



The Unbound Brain—A Thematic Introduction

By Peter Bengtsen and Kristofer Hansson

The brain has long been an object of curiosity and fascination. Partly as a result of technological advances, issues related to the brain have become ubiquitous points of discussion in our culture. Along with neurological disease and neuroscience, it is frequently featured in Hollywood block buster movies, self-help books, popular science documentaries and fictional TV-series.¹ Once cast as grey and stable matter, the brain is now commonly represented as a glowing and colourful entity through the use of new imaging technologies. Further, it is often likened to a complex and adaptable machine that can be enhanced continuously through dedication and deliberate effort.

Neuroscience is an interdisciplinary research field that involves sciences like medicine, genetics and chemistry. While it can be traced back to the 1960s, it has expanded significantly and received increasing funding in recent years. In their book *Neuro. The new brain sciences and the management of the mind* (2013), sociologist Nikolas Rose and historian Joelle M. Abi-Rached present a brief trajectory of the emergence of neuroscience. They point out that it was not until the 1980s that the international organisation Society for Neuroscience began to see a greater number of participants at their conferences.² The growing interest continued in the 1990s.

Neuroscience has changed our understanding of, and relationship with, the brain in a number of ways. One example is that the perceived boundaries between the pathological and normal have shifted. This has implications e.g. when considering issues of madness and of moral responsibility. As sociologists Martyn Pickersgill and Ira van Keulen point out:

Just as the pervasive talks of genetics once indicated “a new style of enchantment with nature” (Rosenberg, 2007, p. 97), wherein DNA was understood to be a code that could be cracked to reveal ‘life’s innermost

secrets' (*ibid.*), so now is knowledge of the neurological frequently portrayed as key to properly appreciating the subtle complexities of humanity. As various scholars have now shown, the 'new brain sciences' have emerged and come to be consolidated as important entry points into classical questions such as where the origins of madness lie, how moral responsibility should be adjudicated, and what demarcates normality from pathology (Lock, in press; Vidal, 2009; Walsh, 2011). (Pickersgill & Van Keulen 2011: xiii)

In Western society, the brain has increasingly become a central node around which our understanding of "the human" and "society" revolves. The knowledge produced by neuroscience circulates into society and provides new perspectives on the brain and the meaning of being human (cf. Rose 2007, Gottweis 2008). The central position of the brain in research and culture is likely also a result of the many neurological afflictions—e.g. stroke, Alzheimer's disease, neuropsychiatric disorders, burnout—that affect inhabitants in the modern Western world. Neuroscience offers medical narratives for understanding neurological conditions. Therefore a critical perspective is needed (Cf. Choudhury & Slaby 2012, Schimtz & Höppner 2014, Slaby & Gallagher 2014) to provide other understandings—other narratives—of the medically-based hope that neuroscience to some extent offers people with neurological afflictions (Cf. Brown 2003).

The contemporary fascination with the brain and aspects of neuroscience is in part contingent on, and demonstrated by, products of popular culture. One recent example of a popular-cultural representation of the brain's functions and adaptability is the 3D computer-animated film *Inside Out* (2015). The film takes us inside the mind of a child, 11-year-old Riley Andersen. We follow her basic emotions, personified as five characters (Joy, Sadness, Anger, Fear and Disgust) that live and work in the headquarters of Riley's mind. From there they control the emotional impulses that determine Riley's actions. They are also responsible for sending her memories—represented as glowing, colourful spheres—into long-term storage. The main plot of the film revolves around Riley's emotional crisis after moving with her family from Minnesota to San Francisco. As the film progresses, we see how the personified emotions collaborate in an attempt to stabilise Riley and preserve her core positive memories.³ *Inside Out* uses anthropomorphisation in its depiction of emotions, and visualises memories as concrete objects. It also represents the spatial metaphor of the brain as an actual environment that consists of different locations—e.g. the Headquarters, the Islands of Personality and the Memory Dump. The film is a window into higher brain functions and the relationship between memory, personality and behaviour. It is just one recent example of how representations of the brain and neurological phenomena have made their way into popular culture and mainstream discourse.

To understand how increasing knowledge about the brain is influencing contemporary culture, the representations of this knowledge should be explored from a broad cultural-studies perspective. In this special issue of *Culture Unbound*, scholars from a number of disciplines within the humanities and social sciences address the pervasiveness and influence of neuroscience and representations of the brain in everyday contexts. A common thread in the articles is the idea that knowledge and narratives about, and visualisations of, the brain change practices and processes in daily life. In addition, the articles, in different ways, explore the brain as something that is perceived and portrayed as constantly transforming; an unbound brain.

The notion of the unbound brain raises a number of classic cultural-studies questions and also opens up new areas of inquiry. Novel contemporary neurological research is producing knowledge that changes how we regard the brain (Beaulieu 2000, Pickersgill 2013), and cultural artefacts—e.g. films, TV-series, games, fiction books—can be important vehicles for communicating these scientific findings to the public (Ortega & Vidal 2013, Vidal 2016). At the same time, popular culture narratives, as well as our cultural practices in a broader sense, influence the production of scientific knowledge in a variety of ways. Questions like the following can be raised in relation to the reciprocal influence between, on the one hand, cultural products and practices and, on the other hand, neuroscience: How is the brain and neurological research represented in popular culture and what are the social and political implications of such popular-cultural portrayals? How do neurological research and popular-cultural representations of the brain affect other scientific practices? How do people use knowledge about neuroscience and the brain to frame their life experiences? These are some of the questions considered in this issue of *Culture Unbound*.

About this Special Issue

This issue contains six articles that investigate a variety of cultural and scientific discourses and practices that in different ways are related to neuroscience and the brain. In “The Sci-Fi Brain: Narratives in Neuroscience and Popular Culture”, Åsa Alftberg and Peter Bengtsen examine how narratives about technology, the malleable brain and the mad scientist are presented and used in popular culture and how neuroscientists relate to the narratives when describing their work. Niklas Altermark and Linda Nyberg’s article “Neuro-Problems: Knowing Politics Through the Brain” discusses the recent turn of political scientists towards contemporary brain science. The authors demonstrate how scholars working within the field of “neuro-politics” frame political problems as located in the brain. One implication of this framing is that e.g. difficulties with implementing democratic processes

in a specific society can seemingly be explained neurologically. In “Vulnerable Normality: Popular Neuroimaging and the Discursive Logic of the (Dis)able(d) Brain”, Kristofer Hansson and Ellen Suneson analyse popular neuroimaging of the (dis)able(d) brain as a cultural phenomenon. By discussing a number of popular science documentaries from a critical disability perspective, the article argues that the position of normality and able-bodiedness has changed with the development of brain scanning techniques. The field of neuroscientific imaging is also central to Paula Muhr’s article “Visualising the Hypnotised Brain: Hysteria Research from Charcot to Functional Brain Scans”. Muhr shows that the advent of new brain imaging technologies has reignited scientific research into the age-old and contentious disorder hysteria. While some current research attempts to link hysteria to hypnosis, a clear analogy between these two phenomena has so far not been established. Instead, Muhr argues, despite huge technological advances in imaging technologies, contemporary researchers grapple with conceptual problems comparable to those that plagued their 19th century predecessors. Michael Andersen’s “Everyday Imaginaries, Narratives and Strokes: An Ethnographic Exploration of Narratives among Stroke Patients and their Spouses” considers the way stroke can affect the communal narratives of couples. The article suggests that the communal narratives are sometimes taken over by the partner not directly afflicted by the stroke, and that the narratives may be used to monitor both the relationship and the brain functions of the spouse afflicted by the stroke. The last article, Markus Idvall’s “The Phenomenon of Brain World: Neuroculture in the Making by Patients with Parkinson’s Disease”, presents *Brain World* as a central term. The notion of brain world is presented as a possible indication of an emerging neuroculture, and Idvall explores how the brain world is perceived and enacted by patients with Parkinson’s disease, who are subjected to different forms of neuroscience (cell transplants, genetics, growth factor, etc.).

In addition to the above-mentioned research articles, the issue contains an interview and a book review. The starting point of Kristofer Hansson and Karolina Lindh’s interview “The Hamburgers in the Fridge: an Interview with Professor Nikolas Rose about Interdisciplinary Collaboration, Neuroscience and Critical Friendship” is Rose’s observation that a new relationship is required between neuroscience and the cultural sciences (2013, cf. Fitzgerald & Callard 2014). Rose calls for a critical friendship between the disciplines and asserts that “we must move beyond description, commentary and critique, beyond the study of downstream ‘implications’ of biology and biomedicine, to develop an affirmative relation” (Rose 2013: 23). Such a relationship would bring new understandings of contemporary society and the human beings who inhabit it. The importance of interdisciplinary collaboration is also emphasised in Rachel Irwin’s thematic review of the book *Rethinking Interdisciplinarity Across the Social Sciences and*

Neurosciences by Felicity Callard and Des Fitzgerald (2015). Irwin highlights two points in particular. First, that there is a need to think more creatively about the forms and modes of interdisciplinary research. Second, that it is necessary to embrace and learn from the barriers and challenges of interdisciplinary research rather than allowing these to hinder collaboration.

The Background of this Special Issue of *Culture Unbound*

Neuroscientific findings and methods not only serve as valuable resources when providing medical diagnoses, they are also used to explain social and societal phenomena. As such, neuroscience and the dissemination of knowledge about the brain impact numerous areas of contemporary life and society. Many of the issues that are increasingly being framed as influenced or dictated by neurological processes have historically also been of interest to disciplines within the cultural and social sciences. As can be seen from the descriptions of the individual articles above, this special issue brings together researchers who explore the intersection of neuroscience, culture and society from a range of disciplinary standpoints. The articles show that ideas about the brain, be they based in factual biomedical knowledge or in fictitious imaginaries, are central not only to the practices of neurological researchers, but also to patients and lay people.

This issue is edited by Peter Bengtsen and Kristofer Hansson, who are conducting research within The Cultural Studies Group of Neuroscience at the Department of Arts and Cultural Sciences, Lund University.⁴ The group's main focus is on the expressions and practices in society that are derived from or otherwise related to neuroscience.

The Cultural Studies Group of Neuroscience has previously published the anthology *The Atomized Body* (2012) edited by Max Liljefors, Susanne Lundin, and Andréa Wiszmeg, the doctoral thesis *Modern Genes* by Niclas Hagen (2013) and the anthology *Interpreting the Brain in Society: Cultural Reflections on Neuroscientific Practices* (2017) edited by Kristofer Hansson and Markus Idvall.

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Notes

¹ Examples include the films *Eternal Sunshine of the Spotless Mind* (2004) and *RoboCop* (2014), books like *Thinking, Fast and Slow* (Kahneman 2011) and *Grain Brain* (Perlmutter & Loberg 2014), the documentary *My Beautiful Broken Brain* (2016) and series like *Black Box* (2014). For more examples, see Ortega & Vidal 2013, Vidal 2016, Bengtsen & Suneson 2017, Hansson 2017, Liljefors 2017.

² For more on Society for Neuroscience, see <https://www.sfn.org/> (retrieved 2018-03-28).

³ The memory spheres bring to mind glass marbles. This visual representation, as well as the importance given in the film to protecting the spheres, can be seen as a reference to the idiom “losing one’s marbles”, i.e. going crazy.

⁴ The Cultural Studies Group of Neuroscience is part of the Linnaeus environment Basal Ganglia Disorders Linnaeus Consortium (Bagadilico) at Lund University. Bagadilico ran from 2008 to 2018 and was financed by The Swedish Research Council.

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