



Culture Unbound
Journal of Current Cultural Research

Neuro-Problems

Knowing Politics Through the Brain

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Abstract

In recent years, neuroscientific knowledge has been applied far beyond its context of emergence to explain human behaviour in general and to address a host of specific societal problems. In this article, we discuss the emerging research field of ‘neuropolitics’ that seeks to bring neuroscientific methods and findings to political science. Neuropolitics is investigated as a particular way of approaching political problems as located in the brain. We argue that neuropolitics research gives expression to a rationality of government that allows researchers to put forward policy prescriptions based on neuroscientific knowledge. Neuropolitics thus run the risk of leading to what we call a ‘pathologisation of politics’, that turns political problems into biological deviations.

Keywords: Neuroscience, neuropolitics, political rationality.

Altermark, Niklas & Linda Nyberg: “Neuro-Problems: Knowing Politics Through the Brain”, *Culture Unbound*, Volume 10, issue 1, 2018: 31–48. Published by Linköping University Electronic Press: <http://www.cultureunbound.ep.liu.se>

Introduction

On the 26th of June, 2016, a few weeks after the Brexit referendum, an article with a unique take on the result appeared in *Psychology Today* (Fields 2016a). Unlike the majority of analyses that sought to explain the outcome in terms of social and economic factors, this article claimed that the explanation could be found in recent neuroscience research showing our brains to be ‘hard wired’ to react with fear to social groups other than our own. Hence, the ostensible reason why a majority of voters had opted to leave the European Union was seen as a cerebral matter. When political commentators, social scientists, and party strategists failed to offer satisfying explanations, ‘the brain’ was mobilised as a source of evidence. About six months later, similar analyses of Trump’s successful presidential campaign began to appear, using neuroscience as a source of explanation of an election outcome that more or less all political pundits and scientists had failed to predict. To understand the election result it was suggested that we must understand how the human brain reacts to fear (Paterson 2016) or rage (Fields 2016b), or how it can reveal the “true” feelings of voters toward a particular candidate (Azarian 2017).

This drive to understand political phenomena by locating its causes in the grey and white matter in our skulls is not restricted to speculative popular science. Several disciplines within the social sciences have turned to neuroscience in search for new explanations. For example, ‘neuro-law’ and ‘neuro-economics’ have offered new ways of tackling the traditional problems of the respective disciplines. In this text, we will look at *neuropolitics*, a field of research that brings together neuroscience and political science in the study of political behaviour (Schreiber 2017). It developed in parallel with cognitive neuroscience, which had seen an exponential growth in activity after the introduction of functional magnetic resonance imaging (fMRI) technology in the 1990s (Ibid.). The field of *neuropolitics* remains relatively small, but there is a growing literature drawing on fMRI brain scans and other neuroscientific technologies to understand political behaviour, decisions, or attitudes. For example, neuroscientific evidence has been used to address traditional political science questions such as why democratisation takes time, why it is so difficult for governments to change the behavioural patterns of its citizens, and why some politicians fail to reach good decisions (Sardamov 2007, Grasso 2013, Fisher et al. 2014).

The turn to neuroscience is significant, as it gives rise to new ways of understanding political problems and how they can be solved. Furthermore, as we shall discuss throughout the text, the turn to neuroscience is far from neutral and objective, but affects how we think about and understand social reality. Hence, there are two motives for our focus on *neuropolitics*. (1) It is establishing itself as a subfield of political science, as evidenced by an increasing number of publications,

conference panels, and a journal dedicated to political science research building on biological knowledge (*Politics and the Life Sciences*). (2) It is an exemplary case of how neuroscience is deployed to make sense of social or cultural phenomena more generally.

To clarify our ambitions: our purpose is not to judge whether neuropolitics research is right or wrong. Attempts to understand social phenomena through neuroscientific research have previously been criticised for their reductionist nature and logical flaws (see Wilson 1999, Beaulieu 2003, Pitts-Taylor 2014, Rose 2013). While we believe these concerns to be valid, our idea here is not to assess what contribution neuropolitics can make to political science. Instead, we wish to raise some crucial questions about the founding assumptions of this field of research. Following Foucault, we start from the assumption that knowledge production is never objective or innocent, but always involved in giving shape to, and being shaped by, practices of government. In addition, as was stressed in the work of Georges Canguilhem (1991), how we see and understand human biology is always entangled with normative questions. Hence, history is full of examples of how social and biological knowledge has made possible forceful technologies of population management, such as eugenics, phrenology, or state confinement of the mentally deficient (Foucault 1990, Altermark 2018). At the same time, Urla and Terry (1995) have argued that social anxieties—concerning race, poverty, illness or disability—throughout history have been met with attempts to locate their origins in the human body. As we shall see, this kind of linkage between the biological and the problems of government reappears in neuropolitical models of explanation.

We will argue that neuropolitics gives rise to a pathologisation of politics, by which we mean a tendency to locate what is perceived as problematic political behaviour in the brains of individuals. To substantiate this argument we start by providing a brief history of biology within political science, before presenting three examples of neuropolitics research. Thereafter, borrowing from the literature on governmentality, we use the concept of *governmental rationality* to investigate the ontological, epistemological and moral dimensions of neuropolitical research. In the conclusion, we discuss the wider implications of neuropolitics.

Politics as a Matter of Brains

Our analysis of neuropolitics is based on a comprehensive reading of political science research that draws on neuroscience, published in political science journals and edited collections. As is evidenced by our reference list, the top ranked political psychology journal *Political Psychology* and the specialist journal *Politics and the Life Sciences* are the outlets that most frequently publish neuropolitics papers, but

articles have appeared in a number of other journals as well. Although we do not claim to present a complete view of the research field here, we do believe that the assumptions we will discuss are recurrent and central to neuropolitics research in general.

A sub-stream of political science has been arguing for the need to account for human biology to understand politics at least since the 1960s. In the opening chapter of their 2001 book on biopolitics (not to be conflated with Foucault's concept), Blank and Hines (2001) describe the analytical and organisational efforts made since the 1970s to establish biologically informed analysis as a legitimate subfield of the discipline, to the continuing disapproval of, and neglect from, the rest of the political science community. A breakthrough came with a number of studies on the voting behaviour of twins which showed that much of the variation in voter preferences could be explained by hereditary factors (Alford et al. 2005). Despite some rather forceful criticism (see Charney 2008), this research agenda has continued to grow with the elaboration of more sophisticated research designs.

Political science research drawing specifically on the findings and methodologies of neuroscience started to appear around the turn of the century, boosted by the development of functional magnetic resonance imaging (fMRI) that made it possible to visualise changes in brain activity over time (Schreiber 2017). Although neuropolitics is not a particularly large or dominant branch of political science, it has been described as a field that is growing in importance and influence. For example, Hatemi and McDermott write that the 'neurobiological revolution is upon us' and that political psychology should not only join it, but also take a leading role (Hatemi & McDermott 2012: 11). The hitherto underwhelming response of the political science community has caused some bewilderment amongst neuropolitics researchers. For example, Holmes (2014) addresses the "puzzle" of why political science in general, and international relations in particular, have been so reluctant to adopt neuroscientific methods and findings, compared to the field of economics. He argues:

...both [political science and international relations] have borrowed other approaches from economics, such as comparative statistics, though neuroscience has largely not been one of them. Not only do we not have journals and PhD programs in "neuro-IR," there are relatively few researchers actively doing work in the field. This creates something of a puzzle. Why have other disciplines, which tackle many of the same types of questions as we do, including the nature of decision making, development of trust, and so forth, taken the brain seriously as a source of study while IR has not? (Holmes 2014: 210).

In this and similar accounts, the value of neuroscience for the study of politics is taken for granted and the reluctance of the political science community to engage with biology thus becomes a mystery that advocates of neuropolitics set out to solve. At the same time, proponents appear strongly convinced that the future is bright and that neuroscience has the potential to ‘fundamentally change the way we understand human nature’ (Schreiber 2017: 126).

In order to make sense of the founding assumptions of this emerging field, our next step is to present three articles that all draw on neuroscientific findings in order to explain political phenomena. Each article has been chosen because it represents a key line of reasoning in neuropolitics research: that features of our brains can explain politics. Under the subsequent headings, we shall see how this assumption plays out in other examples of neuropolitics research as well.

The first example is a 2007 article by Ivelin Sardamov, published in the journal *Democratization*, which uses neuroscience to critically evaluate the cornerstone objective of US foreign policy: improving political and economic freedom in other parts of the world. This topic relates to central issues in comparative studies of democratisation, dealing with questions like why democracy takes time to consolidate, what pre-conditions must be in place for democratisation to take-off, and to what extent there are cultural factors that may hamper processes of democratisation. The central line of reasoning in Sardamov’s contribution to these debates is formulated as follows:

If we combine a few basic premises—that the functioning of political institutions depends on the spread of key attitudes, beliefs, and values; that those ideational forms are produced by the functioning of human brains; and that the wiring of human brains depends on social contexts—we can reach a bold conclusion: that an understanding of the wiring and operation of people’s brains in different societies can provide clues about their likely aptitude as democratic citizens and operatives (Sardamov 2007: 408).

In other words, the persistence of authoritarian rule is, at least partly, a question of neuronal organisation. Sardamov states that neuroscience has shown that, although the human brain is characterised by plasticity (the ability to change throughout the life of an individual), its fundamental workings have been shaped over generations in a constant dialogue with its external milieu. Therefore, he goes on to claim, the brains of people living in democracies are likely to look different in significant respects from the brains of people living in parts of the world that have yet to democratise. Based on this assumption Sardamov concludes that the notion of a universal drive for liberty and democracy is not properly backed up by

neuroscientific findings, which rather suggests that the 'aptitude' for democracy requires neuronal 'rewiring' over long stretches of time. He goes on to argue that:

(I)t seems the functioning of modern social institutions still depends on the emergence of a particular variety of 'modern' individuals with novel patterns of brain wiring, or on particular neurocultural preconditions. These preconditions can, in their turn be partially seen as a product of experiences under changing political institutions, but are also affected by the totality of human existence that far surpasses political life per se. In this sense, neurocultural developments can be seen as broader than and prior to narrowly conceived political processes, that is to say, as their preconditions (Sardamov 2007: 417).

In this way, rather than as correlations on the individual level, Sardamov urges us to see the neurocultural conditions of democracy as broad social tendencies, suggesting that democratisation can be stalled due to the developmental state of the brains of people in certain parts of the world. Along these lines, Sardamov also speaks of 'a new breed of individuals' characterised by brain wirings that make them capable of the sort of impartial reasoning that is necessary in order for democratic institutions to function (Sardamov 2007: 415-6). The aptitude for democracy is associated with qualities such as detachment and self-restraint, qualities that have not yet developed in some parts of the world. Consequently, Sardamov's analysis suggests that the policy ambition of spreading democracy is premature in important respects. Although Sardamov warns against notions of 'inferiority', one is hard pressed not to read his argument as a judgement concerning the underdevelopment of the brains of non-western people. Throughout the paper, Sardamov links his argument to canonical social scientists, such as Max Weber, Norbert Elias, and Karl Polanyi, who have argued that societal changes are likely to be slow. However, while these authors based their conclusions on observations of how people interact with each other and how institutions evolve, Sardamov localises the cause in the materiality of the brain, which is presumed to run parallel to people's social consciousness. We shall return to the implications of this line of reasoning in our extended discussion on the rationality of neuropolitics below.

A similar argumentative structure to that of the article presented above can be found in Marco Grasso's (2013) analysis of why people fail to act in ways that reduce carbon emissions. Although much more thoughtful than Sardamov, Grasso also starts by picking up a familiar problem of social science: how come people fail to change their behaviour in order to combat climate change? Grasso argues that part of the explanation can be found in the fact that the morals of environmental problems are most often discussed in deontological rather than consequentialist

terms. Hence, moral debates tend to focus on how to fairly distribute the burden of carbon offsetting, rather than how to prevent fellow beings and future generations from suffering harm by climate change. The crux of the matter, according to Grasso, is that neuroscientific evidence suggests that the human brain is hardwired to act on consequentialist reasoning rather than on abstract principles of justice. Thus, we are more inclined to act in ways that prevent us from causing harm to others, than in ways that correspond to our abstract beliefs about just distribution. In Grasso's interpretation, the human brain is not properly organised to respond to the problem of climate change since the persons responsible for the change and the persons suffering from its effects are separated in space and time. Therefore, if we want people to change their behaviour to reduce carbon emissions, we must shift the debate towards consequentialist arguments about harm in order to match the kind of reasoning that our neuronal organisation is predisposed to react to. Grasso (2013: 380) suggests that this is about linking the moral dimensions of environmental politics to 'our inner nature', which he presumes that neuroscience has access to. The actual neuroscientific evidence that is mobilised to support his argument consist of fMRI-scans that measure brain activity in order to estimate what kind of reasoning incites people to act (primarily as conducted by Greene et al.'s research team [2001, 2004]). Grasso concludes that there is a need for more neurocognitive experiments that are specifically designed to study moral judgement in relation to climate-related harm.

The third and last publication we want to review here has a slightly different structure. In their article in *Politics and the Life Sciences*, Fisher et al. (2014) do not use neuroscience to address an old problem in a new way, but to identify a previously overlooked one. The authors draw on 'neuroanatomic localisation studies' that have located the executive functions of the brain in areas that risk deteriorating with old age. More precisely, the authors claim that 'executive function has been observed to substantially deteriorate after the age of 60' (Fisher et al. 2014: 93). Provided the assumption that executive functions are crucial for decision making, Fisher et al. go on to argue that there are good reasons to question the decision making capacity of political leaders of an older age. Especially since reduced executive function is difficult to spot because it can deteriorate without having an impact on other brain functions such as verbal fluency and memory. They write:

(W)hile an individual may appear to be normal from the perspective of overall cognitive function, that same individual may have an impaired ability to integrate basic cognitive skills such as language and memory, in order to achieve normal decision-making capacity (Fisher et al. 2014: 97).

In other words, neuroscientific findings imply that older political leaders may be bad decision-makers due to deteriorating cognitive capacity. Provided this insight, the authors speculate on whether Ariel Sharon's 'sudden' decision to withdraw from the Gaza Strip in 2002 could have been a result of 'executive dysfunction', considering the fact that Sharon was known to have a degenerative brain disease. The authors thus seem to suggest that it is not only the ability to *make* decisions that deteriorates with old age, but the ability to reach *good* or *rational* decisions. They move on to reflect on the possible policy implications based on this argument, reaching the conclusion that the most practical solution to this problem is to educate the electorate about the dangers of voting for an elderly leader:

The practical implications of executive dysfunction in older political leaders are difficult to assess at this point. It is unlikely that political leaders and candidates for high office will routinely submit to neuropsychological testing or subject themselves to brain imaging any time soon. Perhaps the most workable near-term solution is to educate the electorate about this phenomenon, and let the public evaluate candidates accordingly (Fisher et al. 2014: 100).

This line of reasoning corresponds to a more general reductionist register that is often found in popularisations of neuroscience, where fMRI and other scanning technologies are seen as providing direct access to subjectivity (see Pitts-Taylor 2010, Rose 2013, Altermark 2014). The premise is that whatever political aspect we chose to focus on, it will have a biological correlate, which quickly is reinterpreted as an origin or cause. Hence, the truth about our actions and behaviours can always be localised in our brains and, from this perspective, neuroscience will always produce better, more comprehensive, and far deeper explanations of politics.

The articles mentioned above are just three examples of recent applications of neuroscientific research in political science. Other studies have, for example, discussed the relationship between prejudice and a lack of self-control (Jost et al. 2014), the relationship between racism and a need for closure (van Hiel et al. 2004), and how the immediate visceral response to candidate attractiveness influences voters (Schubert et al. 2011). All of these issues have been framed in terms of how our brains are organised and how our neurons fire to produce consciousness. Neuropolitical research thus has in common a way of defining political problems as located in the brain. As seen in the three articles that we have analysed here, when starting from this way of defining political problems, the logical solution is to change policy according to the 'reality' of the brain. The articles suggest that, in order to come to terms with the problems they identify, we need to adapt a more realistic assessment concerning the possibility of spreading democracy, change

the discourse in climate politics, and think twice before electing politicians over 60 years of age.

The Rationality of Neuropolitics

Underlying examinations of the neuronal basis of politics is a world of metatheoretical presumptions. Some of these are formulated in the more programmatic neuropolitical texts that seek to sketch a research agenda of the research field (see Jost et al. 2014, Hatemi & McDermott 2012, McDermott 2004, 2009). Under the subsequent subheadings, we will use these texts, together with the three articles presented in the previous section, to delineate the rationality of government expressed in neuropolitics. A rationality of government represents a specific way of problematising social life, delineating what poses a problem and what an adequate solution might be (Dean 2010). The concept of governmental rationalities (or sometimes political rationalities) is commonly used in Foucault-inspired research that investigates the relationship between knowledge and power (see for example Larner & Walters 2001, Fougner 2008, Lövbrand et al. 2009). Although the analytical focus in these studies is typically on government programmes, we argue that it can be used to study academic fields of knowledge production in order to assess what form of governmental reasoning they express. The discussion is structured along the definition of a rationality of government as consisting of an *ontological*, *epistemological*, and a *moral* dimension (Nyberg 2017, drawing on Rose and Miller 1992). In other words, a rationality of government is seen as a specific way of linking assumptions about how things *are* and how they can be *known* with claims about how things *ought to be*.

Ontological assumptions

Neuropolitics research shares with the wider field of neuroscience two central ontological assumptions about the brain. The first one, as formulated by Mountcastle (2001), is that ‘all mind events are brain events.’ Neuroscience claims to have brought an end to Cartesian dualism and its strict division between the physical and metaphysical by showing how the mind is a product of the matter of the brain. The second ontological assumption concerns brain plasticity. This is a term used to describe that the brain is not static, but continually shaped and reshaped through interactions with the external world. Hence, the notion of brain plasticity significantly blurs the distinction between body and world, since the brain is both shaped by and giving shape to its milieu.

These two assumptions are not given equal consideration in neuropolitics research. As illustrated by the articles discussed above, the collapsing of the separation between mind and matter is pivotal for political science research

inspired by neuroscience. More or less all publications that we have analysed propose to explain a certain political phenomenon by locating its causes in a particular area of the brain. Thus, the assumption that ‘all mind events are brain events’ gives rise to a ceaseless mapping of the brain. For example Jost et al. (2014) provide a table of how different brain regions are linked to a host of political activities such as agreeing/disagreeing with political statements, or deciding on a preferred political candidate. The same paper also contains pictures of brains where the relevant regions have been highlighted in colour, neatly illustrating the biological origins of various political phenomena (Jost et al., 2014: 7). The ontological assumption that a distinct sort of behaviour can be located in a distinct part of the brain makes it possible to argue, for example, that the propensity of conservative people to be sensitive to feelings of disgust could be explained by an enhanced volume of the left insula (see Inbar et al. 2009), or that partisan bias (preference for in-group members) can be explained by the functioning of the reward and value processing of the ventral striatum (see Tusche et al. 2013). Thus, *where* we think, as described by neuroscience, explains what we believe and how we behave (see Jost et al. 2014: 30).

At the same time, the ontological assumption of brain plasticity amounts to more or less nothing in the publications that we have examined—even though this insight of modern neuroscience could be seen as far more revolutionary than the argument against dualism. Indeed, if one ventures into the psychiatric literature from the early 20th century, one will find ontological statements about how the biological brain produces our minds which are distinctively similar to what neuroscientists are saying on the matter today (see Altermark 2018). Brain plasticity, however, signifies something new; it marks an end to the idea that our brains are limited by predetermined boundaries and that brain injuries are irreparable. Very little of this is seen in neuropolitical research. Often, plasticity is acknowledged as a background fact, but the capacity of the brain to adapt and transform is never examined for its political implications or value. The neuronal level is repeatedly assumed to be the origin and starting point of causal chains—meaning that, in effect, the brain is preconceived as static.

If we are to take the notion of plasticity seriously, however, we must also take into account that attitudes are shaped by social factors, which in turn affect how our brains behave. Rose (2013: 5) has argued that to deem something biological today means to assert opportunity, as our brains and bodies are unbounded by predetermined biological scripts. Some forceful critiques have been levelled against how the notion of plasticity has travelled into popular discourse (see Malabou 1999, Pitts-Taylor 2010). Unfortunately, neuroscience without brain plasticity as a tool for political reasoning produces simplistic maps that relate different

behaviours to brain regions, without considering how the brain itself, according to the notion of plasticity, is situated. Thus, as Pitts-Taylor (2010: 636) has noted with respect to adaptations of neuroscience more generally, the assertion that both nature and nurture count tends to mean that nurture is only taken into account after it has been translated into neuronal level depictions. These depictions, in turn, always appear as the starting point of causal explanations, which means that in neuropolitics, knowledge of politics begins and ends with the brain.

Epistemological assumptions

Following from the ontological assumption that all mind events are brain events, and that our political reactions and attitudes therefore can be localised at the neuronal level, the epistemological question becomes: how do we gain knowledge of what happens in the brain? Throughout its history, the 'biopolitical' stream of political science as described by Blank and Hines (2001) has rested on an epistemological model that has been remarkably consistent. It looks something like this: since biologists have shown that human behaviour Y is related to the biological functioning of X, X must be incorporated into political analysis of Y. This means that in order to gain knowledge of a political phenomenon, we need to understand the biological functions that are related to the particular behaviour that we are interested in. As a consequence, brain-scanning technologies are turned into a methodological tool of political science.

In tandem, it is generally presumed that neuroscientific studies of the brain offer more thorough, detailed, and objective knowledge than studies of the messy social world that social scientists are normally preoccupied with. Jost et al. describe the research findings of neuroscience as 'relatively precise, objective measurements that are less subject to social desirability and self-representational bias' (2014: 4), while Zak and Kugler state that 'rather than guess about the mechanisms causing behaviour that must be later verified, neuroscientific studies allow one to directly measure how decisions are being made' (2014: 146). In other words, it is assumed that brain-scanning technologies offer an elevated source of knowledge; a window through which we are allowed to observe what *really* happens, unmediated by the theoretical vocabularies and normative biases of social science.

Critical readers of popularisations of neuroscience have noted that neuroscience derives part of its explanatory strength from the appearance of scientific precision and the fact that findings are visualised, allegedly objectively, depicting what is happening in the brain. For example, Racine et al. (2005) suggest that there is a specific kind of 'neuro-realism' that confirms the 'realness' of social phenomena by using visualisation technologies to picture them as part of the brain (see Barthes 1993 and Sontag 2002 on the epistemological status of photographs as sources of truth). In a similar vein, Weisberg et al. (2008) have

shown that 'neuro-talk' adds trustworthiness and legitimacy to popular scientific accounts. This is saying that neuropolitical claims to knowledge draw part of their strength from the impression that they present us with objective scientific evidence. Following from its status as a cutting edge natural science it is clear that the research field of neuropolitics is underpinned by a hierarchy as concerning the kinds of knowledge generated by the natural and the social sciences—a hierarchy in which social scientists are urged to incorporate findings from neuroscientific research rather than the other way around. Thus, when Jost et al. (2014) favourably quote Wilson's (1998: 205) suggestion that the social and the natural sciences are compatible and therefore should be integrated, it is clearly implied that social scientists are the ones who needs to adjust the most.

We argue that the lure of the sciences of the brain is repeatedly used to gloss over significant methodological and logical shortcomings. As is perhaps already evident from the above, neuropolitics can be seen as a linking game, where the challenge is to draw a tangible line between a political phenomenon (say, the failure to democratise) and some knowledge produced in neuroscience research labs (say, the fact that it takes a long time for people's pattern of reasoning to change). This is evident in all of the three articles we presented above. Lavazza and De Caro have attributed this tendency to simplify to the fact that neuroscience is in a 'pre-paradigmatic phase', which means that there is yet to emerge a consensus about the kind of theoretical and methodological framework that can make cumulative knowledge possible. Lavazza and De Caro's general description of social scientific applications of neuroscience aptly illustrates the state of the field of neuropolitics in particular:

(I)n this area of investigation it is common to encounter methodologically defective projects, excessively broad or philosophically unfounded interpretations of recent discoveries, generalizations based on research that still lacks sufficient empirical proof, as well as biased understandings of observational and experimental results (Lavazza & De Caro 2010: 24).

According to Lavazza and De Caro, this description is most pertinent for social scientific applications of neuroscience that only acknowledge the causal chain running from neurons to agency, whilst ignoring social context and feedback-loops, that is, precisely the kind of application that all of the three articles discussed above exemplifies. In a similar way, Rose (2013: 18) has criticised the habit of presenting neuroscientific research findings as overly straightforward, whilst the main findings of modern biology all point to the depths of complexity of the human organism, which of course should make us cautious of drawing straight lines between biological features and political behaviour.

As a consequence of these epistemological assumptions, this style of knowing politics sidesteps the social causes and history of the problems identified. In the neuropolitical explanations of racism, for example, histories of repression and ideological justifications of subordination and dehumanisation are traded for knowledge about the activity in the amygdala when people are faced with pictures of people of other ethnicities than oneself (see Lavazza & De Caro 2010: 38). Furthermore, since the brain itself stands as origin in this research, we have reached an epistemological endpoint: the problem is not to be found in the organisation of social life, the argument goes, but in the materiality of the brain. This way of reasoning has consequences for how the political problem in focus should be tackled. For example, on prejudice, Jost et al. (2014: 11) discuss how neuroscience research has helped unpack specific mechanisms of self-control as concerning intergroup relations, highlighting the points at which self-control fails. They state that these findings are opening up possibilities of targeting individuals with specific interventions that may reduce their individual level of prejudice. In this way, instead of addressing prejudice as an issue of inequality or culturally held norms that are continuously re-produced, we are faced with individual interventions specifically targeting what is understood to be the relevant cognitive mechanism considered in isolation.

Moral dimension: Neuropolitics as Epidemiology

The moral dimension of neuropolitics contains claims about what is right and wrong; how things *should be*, based on the ontological and epistemological assumptions previously described. As has been shown throughout this text, researchers tend to focus on behaviour or attitudes that are understood as problematic; on political leaders with deteriorating brain functions, lay people refusing to tune into a more environmentally friendly lifestyle, or the inability of some to function as democratic citizens. Thus, the articles we have read often take as their point of departure a political problem that stems from a gap between how people *ought to behave* and how they *actually behave*. This discrepancy is, in turn, explained in neuronal terms. In this way, the failure of certain individuals to meet preconceived yardsticks of appropriate or desirable behaviour is explained by biology.

As a result of this, neuropolitics to a large extent reproduces a research agenda that is all too familiar to anyone with an interest in the history of science. What this research tells us is that political behaviour, especially of the non-normative variety, is produced by certain biological features. As a model of knowing the social world, this is not distinctly different from how early psychology and psychiatry explained criminality with references to mental deficiencies that were thought to result from smaller brains (see Urla & Terry 1995). Then as now, the

undesired behaviour is projected onto the bodies of groups which cause concern, whether they be Trump-voters, the populations of the Global South that do not conform to Anglo-European standards of democracy, or some segments of the poor of early 20th century Europe. Thus, it is not how neuropolitics research makes sense of politics that is new but the scale on which these explanations operate. It is still a case of projecting social anxieties onto the biology of certain individuals and groups.

To substantiate this, consider Hatemi and McDermott's (2014) suggestion that neuropolitics should embrace an *epidemiological* approach. They state:

Much like political psychology, epidemiology focuses on probable causes and has a normative focus geared toward intervention. Political psychologists often focus on large-scale social ills such as racism and genocide. So too does traditional epidemiology pursue knowledge that strives to reduce or prevent the numbers of people adversely affected by negative health risks (Hatemi & McDermott 2014: 13).

Through the analogy with epidemiology, Hatemi and McDermott are implying that neuropolitics research should concentrate on 'social ills' that can be known, and possibly prevented, by neuroscientific knowledge. We noted above how neuropolitics research takes a certain political problem as a starting point, thus declaring that people's political behaviour is problematic for one reason or another, which in turn takes for granted assumptions concerning how people should behave. The epidemiological approach explains why it becomes meaningful to expose the neuronal basis of e.g. bad leadership, racism, or a lack of democracy; it is about 'intervention', ultimately, which reduces the role of social science to function as a problem-solver of governments. Hatemi and McDermott talk of this in terms of 'political phenotypes', further strengthening the conceptual linkages to medical science, and explicitly drawing on the parallel between 'health risks' and 'political liability' (2010: 13). This is an example of how neuropolitics leads to a pathologisation of politics, where social ills are made features of our biology and the task of the researcher is to provide knowledge that might make possible their removal. Although this is rarely as explicitly stated as in Hatemi and McDermott's article, the general search for the biological origins of political problems is largely congruent with this way of thinking. In parallel to our argument here, Lavazza and De Caro (2010: 24) criticise the inclination of social scientific applications of neuroscience to detect and offer solutions to deviant personal traits and social phenomena. We would like to add that political knowledge as epidemiology ultimately implies government—the reason why the human brain needs to be scanned for the origins of various political anomalies is that these should be ameliorated.

Conclusions: Neuropolitics and the Pathologisation of Politics

The use of neuroscience makes explanations of political behaviour possible that would have appeared deterministic, and therefore rather problematic, in other contexts. For example, stating that democratisation of certain parts of the world has stalled due to the 'different' brains of the inhabitants would appear to border on racism of a biological variety. But when backed up by neuroscience, it turns into a paper in the field-leading journal *Democratization*. This is remarkable in two respects. First, it testifies to the power of neuroscience to sometimes suspend critical perspectives normally applied. Secondly, it raises the question about the alleged objectivity of neuropolitical research. As we have noted, one of the main arguments in favour of neuropolitics is the promise of objective and unbiased observation of the fundamental building blocks of political behaviour. Pointing out how these observations are in fact ideologically imbued and have political consequences can thus serve as an important reminder.

Rather than seeing the brain as a determinant of politics, we have turned our analytical focus to the politics of how the brain is used to explain social organisation. The concept of a governmental rationality has helped us understand the governmental functions of this mode of knowledge production. Following Foucault (1990), Butler (1993), and Rose (2007), among others, the question we have sought to raise in this text is not how the truths of biology should urge us to rethink politics, but how these truths are made and can be understood as political in themselves. Against the naturalisation of the biological brain, we urge political analysts to consider the ideological functions that neuropolitics serves and how it is embedded in pervasive structures of power. The most significant aspect of how political scientists turn to neuroscience concerns how this field of research enables a repertoire of new problematisations, where the perceived problems of how humans behave are rooted in the materiality of their brains. This is what we have called 'the pathologisation of politics'.

In the introduction, we mentioned Urla and Terry's (1995) argument that, throughout history, a recurring way of securing the normal subject, characterised by reason and independence, has been to anchor its otherness in the materiality of certain bodies. Thus, in the early twentieth century, poverty was figured as a hereditary trait that eugenics could eliminate, vanguard behaviour was linked to biological mental deficiencies, and criminality examined by means of phrenology. Although neuropolitics research builds on much more sophisticated technologies of biological scrutiny, focusing on the cellular or molecular level, its epistemology is disturbingly similar. The general structure, where the origin of some certain political phenomenon is found in the materiality of the body, recurs throughout history as a way of handling what cannot be fitted into hegemonic discourses and taken-for-granted knowledge systems. In this sense, neuropolitics draws on the

status of the body as an incontestable source of proof that is prior to politics. This is why correlations between the brain activity of certain regions and certain political behaviours come to exercise such appeal; they are taken to signify that things have been thoroughly analysed, that no other perspectives can alter these facts, and that the explanatory power of neuropolitics is superior to rivalling approaches.

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