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Targeting brains, producing responsibilities: The use of neuroscience within British social policy

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ABSTRACT

Concepts and findings 'translated' from neuroscientific research are finding their way into UK health and social policy discourse. Critical scholars have begun to analyse how policies tend to 'misuse' the neurosciences and, further, how these discourses produce unwarranted and individualizing effects, rooted in middle-class values and inducing guilt and anxiety. In this article, we extend such work while simultaneously departing from the normative assumptions implied in the concept of 'misuse'. Through a documentary analysis of UK policy reports focused on the early years, adolescence and older adults, we examine how these employ neuroscientific concepts and consequently (re)define responsibility. In the documents analysed, responsibility was produced in three different but intersecting ways: through a focus on optimisation, self-governance, and vulnerability. Our work thereby adds to social scientific examinations of neuroscience in society that show how neurobiological terms and concepts can be used to construct and support a particular imaginary of citizenship and the role of the state. Neuroscience may be leveraged by policy makers in ways that (potentially) reduce the *target* of their intervention to the soma, but do so in order to expand the *outcome* of the intervention to include the enhancement of society writ large. By attending as well to more critical engagements with neuroscience in policy documents, our analysis demonstrates the importance of being mindful of the limits to the deployment of a neurobiological idiom within policy settings. Accordingly, we contribute to increased empirical specificity concerning the impacts and translation of neuroscientific knowledge in contemporary society whilst refusing to take for granted the idea that the neurosciences necessarily have a dominant role (to play).

1. Introduction

Social policies, the consultation documents that undergird them, and the specific (scientific) discourses employed within these can provide valuable insights into how society and citizens are imagined by the assemblages of actors constituting the state. The psychological sciences especially have long been regarded as central to the governance of post-War 'Western' societies and selves (Rose, 1998). Nikolas Rose in particular has argued how these have been part of a political project within which citizens are governed through their freedoms: they are obliged to take their fate into their own hands and to make a project out of their lives (Rose, 1998; Rose and Miller, 1992). More recently, scholars have argued that the brain sciences are being enrolled in the projects and logics of (self-)governance (Netherland, 2003; Pitts-Taylor, 2010; Rose, 2000; Thornton, 2011a; Vrecko, 2010), making them an important topic for sociological analysis.

Various scholars have taken up this topic, including critics of the use of the neurosciences in social and health policy – especially that targeting the 'early years' (typically years 0–3, although this varies among policy reports) (Featherstone et al., 2013; Macvarish et al., 2014; Wastell and White, 2012). This scholarship describes what the authors tend to term the 'misuse' of neuroscience, for example when policy documents are regarded as drawing far-reaching conclusions from neuroscientific research. It connects with wider work on parenting and on the anxieties produced by policies and cultural narratives in this area. Some scholars then argue that an emphasis on the significance of the developing brain or a health discourse more generally makes parents (usually mothers) feel anxious and guilty for not caring for their children in exactly the 'right' way (Lee, 2008; Thornton, 2011a; Wall, 2004, 2010).

Other social scientists have eschewed the intrinsic normativity of documenting the 'misuse' of neuroscience, taking a more descriptive approach to examining how neuroscientific terms and concepts are used, in which contexts, and to what ends. Such studies around

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neuroscience and identity have shown that in the case of neurological disorders and mental illness, for example, neuroscience is one of several resources mobilised to articulate subjectivities (Bröer and Heerings, 2013; Pickersgill et al., in press; Singh, 2013). The brain sciences, then, are at once evident in a number of realms *whilst also* being sometimes ignored or resisted (Pickersgill, 2013). Narratives of resistance or critique about neuroscience are evident even within science journalism (Whiteley, 2012), which is commonly associated with the propagation of more reductive tropes (Thornton, 2011b). These studies therefore challenge any notion that recourse to a neurobiological idiom necessarily entails an all-pervasive or reductionist ontology.

This paper takes cues from the aforementioned scholarship: it is informed by (and situated within) STS (Science and Technology Studies) literature concerned with the *use* of (neuro)science, whilst also mindful of the criticisms raised by analysts more explicitly attentive to what they perceive of as *misuses* of neurobiological research. Our focus is on UK social policy documents that are fixed on the early years, adolescence, and later life. Accordingly, we extend previous work that has predominantly focused on the first of these three life stages (Edwards et al., 2013; Macvarish et al., 2013; Macvarish et al., 2014; Wastell and White, 2012). As existing scholarship notes, policy interest in the 'developing brain' is considerable; yet, whilst adolescence and older adulthood are also linked in different spheres to the brain (Choudhury et al., 2012; Williams et al., 2012), the origins, incidences and effects of these linkages have largely escaped sociological scrutiny.

Through our central concern with *how* neuroscience is used, we relate our documentary analysis to the broader topic of responsibility, considering how responsibility is (re)defined and, relatedly, how society is imagined in the policy documents inspected. Responsibility was a theme emerging from our analysis and we pay close attention to the way it is (re)defined in these policy documents and through their use of the neurosciences. We engage with the thinking of Michel Foucault and more extensively with that of Nikolas Rose and collaborators to analyse how the neurosciences can be and are employed in order to stimulate certain types of responsibilities for citizens. Our conceptualization of responsibility evokes Foucault's treatment of power (Foucault, 1978); we conceive of it as a discourse that ebbs and flows, rather than as a stable kind that moves linearly and uniformly from (e.g.) state to citizenry, always existing to a finite and somehow quantifiable degree. Following Rose and Miller (1992), we see the construction of responsibility as one means by which states can 'govern at a distance'. What these scholars call "advanced liberal democracies" (p. 174) govern through the freedom and responsibilities of active citizens, with the knowledge of experts central to this endeavour. The neurosciences, then, represent one kind of expertise employed in responsibilising citizens. Rose and Abi-Rached (2013) note, for instance, that the neurosciences enjoin people to be responsible for keeping their brains healthy in order to prevent social ills. This speaks to Rose's (2007) notion of 'biological citizenship', aimed at capturing the influence of biology on how citizens come to understand themselves and live their lives, in ways that can be both – and simultaneously – individualising and collectivising. Whilst Rose's oeuvre is perhaps most associated with the analysis of governance "beyond the state" (Rose and Miller, 1992), the way that citizens and society writ large are imagined within policy documents produced *by and for* the state remains a key point of interest for social scientists. Such texts, we suggest, therefore constitute a relevant site for the investigation of how (and, indeed, if) the neurosciences are leveraged to govern at a distance.

Our contribution in this paper is three-fold: (1) we interrogate a larger body of policy documents than prior scholarship, in particular by extending our analysis to policies concerned with adolescence and older-adulthood; (2) our analysis is animated less by a impetus to critique policy, but more by a desire to understand how (neuro) science is used in a variety of domains, including policy (hence, our engagements with social theorists like Foucault and Rose are distinct, and therefore so too are our interpretations and conclusions – especially our attention to the diverse, and sometimes highly relational, forms of responsibilisation that take place through policy documents); and (3) we evidence how the neurosciences – and the policies they are sometimes leveraged to support – can be critiqued even by assemblages of policy actors themselves.

In what follows, we outline our methodology before presenting the results in terms of three (overlapping) discursive themes relating to responsibility: optimisation, self-governance, and vulnerability. We evidence their enactment through a neurobiological register in UK policy documents, and in the conclusion reflect on the implications of these findings for broader scholarship on neuroscience and society.

2. Methods

To examine how the neurosciences are being translated into policies aimed at shaping the conduct of families and individuals, we conducted a document analysis of UK policies focussed upon the early years, adolescence and older age. Document sourcing consisted of four stages. First, we searched for documents using Google, limiting the search to the UK with no time limits. Search terms included: 'neurosciences', 'brain', 'plasticity', 'cognition', 'development', 'early years', 'early intervention', 'adolescents', 'older adults', 'ageing', and 'memory'. We undertook a further search on the websites of the UK government Departments of Health and of Education (all publications until 29 January 2014). Reports found were scanned for possible relevance by searching for the term 'brain' or 'neuro'; when these terms were employed the documents were included in our sample. Second, we used references to policies in previously published articles on neuroscience and policy (Edwards et al., 2013; Macvarish et al., 2013; Wastell and White, 2012). Third, we drew on our academic and wider networks to ascertain whether any key documents were missing from our sample. Finally, we used a snowballing strategy, reading the policy documents and websites we found to see if these referred to documents not yet included. In total, 84 documents (and 6 websites) were included in our sample. Of these, 58 explicitly mentioned terms or concepts associated with the neurosciences, or cited neuroscientific literature. The remaining 26 reports included phrases that elsewhere were explicitly linked with the neurosciences, e.g. "crucial foundation years" or "attachment" (and hence served as materials for comparison), or alternatively were documents originating from major organisations (e.g. the Department for Education) or which otherwise featured prominently in the search strategy. These 26 reports do not feature explicitly in this paper, but they were included in our overall sample in order to give additional context to our analysis. The documents were all available on the web, and they were all published between 2000 and 2013. This sampling strategy cannot claim to definitively include all relevant reports; yet, we believe that the most salient materials were included.

Of the documents surveyed, one-quarter focused on children in general and included references to or sections about teenagers. About one-third focused on the early years. One-fifth each of the documents concerned older adulthood or teenagers. The documents differed extensively in terms of their emphases on the neurosciences. In about 20 reports they were not mentioned at all – these reports were more or less spread over the life-course, though proportionately fewer reports focussing on older adulthood mentioned the neurosciences explicitly. Slightly less than half of all the projects made moderate use of the neurosciences, ranging from a few references, to reports in the early years using the neurosciences frequently to justify the emphasis on the first three years in life. Approximately 20 reports used the neurosciences extensively, and these reports could be found across the life-course. (A table detailing all the included reports is available