Neuroscience and Politics: Do Not Hold Your Breath

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Is the brain key to a scientific understanding of political attitudes, decisions and practices? Can the study of politics be transformed, even revolutionized by turning toward neuroscience? Should political theory rebrand itself as 'neuropolitics'? In outlining a skeptical reply to these questions, this article aims to initiate a critical discussion of neuro-enthusiasm, of evidence-based political science, of blind faith in presumed 'hard' scientific authority, thereby also pointing to important issues about aspects of today's dominant knowledge economy. The main contention is that neuroscience, amidst the hype surrounding it, too easily gets vastly overrated as a resource for, let alone an effective instrument of political science. In fact, a more pressing endeavor would be to assess the politics supporting the current Neuro trend – rather than chasing after the alleged neuroscience behind politics (see Slaby, Haueis, & Choudhury 2012).

Viewed from a general angle, the turn to neuroscience in political thinking is to some extent understandable. From a distance, it can seem obvious enough that political attitudes and behaviors – just as any other human attitudes and behaviors – arise in part out of complex processes in the brain. There is no denying that advanced neuroscience has made strides in understanding the relevant neural machinery. So you cannot blame scholars interested in the rigorous, evidence-based study of politics for looking to neuroscience for insights into these vexing issues. But when you zoom closer into the matter, and actually bother to get some traction with neuroscience research practice, it quickly becomes evident that things are much less clear. In fact, these are murky waters if anything is. For one, it is hard to explicate the brain's involvement in politically relevant processes in a way that is neither clearly false nor evidently trivial. To claim *some* significant role of neuronal processes in the enabling of political attitudes, decisions and behavior is truistic to say the least. To make much more specific claims, let alone claims about a determining or a strongly explanatory relationship between identifiable neural goings-on and political phenomena, would, at the present state of the science, easily slip into obvious falsity or gross overclaim. Firstly, to treat the brain as an ontologically separate structure as if it were functionally separate from the rest of the organism violates central assumptions of systems biology and related approaches (Thompson 2007; Steward et al. 2010). That means that the brain cannot well be studied in isolation, at least not when complex human-level phenomena are at issue. Secondly, human neuroscience is simply not there yet. Neuroscience is nowhere near explicating our psychological functioning on independent terms. This is not because of failures or blameworthy inadequacies of neuroscientists but simply because of the enormous, unimaginable complexity of what they have set out to understand.

Consider the taxing issue of the ontology of human-level mental processes. What is our human mind ultimately made of? A broadly naturalistic answer to this question is educated common sense today, as very few earnest scholars would deny that mind is *materially implemented* in some "stuff" that belongs to nature as revealed by our best sciences. But stronger claims that would single out the brain's involvement in mind-making as in some sense *privileged* will quickly border on contentious. Without brain, never mind – so much is certainly true. But that claim – a simple statement of a necessary condition – is a far cry from the much stronger position that mental processes are *identical to*, or *exclusively realized in*, neural matter alone. Just take the most basic of considerations here: it is evident that there would be no mind-enabling brain without the right sort of embodiment and the right sort of embeddedness in the proper life-enabling (bio-social) environments. In fact, it is in no small part research in neuroscience and in cognitive science in the past 30 to 40 years that has made it evident how far off the mark strongly neuro-reductionist, brain-centric positions in fact are (Varela et al. 1991; Hurley 1998; Thompson 2007; Noë 2009). Biology itself teaches us deep embodiment, material entanglement, social embeddedness of human

individuals and their mental capacities. This amounts to acknowledging that it is pointless to speculate about brains *in isolation*. What we have is nervous systems of living organisms embedded in material and social environments; in fact, it is living organisms *constitutively situated in live-enabling environments and in essential functional alliances with conspecifics* – an organizational arrangement colloquially called culture or civilization. The brain can be viewed as an ontologically separate entity only abstractly – for purposes of illustration rather than in order to make scientifically plausible claims. The brain is separate only in its thematization, not in the entangled material reality that is its enabling locale in real life. Biological realism itself leads us to the acknowledgment of constitutive social embeddedness.

But even if it were true that the brain is in some way the decisive material location of politically relevant mental processing, this would not say much about the feasibility of moving toward neuroscience if you are a scholar of politics with scientific ambitions. This would only be the case if neuroscience were in fact already busy providing explanatory insights into the relevant neural processes, or on the verge of doing so – and on the basis of a clear theoretical perspective on how this might be feasible. But even the sketchiest knowledge of the current state of the brain sciences suffices to understand how far off robust, workable insights into the intricacies of neural functioning in fact are. Neuroscience is simply not yet at a stage were a whole lot of significant things about human life and the human mind can even be so much as approached from this vantage point (Bennett & Hacker 2003; Tallis 2009; Satel & Lilienfield 2013). Neuroscience alone allows us to know so much less about ourselves than we already know well enough from various other sources. This is evident, for example, in psychiatric diagnosis (see, e.g., the contributions in Choudhury & Slaby 2012). Regardless of whether it will one day turn out to be true that some psychiatric illnesses can be effectively treated as diseases of the brain (which looks highly unlikely at present), today, simply due to massive technical limitations, a brain scan or any other kind of purely brain-bound measurement is utterly incapable of enabling reliable psychiatric diagnosis. Regardless of what the de facto importance of the brain for the target phenomenon will turn out to be, neuroscience at current levels of sophistication stalls and hinders the process of diagnosis and treatment rather than advance it. This pertains equally – or even more so – to the vexing area of attitudes, beliefs, evaluative orientations, bias and prejudice, decision-making and whatever else might aspire to be a relevant subjective foundation of political behavior (see, e.g., Jost et al. 2014). Neuroscience has not reached the stage in which any truly explanatory work is done with regard to these massively intricate human phenomena. Neuroscience *alone* – and also when paired with its usual crony disciplines from the cognitive sciences – allows us at best partial and preliminary glimpses of insights into what matters in relevant human affairs. This is why at present and for the time being, we are better off conducting inquiries into politically salient phenomena without bothering with neuroscience.

In the light of these sobering assessments, we are well advised to dismiss more or less everything that sails under the flag of neuropolitics. No questions asked, do not even read that stuff! In a recent programmatic review paper on political neuroscience (Jost et al. 2014), a characteristic discursive pattern is on full display. In fact, it quickly turns out that the authors and most of the fellow travellers on the oh so exciting trail towards political neuroscience are in fact not themselves neuroscientists. Instead, they are psychologists and political scientists that share "enthusiasm for the models and methods of neuroscience, including the use of electroencephalography (EEG), magnetic resonance imaging (MRI), and other measures of the central and peripheral nervous system" (Jost et al. 2014, p. 4) – in other words: they are cheerleaders and bandwagon jumpers. What can be hard to decipher for casual observers is revealed quite clearly here: Much of the hype surrounding neuroscience as an alleged high road to revolutionary insights into all matters human does not originate from those at the forefront of neuroscientific work. Much rather, it comes from psychologists who seek a more scientifically robust access to their murky objects of study, and it comes from moderately knowledgeable enthusiasts from other fields, often from the humanities or social sciences, who want to amass some extra accolades by loading up on what they think is the newest, fancy science. It is obvious that too much familiarly with actual research can only hinder these pursuits. It is telling that the authors earnestly think that fMRI research is today at a stage where meaningful answers might be obtained to the question *'where in the brain is X process instantiated?*" (Jost et al. 2014, p. 4). Despite routinely paying lip service to the limitations of brain imaging methods, it is clear that many of the authors that have recently published work of this kind blatantly disregard the ongoing debates about the virtual uselessness of fMRI for addressing questions about psychologically relevant neural functioning in humans (see, e.g., Stelzer et al. 2014; Gonzalez-Castillo et al. 2012; Miller et al. 2012). Much-cited work on the "neural correlates of liberalism and conservatism" (Amodio et al. 2007), for instance, falls into the

category of fMRI trash. Even outside of the technical limitations of the method, the vague and non-explanatory notion of "correlate" should make even laypeople wary, as should the uninformatively broad labels "liberal" and "conservative" – this line of research is, as one insider critic aptly put it, like searching for tea leaves at the bottom of a cup (Raz 2012). To be sure, the neuroscience community itself has come down hard on the small minority of researchers guilty of massive fMRI overclaim in regard to alleged brain bases of political allegiances – see, for instance, the response by Aron et al. 2007 to a New York Times op-ed piece by Iacoboni et al. 2007, in which 17 prominent neuroscientists resolutely distance themselves from that work on the grounds that it grossly overclaims its presumed findings despite not even having undergone peer review procedures. Calls for caution from *within* the field of political neuroscience are so far quite rare (see Theodoridis & Nelson 2012).

These appeals and enlightening maneuvers have had little effect thus far. Too enticing is the recipe for generating research apt to draw public attention. Research that is long known from fields such as social psychology is now supplemented by some brain imaging studies of the same phenomena. This is a workable formula for producing study after study – but do we learn anything new? Of course, to make their shaky ventures safe, the authors add the standard line that we always get when it comes to the current status of human neuroscience: "it is worth emphasizing that these are still early days for political neuroscience—the "beginning of a beautiful friendship," so to speak" (Jost et al. 2014, p. 4; see also Fowler & Schreiber 2008, p. 913). Yes, beautiful indeed – a neat way to produce an endless series of studies whose results are of little to no use. What a waste of energy and resources. To get a sense of what I mean, and if you can spare ten minutes, read the *Science* perspective article by Fowler and Schreiber (2008) – if this doesn't lay to rest your initial temptation to engage with neuroscience (and behavioral genetics) from your political science or theory perspective, then I don't know what will.

Let's spend some more time on the themes that scholars who want to move politics into the Neuro territory are so enthusiastic about. There is work on political attitudes – such as differences in disposition and differential brain activation in democrats and republicans. The classic cases are a series of studies on the presumed neural underpinnings of liberal versus conservative (or democratic versus republican) political orientations. A constant topic in the past two decades has been emotion and affect – a theme that rose to prominence in the 1990s with the first wave of noninvasive brain imaging studies in the "Decade of the Brain" (LeDoux 1998; Damasio 1999). It took a while until affect was fully inscribed into debates in the field of politics, but now references are frequent and multiple (Connolly 2002, Protevi 2010). Empathy has been a slightly more recent, and slightly more specific outgrowth of the affect boom, in line with the broader shift of emphasis from cognitive and affective to social neuroscience. Like emotion and affectivity a decade earlier, empathy has been a hit in the popular bookstalls, as these bestsellers are rife with exuberant references to empathy's presumed political potentials (Rifkin 2009; de Waal 2009; Krznaric 2014). Most of this literature abounds with pop science, and if robust scientific contents figure in them, they usually come from fields other than neuroscience (such as, e.g., primatology or developmental psychology or even just the history of human civilization; e.g. see Rifkin 2009; de Waal 2009). Where they are built predominantly on findings from neuroscience, these pop accounts are mostly bunk – do not bother reading them, your time is better spent playing video games, and surely these will teach you more about politics than these notorious pamphlets on empathy.

It is surely a good thing when political science and political theory pay attention to emotion and affect, racial bias, stereotyping and prejudice, subliminal forms of social cognition, or to subtle effects of group membership on judgment and feeling, and so on. It can be problematic to harbor exclusively rationalistic, deliberative understandings of politics, rational choice models of political participation, and an exclusive focus on what is consciously present and subjectively accountable on part of individual rational actors (cf. Connolly 2002). However, to conclude from this that *neuroscience* must be the high road to robust insights into politically relevant phenomena is plain wrong. All the phenomena mentioned can be productively approached from many different scholarly perspectives and with various different methods. Take affect. Yes indeed, under certain (quite restrictive) circumstances, fMRI studies might contribute to generating hypotheses about the involvement of certain (hypothetic) affective processes in some forms of mental activity – although such claims will have to be quite carefully constructed and are subject to a several well-documented limitations, as cited above. But there is so much else that could be done in analyzing the role of affect in politics. After all, affect is mobilized and managed in large parts through public discourse, the media, through the make-up of institutions, even the design of buildings and public places – in short, in many places other than individual human brains (cf. Gregg & Seigworth 2010). Sociologists, scholars of literature, geographers, students of film, TV

and other media, as well as philosophers and cultural analysts of other stripes can – and frequently do – contribute substantively to the study of the nature, role, and domain-specific mobilization, framing, transforming of politically relevant affect. Often, due to greater flexibility of conceptual repertoires and hermeneutic methods, these approaches manage to get more empirical traction on complex affective phenomena than do neuroscientists with their intricate, limited and highly time- and cost-consuming brain imaging experiments, and they often come with important critical meta-reflections on the very intellectual trend they participate in (e.g., Berlant 2012; Blackman 2012). This is by no means a plea to *exclude* the experimental sciences from the study of political life, surely experimental approaches including those from neuroscience can play their part. But only prejudice – or rather: a certain all too familiar knowledge economy – will assign a *privileged status* to neuroscience experiments vis-à-vis humanist, sociological or cultural inquiries. While it is certainly fair to pay respect to the empirical sciences where it is due, this all too often becomes a move to silence scholars and forms of inquiry that are critical, qualitative, and disruptive of dominant understandings and ideologies.

What gets presented as hard science and an inevitable high road to politically relevant knowledge is in fact a bundle of standard narrative arrangements, where most of the alleged scientific substance is borrowed from a few standard background stories – such as those centered on materialism, evolution, neuro-centrism, molecular visions of life, or the newest high-tech machinery – while the alleged empirical insights are usually quite limited, shaky, highly suggestive and in need of much surrounding speculation so as to appear significant at all (see Young 2012). The empirical limitations are usually acknowledged at some point in the publications, but always in conjunction with an exuberant promissory outlook. Neuropolitics – as so many other recent flowers sprouting in Neuro land (Ortega & Vidal 2010) – is a field constantly at the verge of breakthrough, it operates in the temporal mode of forever-imminence, it is the territory of "just wait a little longer and you'll see…" (cf. Hagner & Borck 2001). No, dear scholar and student of politics, do not waste your time, energy and resources on this. The brain is in good hands with the neuroscientists – here I mean the serious, usually quieter ones that actually *do* the research – while politics is in good hands with the rest of us – a matter of every human life to begin with, and then a field in which expertise from various domains, many of them humanist, social scientific, even aesthetic have important bearings. Human reality is all our business, we all have access to it, we are in the midst of it – and usually we know what we need to know to get started.

In view of the massive discursive and institutional power and media presence of all things neuro, I hold that, to date, there is substantially more politics in the "neuro" than there is "neuro" in politics. Neuroscience and its cheerleaders in other fields have succeeded in creating political dynamics in its favor – for example, by launching themes and initiatives that capture the public's imagination and that seem to push for novel ways of understanding key human affairs (Rose & Abi-Rached 2013). For more than two decades now, its accounts and stories captured the public and academic imagination, and neuro-informed institutional reforms in fields such as education, health, security, law enforcement (and so on), began to appear realistic (cf. Beddington et al. 2008; Lynch 2009). In light of this, there is first of all a need for a *political theory of the neurosciences*: an approach that analyzes the institutional impacts of brain-based approaches and disciplines within a changing social and academic landscape and places these trends in the broader context of current political, economic and cultural changes (Choudhury & Slaby 2012; Slaby, Haueis, & Choudhury 2012). On the other hand, political theory must not abstain entirely from drawing on neuroscientific results where appropriate (Vander Valk 2012). When the goal is to develop truly inter-disciplinary, i.e. sufficiently complexified explanatory approaches about the embeddedness of political subjects in their environments, a balanced recourse to certain work in the neurosciences – combined with work from other human science disciplines – might prove helpful. But, importantly, a robustly cautious and critical attitude is mandatory for dealing with the dangers and chances that lie in the appropriation of human-level neuroscience. Where neuroscience attempts to speak of the brain non-metaphorically and demands to understand the mind "for what it is", it suggests having direct access to all relevant features of human life. With this delusional outlook, it risks to be integrated into a totalitarian politics of de-civilization, prevention and fear under the guise of a "secure" society (Hagner & Gehring 2006; cf. Roco & Bainbridge 2003; Fuller 2011). However, if interpreted with an awareness of the complex mediations en route to their subject matters, neuroscientific experiments could also be used to show that the entanglement of organism and environment prevents brain research from revealing the universal and timeless first nature of human beings (Fitzgerald & Callard 2015). Choosing the second option, a critical neuroscience of political theory might invert the claim that "we are our brains" into the quest to intervene into the hermeneutical constructions and political support structures of

neuroscience itself, revealing that, to an equal measure, the brain is what we do with it (Malabou 2008) – individually, at the group level and in society – rather than that there is an ultimate biological nature of political interaction. Human science, this much should be evident by now, cannot be had without a thorough conceptual, political and institutional awareness of its deep embeddedness with complex economies of knowledge. Reflexivity and critique are the only means to keep one's head up in the midst of these imbrications. But before delving head-on into these intricacies of contemporary knowledge production, the main message for scholars of politics is still so much simpler than that: Don't loose your sleep about neuronal matters. There is, quite simply, nothing there to lose your sleep about – and there won't be any time soon.

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