California c.1850-2000 the technoscientific state is a very peculiar thing, what I call an "organic engine." It is not simply that it is composed of human and non-human, organic and artificial elements. It is a thing that is relentlessly driven to greater resource exploitation, development, and economic growth.

171. Neurotechnologies, Neuroethics, and Neuro-Identities: II
4:00 to 5:30 pm
Town and Country: Floor 2 - Pacific Salon Five
Chair:
Rosanne Maria Edelenbosch, VU University
Participants:

On Building a Greener Neuroscience. *Ann Lam, Neurolinx Research Institute*; *Elan Liss Ohayon, Neurolinx Research Institute*

There are many pressures driving neuroscience to dissociate the brain from its environmental context. Despite important advances, the field remains steeped in notions of control, manipulation, engineering, optimization, monitoring and genetic fatalism. The deep-seated belief that reductionist and data-intensive research, which is predominantly based on normal distributions and optimality, will provide the missing pieces to understanding our nature further entrenches rigid and pathologizing models. This dissociation from the environment has also led to experimental designs that increase the generation of hazardous waste, use of toxins, harm to other animals, and production of mountains of data with often limited value. Together these pose a serious threat to individual autonomy and societies as a whole. The aim of green neuroscience is to reverse this trend. In this paper, we present methods and principles we are pursuing in an attempt to develop greener and more ethical approaches to neuroscience research. We will discuss some projects underway at the Green Neuroscience Laboratory, including the creation of an open-access human brain metals atlas, a study on understanding creativity, and evolving embodied autonomous agents with environmental interactions. Furthermore, we present some structures and conditions that are necessary to reduce harm to the environment, identify and eliminate biases from competing interests, and develop approaches to improve health while recognizing the impact of neuroethics and technological trends. We will also discuss the vital role of reconnecting neuroscience research with the community.

Making the 'People Cured Temporarily' - Nanum Medical Service and Medical Tourism in South Korea. *Chuyoung Won, Seoul National University*

This paper explores the topology of medical tourism in South Korea. In 2009, the South Korean government designed medical tourism as a strategic industry by revising medical law. Since then, investment in medical tourism has increased. Nanum medical service is a kind of support project aimed at the promotion of advanced medical care in South Korea by inviting needy patients from foreign countries to visit South Korea to receive free medical operations and care. The targets of this service are people living in developing countries in East Asia. I investigate the practice of Nanum through the case of cochlear implant (CI) operations. Several East Asian people have visited South Korea and undergone cochlear implant surgery through Nanum. Following STS studies, I show that Nanum generates 'people cured temporarily,' although its goal and purpose is said to provide advanced medical care to developing countries for humanitarian principles. A cochlear implant is a surgically implanted electronic device that provides a sense of hearing to a person who is profoundly deaf or severely hard of hearing. To use this device, an ongoing rehabilitation process in the hospital and in daily life is necessary. The problem is that the users should receive ongoing rehabilitation for the CI in everyday life in order to hear using the CI. CI users, who are had surgery through Nanum need certain living conditions for rehabilitation. However, they lack such living conditions because after received the surgery, they are sent to their homeland, which is lacking in medical care.

Neuroimaging as an Evidence Base for Learning and Education. *Rosanne Maria Edelenbosch, VU University*; *Frank Kupper, VU University Amsterdam*

Learning is undeniably associated with brain function. With the rise of the neurosciences in the past decades, particularly with regard to neuroimaging, increased insight has been gained into brain processes involved in different aspects of learning. Knowledge gained with neuroimaging methods could potentially contribute to a new kind of evidence base for the practice of education. It seems that this kind of evidence has a seductive allure to the public (Weisberg, Keil, Goodstein, Rawson, & Gray, 2008), but to what extent is this knowledge actually new, and how does this type of evidence compare to other types, such as knowledge stemming from behavioral research or daily experience? As stakeholders in the domain of education ultimately put this knowledge into practice, we reflected with them on these issues and the perceived opportunities and concerns associated with applying insights from neuroimaging studies to education. To this end, we conducted 3 focus groups with randomly selected parents of one or more children attending secondary school, 3 focus groups with randomly selected secondary school teachers and 4 focus groups with secondary school children aged 16-17. In this paper we present the results of these focus group discussions, reflect on the meaning of evidence-based practice for those involved in education, and discuss how these insights may contribute to more socially responsible neuroimaging research into learning.

Public Engagement with Neuroscience: An Interview Study. *Cliodhna O'Connor, University College London*; *Helene Joffe, University College London*

Recent times have seen a dramatic expansion of the public profile of neuroscience. The dissipation of neuroscientific ideas has excited the interest of many cultural commentators, who have invested considerable intellectual effort in interrogating its potential societal effects. However, debate about neuroscience's cultural implications has largely remained speculative due to a paucity of research that directly examines how publics engage with neuroscientific ideas. The current study, conducted in London in spring 2012, aimed to redress this empirical gap. Forty-eight members of the public were asked to express their initial, spontaneous responses to the phrase 'brain research', and these associations were explored via in-depth interviews. Thematic analysis distinguished four key themes underlying the interview data. The first theme, 'the brain is a domain of science', demonstrates that respondents saw brain-related knowledge as marginal to their own lives and instead located it in the 'other world' of science. Secondly, 'the brain is something that goes wrong' reveals that thinking about the brain was dominated by concepts of pathology, promoting an understanding of brain research as a primarily medical field. Thirdly, 'the brain is a resource' identifies a representation of the brain as a tool over which individuals can and should exert control. Finally, 'the brain is an index of social difference' captures an understanding of the brain as a source of human variation, invoked to articulate and understand social differences. This research illuminates the latent meanings underpinning public engagement with neuroscience and offers an empirical scaffold for debates about neuroscience's cultural significance.

The "Letter Diagnoses": Neuropsychiatric Imag(in)ary in Sweden. *Amelie Hoshor, University of Gothenburg*

This paper addresses the concept of neuropsychiatry and its employment in the Swedish context, which departs from the Anglo-Saxon usage. Rather than an approach to mental phenomena in general, neuropsychiatry has assumed the gestalt of a narrow category of disorders that is commonly referred to as the "letter diagnoses", including ADHD, autism, and tourette syndrome. Despite its institutionalization, the rationale behind this classification is generally glanced over in formal accounts and is both controversial and elusive. Drawing on participant