENSN events, news and funding opportunities. Calls for applications for workshops, scientific meetings and travel grants were also widely circulated via department mailing lists of Steering Committee and ENSN affiliate's host institutions; to take just one example, ENSN Chair Nikolas Rose's host institution, the BIOS Centre at LSE, circulated ENSN announcements digitally to its 400+ member mailing list as well as in a widely distributed hardcopy centre newsletter.

The Programme Coordinator also developed an extensive email publicity list including approximately 75 international neuroscience laboratories, research groups, and academic departments. Event and funding notices are distributed to this list, as well as to numerous online academic listserves and a small collection of relevant science blogs such as Adam Kolber's Neuroethics and Law Blog. These online resources are often highly successful in reaching individuals outside of the academy who could contribute to the network (e.g., clinicians, lawyers, etc.) or scholars working in atypical departments (i.e., humanities scholars, artists, etc).

The ENSN was also promoted in print media, most prominently in a discussion of the rise of the Law and Neurosciences field in *Nature Neuron* (Gazzaniga 2008, *Neuron*, vol. 60, pp.412-415). Events have also been covered in EMBO Reports (Abi-Rached, JM. 2008. 'The implications of the new brain sciences' EMBO Reports, 9, pp. 1158-1162) and the Neuroethics Society Newsletter (Gristock, J. 2009. Neuroethics Society January 2009 Newsletter: Coverage of Interdisciplinary NeuroSchool, Rome, Italy 29 September – October 4, 2008).

While we did produce one special issue of a journal, we chose to promote publications, in the main, by supporting the work of individual participants. The success of this strategy can be seen in the number of publications, in the form of books and scholarly articles, whose authors have credited the ENSN with playing an important role in the development of that work.

7. Future Perspectives

Beyond development of Theme Areas, with the impacts noted above, one important measure of the ENSN's success is the degree to which it was able to provide linkages for the diverse scholars that make up our membership – whether we are able to extend opportunities for collaboration and cross-fertilization beyond the timeframe of our structured workshops and other events. While there is a growing number of researchers engaging with the ethical, legal and social implications of neuroscience, these are often widely spread and individuals are frequently somewhat isolated - participants have frequently thanked the ENSN for providing them with a sense of academic community that they often lack at their home institutions. As shown in Appendix Four, over 500 scholars from across Europe and beyond participated in ENSN organized events over the five years of the programme.

Outside the forums provided by our events, the ENSN has provided the infrastructure for members to communicate once back at their home institutions via our website and mailing lists. At the close of the programme, over 650 international scholars and academic department representatives requested inclusion on our ENSN listserv and received our regular updates about ENSN funding opportunities and events. Members also used this listserv to engage with the group directly and send notifications of job postings, funding opportunities, calls for papers, conference announcements, and other items of interest. At the close of the programme, all members were given the opportunity of transferring their allegiance to a new listserv (neuro-l -- Social science research in the neurosciences) maintained by the Department of Social Science, Health and Medicine at King's College London.

Finally, we can note the impact of the work of the ENSN on the field of neuroethics. The network has encouraged neuroethicists to approach the analysis of neuroscience and its implications from a less abstract and philosophical angle, to engage empirically, with the actual ways that neurosciences are having a social impact, and to evaluate their ethical implications. Today, the analysis of neuroscience and society is supplementing, end even displacing, speculative neuroethics; we believe the ENSN played some role in that welcome development.

8. Conclusion

At the ENSN's final conference, members of the Steering Committee met with a group of individuals who had participated in the Network and who had expressed a desire for the Network to continue on. During this meeting it was decided that efforts would be made to maintain the Network's activity once ESF sponsorship had ended, and individuals based in the Department of Social Science, Health and Medicine are currently investigating how best to carry on with the Network's mission, despite a lack of funding; this will include a consideration of applying for further network funds. It was also noted that despite the fact that the ESF-funded network included 'European' in the title, the network's reach in fact extended well beyond the geographical boundaries of Europe (for example, one of the Network's first meetings took place in the US, at Harvard University; and participants have come to ENSN meetings from around the world). Thus, it was decided that from 2012 onward the Network would carry on its mission as the Neuroscience and Society Network.

The support of the European Science Foundation played a crucial role in providing the infrastructure to support the building of a diverse interdisciplinary research community engaging with the social dimensions of developments in the contemporary neurosciences. These results can be seen in the numbers of events, papers, publications and other activities concerning these issues. We thank the ESF for helping us to establish the European Neuroscience and Society Network and hope that the Committee will agree that we have justified that that support in the work that we have done and the impacts we have achieved.

Nikolas Rose

On behalf of the Steering Committee of the European Neuroscience and Society Network
January 2013

Appendix One: ENSN Steering Committee Members, Advisors, and Supporting Organizations

Steering Committee Members

Professor Trudy Dehue
Heymans Institute
University of Groningen, Netherlands

Professor Jaanus Harro
Department of Psychology
University of Tartu, Estonia

Dr. Ilpo Helén
Department of Sociology
University of Helsinki, Finland

Professor Kenneth Hugdahl
Department of Biological and Medical Psychology
University of Bergen, Norway

Professor Ilse Kryspin-Exner
Faculty of Psychology
Vienna University, Austria

Professor Klaus-Peter Lesch
Department of Psychiatry and Psychotherapy
University of Würzburg, Germany

Professor Cordula Nitsch
Institute of Anatomy
University of Basel, Switzerland

Professor João Arriscado Nunes
Centre for Social Studies, School of Economics
University of Coimbra, Portugal

Dr. Andreas Roepstorff
Department of Anthropology, Archaeology and Linguistics
Center for Functionally Integrative Neuroscience
University of Aarhus

Professor Nikolas Rose (ENSN Chair)
BIOS Centre for the study of Bioscience, Biomedicine, Biotechnology and Society
London School of Economics and Political Science, UK

Advisory Experts

Dr. Giovanni Frazzetto
Branco Weiss Fellow
BIOS Centre, London School of Economics, UK

Dr. Cornelius Gross
European Molecular Biology Laboratory, UK
Monterondo, Italy

Dr. Linsey McGoey
ESRC Postdoctoral Fellow
Oxford University Centre for the Environment, UK

Dr. Ilina Singh
Reader in Bioethics and Society
BIOS Centre, LSE, UK

Dr. Scott Vrecko
Wellcome Trust Fellow
BIOS Centre, London School of Economics, UK

Programme Collaborators

Professor Madeleine Akrich
Centre de sociologie de l'innovation, Paris

Professor David Armstrong
King's College, University of London

Professor Richard Ashcroft
Queen Mary University, University of London

Dr. Simon Cohn
University of Cambridge, UK

Professor Alain Ehrenberg
CESAMES, Paris, France

Dr. Mariam Fraser
Goldsmiths College, London

Professor Anne Harrington
Department for the History of Science
Harvard University, USA

Anelis Kaiser
University of Basel, Switzerland

Dr. Tim Kendall
National Collaborating Centre for Mental Health
Sheffield Care (NHS) Trust, UK

Dr. Paul Martin
Institute for Science and Society
University of Nottingham, UK

Saskia Nagel
University of Osnabruck, Germany

Professor Michael Parker
Ethox Centre, University of Oxford

Professor Renata Salecl
University of Ljubljana, Slovenia

Professor Wolf Singer
Max Planck Institute for Brain Research, Germany

Professor George Szmukler
King's College, London, UK

Supporting ESF Member Organizations

Supporting ESF Members:
Austria – Faculty of Psychology, Vienna University
Denmark –Center for Functionally Integrative Neuroscience, University of Aarhus
Estonia – Psychology Department, University of Tartu
Finland – Department of Sociology, University of Helsinki
Germany – European Molecular Biology Laboratory, Heidelberg
Germany – Department of Psychiatry and Psychotherapy, University of Wurzburg
Netherlands – Heymanns Institute, University of Groningen
Norway – Biological and Medical Psychology, University of Bergen
Portugal – Centre for Social Studies, School of Economics, University of Coimbra
UK – London School of Economics, BIOS Centre
Switzerland -- Institute of Anatomy, University of Basel

Other Collaborators

Canada – National Core for Neuroethics, University of British Columbia
Brazil – Brainhood Project, Universidade do Estado do Rio de Janeiro
Germany - Max-Planck Institute for the History of Science, Berlin
Germany – Critical Neurosciences Group, Berlin
Italy – European Molecular Biology Laboratory, Monterotondo
Switzerland – NEUREX Switzerland
Germany – European Molecular Biology Organization, and European Molecular Biology Laboratory, Heidelberg
Europe - ESF-COST High Level Conferences
UK – Institute for Science and Society, University of Nottingham
UK – Said Business School, Oxford University
UK – Brain Self and Society Project, London School of Economics
USA – Stanford Center for Law and the Biosciences
USA – Centre for Neuroscience and Society, University of Pennsylvania
USA – Department of the History of Science, Harvard University

Appendix Two: Financial Report

EXPENDITURE STATUS 2007

European Neuroscience and Society Network (ENSN)

Designation	Budget	Expended	Available
PROGRAMME COORDINATOR (OUTSIDE ESF)	25000	0	25000
COMMITTEE MEETINGS	11375	4828.8	6546.2
SCIENCE MEETINGS	40000	33291.6	6708.4
GRANTS	15000	0	15000
PUBLICATION & PUBLICITY	11000	5331.27	5668.73
ESF ADMINISTRATIVE COSTS	8625	8625	0
MISCELLANEOUS	50	7.18	42.82
UNALLOCATED FUNDS	3950	0	3950
TOTAL	115000	52083.85	62916.15

EXPENDITURE STATUS 2008

European Neuroscience and Society Network (ENSN)

Designation	Budget	Expended	Available
PROGRAMME COORDINATOR (OUTSIDE ESF)	41000	19993.21	21006.79
COMMITTEE MEETINGS	2500	0	2500
SCIENCE MEETINGS	96000	47322.57	48677.43
GRANTS	15000	8320	6680
PUBLICATION & PUBLICITY	4000	0	4000
ESF ADMINISTRATIVE COSTS	8625	8625	0
MISCELLANEOUS	50	0	50
UNALLOCATED FUNDS	2741	0	2741.15
TOTAL	169916	84260.78	85655.37

EXPENDITURE STATUS 2009

European Neuroscience and Society Network (ENSN)

Designation	Budget	Expended	Available
PROGRAMME COORDINATOR (OUTSIDE ESF)	43000	18987.32	24012.68
COMMITTEE MEETINGS	0	0	0
SCIENCE MEETINGS	92695	43231	49464
GRANTS	20080	19405	675
PUBLICATION AND PUBLICITY	8000	0	8000
EXTERNAL ADMINISTRATIVE COSTS	50	0	50
ESF ADMINISTRATIVE COSTS	16675	16675	0
MICELLANEOUS	50	0	50
UNALLOCATED FUNDS	20105.37	0	20105.37
TOTAL	200655.37	98298.32	102357.05

EXPENDITURE STATUS 2010

European Neuroscience and Society Network (ENSN)

Designation	Budget	Expended	Available
PROGRAMME COORDINATOR (OUTSIDE ESF)	31000	22300.97	8699.03
COMMITTEE MEETINGS	0	0	0
SCIENCE MEETINGS	109765	84660.22	25104.78
GRANTS	25445	17886	7559
PUBLICATION & PUBLICITY	4000	0	4000
EXTERNAL ADMINISTRATIVE COSTS	50	0	50
ESF ADMINISTRATIVE COSTS	16675	16675	0
MISCELLANEOUS	200	0	200
UNALLOCATED FUNDS	30222.05	0	30222.05
TOTAL	217357.05	141522.19	75834.86

EXPENDITURE STATUS 2011

European Neuroscience and Society Network (ENSN)

Designation	Budget	Expended	Available
PROGRAMME COORDINATOR (OUTSIDE ESF)	20737.05	14415.72	6321.33
COMMITTEE MEETINGS	579.73	579.73	0
SCIENCE MEETINGS	90009.31	72945.56	17063.75
GRANTS	31380	28920	2460
PUBLICATION & PUBLICITY	5814.85	4058.5	1756.35
ESF ADMINISTRATIVE COSTS	16675	16675	0
MISCELLANEOUS	709.31	351.19	358.12
UNALLOCATED FUNDS	24929.61	3713	21216.61
TOTAL	190834.86	141658.7	49176.16

EXPENDITURE STATUS 2012

European Neuroscience and Society Network (ENSN)

Designation	Budget	Expended	Available
PROGRAMME COORDINATOR (OUTSIDE ESF)	11050	10648.91	401.09
COMMITTEE MEETINGS	0	0	0
SCIENCE MEETINGS	33350	22473	10877
GRANTS	0	3713	-3713
PUBLICATION & PUBLICITY	2870	1228.07	1641.93
EXTERNAL ADMINISTRATIVE COSTS	0	0	0
ESF ADMINISTRATIVE COSTS	0	0	0
UNALLOCATED FUNDS	1906.16	0	1906.16
TOTAL	49176.16	38062.98	11113.18

Appendix Three: Activities of the ENSN

Conferences and Workshops

2012

The Mutual Challenges Of The Neurosciences And Public Health: ENSN Final Conference
25 - 27 April 2012
GOODENOUGH COLLEGE,
MECKLENBURGH SQUARE LONDON WC1N 2AB

In April 2012, the ENSN convened in London for a final international conference on the mutual challenges of the neurosciences and public health. Keynote speakers were Carol Brayne, University of Cambridge; Joseph Dumit, University of California; Steven Hyman, Harvard University; Kelly Kelleher, Children's Institute; Anne Lovell, University of Paris; Jonathan Metzl, Vanderbilt University; Nikolas Rose, King's College London; Norman Sartorius, Johns Hopkins University; Philip Campbell, General Editor, Nature; Allan Young, McGill University.

Junior and senior researchers presented papers related to the following main topics and questions, as well as other related areas:

1. The neurosciences and the redefinition of public health problems: How do emergent modes of redefining, diagnosing and treating neurological and mental disease and illness redefine what counts as a public health problem? What is the role of new medical technologies, namely imaging techniques or drugs? Consequences for the mental health field? What new categories of health problems and of patients are emerging?

2. Access to and distribution of new medical technologies: Are new medical technologies in the field of mental health care and neurology generating new inequalities in access to health care? Are they associated with new forms of provision of health care and classification of patients/users? What is the role of patient associations in promoting equity of access?

2. Access to and distribution of new medical technologies: Are new medical technologies in the field of mental health care and neurology generating new inequalities in access to health care? Are they associated with new forms of provision of health care and classification of patients/users? What is the role of patient associations in promoting equity of access?

3. The challenge of human rights: How are current conceptions of human rights challenged or modified by the knowledge and practices associated with the neurosciences? How are the rights of mental patients redefined, as well as notions of autonomy and dignity? How are the possibilities of intervention on conditions defined as mental or neurological seen as enhancing or threatening established rights? Is a new generation of human rights associated with the capacity for intervention in the biological make-up of human beings in the making?

4. Neuroscience and 'biological citizenship': How are conceptions of citizenship and of the political transformed as the biological has become a field of contention and regulation? What are the emerging forms of governing life? What new institutions and public spaces are emerging?

5. Neuropolicy- governing through the brain: What historical, conceptual, technological frameworks have caused a neuro-centric reformulation of the individual? What kinds of

circulating knowledge facilitates the identification of our 'selves' with the brain? What groups and types of conducts are targets of neuro-based interventions?

6. Neuroscience and global mental health
What is the current global burden of mental health care and what are the main strategies used to deal with it? What geographical biases exist in the distribution of mental health care? What lessons can be learnt from specific national contexts?

Some 100 people attended this event, and the lively and informed debate was a testament to the development of the field, empirically, conceptually and in relation to policy, over the five year life of the ENSN. It proved a fitting final event for the Network.

2011

Situating Mental Illness: Between Scientific Certainty and Personal Narrative

Berlin, Germany, 28-29th April 2011
European Science Foundation and Institute for Cultural Inquiry
Organiser: Dr. Giovanni Frazzetto

The meeting surveyed recent significant shifts in biological psychiatry methods for the assessment of mental illness and questions their validity and limitations. It also explored nuances and interstices between the conception of psychiatric disorders as neurochemical flaws or experiential conditions; the cultural history of psychopathologies; and how brain-based accounts of mental illness circulate in the public domain and are incorporated in culture.

The meeting explored issues relating to three thematic sessions:
1. Tensions of Diagnosis The current neuroscience set of methods including diagnostic categories, behaviour rating scales, animal models and biological markers implies a superimposition of subjective symptoms, neurochemical markers and objective endophenotypology. What are the advantages and limitations to the introduction of biological measures in DSM-V? What are their repercussions for epidemiology, criteria of inclusion in trials and treatment?

2. Voices from Within The second session was specifically devoted to exploring nuances and interstices between the conception of psychiatric disorder as neurochemical flaws and the experiential condition, which may have got lost in favour of measurability, and thus standardization. Attention was given to the role of narratives and personal accounts in illustrating differences in severity and sequence of symptoms as well as values and motivations among patients behind biological interpretation of illness, and pharmaceutical treatment.

3. Neurotransmitters and Psychopathology in History and Culture In the final session, we explored the history of certain psychopathologies and how brain-based accounts of mental illness circulate in the public domain and are incorporated in culture. What ideas and representations of 'illness' do biological interpretations let circulate in culture? How are they welcomed, endorsed or resisted by the general public? What scientific or commonsensical ideas do we live by to describe and explain illness, and what is their valence?

More than one hundred participants registered and attended the sessions, and a diverse mix of senior and more junior scholars represented disciplines such as psychiatry, neuroscience, sociology, anthropology and literary studies. Artists and journalists also attended, and a large component of the audience were students (including a few undergraduates). The theme and

content of the meeting also inspired an article published in the Frankfurter Allgemeine Zeitung. A film recording of the meeting is documented in the ICI archive on the following webpage: http://www.ici-berlin.org/docu/situating-mental-illness/

Brain Gear: the design and use of neurodevices in neurosciences

Groningen, The Netherlands, 15-17 September 2011
Local organizer: the Theory and History of Psychology group (chair Trudy Dehue)
University of Groningen, the Netherlands

This ESF/ENSN workshop explored the growing market for neurodevices and its implications for our individual and collective self-image. It focused on technological devices designed to repair or enhance human emotional and cognitive abilities. Various kinds of implantable or external devices are already available. While many welcome this kind of apparatus as ways to eradicate the woes and inconveniences of human life, others fear they will cause a loss of human dignity and freedom. The workshop brought together neuroscientists, sociologists, psychologists, ethicists, companies and artists in order to exchange their views. Do such devices blur old distinctions between 'human beings' versus 'things' and 'nature' versus 'nurture' or were these untenable distinctions anyway? Do they imply fundamental changes because they operate directly on the brain or are they not that different from more traditional means of enhancement like cars, contact lenses, or microphones?

Participants also discussed the parallels with debates about psychopharmacological changes of our selves. Can positions in these debates be directly applied to non-chemical technologies as well? The analogy brought issues to mind about safety and efficacy, and the regulation of admission to the market. In addition, more fundamental issues about individual freedom and responsibility rose. Will the same social pressures that encourage people to use psychopharmacological drugs from childhood on make them use brain changing apparatus?

Questions about the nature of freedom and responsibility are inherently connected to these subjects. Are these concepts superseded notions from the past, since the mind is nothing more than what the brain causes us to do, as some neuroscientists have it? Or do we remain as responsible for our enhanced brain as we are for our non-enhanced brains?

Satellite events organized by the University of Groningen

The University of Groningen organized satellite events to the Brain Gear workshop. On Monday September 12 Kevin Warwick from the University of Reading gave an invited public lecture 'Cyborg Experiments' in the University of Groningen's Academy Building. Warwick pictured a future in which humans and machines will radically merge. On Tuesday September 13, the faculty of Behavioral and Social Sciences invited Ilina Singh (LSE), who was over for the Brain Gear conference, to present her research on the self-image of children diagnosed with and treated for ADHD. The next day, two invited speakers for the Brain Gear conference, Peter Paul Verbeek (University of Twente) and Ira van Keulen (Rathenau Institute, The Hague), also gave public lectures in the Academy Building discussing the social and ethical aspects of brain changing technologies.

The Plastic Brain

Basel, Switzerland, 8-10 June 2011
Joint ENSN and Neurex Conference

With respect to the centuries old history of brain research, the concept of neuronal plasticity is a relatively new one. Neuronal plasticity defines the flexibility of the brain to changes in the environment: it allows for modifications during maturation and senescence, is the basis of learning and memory and makes it possible for every individual to adapt to the requirements posed by the world around us. It challenges the deterministic view on the genetically predesigned brain and its faculties, and allows adapting (the concept of) the brain to the requirements of a dynamic society, be it on issues of education, mental health, psychotropic drugs or aging. Thus, these new concepts have considerable impact on the lives of the individuals and this is increasingly realized by researchers in the social sciences and humanities. However, for a fruitful debate it is desirable to avoid abstract speculation in favour of grounded empirical analyses, and this is true for the social scientist as well as the neuroscientist.

The conference brought together experts with hands-on experience in research labs and speakers from the social sciences. Besides the faculty, students and early career scientists presented their data in the form of posters and short "Data-blitz" talks. Taken together, topics covered neuronal plasticity at the level of the synapse and the neuronal network from models to mammals and its correlates in structural and functional MRI of the healthy and diseased human brain. Social scientists as well as philosophers and historians of science presented critical analyses with respect to "Zeitgeist"-dependent constraints and demands. Ample time for formal and informal discussions allowed for in-depth understanding and cross-boundary comprehension of the different empirical and theoretical approaches and interpretations to develop. Concerns about reinforcement of reductionist perspectives were countered and the potential of enhanced understandings of the neurobiological and genetic basis of the working of the human brain were emphasized. New personal contacts were established, and it was anticipated that the interactions between the disciplines will have lasting repercussions on the way the neuroscientist carries out and interprets his/her experimental work, as well as on how the social scientist evaluates the promises and perils of the new neurosciences.

The closing event of the conference was a round table on "Meditation and the Plastic Brain" which was open to the public. Short presentations of cognitive scientists and of practitioners in ZEN meditation set the stage for a lively exchange of the interaction of meditation practices with the brain and its abilities.
The resulted in new contacts and with respect to the effects of meditation, collaborations between cognitive scientists and a ZEN teacher were developed. Some key issues were also further explored in subsequent ENSN events: issues relating to rehabilitation were discussed at the "Brain Gear" Workshop in Groningen (15..17. September 2011), and the role of culture and society in diagnosis and treatments of mental illnesses were pursued at the final conference in London. The Basel event on The Plastic Brain provided the necessary equipment for these follow-up conferences.

2010

Neural Lie Detection

Aarhus, Denmark, November - December 2010
Organizing Committee: Melissa Littlefield; Des Fitzgerald; James Tonks; Martin Dietz ;Kasper Knudsen

This scientific meeting grew out of two previous meetings: the first was a mini 'NeuroSchool' hosted by the European Neuroscience and Society (ENSN) in Vienna, Austria (April 2009); the second was a research and design meeting hosted by both ENSN and the

Center for Integrative Neuroscience (CFIN) at Aarhus University, Denmark (May 2009). This meeting took place between November 25, 2010 and December 5, 2010 in Aarhus, Denmark; it was hosted by both ENSN and CFIN. The ENSN team was comprised of Des Fitzgerald (London School of Economics and Political Science), Melissa Littlefield (University of Illinois, Urbana-Champaign), and James Tonks (University of Exeter). We were joined on-site by Martin Dietz (CFIN and Aarhus University), Kasper Knudsen (Aarhus University), Michael Geneser (CFIN), and Andreas Roepsdorff. Our goals for each meeting were to 1) enhance interdisciplinary conversations about neuroscientific research and 2) generate new ideas for cross-disciplinary development, and 3) collaborate on the design and execution of an ecologically sound, social neuroscientific study to test correlations between brain activity during socially-stressful truth-telling and deception.

The meetings demonstrated the viability of truly interdisciplinary work between the neurosciences, the social sciences, and the humanities. The ENSN made team-work and a host of future scholarship possible by supporting interdisciplinarity on multiple levels, including, but not limited to: bringing together humanists, social scientists, and neuroscientists; creating contexts for research and design; and making possible collaboration that can lead to activities that go beyond the white board and into the reality of the lab.

Neurosociety… What is it with the brain these days?

Saïd Business School, University of Oxford, UK
7-8 December, 2010
A two-day international conference sponsored by the Institute for Science, Innovation and Society (InSIS), and the European Neuroscience and Society Network (ENSN).

On the 7th and 8th of December 2010 the Institute for Science, Innovation and Society (InSIS) hosted the conference 'Neurosociety…what is it with the brain these days?' at the Saïd Business School (SBS), University of Oxford. The meeting was jointly organised by InSIS and the European Neuroscience and Society Network (ENSN) and attended by over 120 participants ranging from students and faculty at SBS, the wider University, and numerous academic and research institutions from the UK and Europe, with a small number of participants traveling from North America, South America and Australia.

The purpose of the conference was to explore how, why and in what ways the figure of the brain has come to permeate so many different areas of thinking and practice in academic and commercial life. For instance, a growing number of ethicists, social scientists, legal scholars and philosophers have begun to analyse the social, legal and ethical implications of advances in the neurosciences, from the use of fMRI imaging in legal cases, to the medical benefits and risks of the increasing prescription of psychotropic drugs such as Prozac and Ritalin. Some attention has been paid to the economic questions raised by the commercial development and application of new technologies, and the extent to which subfields such as neuroeconomics and neuromarketing are generating commercially and clinically valuable findings. The conference brought together academics and practitioners from this wide range of disciplines to attempt a critical evaluation of the current state and future prospects for neuro thinking and to ask what the consequences of these developments could be for academia, business, commerce and policy? More specifically the aim of the conference was to consider the growing commercialisation of neurosocientific knowledge and technologies and the emergence of the brain industry or 'neuro markets'.

The meeting featured five plenary sessions, four paper sessions (with three parallel paper streams per session), and a conference dinner on the evening of the first conference day. The

plenary sessions, taking place on the first conference day, comprised keynotes speeches by Professor Steve Woolgar (InSIS, University of Oxford) and Professor Nikolas Rose (BIOS, London School of Economics and Political Science) as well as a roundtable discussion on the topic of constructing and reading neuro images with contributions from Associate Professor Kelly Joyce (College of William and Mary, Williamsburg, VA) and Professor Patricia Pisters (University of Amsterdam). The plenary sessions on the second conference day focused on the uptake of neuroscientific knowledge in public policy (Dr. Jonathan Rowson, RSA) and the emergence of neuroeconomics as an academic field (Professor Sabine Maasen, University of Basel). The conference finished with a Closing discussion with short inputs by Professor Steve Woolgar (InSIS, University of Oxford) and Professor Paul Wouters (University of Leiden) that gave ample time to allow participants to discuss the main themes of the conference, assess the results and impact of the event and to consider future directions for research. In this report, we focus on those presentations that addressed the key theme of the event – the relations of neuroscience and economic life.

Steve Woolgar's introductory lecture set the stage for the two-day conference by sketching the growing prominence of the brain and neuroscience for numerous academic fields and increasingly commercial practices and asked how we might study these developments as social scientists in general and from a Science and Technology Studies (STS) perspective in particular. To explore this question in more detail, he used the example of the growing field of neuromarketing, a new form of consumer research that uses, for instance, brain imaging (fmRI) to assess which areas of the brain are active in relation to specific tasks undertaken by the subject, and what is the extent of this activity. This is done, for example, in relation to the visual perception of the colour or shapes of products, or the effect on the brain of certain smells and odours. Based on preliminary research he has been conducting in collaboration with Tanja Schneider, he suggested that it is useful first to consider neuromarketing practices in terms of similar technologies for bringing to revelation various hidden thoughts, feelings, opinions and other broadly cognitive and psychological phenomena such as psychoanalysis, the polygraph and the focus group In all these examples a particular technological form purports to reveal aspects of individual consciousness which otherwise lay hidden. The revelation is ironic in the particular sense that it depends on the achieved contrast between what appears to be the case – the patient's symptoms or account, the response given by the subject of the lie detector test – and what turns out to be the case as a result of the application of the technology – the hidden underlying causes of symptoms, the hidden or concealed truth. As such neuromarketing can be viewed as a technology of revelatory irony, which in line with much recent STS theorising and especially in the analysis of financial markets and of medical imaging, supports the view that aspects of human psyche are performed rather than merely revealed by the technologies.

Following on this theme, Sabine Maasen gave a keynote lecture entitled 'Neuroeconomics – a marriage of giants thanks to neoliberal knowledge society?' which examined the emergence of the field of neuroeconomics. She observed that we are currently witnessing various attempts at uniting economic and neuroscientific knowledge both at the level of academic discourse (neuroeconomics) and professional practice (neuromarketing). While key protagonists would emphasise that these alliances result from self-evident epistemic affinities between two key sciences, she suggested scrutinizing the social-cum-epistemic conditions for alliances of neuro and economics to arise. Among the most prominent of these conditions we find (a) the ever-precarious notion of 'the social' in everyday discourse, (b) the evanescent persuasiveness of purely social/cultural scientific accounts, and (c) the changing practices of sociability in neoliberal society towards neosociability (Lessenich)- taken together Maasen argued these developments provide fertile grounds for alliances such as neuroeconomics as well as neuromarketing to become ever-more plausible. Moreover, Maasen argued that deconstructing the conditions of possibility that the social, social science and society are challenged by the neuronal, will provide us with insights what renders neuroscientific findings so intelligible and acceptable.

The conference finished with a closing discussion that was kicked off with two short inputs by Steve Woolgar and Paul Wouters. Steve Woolgar looked back to his opening remarks and the issues he raised at the beginning of the conference, namely how do we study neurosociety? And how does one talk across disciplinary boundaries during an event such as this? He suggested that the social itself is being modified in the encounter with the neuro and wondered to what extent the neuro might also be modified. Paul Wouters started his closing remarks with the observation by citing an essay by Anne Beaulieu, which suggests that we are not witnessing one neuro-turn but a set of complicated shifts and changes in complex ways. In Wouters' view the Neurosociety conference was evidence for precisely this development and he suggested that one possible way of studying the neuro-turn would be studying the connections between the social sciences and neuroscience with an STS sensibility and offer detailed ethnographic accounts of these encounters. In his view the conference displayed a disjoint in so far as neuroscienctists themselves are aware of the ambiguous results that their research produces and in general are careful not to overgeneralise their results. However, portrayal of neuroscience in the media fosters an impression that neuroscience produces 'big results' and as a consequence familiar fears and expectations around new technologies and scientific findings are discussed controversially in these media outlets and elsewhere. Wouters wondered how the increasing call from national funding agencies that explicitly demand impact of research initiatives may affect neuroscientist when communicating their research results to a broader audience. Wouters concluded his remarks by asking how social scientists and STS researchers can collectively have a bigger impact on public with our research and mentioned the option of being actively involved in prospective technology assessment.

Addiction(s) – Social And Cerebral

Majvik, Finland 8 – 10 September 2010
Organized by European Neuroscience and Society Network and ADDICTION research programme
Sponsored by European Science Foundation and Academy of Finland

The symposium brought together scholars from neurosciences, psychology and social sciences, as well as experts of addiction treatments, to discuss the nature and concept of addiction(s).

There were two key topics in the symposium. The first theme was 'what is/are addiction(s)', and the different definitions, explanations and understandings of the essence of addictions were discussed from the perspectives of neurosciences, psychology, social sciences, and history. The discussion on these topics led to a profound reflection on the basic concepts of addiction and the roles of different disciplines in advancing knowledge of this phenomenon. The complexities of the 'addicted brain' and the conceptual fuzziness of so called multifactorial (biopsychosocial) notions of addiction were addressed and subjected to historical and philosophical reflection. In addition, the rigidness and problems of neurobiological models were critically discussed throughout the symposium.

The second theme that crossed the presentations and discussions in the symposium was how has/have addiction(s) become and conceived of as a problem. Different aspects of the 'addiction problem' – scientific, medical, social and moral – were addressed from perspectives of neurosciences, psychology, social sciences, history and philosophy, as well as the questions concerning control, regulation and treatment of addictions and addicts. Pharmaceutical treatment of addictions, in relation and as compared to psychosocial rehabilitation, equivocal boundary between legal and illegal substances affecting central nervous system, and 'pharmaceutical leakage' of prescription drugs like buprenorphine were the topics which

initiated the most lively discussion on control and treatment of addictions and the addicts in the symposium.

The goal of the symposium was to provide a forum for the encounter and dialogue of scholars coming from different disciplines and scientific cultures, and this goal was achieved in the event. The mood of discussion was encouraging for seeking common terrains of discussion between neuroscientists and scholar from social sciences and humanities, as well as for acknowledging differences and disagreements between disciplines and addressing the complexity of the phenomena under discussion. At local level, the importance of the event was quite significant.

The symposium managed to bring Finnish neuroscientists and social researchers of addiction around a common table, and a multidisciplinary project on neuroscience of addiction, involving sociologists, philosophers of science and neuroscientists, was about launched in Finland by the end of 2010. Some of the presentations in the symposium were modified into scientific papers submitted to journals in different fields of addiction research.

2009

EMBL Workshop: Translating Behavior: Bridging Clinical and Animal Model Research

Heidelberg, Germany, 14-16 November 2009

The goal of this workshop was to bring together behavioural neuroscientists working on animal models with clinical researchers studying human behaviour. The main question addressed by the workshop was how animal models can best be used to discover treatments for behavioural disorders, including mental illness. Although animal models are powerful tools to identify the neurobiological mechanisms underlying behaviour, too few researchers are trying to directly bridge the gap between human behaviour and homologous behaviours in lower animals. In some cases animal behaviour and human behaviour appear similar and may share common molecular mechanisms; however, many human behaviours remain only distantly homologous to animal behaviours and common mechanisms are controversial. The ENSN funded attendance for 15 early-career European researchers, primarily with some social sciences training. In addition, Professor Nikolas Rose, Chair of the ENSN, gave the invited Keynote 'Social Science' Lecture.

Joint ENSN/ESF-COST Conference on Law and Neuroscience: Our Growing Understanding of the Human Brain and its Impact on our Legal System

Aquafredda de Maratea, Italy, 26-31 October 2009

Chair: **Nikolas Rose**, London School of Economics, UK
Programme Committee: **Berry J. Bonenkamp**, Netherlands Organisation for Scientific Research, NL, **Caitlin Connors**, BIOS Research Centre, UK, **Giovanni Frazzetto**, BIOS Research Centre, UK, **Kenneth Hugdahl**, University of Bergen, NO, **Eva Hoogland**, European Science Foundation, FR, **Julia Stamm**, COST, BE

The ENSN was approached by ESF-Cost to develop a high-level conference on Law and Neuroscience. The event was chaired by Nikolas Rose and co-funded by the ENSN, which provided funds for early-career researchers to attend. With a specific focus on European legal systems, the conference established a dialogue between neuroscientists, legal practitioners, researchers in socio-legal studies and social scientists, to further mutual understanding and make some realistic evaluations of the potential developments at the intersection of neuroscience and law. This conference aimed to sidestep philosophical speculations in favour

of addressing empirical evidence and current research on the likely impacts of neuroscience on legal practice, with a specific focus on European legal systems.

Topics that were addressed included: The troubled history of the relations between legal systems and the 'positive sciences' of psychology and psychiatry, and the lessons of that history for today; the promises and pitfalls of neuroimaging, and the current state of knowledge about the use of imaging technologies to identify features of brain structure and function which have legal relevance; the promises and weaknesses of claims to have developed accurate neuroscience-based lie detectors and the evidence as to the current and likely future role of lie detection technologies in the criminal justice system; the potential for neuroscience to assist the courts in determining competencies and legal capacities in the area criminal responsibility and other areas of law; the current state of knowledge in behavioural genetics of anti-social behaviour, and its potential applications in policy and practice, within and outside the criminal justice system; the role of neuroscientists as expert witnesses in the courtroom, and the criteria which courts use, and should use in the future, for determining the admissibility of neuroscientific evidence.

The conference established a dialogue between neuroscientists, legal practitioners, researchers in socio-legal studies and social scientists, furthered mutual understanding and made some realistic evaluations of the potential developments at the intersection of neuroscience and law. One highlight of the conference was the presence of a substantial number of early career researchers, and a successful early career researchers forum explored the necessity of, and the potential for, interdisciplinary collaborative research on the relations between neuroscience and the law. In particular they discussed the main challenges (epistemic, experimental, regulatory) for a successful interaction between law and neuroscience, explored different views on the most society-sensitive or pressing questions to address through such an interaction, and discussed possible experimental and research proposals that might embody such collaboration.

Participants expressed concern at the way in which such evidence had been introduced in some cases, and identified considerable variations between jurisdictions on the admissibility and use of neuroscientific evidence in the criminal justice system. Participants agreed that neuroscientific evidence, where carefully presented by an expert who had full knowledge of strengths and weaknesses, acting impartially, could sometimes contribute usefully to such proceedings, but that it never spoke for itself and must always be considered alongside other evidence in making a determination. The conference called for clear guidelines to be established and promulgated on this issue, to avoid misleading and premature uses of early findings from basic research in criminal trials and other legal forums. The conference commended, in particular, the criteria set out in the 2009 publication by the UK Law Commission (Consultation Paper No 190) on the Admissibility of Expert Evidence in Criminal Proceedings in England and Wales. The conference also called for more attention to be given to the uses of neuroscientific evidence and assessments outside the arena of the courtroom, and expressed concern about the apparent lack of regulation in these areas.

It also became clear that there was a lack of empirical evidence from across Europe as to the actual usage of neuroscientific evidence in the courtroom, to enable a comparative evaluation within Europe and between Europe and other regions, and the conference called for the development of such an empirical knowledge base.

Organized by Department of Law, University College, London, With participation from ENSN

Recent discoveries about the human brain are beginning to influence our legal system, increasing our understanding of actions that our laws regulate and of attitudes that our laws reflect. The way that we apply neuroscientific discoveries will have a major impact on the future of our legal system. With informed and cautious reform, our legal system could have more accurate predictions, more effective interventions, and less bias. Society could have less crime and fewer people in prisons. This colloquium explored developments in the field of Law and Neuroscience. Nikolas Rose, Chair of the ENSN, gave an invited keynote lecture

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2008

Our Brains Our Selves - Aarhus Mirror Workshop

Aarhus University, Denmark, Nov 30 - Dec 1, 2008

The European Neuroscience and Society Network hosted a two-day workshop held from November 30 - December 1 in Aarhus, Denmark. Held in conjunction with the 'Global Minds' conference at the University of Aarhus, the event built upon the recent success of our 'Our Brains, Our Selves' workshop at Harvard University. The Aarhus 'Our Brains, Our Selves' workshop mirrored the format and themes of the Harvard event for early-career European researchers. This workshop brought together early-career scholars whose work addresses ethical, legal and social dimensions of neuroscience.

All attendees were present for both events; students attended Global Minds lectures and discussions on November 28th and 29th and then came together for more focused, student-targeted workshop activity on November 30th and December 1st. The combination of these two events helped us to build a more coherent and enriching experience for our ENSN students; the themes and content of the Global Minds conference were closely tied to those of the student workshop, exploring the ways in which the "neuro-technologies of economics, politics, and science" are impacting human subjectivity in the modern age. Combining events allowed students access to high-level academic work on these issues at the same time as it allowed peer-focused interaction and dialogue.

During the first two days of the event, students attended lectures by Nikolas Rose (London School of Economics), Darren Schreiber (University of San Diego), Bradley Lewis (New York University), Scott Lash (Goldsmiths, University of London), Martijn van Beek (Aarhus University), and Simon Cohn (University of Cambridge) at the Global Minds conference. Group lunches and dinners including both ENSN workshop attendees and Global Minds speakers allowed students to follow up with their own questions and to engage in formal dialogue about the key speakers' theoretical orientations to the issues at hand and the methodologies taken. ENSN students were fully included in all activities at the conference.

The second two days of the event was a more intimate and peer-focused workshop, largely facilitated by Dr Nikolas Rose and Dr Andreas Roepstroff, including 12 international early-career student speakers. A small number of speakers were included from non-European countries based on the strength of their proposals and previous work. The workshop was a closed discussion, providing a comfortable and supportive environment for honest discussion of theoretical and methodological issues, preliminary research results, career direction issues, etc.

The second ENSN workshop proved a stimulating meeting of participants from a wide variety of disciplinary backgrounds. Participants consistently praised the event for helping them to elucidate their own critical approaches to issues of neuroscience and subjectivity, and for

providing interdisciplinary space in which to explore these issues honestly and openly. Student colleagues were innovative and open in attempting to voice their own ontological and practical positions towards the issues and in working to combine approaches for more rounded and contextual understanding of modern neuro-subjectivity. Interdisciplinarity fed heated and provocative exchange, despite the wide variety of content and academic work under discussion. The event underscored the need for exchange about more embedded and key issues underpinning academic work on the neurosciences, regardless of the academic discipline in which it takes place – and particularly those unspoken issues animating interdisciplinary work in this area.

Discussion also highlighted the need for students to gain direct access to their objects of study and to other disciplines with useful approaches, tools or resources. Several sociologist participants, exposed more directly to the scientific bodies they were interested in studying, noted that they had unfairly characterized the neuroscientific literature – they had assumed it to be more rigid than it was, more reductionist, less complex, etc. Direct empirical work and healthy openness to the sciences resulted in more rigorous social science work. We saw this dynamic at play in the first NeuroSchool in Rome 2008, and the re-emergence of this idea urged us to continue to develop projects that allowed for real and direct interdisciplinary work between scientists and social scientists working in this area.

Discussion also raised key points that served as spurs for further directed dialogue at future events. The question of the role of ethics in understanding the modern neurosciences – and if ethics, which ethics, whose ethics – was a key animating point for discussion.

2007

Neurosocieties: The Rise and Impact of the New Brain Sciences

London, UK, 12 – 13 Nov, 2007

This meeting marked the inauguration of the European Neuroscience and Society Network, a networking project funded by the European Science Foundation and convened by researchers at the BIOS Centre, London School of Economics. The November meeting was the first in a series of international workshops and conferences bringing together leading neuroscientists, philosophers and social scientists for sustained discussions and cross-disciplinary dialogue on the following themes:

* Neuroscience and society: framing the agenda in Europe
* Public health and the politics of the neurosciences
* Neuroeconomies: markets, choice and the distribution of neurotechnologies
* Sources of the neurochemical self: consciousness, personhood and difference

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Our Brains Our Selves: Historical and Ethnographic Approaches to the New Brain Sciences

Harvard University, Cambridge MA, USA, May 1-3, 2007

Over two-and-a-half days, about 25 participants from Europe and North America gathered at Harvard University to discuss the ways that grounded, historically contextualized studies of neuroscience contribute to analyzing the ethical problems, individual practices, and social problematics that emerge in relation to the brain sciences. Although this was a meeting of the

European Neuroscience and Society Network, the meeting was held in North America for two reasons: first, to promote awareness of the Network and its activities on a global level; and second, to develop connections with scholars across the Atlantic. The workshop focused on the presentation and discussion of 16 papers, which were presented by a mix of scholars that was balanced in terms of geography (European and North American scholars), seniority (junior and senior scholars), and academic fields (participants represented a wide range of disciplines from the biological sciences, the humanities, and the social sciences; disciplines included cognitive science, sociology, anthropology, history, behavioral genetics, psychology, and law). The workshop also included two hour-long general discussion sessions, during which participants reflected upon the most important future directions for individuals researching in this area, as well as a thought-provoking meeting with one of the world's leading brain scientists, Harvard Provost and Professor Steve Hyman, which focused on a range of issues from the use of children as subject in experimental research on psychotropic drugs, and changes in the classification and diagnosis of mental disorders, in relation to the work of the American Psychiatric Association and the World Health Organization.

There was strong agreement amongst participants that this was a landmark event. One of the main reasons for this was that the event was one of the first to bring together researchers who are empirically investigating the social, cultural, political, and economic aspects of the neurosciences. The workshop demonstrated that, when considering the relationship between the neurosciences and society, we need not rely on tentative speculation alone (asking, for example, what *might* happen *if* some scientific development happened), for there is an emerging body of work that is investigating what actually is happening in concrete contexts, in relation to particular social and scientific problems.

Participants were also uniformly convinced of the importance of the meeting in bringing together scholars from Europe and North America. Doing so was considered important not only because the number of researchers engaging in 'social studies of the neurosciences' is still a relatively small one worldwide, but also because it allowed for cross cultural and comparative analyses of scientific developments and uses of technologies. It was also noted that in the future, it would be valuable to incorporate representation from other areas, for example Eastern Europe, as well regions beyond Europe and North America.

It was felt that, given the importance of transnational dialogue and exchange in this area, it would be highly desirable to establish institutional mechanisms for linking North American and European scholars. The Chair of the European Neuroscience and Society Network, Professor Nikolas Rose, raised the possibility of developing such links, indicating that it would involve having US scholars obtain support of the Network through their National Science Foundation. There was enthusiasm for such an initiative, and it was agreed that the ENSN Steering Committee and Program Coordinator would work with Professor Anne Harrington (History of Science, Harvard University) to accomplish this.

Because of the perceived importance of the workshop, and the high quality of the papers presented, it was also felt that it would be valuable to publish an edited collection of papers from the event. Most felt that they suitable outlet for such a collection would be a special issue in a peer-reviewed, interdisciplinary journal. The workshop organizers and ENSN Steering Committee members agreed to pursue this possibility after the meeting: this became the basis for a special issue in the interdisciplinary journal, *History of the Human Sciences*.

NeuroSchools:

First Interdisciplinary NeuroSchool of the ENSN: European Molecular Biology Laboratory (EMBL), Rome, Italy

Sep 29 - Oct 4, 2008
Host: Professor Cornelius Gross.

The topic of the 2008 NeuroSchool was behavioural genetics. Together, participants critically assessed the current methodologies of experimentation in this branch of research and discussed its implications in the context of contemporary society. Lectures covered the history of behavioural genetics, the latest scientific evidence in the field, as well as the history and sociology of psychotropic drugs. Tutors and lecturers included Cornelius Gross (EMBL), Klaus-Peter Lesch (University of Würzburg), Nikolas Rose (BIOS, London School of Economics) and Ilina Singh (BIOS, LSE). The NeuroSchool allowed ample opportunities for cross-exchange of data and insights and creative thinking about innovative avenues in the field and fruitful inter-disciplinary collaborations.

Participants addressed the following questions in this area:

- What are the intrinsic difficulties in defining the phenotypes to be investigated?
- How can a valid definition of a psychiatric condition reconcile biological universalism with social and cultural aspects? How can the latter be incorporated into laboratory experimentation?
- What is the history of specific psychiatric conditions? How has their classification changed? (case studies will be selected)
- How can complex behaviours be 'isolated' and 'measured' in the laboratory, especially using animal models?
- What are the current tools available to measure genetic variation among individuals?
- How do we incorporate biographical, life-trajectory data into the environmental component?
- What are the social mechanisms (e.g. medicalising forces, social norms etc) that increase the number of non-pathological behaviours being brought under the scrutiny of medicine and genetics? What is their influence on genetics?
- What are the limitations of the current psychiatric classification system and how could we reformulate it to make more sense of biological investigations of behaviour?
- How can we control and limit the number of different spurious traits that land as illnesses on the bench of behavioural genetics laboratories?

The school was open to graduate students and post-doctoral fellows in the disciplines of biology, neuroscience, sociology, anthropology, psychology and history/philosophy of science. Applicants were selected on the basis of their merit, research interests and aspirations. Successful candidates (listed below) were invited to spend a one week long period to attend seminars, participate in laboratory practicals and focus groups, and to present their own work.

Courses took place at the Mouse Biology Unit of the European Molecular Biology Laboratory at Monterotondo, and consisted of a balanced mixture of theoretical and hands-on practical modules offered by a small core of senior experts.

Tuition consisted of three main types of activities:

- Lectures by invited experts (SC members and ENSN programme associates). Each lecture was followed by extensive discussion.

- Practicals in behavioural neuroscience offered by scientists from the EMBL Phenotyping Unit and from the Behavioural Neuroscience Unit of the Italian National Research Council (CNR).
- Lectures given by the selected participants. Organisers ensured that all participants had a chance to present their work and discuss it with their fellow-participants and lecturers
- Focus Groups Activities included close reading of primary materials from several fields, with lectures helping to explicate the texts. Participants were given an extensive list of readings prior to their arrival. Some of the texts were discussed during the week.
- An important component of the school was the final discussion. This was based on material submitted in advance by all selected participants who were asked to provide their thoughts on: what they considered the most salient points in the relationship between behavioural genetics and society; what type of society-sensitive reflections should practitioners in this field make; how could these reflections resonate with a scientist's ethos and modify their practice. Students were asked to translate these points into the design of a daring, yet sound, experiment that tried to incorporate social factors and 'context'. The submitted projects were circulated among participants and discussed on the final day.

The School was a great success and fulfilled all its objectives. Participants - as well as the educators– brought back to their home institutions a much enriched body of knowledge from both the social sciences and the neurosciences, and an understanding of the styles of thought, argument, research and proof in the different fields. The experience inspired a number of constructive and enjoyable future collaborations and the results fed into future ENSN events and the design of later NeuroSchools.

Second Interdisciplinary NeuroSchool of the ENSN: University of Vienna Faculty of Psychology & Medical University of Vienna MR Centre of Excellence

1-3 April 2009
Host: Professor Ilse Krispin-Exner

The topic of the 2009 mini-NeuroSchool was social neuroscience and functional neuroimaging. Developments in functional imaging have revealed neurofunctional correlates of various behavioural traits, subjective states and experiences, and diagnoses or pathologies. At the same time, they have given origin to new ways of representing them and have created new 'objects' (e.g., functional brain images, hyperactive or hypoactive brain areas, discussion on localisation vs. neuronal networks) that reify these different ways of thinking about human behaviour, diagnoses and experiences. Neuroscientific objects and ways of thinking thus shuttle between the social context and the laboratory. The aim of the "mini-NeuroSchool" was to assess the rigour and precision of current methodologies and the limitations of experimentation in modern neuroimaging – and to discuss its contextualisation in contemporary society, the uses and practices to which it is put, and the way in which this science affects policy and everyday life.

Third Interdisciplinary NeuroSchool of the ENSN, Würzburg, Germany

Würzburg, Germany, 29 March - 2 April 2010
Host: Professor Klaus-Peter Lesch

This NeuroSchool continued to explore the societal aspects of behavioural genetics, in particular genetic studies of psychiatric disorders, such as anxiety, depression and attention

deficit/hyperactivity disorder. The NeuroSchool addressed the following questions: How can complex behaviours be isolated and measured in the laboratory, especially using animal models? What are the intrinsic difficulties in defining the phenotypes to be investigated? What are the difficulties in including phenomenological aspects of mental illness into a genetics experiment and how can we resolve those? What are the current tools available to measure genetic variation among individuals? What tensions between vital and social norms define what is considered to be 'pathological'?

The school aimed to help participants delineate their shared, unresolved questions, think creatively about their work, start fruitful collaborations, and explore the many known and yet unknown interfaces between neuroscience and society. Students were selected on the basis of their outstanding academic achievements, their research interests and their aspirations to break through disciplinary barriers.

During the school participants were asked to suggest a bold and innovative, yet feasible, research project with societal relevance incorporating sound methodologies and a variety of expertise in the attempt to address timely and unresolved issues at the interface between neuroscience and society. The projects were assessed on the basis of their justifiability, novelty and feasibility and the winning team was given the chance to perform the experiment in an ENSN host laboratory.

ENSN Fourth Interdisciplinary NeuroSchool of the ENSN, Bergen, Norway

Bergen, Norway March 14 – 17 2011
Host: Professor Kenneth Hughdahl

Much neuroimaging focuses on the specific brain regions activated under certain conditions, and draws conclusions from that, for instance if the same areas are activated in a certain game playing task and in situations of pain, a link is made between that task an pain. However the problem with this classic functional neuroimaging approach is that the same areas and regions are activated in a large variety of cognitive tasks and paradigms. This leads to a great variety in interpretations and conclusions. That is to say, these classical approaches do not allow us to discriminate different cognitive processes and functions. As many critiques from both the human and social sciences and the brain sciences have pointed out, this is not simply a technical problem, it is a theoretical problem about the way in which we conceptualize the cognitive processes we study and the anomalies that may be linked to psychiatric or other syndromes. Recent developments in neuroimaging try to resolve this problem by focusing on large-scale neuronal networks and their interaction (connectivity). Some suggest that this will help us understand the brain changes involved in conditions such as schizophrenia in terms of the dynamic interactions between such large scale cortical networks. Other approaches to the same question use novel mathematical approaches to recognise and analyse these complex large scale patterns. A third approach is to validate fMRI data with e.g. data from other modalities, like EEG and TMS. This NeuroSchool considered those approaches, and their potential for understanding psychiatric and neurological disorders and for clinical diagnosis. The Bergen NeuroSchool had the aim of "educating" both camps by allocating a session also to "how social scientists may teach neuroscientists new perspectives".
Feedback from the participants indicated that the NeuroSchool was a great success and fulfilled its objectives. It seemed in retrospect that organisers hit on the frontiers of knowledge regarding where neuroimaging is moving for the future. It also seemed that there was a mutual understanding of the styles of thought, argument, research and proof in the different fields of imaging research.

Exchange Grants:

Sita Kotnis, 2008
Taming the Subject: From Psychological Warfare to Non-Lethal Weapons

Maurizio Meloni, 2008 & 2009
The Cerebral Subject: at the Junction of Naturalism and Anti-Naturalism
Resisting the Brain: Mapping Cultures of Resistance to Cerebralization

Sita Kotnis, 2009
The Brain as Battlefield

Orkideh Behrouzan, 2009
Prozàk Diaries: Alternative Genealogies of Psychiatric Selves, Discourses, and Dealing with Conditions of Impossibility in Post-War Iran

Melissa Littlefield, Robin Pierce, Des Fitzgerald & James Tonks, 2010
Aarhus University fMRI Experiment Trip

Hillel Braude, 2010
Neurophenomenology and the cognitive sciences of emotion and affect

Martin Pickersgill, 2010
Personality Disorder and Dangerousness: Science, Policy and Practice in Europe

Michele Farisco, 2010
The Ethical Pain: Detection and management of pain and suffering in patients with disorders of consciousness

Barbara Fröding, 2010
Neuroethics, brain plasticity and meditation

Mattia Gallotti, 2011
The Meeting of Minds: Neural Foundations of Collective Intentionality

Morten Buelow, 2011

Jimena Mantilla, 2011

Short Visits:

Nick Lee, Warwick University, 2008
Students and Cognitive Enhancement: UK-Denmark Comparison

Jonna Brenninkmeijer, University of Groningen, 2009
Brain Work: Devices to manipulate the brain and become a better self

Felicity Callard, Institute of Psychiatry, 2009
From agoraphobia to Panic Disorder: the pharmacological
dissection of psychoanalytic models of anxiety.

Daniel Margulies, Max Planck Institute, 2009
The Implications of Desiring the Brain-as-Social: The Emergence of Premature Dissemination of "Mirror Neurons" Throughout the Neurosciences, Social Sciences and Humanities

Svenja Matusall, ETH Zurich, 2009
Knowledge Production in Social Neuroscience

Jessica Cadwallader, 2011
Memorialising Happiness: Medical Intervention and the Forgetting of Suffering

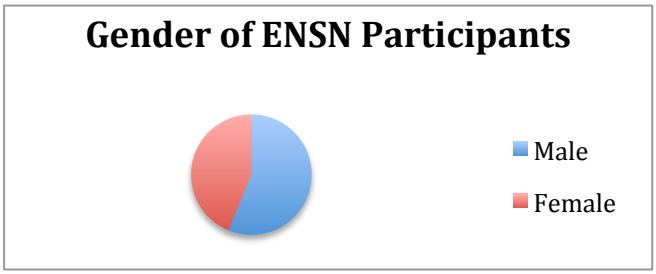
Tim Hahn, 2011
Consultation with the Stakeholder Participation Theme of the Biomedical Research Centre for Mental Health for Mental Health, South London & Maudsley NHS Foundation Trust and Institute of Psychiatry, King's College London

Joerg Niewoehner, 2011

Appendix Four: ENSN Network and Participants

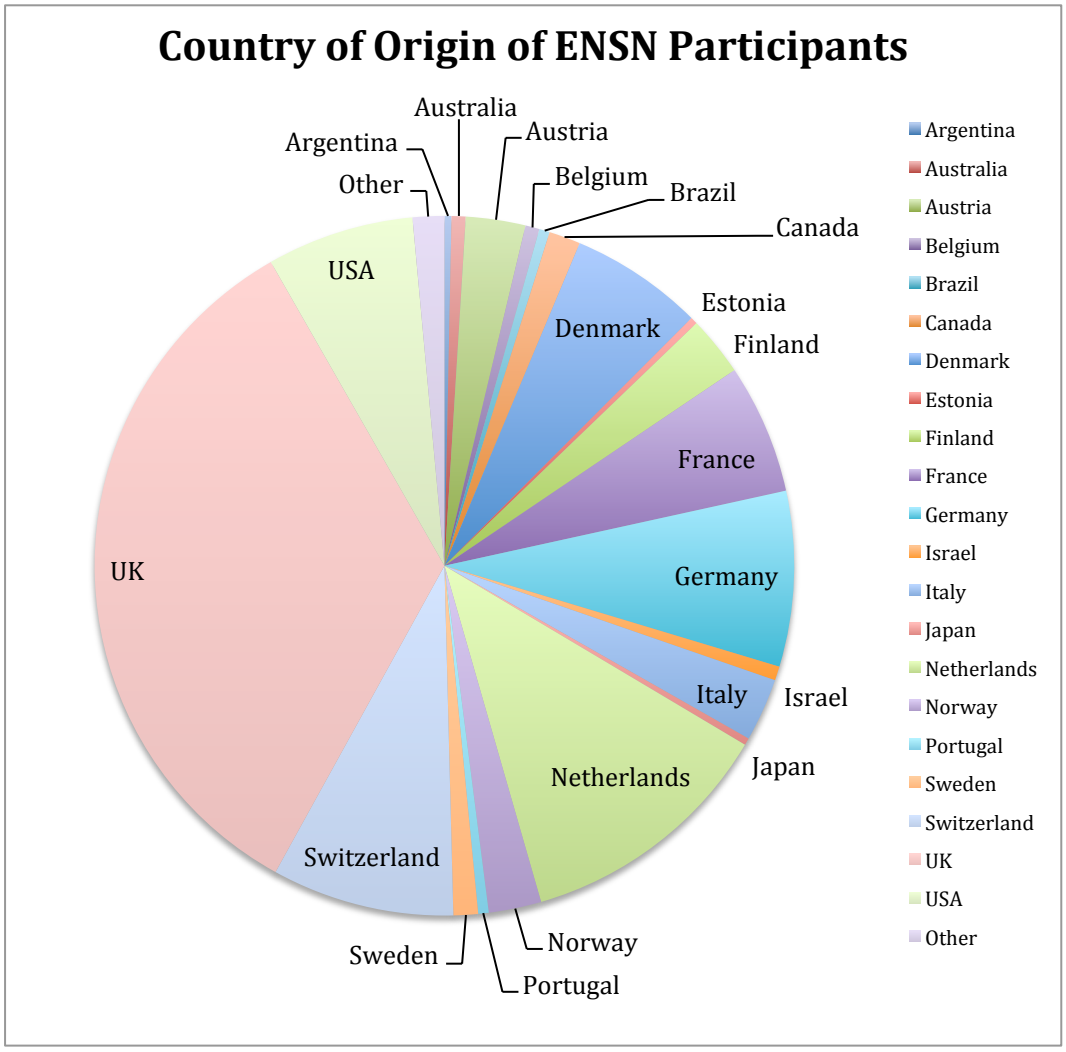
Gender

Of the over 600 participants in ENSN events, 45% were female, 55% were male.



Country

Of the over 600 attendances at the ENSN events, the country of origin was as follows:



Appendix Five: Publications Arising from ENSN Activities and Events

A selection of publications and presentations that participants have identified as directly resulting from ENSN event development or collaborations; Steering Committee publications included only where they directly flow from work with the ENSN.

Abi-Rached, J. M (2009). 'Neurosciences *caput scientia*? (1958-2008)'. Based on a working paper by Abi-Rached JM, Rose N and Mogoutov A 'The three sources and component parts of the new brain sciences'. Poster presentation at 'ESF-COST High-Level Research Conference - "Law and Neuroscience"', Acquafredda di Maratea, Italy, 26-31 October 2009

Abi-Rached, J. M (2009). 'Of mice, men and traumatic memories'. Poster presentation at EMBL Workshop on Translating Behaviour: Bridging Clinical and Animal Model Research. EMBL Heidelberg, Germany. November 14-16th 2009.

Abi-Rached, J. M. (2008) 'Beyond the origin: Mapping the birth(s) of modern neurosciences'. Presented Paper at 'Our Brains, Our Selves - Aarhus Mirror Workshop Historical and Ethnographic Approaches to the New Brain Sciences'. Organized by ENSN in conjunction with the Global Minds Conference, University of Aarhus. *Aarhus, Denmark*. December, 2008.

Abi-Rached, J.M. & Rose, N. (2010). The birth of the neuromolecular gaze, *History of the Human Sciences,* 23, 1: 11-36.

Brenninkmeijer, J. (2010). Taking care of one's brain: how manipulating the brain changes people's selves, *History of the Human Sciences,* 23, 1 : 107-126.

Choudhury, S., Nagel, S. and Slaby, J. (2009) "Critical neuroscience: Linking neuroscience and society through critical practice."*BioSocieties* 4.1 (2009): 61-77.

Dussauge, I. and Kaiser, A (2012) Neuroscience and Sex/Gender, *Neuroethics*, 5, 3: 211-215.

Easter, M (2009) "'Legitimized as an actual disease': How genes make eating disorders more real." Annual meeting of the Society for the Social Studies of Science (4S). Co-organizer of panel, "Understanding Behavior Genetics" (with Nicole Nelson). Washington, DC. October 31, 2009.

Easter, M (2009) "'Legitimized as an actual disease': Perceptions of genetics in eating disorders." Odum Award Lecture, Sociology Department Colloquium, UNC-Chapel Hill, Chapel Hill, NC. October 14, 2009.

Easter, M (2009) "Medicalization in Two Dimensions: A Conceptual Map." Presentation, Mental Health Refereed Roundtable. Annual meeting of American Sociological Association, San Francisco, CA. August 10, 2009.

Farisco, M. (2011). The ethical pain. *Neuroethics*, 1-12.

Frazzetto G and Anker S (2009) Neuroculture, *Nature Reviews Neuroscience*, 10, 815-

Frazzetto, G (2009) 'Genetics of Behaviour and Psychiatric Disorders: From the Laboratory to Society and Back', *Current Science*, 97, 1-9.

Gallotti, M. (2012). A Naturalistic Argument for the Irreducibility of Collective Intentionality. *Philosophy of the Social Sciences*, *42*(1), 3-30.

Heinemann, L.V. and T. Heinemann (2010). "Optimise your brain!" – Popular science and its social implications. *BioSocieties* 5 (2): 291–4.

Heinemann, T. (2010). Voodoo-Zauber und Wissenschaft. *GID.* (199), 5–7.

Heinemann, T. (2010). "Neuro-Enhancement": Gesellschaftlicher Fortschritt oder neue Dimension der Medikalisierung? In: *Leben mit den Lebenswissenschaften. Wie wird biomedizinisches Wissen in Alltagspraxis übersetzt?* ed. by K. Liebsch and U. Manz. Bielefeld: transcript, 131–51.

Heinemann, T. (2011). "Hirnforschung" zwischen Labor und Talkshow – Ideal der Wissenstransformation? In: *Jenseits des Labors. Transformationen von Wissen zwischen Entstehungs- und Anwendungskontext*. ed. by F. Hoof, E.-M. Jung and U. Salaschek. Bielefeld: transcript, 215–37.

Heinemann, T. (2012). "(Neuro-)Enhancement" in Alltag und Spitzensport: Zur Kritik pharmakologischer Leistungssteigerungen. In: Höher – Schneller – *Weiter: Gentechnologisches Enhancement im Spitzensport* ed. by S. Schardin and S. Körner. Paderborn: Mentis, 161-76.

Heinemann, Torsten (2012) *Populäre Wissenschaft: Hirnforschung zwischen Labor und Talkshow*. Göttingen: Wallstein.

Helén, I. (2011) The depression paradigm and beyond. The practical ontology of mood disorders. *Science Studies* 24:1, 82-112.

Helén, I. (2011) Is depression a brain disorder? Neuroscience in mental health care. In Martyn Pickersgill & Ira van Keulen (eds) *Sociological reflections on neurosciences*. Advances in Medical Sociology, vol 13. Bingley: Emerald, 123-152.

Helén, I. (ed) (2011) *Reformin pirstaleet. Mielenterveyspolitiikka hyvinvointivaltion jälkeen*. Tampere: Vastapaino, 329 p. [Fractures of the reform. Mental health policy after the welfare state]

Helén, I. (2011) 'From discipline to risk assessment. A very brief history of psychiatry as social control'; Invited speech; *Ethical aspect of mental health* symposium, Nordic Committee on Bioethics, Helsinki, 31 Oct – 1 Nov 2011

Helén, I. (2012) 'Neurosciences and gambling addiction: A perspective of the analytics of practices'; *Neurogambling* workshop; Department of Social Research, University of Helsinki, 8 Nov 2012

Helén, I. (2012) 'Mikä meitä yhdistää toisiimme? Fragmentteja "kiintymyssuhteesta"' [What bind us together? Fragments on 'attachment'] *Multidisclipinary symposium for the studies of mind*; Philosophical Society of Finland, Helsinki, 18 Aug 2012

Helén, I. (2012) 'Mood swings vital and/or social – a Canguilhemian inquiry'; *Georges Canguilhem and the contemporary life science* workshop*;* University of Århus, Skagen 20-23 May 2012

Helén, I. (2012) 'Menetys/stressi: Alakulo aivodynamiikan aamunkoissa' [Loss/stress: Melancholy at twilight of braindynamics]; Invited speech; *Psykoanalyysi, yhteiskunta ja politiikka* symposium*, University of Tampere*, 13 – 14 April 2012

Helén, I. Psykoterapia yhteiskunnassa [Psychotherapies in society]; Invited lecture, HUS Psychiatry Centre, Helsinki, 10 April 2012

Johnson, J. M., & Littlefield, M. M. (2011). Lost and found in translation: Popular neuroscience in the emerging neurodisciplines. In *Sociological Reflections on the Neurosciences*, pp. 279-297

Langlitz, N. (2010). The persistence of the subjective in neuropsychopharmacology: observations of contemporary hallucinogen research, *History of the Human Sciences,* 23, 1: 37-57.

Lee, N.M. and Motzkau, J, F. (2010) Navigating the bio-politics of childhood, *Childhood: an international journal of child research*, 18, 1: 7-19.

Margulies & Callard. (2009) The Subject at Rest. Paper given at "Habitus in Habitat: Other Sides of Cognition" Berlin, Nov 12th, 2009.

Margulies & Callard. (2009) The Subject at Rest. *Subjectivity,* 4, 3: 227–257

Margulies, M. (2009) Who Gets to Explain the Social Brain? The rise, dissemination, and controversy of mirror neurons. Paper given at the Habitus in Habitat: Emotion and Motion conference in Berlin, July 2009.

Matusall, S and Kaufmann, I. (2009). "Disciplinary dynamics in emerging social neurosciences and neuroeconomics". Science and Technology in Society Conference 28.03.-29.03.2009. AAAS Washington, DC.

McGoey, L. (2010). Profitable failure: antidepressant drugs and the triumph of flawed experiments, *History of the Human Sciences,* 23, 1: 58-78.

Meloni, M. (Forthcoming) "The Cerebral Subject at the Junction of Naturalism and Anti-Naturalism" in *The Neurosciences in Contemporary Society. Glimpses from an Expanding Universe*, edited by Francisco Ortega and Fernando Vidal, forthcoming

Meloni, M. (Forthcoming) "Naturalismo e filosofia. Un bilancio dal dibattito contemporaneo", *Scienza e società*.

Meloni, M. (2008) Seminar at University of Nottingham on "Naturalizing People. Rhetoric of Naturalization in the Emerging Biosociety.

Meloni, M. (2008). Seminar at the Bios Centre London School of Economics and Political Science on "Naturalism as an Ontology of the Present. A Continental View".

Meloni, M. (2008) "Between Natural Objects and Cultural Subjects. The Instable Nature of Humanness and Subjectivity in the Philosophical Debate" , International Conference, "Novas Fronteiras Da Subjetivação", Rio de Janeiro - Instituto de Medicina Social (UERJ.

Meloni, M. (2009). topic "Being individuals in a neurobiological era", Seminar on "Piacere e Felicità" at the Department of Philosophy and Epistemology, Univ. La Sapienza, Rome, on the

Meloni, M. (2009). "The Brain's Borders. Mapping Cultures of Philosophical Resistance to Cerebralization" , Seminar *Philosophie et histoire de la médecine mentale* , CESAMES, U. Paris V.

Meloni, M. (2009). "Being individuals in a neurobiological era", Course on History of Science, Department of Philosophy and Epistemology, Univ. La Sapienza, Rome.

Meloni, M. (2009). "Unavailable to Naturalization. Critical Theory and the Limits of Naturalism", John Cabot University (Rome) Third Conference on Critical .

Rose, N. (2010). 'Screen and intervene': governing risky brains, *History of the Human Sciences,* 23, 1: 79-105.

Rose, N. and Abi-Rached, J. M. (2013, in press). *Neuro: The New Brain Sciences and the Management of the Mind*, Princeton: Princeton University Press.

do Vale, S. (2010) Neuroimaging & subjectivity: constructing identities in the 21st century. E-Compós, 13, 1, available at http://compos.org.br/seer/index.php/e-compos/article/view/456/420

Vrecko, S. (2010). Introduction: neuroscience, power and culture, *History of the Human Sciences,* vol. 23, 1: 1-10.

Whiteley, L. (2012). Resisting the revelatory scanner: Critical engagements with fMRI in popular media*. BioSocieties,* 7, 245–272.