Neurosocialities: Anthropological Engagements with the Neurosciences

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Over the last three decades, the neurosciences have emerged as a prestigious and influential force in industrial society research. In an ascendance that in many ways parallels that of genomics, the neurosciences have been championed as a valuable source of information into “that which makes us human,” and as a potential source of much-needed therapeutic interventions for a range of disorders, and new technologies for enhancing cognitive, emotional and social skills. Vast financial and symbolic resources have been invested in both “small” and “big science” projects, including the US’s vast BRAIN Initiative and the EU’s Human Brain Project. In popular culture, public fascination with the “neuro” is illustrated by a profusion of accessible popular writings on the brain, the prevalence of MRI and PET brain images in media, and the emergence of gurus in diverse fields such as “neurobusiness,” who claim, for example, to use neuroscience to enhance business acumen (e.g. NBI 2016).

Almost ten years ago, Fernando Vidal (2009) argued that these are features of the “cerebral subject” – the “anthropological figure inherent in modernity.” The cerebral subject, Vidal argued, is characterized by brainhood: “the property or quality of being, rather than simply having, a brain” (2009:22). For Vidal, brainhood is the contemporary manifestation of a coherent evolution in western philosophical thought: Descartes equated the soul with the mind, Locke equated personal identity with self-awareness, and other thinkers subsequently located the mind firmly in the brain. Brainhood, accordingly, was a precondition for, rather than a product of, neuroscientific developments.

In this editorial, we critically engage with Vidal’s influential proclamation of the era of brainhood, in light of an emerging body of work – undertaken in and across anthropology, science and technology studies (STS), feminist studies, and sociology – on the relationship between neuroscience, the self, and society. Much of this work is informed by detailed explorations of neuroscience, neurotechnologies, and neurological illnesses in their ordinary milieu. This work, we argue, highlights the performative power of the “neuro” in contemporary societies, but it also exposes tensions and ambiguities integral to contemporary neuroscience developments that are elided if we continue to posit some sort of relentless march towards neurocentrism. Given the findings of this body of work, we tentatively provide a sketch of how anthropology might best continue to engage with the neurosciences.

Neuro discourse, Vidal argues, reifies possessive individualism. Identity is attributed to coherent, brain-situated cognition, while the complexity and fluidity of identity-forming practices, and the social bonds that constitute these practices, are in effect ignored. A considerable body of studies on neuroscience and neurotechnologies “in the field” demonstrates the allure of brain-based explanations of personhood and behavior, and an alignment with the sentiments of possessive individualism (e.g. Rapp 2012; Fein 2012). Perhaps the best known of these relate to the forms of sociality that characterize the “neurodiversity” movement, in which neurobiological accounts of autism are creatively appropriated as a positive identity by those with an autism diagnosis (Ortega 2009).
Other studies however have drawn attention to the pragmatic ways in which actors adapt neuroscience discourse and resist simple neurocentric discourses (Pickersgill et al. 2011). Singh (2013), for example, illustrates how children in her study – immersed in psychiatric therapies – creatively distanced themselves (“I”) from their brain when accounting for their actions. At the critical intersections of neuroscience and society, diverse practices enact different brain-behavior-identity dynamics.

In some cases, these dynamics appear to be contrary to the sentiments of possessive individualism. An example of this is the provision of deep brain stimulation (DBS) for movement disorders. DBS has a long and complex history, but it is one of the more therapeutically useful neuroscientific developments to have emerged in the last 30 years or so. It is also an important case study for exploring the social dimensions of high-tech neurotechnologies as they become widely adopted. DBS has been used to manage the symptoms of Parkinson’s disease in well over 100,000 people worldwide; for most recipients, it provides a significant reduction in distressing motor symptoms. In some, however, it also induces mood and behavioral changes – how these “psychosocial effects” are managed is what interests us here.

In his ethnographic study of a French clinic, Baptiste Moutaud (2016) illustrates how clinical concerns about the psychosocial effects of DBS encouraged clinicians to form multidisciplinary DBS services which include, among others, psychologists and psychiatrists. These teams, now recommended by health departments in many countries, play a vital role in configuring the social impact of the DBS neurotechnology. In an attempt to mitigate psychosocial effects, some clinical teams have devised practices, such as “psychoeducation programs” or “goal-setting sessions,” in which patients, their partners, and supporting family members are encouraged by the team to strategically examine and consolidate their relations with one another. In effect, these practices appear to enact a conception of “the individual” and of “personhood,” in which the formative role of social bonds and context are brought to the fore (Gardner 2017a).

At least in some contexts, then, neurotechnologies do not involve a brain-based reification of possessive individualism. Elsewhere it has been argued that DBS is implicated in the broadening of a clinical gaze, rather than a tightening of the gaze on the material structures of the brain (Gardner 2017b). The example of DBS serves as an important reminder to recognize the interpretive flexibility of neuroscientific developments. Their transformative effects depend on how they become immersed in local practices by creative and pragmatic agents.

Vidal and others (e.g. Rapp 2012) make the point that, in the era of brainhood, psychosocial explanations of illness and diversity are superseded by brain-based materialist explanations. The neuroscientist Simon LeVay’s (1991) controversial assertion that sexual orientation can be identified in brain structures is a famous example of this. Similarly, the considerable resources currently invested in projects aimed at identifying the neurobiological causes of autism illustrate the salience of this point. However, in his thoughtful study of neuroscientists engaged in such research, Des Fitzgerald (2017:11) illustrates that, contrary to the way in which such projects may be strategically positioned in funding proposals, press releases, news media, and so on, neuroscientists themselves do not commit to some sort of “confident monolithic reduction” of autism to biology. Fitzgerald’s participants were hopeful that biomarkers would be identified and that this would eventually lead to new treatments, but they were also skeptical of the capacity of brain imaging technologies within cognitive neuroscience. For Fitzgerald, this apparent contradiction is evidence of neuroscientists’ deep awareness of the ontological messiness of the thing that we call autism – a thing that, according to neuroscientists’ own accounts, is somehow distinctly biological and simultaneously inextricably entangled with social context. This type of attentive scholarship with neuroscientists and clinicians (see also Hollin and Giraud 2017) reveals the complex affective, animating dimensions of neuroscience that cannot be understood simply in terms of neuro-reductionist promissory expectations.

Vidal’s account of the rise of brainhood reflects an anxiety common to social science commentaries (e.g. Cooter 2014; Martin 2010): that social and cultural dimensions of life are being reframed in
impoverished neurobiological terms. While this may be a justified concern, other scholars have
highlighted the opportunities for productive engagement between the neurosciences and social sciences
(Rose and Abi-Rached 2013; Pitts-Taylor 2016; Fitzgerald and Callard 2015; Mason 2015). What these
scholars see in some domains of neuroscience, and what they find so energizing, is the possibility of a
brain that is not determined and determining, but rather dynamic, and to an important extent,
responsive to context. Neuroanthropology in particular is predicated on the epistemological opportu-
nities that emerge when biological material is no longer dismissed as the inert substrate of encultured
subjects (Domínguez 2012; Domínguez et al. 2009). Scholars in this field are exploring the socialities
that arise when neurological potentials become cultivated, distorted or stunted by specific cultural
regimes (Lende and Downey 2012; Downey 2014). A potentially more radical approach is the
remarkable theorizing of Elisabeth Wilson (2015). Bringing together psychoanalysis, psychology,
neuroscience, and feminist theory, Wilson explores what it means to genuinely attribute agency to
neurological matter and to refrain from asserting the ontological primacy of culture. For her, this
demands a reconceptualization of the relationship between thinking and feeling, mood and cognition.
Together with neuroanthropology, such work challenges the conventional distinctions between biology
and society, biological science, and anthropology. It also illustrates that neuroscience can help bring
about productive new avenues for thinking about and experiencing human life.

We want to suggest that the cultural impact of the neurosciences is characterized by a plenitude of
emerging socialities, rather than a narrow reification of a singular “anthropological figure of
modernity” (Vidal 2009:5). There is, in other words, an emergence of multiple neurosocialities in
which the “neuro” is articulated, felt, and animated in a number of ways – often in ways that may
align with what Vidal has referred to as brainhood. In light of this, we suggest several important
avenues for anthropological engagement with the neurosciences.

First, many aspects of the neurosciences necessitate sustained critical engagement from anthro-
pology and related disciplines. In particular, it is necessary to interrogate the large-scale circulation
of discourses and resources that characterize the ascendance of the neurosciences and associated
neurotechnologies. Engagements of this kind can explore, for example, issues of distributive justice.
What is the opportunity cost of large-scale investment in promissory neuroscience projects?
Similarly, anthropological work should continue to interrogate the ethical and political implications
of international tissue economies, such as those of emerging brain biobanks.

At a local level, anthropology obviously has an important role to play in tracing emerging neuroso-
cialties. This includes working with those suffering with neurological illnesses and with their families
(e.g. Sakellariou 2015; Pavey, Warren, and Allen-Collinson 2015; Warren and Manderson 2015), and
working in contexts where novel neurotechnologies are being deployed. An important part of this is, of
course, bringing to the fore the socio-cultural dimensions of neurological illness and its treatment.
Ideally, the resulting detailed accounts will help ensure the neuroscience projects and clinical interven-
tions are structured in such a way that aligns with the values of patients, families, and publics.

The blurring of the conventional division between biology and culture represents an opportunity
for meaningful collaboration between anthropology and disciplines such neuroscience and psychol-
ogy. The exact manner of this collaboration has been the subject of debate. Fitzgerald and Callard
(2014) suggest that it might entail a suspension of the social scientist’s usual critical subject position
and finding insight in the resulting experimental muddle. Stavrianakis and colleagues (2014) have
replied that this constitutes an unproductive “bureaucratic discipline of just getting along.” Our
contribution here is to advocate the approach of neuroanthropologists (e.g. Lende and Downey 2012;
Domínguez 2012). This involves refraining from asserting a relativistic, social constructivist
approach that presupposes the ontological primacy of culture, and instead find a common ground by
teasing-out and pursuing interesting neurological potentials, and illustrate – with detailed anthrop-
ological inquiry – how potentials become culturally relevant. Such an approach will avoid alienating
collaborators, while also providing a counter to some of the crude articulations of “culture” that are
circulating in some neuroscience representations.
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