
Article:
Fox, N.J. orcid.org/0000-0003-2037-2664 and Klein, E. (2020) The micropolitics of behavioural interventions: a new materialist analysis. BioSocieties, 15 (2). pp. 226-244. ISSN 1745-8552

https://doi.org/10.1057/s41292-019-00153-9

The micropolitics of behavioural interventions: a new materialist analysis

Nick J Fox and Elise Klein

*Accepted version, submitted to **Biosocieties** Dec 2018; paper accepted 6 April 2019; published online 23 April 2019*

To cite: Fox, N.J. and Klein, E. (2019) The micropolitics of behavioural interventions: a new materialist analysis. *Biosocieties*. https://doi.org/10.1057/s41292-019-00153-9

Abstract

Behavioural approaches are increasingly used in both the global North and South as means to effect government policy. These interventions aim to encourage preferred behaviours by subtly shaping choices, applying incentives or employing punitive measures. Recent digital technology developments extend the reach of these behavioural approaches. While these approaches have been criticised from political science perspectives, in this paper we apply an innovative mode of analysis of behavioural policy approaches founded in a 'new materialist' ontology of affects, assemblages and capacities. This perspective enables us to explore their 'micropolitical' impact – on those who are their subjects, but also upon the wider sociocultural contexts within which they have been implemented. We examine two different behavioural interventions: the use of vouchers to incentivise new mothers to breastfeed their infants (a practice associated with improved health outcomes in both childhood and later life), and uses of debit card technologies in Australia to limit welfare recipients' spending on alcohol, drugs and gambling. In each case, we employ a materialist methodology to analyse precisely what these interventions do, and what (in)capacities they produce in their targeted groups. From these we draw out a more generalised critique of behavioural approaches to policy implementation.

Key words

Affect, assemblage, behavioural economics, micropolitics, new materialism, 'nudge'.

Introduction

Behavioural approaches are increasingly used in both the global North and South as means to effect government policy, with a recent study suggesting that 69 per cent of countries worldwide now incorporate - (Whitehead et al., 2014). These interventions aim to encourage preferred behaviours by shaping choices, applying incentives, or by employing punitive measures to enforce desired behaviours. These approaches include efforts by policy-makers to change the behaviours of members of the public, whether for the benefit of an individual (for example, by adopting a healthier life-style or habits) or of a community, society or nation (for instance, encouraging paid employment or paying taxes on time). Recent digital technology developments extend the reach of these behavioural approaches, such as promoting the use of health apps on mobile phones as a public health policy (Mills and Hilberg, 2018) or income management technologies to control population spending patterns (Klein, 2016).

These kinds of interventions have been subject to social science scrutiny, both to assess their effectiveness (Strauss, 2008; Frerichs, 2011) and to consider their ethical and political significance (Mahon, 2015; Madra and Adaman, 2013). In this paper we apply an innovative mode of analysis of behavioural policy approaches founded in a 'new materialist' ontology of affects, assemblages and capacities. This perspective enables us to explore the 'micropolitical' impact of an intervention; in other words, what these approaches actually do in practice, and what capacities and incapacities they produce – both in their subjects, and in the wider sociocultural contexts within which they have been implemented. We examine two different behavioural interventions with which we are familiar: the use of vouchers to incentivise new mothers to breastfeed their infants (a practice associated with improved health outcomes in both childhood and later life), and the application of debit card technologies in Australia to limit welfare recipients' spending on alcohol, drugs and gambling. In each case, we employ a materialist methodology to analyse precisely what these interventions do, and what (in)capacities they produce in their targeted groups. Whilst these two case studies do not cover the complete range of behavioural approaches found in policy, insights from these studies will contribute towards the usefulness of exploring the micropolitics of behavioural approaches.

The structure of the paper is as follows. We first review the emergence of behavioural interventions and assess some of the critical literature on their use in policy implementation. We

set out the new materialist approach that we use in the paper and how this ontology translates into a distinctive and innovative methodology. The two case studies follow, in which we apply the new materialist analysis, and we conclude with a discussion of the findings and the implications that new materialist approaches offer for critical social policy.

Behavioural approaches as policy tools

Behavioural approaches range from encouraging preferred behaviours by applying incentives, altering 'choice architecture' to 'nudge' behaviour (Sunstein, 2013: 39), to employing punitive measures to enforce desired behaviours. Behavioural economics has been a major contributor to the evidence base that underpins such behavioural policy making. Emerging from a fusion of psychology and economics, (Hampton and Adams, 2018: 215) it contests a neoclassical model of a rational, self-interested, utility-maximising and coherent individual (Kahneman, 2003; Saint-Paul, 2011; McMahon, 2015). Instead behavioural economics views individuals as having non-standard or 'irrational' preferences, beliefs and decision-making processes (DellaVigna, 2009). DellaVigna (2009) notes that – unlike neoclassical economics, where an individual's preferences and decision-making are temporally and spatially consistent –, within behavioural economics, individual preferences are assumed to vary – dependent upon individuals' beliefs and the temporal-spatial contexts within which choices are situated.

Commentators have suggested that the behavioural turn within policy has coincided with an increased emphasis upon austerity and neo-paternalism[1] in contemporary Western political regimes. These ideologies not only seek more cost effective ways to do policy[2], but also individualise social and economic issues, founded on the view that socioeconomic disadvantage

> is primarily a result of a deficit of necessary social values and norms. This 'cultural model' of disadvantage emphasises the role of socialisation and the transmission of behaviours, attitudes and values from parents to children in explaining intergenerational welfare reliance and poverty more generally (Buckmaster et al., 2012: 18).

Despite this focus on regulating behaviour via economic interventions, Richard Thaler and Cass Sunstein – prolific writers in the behavioural economics field – have claimed that their behavioural approaches support libertarian values, and are a form of 'libertarian paternalism':

> We strive to design policies that maintain or increase freedom of choice. When we use the word *libertarian* to modify the word *paternalism*, we simply mean liberty-preserving […] Libertarian paternalists want to make it easy for people to go their own way; they do not want to burden those who want to exercise their freedom. The paternalistic aspect lies in the claim that it is legitimate for choice architects to try to influence people's behaviour in order to make their lives longer, healthier, and better […] we argue for self-conscious efforts by institutions in the private sector and also by government, to steer people's choices in directions that will improve their lives (Thaler and Sunstein, 2009: 5-6: cited in Bielefeld, 2014: 293).

Focusing on a sub-set of behavioural approaches that 'nudge' people to make decisions that they would want to make in the first place, Sunstein (2013: 9) argues that such approaches "do not force anyone to do anything and … maintain freedom of choice, but … have the potential to make people healthier, wealthier and happier", and simply offer a little help to steer them in that direction. Governments and policy makers, in his view, do not 'enforce' particular decisions, but instead make the 'right' option easier to choose.

Critics have questioned behavioural economics' self-promulgation as a neutral and universal science (Feitsma, 2018), drawing attention to its foundation within Western knowledge systems and ontologies (Klein, 2017), and revealing its underpinning by neoliberal governmentality (McMahon, 2015; Akbulut, 2015). The assumptions by proponents of behavioural approaches that the subjects of behavioural interventions are generally agreeable to the normative ideas and aims held by the policy makers have also been queried (Coons and Weber, 2013; Klein, 2016; McMahon, 2015).

Behavioural approaches in policy have also been critiqued for hyper-individualization, as they suggest social and structural issues such as poverty or unemployment are attributable to individuals' choices and therefore the remedy lies in adjusting individuals and not the structures themselves (Klein, 2017; Feitsma, 2018). Practice theory scholars argue that these approaches are founded upon a simplistic model in which attitudes drive individuals' choices of behaviours (Shove, 2010: 1274). Many of the behaviours that behavioural interventions seek to alter, they argue, are actually deeply embedded within the cultural and material infra-structure of contemporary social life: even if individuals were motivated to alter their behaviour, these structures would inhibit such change (Hampton and Adams, 2018: 215). With 'practice' rather than 'behaviour' regarded as the unit of analysis, policy interventions need to focus on establishing appropriate contexts within which desired practices may be fostered (ibid: 216; Whitehead, 2018: 9).

In this paper, we address behavioural interventions from a different angle. Rather than seeking to refine or amend these policy approaches, we offer a more foundational critique, asking the question: what do these interventions actually do micropolitically? Specifically, we focus on the ceaseless material interactions that produce the cultural and natural world from moment to moment. We shall look at what happens to individuals when they are subjected to behaviour-modifying approaches. This, we suggest, will allow us to gain greater insight into the micropolitical dynamics of such approaches and draw out some conclusions concerning their use as a part of contemporary policy implementation. To achieve this, we adopt a 'new materialist' ontology, which explores the production and reproduction of the social and natural world through the interactions between human and non-human elements (the latter include objects such as tools or technologies; abstractions and ideas; and sociocultural and physical contexts). We set out this ontology – and how it translates into a novel methodology for analysing behavioural policy interventions – in the next section.

New materialism and the micropolitics of life

New materialism is a term applied in the humanities and social sciences to a range of perspectives that have in common a 'turn to matter' (as opposed to the focus upon texts and language in post-structuralism) that emphasise the materiality of the world and everything –

social and natural – within it. Drawing on a very wide range of disparate philosophical, feminist and social theory perspectives (Coole and Frost, 2010: 5; Lemke, 2015), the new materialisms recognise materiality as plural and complex, uneven and contingent, relational and emergent (Coole and Frost, 2010: 29). Importantly, they do not recapitulate Marxist sociology's 'historical materialism' that considered an economic base as the foundational driver for social relations, or power as a top-down imposition. By contrast, new materialists consider that the world and history are produced by a range of material forces that extend from the physical and the biological to the psychological, social and cultural (Barad, 1996: 181; Braidotti, 2013: 3), and that power and resistance emerge from social and/or natural interactions (Fox and Alldred, 2017).

The distinctive ontology advocated by new materialist scholars has been described as 'flat' or 'monist' (as opposed to 'dualist'), rejecting differences not only between Marx's (1971) conception of 'base' and 'superstructure', but also between 'natural' and 'cultural' realms, human and non-human, and – perhaps most significantly – between mind and matter (van der Tuin and Dolphijn, 2010). By challenging any distinction between the materiality of the physical world and the social constructs of human thoughts and desires, it opens up the possibility to explore how each affects the other, and how things other than humans (for instance, a tool, a technology or even an idea) can be social 'agents', making things happen. New materialist sociology is thus 'post-anthropocentric' (Braidotti, 2011: 327), shifting humans from the central focus of sociological attention, and facilitating a posthuman sociology that can engage productively not only with human culture but also with other living things, and with the wider environment of inanimate matter.

By stepping back from these conventional dualisms, new materialism provides novel opportunities to explore aspects of the social such as material interventions in health or social policy. Monism facilitates sociological engagement with the agency of the non-human – with other living things and the wider environment of matter and things, as well as with semiotic relations such as concepts, ideas, values and memories (Haraway, 1997: 270). In addition, monist ontology elides 'micro-' and 'macro-' sociologies. Rather than constraining the former to explorations of daily activities, experiences and agency, while reserving the latter for insights

into economics and politics or assessments of structures, systems, governance and mechanisms, the new materialism requires a re-focusing away from structural or systemic 'explanations' of how societies and cultures work (Latour, 2005: 130), and addresses instead the *micropolitical* production of social world at the level of the endless minute-by-minute procession of material interactions that together produce the cultural and natural world, and human history.

Together, these opportunities re-immerse sociology in the materiality of life and struggle (Braidotti, 2013: 95): the task of the sociologist now is to explain how elements from physical, economic, social and other 'realms' associate to produce every aspect of the social world (Latour, 2005: 5-6). A micropolitical focus emphasises the detailed yet broad study of empirical data, and requires a methodological orientation that explores and analyses such data in ways that extend beyond conventional dualisms of animate/inanimate, agency/structure, micro/macro and mind/matter (Fox and Alldred, 2015, 2017). Exploring the relational character of events, actions and interactions, and their physical, biological and expressive composition, becomes the sole means for sociology to explain the continuities, fluxes and 'becomings' that produce the world around us.

Methodologically, concern with the relationality and emergent properties of matter entails a different conceptual framing. To develop the features of a sociological new materialism, we draw upon the well-developed and widely-applied framework deriving from Gilles Deleuze's (1988) materialist reading of Spinoza, as developed in the work of Deleuze and Guattari (1984, 1988), by social and feminist scholars such as Braidotti (2006), DeLanda (2006), Grosz (1994) and Thrift (2004), and then applied in empirical social science by Fox and Alldred (20130; Alldred and Fox (2015), Duff, 2010, Renold and Ringrose (2011), Youdell and Armstrong (2011) and others. This DeleuzoGuattarian approach is predicated upon three propositions, concerning relationality, agency and micropolitical capacities.

First, new materialism asserts the fundamental *relationality* of all matter. Bodies, things and social formations gain their apparent 'is-ness' only through their relationship to other similarly contingent and ephemeral bodies, things and ideas (Deleuze 1988: 123; Haraway, 1991: 201). For this reason, new materialists speak of 'relations', whose properties and capacities manifest

when assembled with others, rather than as possessing fixed or inherent attributes (DeLanda 2006: 10-11). Every interaction between these disparate relations may be understood as *assemblages* (Deleuze and Guattari 1988: 88), which develop 'in a kind of chaotic network of habitual and non-habitual connections, always in flux, always reassembling in different ways' (Potts, 2004: 19).[3] Methodogically, the relations thus assembled may be identified from sources including empirical data, research literature, and our experiential knowledge and understanding of living in the social and natural world.

Second, a conventional conception of (human) agency is replaced with the Spinozist notion of *affect* (Deleuze, 1988: 101), meaning simply a capacity to affect or be affected. All matter has an 'agential' capacity to *affect,* rather than being inert clay moulded by human agency, consciousness and imagination (Barad, 1996: 181; Coole and Frost, 2010: 2); this assessment de-privileges human agency as the means by which the social world is produced and reproduced. An affect is a 'becoming' (Deleuze and Guattari, 1988: 256), or in other words, a force that achieves some change of state or capabilities in a relation (Clough, 2004: 15; Massumi, 1988: xvi). Such change may be physical, biological, psychological, social, political or emotional. Affects produce further affective *capacities* within assemblages (Deleuze and Guattari, 1988: 400), and because one affect can produce more than one capacity, social production is a branching, coalescing and rupturing (rather than linear) flow. The flow of affect within assemblages is consequently the means by which lives, societies and history unfold, by 'adding capacities through interaction, in a world which is constantly becoming' (Thrift, 2004: 61). Documenting this flow within an assemblage, which Clough (2004: 15) describes as an "affect economy", is a significant element in a new materialist analysis of an interaction, activity or process such as a behavioural intervention, as it enables insight into the way that relations affect and are affected, and what capacities are consequently produced.

Third, analysis of this relational ontology is micropolitical – at the level of assemblages, affects and capacities, as opposed to a 'macro-politics' of exterior forces, structures or systems. This means that we do not 'explain' social phenomena in terms of 'macro' forces or structures such as 'neoliberalism', 'racism', 'patriarchy' or 'colonialism'. Rather, we need to explain these supposed explanations by examining interactions and practices such as behavioural policy

approaches and explore how these – along with a multitude of other interactions – generate the regularities in social life that have been subsequently reified by social scientists as 'neoliberalism;' and so forth (Latour, 2005).[4] Affects within assemblages act on bodies, things and social formations to alter their capacities – what they can do (Duff, 2010: 625).

This materialist ontology thus supplies a novel framework for an analysis of behavioural interventions and what they actually do. To develop this, and to illustrate how these ontological shifts translate into a methodology for new materialist analysis, we now focus on two short examples of behavioural policy approaches for which we have sufficient data to enable our analysis. In each case study, our objectives will be to disclose the micropolitical workings of the behavioural intervention, in terms first of the relations assembled, and second of the capacities that they generate in bodies, and how these latter enable or constrain actions or opportunities.

Case study 1: Incentivising breast feeding through cash or voucher transfers

A range of positive benefits have been associated with the practice of breastfeeding infants, both for the early-years development of children, and for adult well-being (Horta et al., 2007; Victora et al., 2016). Breastfeeding is positively associated with infant survival and physical and intellectual development, and can enhance protection against childhood infections, while studies have shown lower incidence of obesity and diabetes in adults who were breastfed (Relton et al., 2018). In addition, breastfeeding offers protection against breast cancer and possibly ovarian cancer and type 2 diabetes among nursing mothers (Victora et al., 2016: 475). There are significant economic and environmental benefits associated with breastfeeding, both in terms of lower health costs and higher intellectual capacities of breastfed adults (Rollins et al., 2016). In 2003, the World Health Organisation (WHO) recommended that infants should be exclusively breastfed until six months, and comprise a significant element of an infant's diet until at least two years (McFadden et al., 2017).

However, the prevalence of breastfeeding varies both geographically (with lower levels in economically-developed countries), socioculturally – contingent upon cultural or sub-cultural norms and attitudes to sexualities and public breastfeeding (Hausman, 2003: 13; Rollins et al., 2016), and across social groups, with lower-income and less well-educated mothers in both

developing and developed countries less likely to breast-feed their infants (Victora et al., 2016: 478). For this reason, considerable health promotion efforts have been made to increase breastfeeding, particularly among lower-income mothers (McFadden et al., 2017). A review of these approaches suggests that to increase breastfeeding rates and continuity, interventions require frequent contact between mothers and health professionals; while mother-initiated engagement with programmes are unlikely to be effective (McFadden et al., 2017; Renfrew et al., 2014): with significant cost implications for scaling-up programmes.

In recent years, a number of initiatives informed by behavioural interventions to improve child health have been piloted, including conditional cash transfers or vouchers paid to encourage behaviours or practices such as breastfeeding, nutritional supplements and appropriate contact with health professionals (Bassani et al., 2013); including payments to mothers who initiate and continue breastfeeding infants during the first two years of life (Relton et al., 2017; 2). Evidence for effectiveness remains patchy (Bassani et al., 2013: 12), but incentivising breastfeeding was the subject of a recent controlled trial to assess the effectiveness of financial incentives for breastfeeding in UK geographic areas with breastfeeding prevalence of less than 40 per cent at 6-8 weeks *post partum* (Relton et al., 2018). In this trial, shopping vouchers worth £40 were paid to 5398 mothers on five occasions between two days and six months after birth of a child, conditional upon their infant receiving any breast milk; outcome breastfeeding rates were compared with a control group of 4612 mothers. The trial delivered a moderate increase in breastfeeding prevalence (38 per cent, as opposed to 32 per cent among the intervention group), with no significant effect upon mothers starting breastfeeding an infant, or breastfeeding exclusively (that is, with no use of formula milk).

This review of literature supplies the means to begin a micropolitical analysis of this behavioural intervention, by identifying the range of affective relations that breastfeeding assembles. Studies (for instance, Earle, 2002; Hector et al., 2005; McFadden et al., 2017) suggest that a wide range of factors affect whether mothers breastfeed, and these enable us to populate the relations in this assemblage as follows (in no particular order):

mother; child; breast milk; formula milk; family members; partner/other carers; peer group; health of infant; maternal health issues (e.g. breast pain); health professionals; health services; formula manufacturers; household income; education; sociocultural norms; mother's employment; public and health policy; breastfeeding-friendly environment; maternal parity; single/multiple birth

The next step in the analysis is to identify the affective flows between these relations – the 'affect economy' mentioned earlier. We may identify as a starting point the flow of milk between mother and infant, founded on the latter's overwhelming desire for sustenance every two to four hours: an affect this is literally a matter of life or death. Other affects between the relations include cultural norms and family scripts concerning breastfeeding; commercial marketing of formula milk products; maternal knowledge of the benefits of breastfeeding; cultural norms constraining public breastfeeding; family and other demands on mothers' time. In this ontology, a mother's 'capacity to breastfeed' is an emergent outcome of the play and interaction of this affect economy.

The introduction of vouchers into this mix alters the affect economy by making a direct affective link between mother, milk, infant and financial resources. This new affect has a number of further effects upon the affect economy. These include: enabling purchases of food and other goods to improve the material aspects of living with a new baby; reducing financial anxieties associated with a new baby; and generating business for local retailers participating in the voucher scheme.

Importantly however, adding this further affect merely further complicates the affect economy, and does not in itself reduce the other affects in the assemblage. This analysis of the affect economy of breastfeeding goes a long way to explain the findings of the Relton et al (2018) trial of the vouchers-for-breastfeeding intervention mentioned above, which demonstrated only marginal increases in breastfeeding rates, and no significant effects on initiation of breastfeeding or moves to exclusive breastfeeding. Both the latter may be powerfully affected by other assembled factors such as difficult or painful breastfeeding, cultural and family norms, or

insufficient knowledge of breastfeeding benefits. None of the latter affects are countered by the offer of vouchers.

At the same time, encouraging breastfeeding behaviour by financial incentives has some unintended and potentially negative consequences for women already coping with the stresses of caring for a new-born infant. Micropolitically, cash incentives for breastfeeding act differentially – their affectivity being most powerful upon those struggling financially, while not addressing the societal and cultural forces which are already making life challenging for this group, other than providing a short term conditional voucher. In addition, this benefit may be quickly withdrawn if other intractable affects such as painful breastfeeding, time demands or family/peer pressure prevent continued breastfeeding. The intervention also acts to define gender roles: infant feeding becomes the sole duty of a female parent, potentially producing stress in interpersonal relations between male and female carers. It may also affect mothers' interactions with their babies, their family members and health professionals, while undermining other initiatives to increase breastfeeding (Whelan et al., 2014).

Case study 2: Cashless Debit Card and Indigenous peoples' advancement

Consecutive Australian governments have been concerned with the advancement of First Nations peoples[5] as a matter of national significance. In 2008, the Federal government launched the most contemporary development plan for national Indigenous 'advancement': the *Closing the Gap* framework. This comprised seven goals that aimed to achieve parity between Indigenous and non-Indigenous people in terms of life expectancy, education (attendance; levels of numeracy and English literacy), and employment rates. Ten years on, the goals have been largely recognised as a failure (Fitzpatrick, 2018). Researchers have found this unsurprising as the goals were criticised as statistical convergence (Altman, 2009) and an effort at assimilation (Kowal, 2008; Maddison, 2008), reflecting Eurocentric settler worldviews and aspirations for development[6].

Some of the initiatives that underpinned *Closing the Gap* focused directly upon changing the behaviours of Indigenous people. Income management has been a major aspect of this behavioural shift in policy-making, operationalised via a debit card that quarantined Indigenous

people's welfare payments to encourage 'responsible behaviour'. Income management was first introduced as a legislated policy through the 2007 Northern Territory Emergency Response (NTER). Under NTER, 50 per cent of state payments received by Indigenous people were quarantined through the EFTPOS 'BasicsCard', which could be used only to buy 'essential items' at accredited stores, while restricting the purchasing of alcohol, tobacco, pornography and gambling. The government assumed that such restrictions would promote responsible behaviour like getting a formal job, not drinking alcohol and sending children to school.

Despite evaluations by the Australian Federal Government that showed no significant impact on the targeted behaviours (Bray et al, 2014) and by the Life Course Centre (an Australian Research Council (ARC) Centre of Excellence) that indicated negative impacts on children, including a reduction in birth weight and school attendance (Cobb-Clark et al., 2017; Doyle et al., 2017)[7], income management continues in Australia. The Cashless Debit Card (henceforth CDC) is the latest iteration of income management and is the focus of this case study. This was promoted by mining billionaire Andrew Forrest in his Federal Government commissioned review of Indigenous Employment and Training as an explicit policy recommendation (Forrest, 2014)[8]. The CDC trialled in the two sites of Ceduna (South Australia) and the East Kimberley (Western Australia), compulsorily quarantining 80 per cent of state benefits received by those of working age (15-64 years). Its aims were to promote socially responsible behaviour by restricting cash and purchases of alcohol, illegal drugs and gambling. The trial included anyone receiving disability, parenting, carer, unemployment or youth allowance payments.

Research carried out by Klein and Razi (2018) into this latest behavioural intervention suggests severe impacts, including financial hardship, increasing levels of domestic violence, disempowering vulnerable people and creating social divisions in the trial sites[9]. Meanwhile, an Australian Government evaluation found that almost half of the users interviewed reported that the CDC did not help them look after their children any better; 52 per cent of people ran out of money to buy food, 45 per cent had no money to buy schoolbooks or other goods for their children, and 35 per cent could not pay their bills (ORIMA 2017).

Once again, this literature allows us to undertake a micropolitical analysis of this behavioural intervention. This analysis draws on the work of Tess Lea (2010; 2014; 2015), which supplies data on micropolitical relations in settler colonial contexts. Affective relations in the CDC assemblage include (in no particular order):

welfare payments; Indigenous welfare recipients; non-Indigenous welfare recipients; food and consumer goods; services; cashless debit card; shops and businesses accepting the card; other businesses; shopkeepers; Indigenous community leaders; policy makers; members of parliament; Andrew Forrest; CDC developers and contractors; settler ontologies of work; Indigenous ontologies of work; alcohol; tobacco; gambling outlets (e.g. Poker machines, casinos); racism; neoliberalism; mining businesses

The affect economy between these relations links welfare recipients, welfare payments, the goods and services that these purchase, governmental welfare agencies, along with value-laden governmental interactions with people on welfare and efforts to intervene in Indigenous lives. The addition of the CDC to these assembled relations augments and alters this economy, with new affects between the card-holder, the CDC and the goods it can/cannot buy; between the card holder and the government (Members of Parliament, civil servants and policy makers); and between the CDC and the private companies and individuals designing and promoting it. The CDC also impacts upon conflicts between settler and First Nations ontologies concerning work and productivity (the former constituted around capitalist conceptions of productive labour while Indigenous ontologies emphasise land and connectedness); racism by non-indigenous residents who were not subjects of the trial; conflict between Indigenous leaders who accepted the trial and Indigenous community members who resented the trial; and the dynamics of private capital and the elite individuals and companies that profited from the trial.

The consequences of the affective flows associated with the card produce a novel range of (in)capacities in its users and in other elements in the assemblage. When people receive their welfare payments via the CDC, their purchases are restricted, both in terms what they can buy and which outlets accept the card. Purchasing via the card marks out and may stigmatise users as welfare recipients, while technical failures and users' limited understanding of the card's

operation can produce both material hardship and embarrassment. Limits on what the card can buy also alters social relations between community members, while card holders may resist and refuse to use the card. The use of the CDC also has broader micropolitical effects concerning governmental assumptions about Indigenous peoples and people on welfare; imposition of a settler ontology of labour upon First Nations peoples; and opportunities for private capital to accumulate wealth from the welfare sector.

Our analysis suggests that while the aim of the Cashless Debit Card is to change individual behaviour, we need to understand this intervention in the context of a far broader assemblage surrounding welfare recipients' participation in the local and national economy. This analysis of the CDC-assemblage offers insight into a broad range of inadvertent capacities and incapacities that emerge when people are forced to use a CDC rather than cash. Many welfare recipients engage in day-to-day activities that require cash: such as using public transport, buying second hand goods, purchasing produce directly from farmers to undercut shop prices, or to fund informal housing arrangements. Limiting access to cash constrained these activities, increasing the cost of living, while technical problems made checking the account balance difficult, causing significant hardship in people's lives. These include not always being able to feed their children or save (ORIMA, 2017), and increased financial stress, shame, and increased feelings of disempowerment (Klein and Razi, 2018).

However, this monist and micropolitical analysis cuts across micro/macro distinctions to demonstrate that the development and application of a technology such as the CDC is not a neutral act; nor is its use a privatised behaviour with no greater significance. Every use of the card to purchase goods or services is caught up in the complex assemblage that we have set out here; every use reproduces the social and economic relations underpinning the policy behind the CDC. This policy is founded upon the assumption that people receiving a welfare payment from the government in the trial sites have behavioural issues relating to alcohol, drugs and gambling. However, most people using the CDC do not have such issues, and are in receipt of support for a variety of reasons including unemployment, disability, parenting, caring and youth. They struggle with poverty, compounded by the difficulties of living in challenging terrains; with

chronically precarious employment prospects in rural and remote locations where there are simply not enough jobs for all citizens (Klein and Razi, 2018; KDC, 2013).

The use of the CDC also reinforces the imposition of a settler ontology of labour upon First Nations peoples; challenges and marginalises the latter's values and way of life; and serves to legitimate settlement of Australian territory (Altman, 2014). Finally, the use of the card directs money from federal welfare budgets to the private companies that developed and administer the CDC, while the technology underpinning the card gives the government and private sector companies increased capacities for surveillance and data capture by recording spending behaviour of CDC users (Mader, 2017)[10].

Discussion

Analysis of these two quite different behavioural interventions suggests a number of broader issues concerning behavioural approaches deriving from the new materialist perspective we have used. We then conclude with some thoughts on how a new materialist analysis adds to the social scientific critiques of behavioural interventions and behavioural economics.

In terms of broad comments on behavioural approaches: first, the materialist approach that we have adopted in this paper has intentionally moved away from an individualised analysis of behaviour, to consider instead the array of human and non-human forces that produce the entirety of the social world – including human behaviour. This diverges substantively from behaviourist and cognitive psychological models of behaviour[11], which have underpinned behavioural economic theories (DellaVigna, 2009; Madra and Adaman, 2013). Whereas in such psychological perspectives the focus of attention rests entirely upon the individual human being and her/his 'behaviour', concern shifts toward the various affective flows that produce complex assemblages of human and non-human relations. The kind of materialist, micropolitical analysis of affective flows that we have conducted in the two case studies presented in this paper enables a holistic understanding of what a behavioural intervention actually does – in the broadest sense. It allows micropolitical analysis of interactions in terms of their assembled relations and affects, and then what happens to affective flows when a behavioural intervention is introduced. Crucially, attention is not limited to assessing changes in the behaviour of target individuals, but

can also encompass assessments of the broader impact of an intervention, for instance upon communities, upon economies or upon politics and governance.

Second and concomitantly, this shift of focus has implications for policy analysis and development. Conventionally, the starting point for designing a behavioural intervention such as those discussed in this paper has been an aspiration to change a specific element of human behaviour: for instance to encourage breastfeeding for its health benefits to infants and mothers, or to limit purchase of alcohol as a means to reduce intoxication, violence and other socially 'negative' behaviour. The aim has been to modify behaviour by intervening to alter individual volition/decision-making by means of incentives or disincentives. The materialist analysis that we have applied requires that such 'negative behaviours' need to be understood as the products of complex affective assemblages of human and non-human relations. These assemblages produce a wide variety of *capacities* and *incapacities* both in those who are the 'targets' of interventions, but also in other humans or collectivities (for instance, businesses, communities, families), and in non-human materialities such as money, goods or services produced by labour, economies, technologies and so forth. Adding a new relation (the 'intervention') into this assemblage will affect capacities and incapacities in complex and unpredictable ways, which need to be fully understood if a policy initiative (whether based upon a behavioural intervention or not) is implemented (see Fox and Alldred, 2017: 183-188 for further discussion of 'policy assemblages').

Third, we have noted that a materialist analysis cuts across conventional distinctions between relations conventionally considered as belonging to realms of 'natural' and 'social', or 'material' and 'semiotic' (Braidotti, 2011: 5), broadening insight into how these continually interact, for example, in terms of how geography and human culture are intricately intertwined (Thrift, 2004). However, the 'transversality' of the new materialism (van der Tuin and Dolphijn, 2010) also challenges dualisms of 'human agency' versus 'social structure', and 'micro' versus 'macro'. It draws into a single analysis interactions between affects usually treated as 'micro' or agentic (for instance, breastfeeding an infant, or ordering a drink in a bar) and 'macro' or structural (such as government policies towards racial integration or employment) and consequently often not considered together. This has implications for evaluation of policy and sociocultural events,

which necessarily shifts from assessments of the 'broader', 'political' consequences (intended and unintended) of an intervention, to a micropolitical analysis of how affective flows produce capacities and incapacities far beyond the immediate interaction.

The value of a materialist, micropolitical analysis of behavioural interventions must rest not upon these points of theory, but upon its capacity to evaluate what such interventions actually do in practice. To explore how this ontology can be translated into a methodology for analysing behavioural interventions micropolitically, we provided two short illustrations. Despite their brevity, analysis from a materialist perspective of the two case studies of behavioural approaches supplied detailed insights into what these interventions do when they are applied to their target populations. Some of the capacities they produced are intended, while others (we may hope) were unintended. We would suggest that these analyses give great cause for concern both regarding the impacts on the well-being of their immediate targets and wider communities, and in relation to the growth in use by governments of such behavioural strategies as a policy implementation tool.

In terms of the former, neither the offer of vouchers for breastfeeding nor the use of the cashless debit card to manage income fits the assumption in behavioural economics that behavioural approaches encourage people to make choices that are in their best interests. We see in both cases that recipients of these behavioural interventions find themselves in circumstances that are not what they would have chosen, and indeed may have negative consequences. In the case of users of the CDC, the intervention increases financial hardship, limits their capacity to engage in the cash economy and even to feed their children. Women offered voucher transfers for breast feeding may find themselves coerced into difficult or painful breastfeeding or enduring unsettled family relationships because of the intervention. Concerning the use of behavioural approaches to achieve government policy objectives: while similar analyses of other interventions are needed, these two case studies pose serious questions as to whether the use of such approaches is ethically acceptable in democratic societies that acknowledge freedom of choice as a principle.

We conclude with a reflection on the capacity of a new materialist analysis to supply a critical perspective on behavioural approaches to social policy. At the outset of this paper, we

acknowledged its materialist grounding in Deleuze's (1988) Spinozist ontology of relationality and affects, while we also noted that estimations of the macro-political consequences of social actions or processes may be replaced in a new materialist perspective with a Spinozist micropolitical and ethical assessment of the capacities and incapacities that these actions and processes produce. Micropolitical analysis of two behavioural approaches we have considered in this paper has allowed us to assess the impacts on capacities and incapacities. The use of vouchers to incentivise breastfeeding, we found, had a range of negative impacts on mothers' capacities, with these differentially impacting on low income groups. The cashless debit card similarly affected people's capacities to engage in a range of everyday activities from transport, to shopping, to feeding their children, which are all part of the accepted day-to-day activities of those not dependent on the card for their income.

Both interventions consequently contribute to the social stratifications and inequities of a market economy, and to the production and reproduction of class, gender and race. Each, we would conclude, fail an ethical assessment of whether the positive capacities that the intervention produces outweigh the many incapacities they also generate. Social policy, we might further conclude, should be founded upon this ethics of maximising its targets' individual and collective capacities for becoming (for instance, replacing means-tested benefits with a universal/unconditional basic income). Questionable behavioural interventions founded upon a mix of neo-paternalism and neoliberalism may cause distress to those they target, may sustain or even foster social and cultural divisions between advantaged and disadvantaged, and may line the pockets of private enterprises whose bottom-line is financial rather than social justice. Those in government who promulgate such approaches need first to assess micropolitically what a proposed intervention will actually do to all those involved: individuals, communities and the wider society and polity.

Notes

1. Neo-paternalism increases the conditionality, surveillance and regulation of the behaviours of individuals receiving government support (Mead, 1997). It differs from 'old' paternalism as neo-paternalism is committed to specifically changing individual behaviours, where 'old' paternalism does not necessarily have an explicit behavioural change focus. (Dee, 2013).

2. There is no current evidence that behavioural approaches are more cost effective. See, for example, Klein and Razi, 2018.

3. Following Deleuze and Guattari, Buchanan (2017: 465) argues that an assemblage should not be considered as a 'thing', but as a 'purely formal arrangement or ordering that functions as a mechanism of inclusion and exclusion'. In the analysis that follows we focus upon the relations, affects and capacities thus assembled or arranged.

4. This shift from macropolitical to micropolitical assessment poses the question of whether the new materialisms lack a critical component. To establish the criticality of his materialist approach, Deleuze drew upon a further aspect of Spinoza's thought: his ethics of becoming (Spinoza, 2000). Spinoza sought to replace humanist and other moralities with the simple ethical principle that we should always interact in ways that enhance others' capacities to feel, think or act; and conversely to oppose actions that reduce such capacities or replace them with incapacities (Deleuze, 1988: 22-23). We apply this ethics of becoming, and evaluation of the (in)capacities that behavioural approaches produce, when we discuss the use of behavioural interventions in the final section of this paper.

5. In this paper we use the terms 'Indigenous' and 'First Nation' to reference the pre-European inhabitants of the Australian continent, and 'settler' to connote the subsequent migrations from Europe and elsewhere.

6. The concept of development that underpins *Closing the Gap* continues to be used by policy makers to encompass a range of norms that underpin liberal capitalist ways of being, specifically promoting economic productivity and individual responsibility through enforcing formal employment, individual home ownership and children excelling in numeracy and English literacy.

7. The researchers suggest several possible explanations for the reduction of birth weight, including how income management increased stress on mothers, disrupted existing financial arrangements within the household, and created confusion as to how to access funds (Doyle et al., 2017). Researchers suggested implementation issues as a possible explanation for the reduction in school attendance (Cobb-Clark et al., 2017).

8. Forrest is a key figure in the development of the mining and iron ore industry in Australia, operating in the Kimberley and elsewhere, through his company, Fortescue Metals Group (Fortescue), and later his philanthropic Foundation Minderoo.

9. This was a 13 month study of the implementation of the Cashless Debit Card trial in the East Kimberley region of Western Australia. It gathered interview data from people using the card, community leaders, community services and policy makers, to understand the design, logic and impact of the card. These interviews were triangulated with discourse analysis of policy documents and speeches regarding the CDC, and participant observation insights generated while living in the East Kimberley throughout the trial lead up and implementation periods (Klein and Razi, 2018).

10. The private company Indue was contracted by the Department of Social Services and Department of Human Services to develop the technology and run the trial in Ceduna and the East Kimberley. It owns the intellectual property from the trial and was paid A$10.8 million of the A$18.9 million spent on the trial (up until April 2017). Other corporations have also engaged in the CDC process, including the Commonwealth Bank who helped the Minderoo Foundation to refine technologies of the CDC.

11. Behaviourism was a psychological perspective on human and animal behaviour that treated organisms as a 'black box' into which stimuli are fed and out of which behaviours emerge (Hatfield, 2003). Cognitive psychologists disputed this model, seeking to delve inside the black box of the human mind to make sense of the mechanisms that intervene between stimulus and response, addressing issues such as volition, reasoning and emotion (Festinger, 1962).

References

Akbulut, B., Adaman, F. and Madra, Y. (2015) The decimation and displacement of development economics. *Development and Change* 46(4): 733-61.

Alldred, P., and N. J. Fox. 2015. The sexuality-assemblages of young men: A new materialist analysis. *Sexualities* 18 (8): 905–992.

Altman, J.C., 2009. *Beyond closing the gap: Valuing diversity in Indigenous Australia* (Vol. 54). Canberra: Centre for Aboriginal Economic Policy Research.

Altman, J. (2014) Beyond *Closing the Gap*: valuing diversity in Indigenous Australia. Center for Aboriginal Economic Policy Research Working Paper 54/2009: 1-24.

Barad, K. (1996) Meeting the universe halfway: realism and social constructivism without contradiction. In: L.H. Nelson and J. Nelson (eds.) *Feminism, Science and the Philosophy of Science.* Dordrecht: Kluwer, pp. 161-194.

Bassani, D.G., Arora, P., Wazny, K., Gaffey, M.F., Lenters, L. and Bhutta, Z.A. (2013) Financial incentives and coverage of child health interventions: a systematic review and meta-analysis. *BMC Public Health* 13(3), S30.

Bielefeld, S. (2014) Income management and Indigenous peoples: nudged into a stronger future? *Griffith Law Review* 23(2): 285-317.

Braidotti, R. (2006) *Transpositions*. Cambridge: Polity.

Braidotti, R. (2011) *Nomadic Theory.* New York: Columbia University Press.

Braidotti, R. (2013) *The Posthuman.* Cambridge: Polity.

Bray, R., Gray, M., Hand, K. and Katz, I. (2014) Evaluating new income management in the Northern Territory: Final Evaluation Report. Sydney: Social Policy Research Center: University of New South Wales.

Buchanan, I. (2017). Assemblage theory, or, the future of an illusion. Deleuze Studies 11(3): 457-474.Buckmaster, L., Ey, C. and Klapdor, M. (2012) Income Management: An Overview. Canberra: Parliament of Australia Parliamentary Library, 1-5.

Clough, P.T. (2004) Future matters: technoscience, global politics, and cultural criticism. *Social Text* 22(3): 1-23.

Cobb-Clark, D., Kettlewell, N., Schurer, S., Silburn, S. (2017) The effect of quarantining welfare on school attendance in indigenous communities. Lifecourse Centre Working Paper 2017/22: 1-47.

Coole, D.H. and Frost, S. (2010) Introducing the new materialisms. In Coole, D.H. and Frost, S. (eds.) *New Materialisms. Ontology, Agency, and Politics.* London: Duke University Press, pp. 1-43.

Coons, C, and Weber, M. (2012) *Paternalism: Theory and Practice*. Cambridge: Cambridge University Press.

Dee, M. (2013) Welfare surveillance, income management and new paternalism in Australia. *Surveillance & Society* 11(3): 272-86.

DeLanda, M. (2006) *A New Philosophy of Society*. London: Continuum.

Deleuze, G. (1988) *Spinoza: Practical Philosophy*. San Francisco: City Lights.

Deleuze, G. and Guattari, F. (1984) *Anti Oedipus: Capitalism and Schizophrenia.* London: Athlone.

Deleuze, G. and Guattari, F. (1988) *A Thousand Plateaus*. London: Athlone.

DellaVigna, S. (2009) Psychology and Economics: Evidence from the Field. *Journal of Economic Literature* 47(2): 315-72.

Doyle, M., Schurer, S., Silburn, S. (2017) Do Welfare Restrictions Improve Child Health? Estimating the Causal Impact of Income Management in the Northern Territory. Lifecourse Centre Working Paper, 2017/23: 1-72

Duff, C. (2010) Towards a developmental ethology: exploring Deleuze's contribution to the study of health and human development. *Health* 14(6): 619-34.

Earle, S. (2002) Factors affecting the initiation of breastfeeding: implications for breastfeeding promotion. *Health Promotion International* 17(3), 205-214.

Feitsma, J. (2018) Brokering behaviour change: the work of behavioural insights experts in government. Policy and Politics. Advanced online publication: 9 March 2018. DOI: 10.1332/030557318X15174915040678

Festinger, L. (1962). *A Theory of Cognitive Dissonance.* Redwood City, CA: Stanford University Press.

Fitzpatrick, S. (2018) Closing the gap: coming to terms with a decade of failure, The Australian, 12th February 2018, https://www.theaustralian.com.au/news/inquirer/closing-the-gap-coming-to-terms-with-a-decade-of-failure/news-story/41230c9e3a338ecbb46f95bbea86efad, accessed 15 May 2018.

Forrest, A. (2014) The Forrest Review: Creating Parity. Canberra: Department of the Prime Minister and Cabinet.

Fox, N. J., and P. Alldred. 2013. The sexuality-assemblage: Desire, affect, anti-humanism. *Sociological Review* 61 (6): 769–789.

Fox, N. J., and P. Alldred. 2015. New materialist social inquiry: Designs, methods and the research assemblage. I*nternational Journal of Social Research Methodology* 18 (4): 399–414.

Fox, N. J., and P. Alldred. 2017. *Sociology and the new materialism*. London: Sage.

Frerichs, S. (2011) False promises? A sociological critique of the behavioural turn in law and economics. *Journal of Consumer Policy* 34(3): 289-314

Grosz, E. (1994) Volatile Bodies. Bloomington: Indiana University Press.

Haraway, D. (1991) *Cyborgs, Simians and Women*. London: Free Association Books.

Haraway, D. (1997) *Modest_Witness@Second_Millennium.Femaleman_Meets_Oncomouse.* New York: Routledge.

Hatfield, G. (2003). Behaviourism and psychology. In: Baldwin, T. (Ed.). *The Cambridge History of Philosophy 1870-1945*. Cambridge: Cambridge University Press, pp. 640-648.

Hausman, B.L. (2003) *Mother's Milk: Breastfeeding Controversies in American Culture*. New York NY: Routledge.

Hector, D., King, L., Webb, K. and Heywood, P. (2005) Factors affecting breastfeeding practices. Applying a conceptual framework. *New South Wales Public Health Bulletin* 16(4), 52-55.

Hampton, S. and Adams, R. (2018) Behavioural economics vs. social practice theory: perspectives from inside the United Kingdom government. *Energy Research & Social Science* 46, 214-224.

Horta, B., Bahl, R., Martines, J. and Victora, C. (2007) *Evidence of the Long-Term Effects of Breastfeeding: Systematic Reviews and Meta-Analysis*. Geneva: World Health Organization.

Kahneman, D. (2003) Maps of bounded rationality: psychology for behavioral economics. *American Economic Review* 93(5): 1449-1475.

KDC (Kimberley Development Commission) (2013) *Aboriginal wellbeing.* Kununurra: Kimberley Development Commission, pp. 1-22.

Klein, E. 2016. Neoliberal subjectivities and the behavioural focus in income management. *Australian Journal of Social Issues* 51 (4): 503–523.

Klein, E. 2017. *Developing minds: Psychology, neoliberalism, power*. Oxford: Routledge.

Klein, E., and Razi, S. 2018. Contemporary tools of dispossession: The cashless debit card trial in the east Kimberley. *Journal of Australian Political Economy* (Special Issue on Indigenous welfare policy), 82: 84–106.

Kowal, E. (2008) The politics of the gap: Indigenous Australians, liberal multiculturalism, and the end of the self-determination era. *American Anthropologist* 110(3): 338-48.

Latour, B. (2005) *Reassembling the Social. An Introduction to Actor Network Theory*. Oxford: Oxford University Press.

Lea, T. (2014) "From Little Things, Big Things Grow": The unfurling of wild policy. *E-Flux* 58, http://www.e-flux.com/journal/58/61174/from-littlethings-big-things-grow-the-unfurling-of-wild-policy/ (accessed 30 November 2018).

Lea, T. (2015) What has water got to do with it? Indigenous public housing and Australian settler–colonial relations. *Settler Colonial Studies* 5(4): 375–86.

Lea, T. and Pholeros, P. (2010) This is not a pipe: the treacheries of Indigenous housing. *Public Culture* 22(1): 187–209.

Lemke, T. (2015) New materialisms: Foucault and the 'government of things'. *Theory, Culture & Society* 32(4): 3–25.

Marx, K. (1971) *A Contribution to the Critique of Political Economy*. London: Lawrence & Wishart.

Massumi, B. (1988) Translators's foreword. In Deleuze, G. and Guattari, F. *A Thousand Plateaus*. London: Athlone, pp. ix-xix.

McFadden, A., Gavine, A., Renfrew, M.J., Wade, A. et al. (2017) Support for healthy breastfeeding mothers with healthy term babies. *Cochrane Database of Systematic Reviews*,

Issue 2, No. CD001141, https://doi.org/10.1002/14651858.CD001141.pub5, accessed 2 May 2018.

Mead, L. (1997) *The New Paternalism: Supervisory Approaches to Poverty*. Washington DC: Brookings Institution.

Maddison, S. (2009) Australia: indigenous autonomy matters. *Development* 52(4): 483-89.

Mader, P. (2017) Contesting financial inclusion. *Development and Change* 49(2): 461-483.

Madra, Y. and Adaman, F. (2013) Neoliberal reason and its forms: De-politicisation through economisation. *Antipode: A Radical Journal of Geography* 46(3): 691-716.

McMahon, J. (2015) Behavioural economics as neoliberalism: producing and governing homo economicus. *Contemporary Political Theory* 14(2): 137-58.

Mills, C. and Hilberg, E. (2018) The construction of mental health as a technological problem in India. *Critical Public Health*, 1-12. https://doi.org/10.1080/09581596.2018.1508823, accessed 03 Dec 2018.

ORIMA (2017) *Cashless Debit Card Trial Evaluation: Final Evaluation Report*. Canberra: Department of Social Services, Commonwealth of Australia.

Potts, A. (2004) Deleuze on Viagra (Or, what can a Viagra-body do?) *Body & Society* 10(1): 17–36.

Relton, C., Strong, M., Thomas, K.J., Whelan, B. et al. (2018) Effect of financial incentives on breastfeeding: a cluster randomized clinical trial. *JAMA Pediatrics*, doi:10.1001/jamapediatrics.2017.4523

Renfrew, M.J., McCormick, F.M., Wade, A., Quinn, B. and Dowswell, T. (2012) Support for healthy breastfeeding mothers with healthy term babies. *Cochrane Database of Systematic Reviews*, Issue 5: No. CD001141, https://doi.org/10.1002/14651858.CD001141.pub4, accessed 02 May 2018.

Renold, E. and Ringrose, J. (2011) Schizoid subjectivities? Re-theorizing teen girls' sexual cultures in an era of 'sexualization'. *Journal of Sociology* 47(4): 389-409.

Rollins, N.C., Bhandari, N., Hajeebhoy, N., Horton, S., Lutter, C.K., Martines, J.C. and Victora, C.G. (2016) Why invest, and what it will take to improve breastfeeding practices?. *The Lancet,* 387(10017), 491-504.

Saint-Paul, G. (2011) *The tyranny of utility: behavioural social science and the rise of paternalism*. Princeton: Princeton University Press.

Shove, E. (2010) Beyond the ABC: climate change policy and theories of social change. *Environment and Planning A* 42(6): 1273-1285.

Strauss, K. (2008) Re-engaging with rationality in economic geography: behavioural approaches and the importance of context in decision-making. *Journal of Economic Geography* 8(2): 137-156.

Sunstein, C. (2013) *Simpler: The Future of Government.* New York: Simon & Schuster.

Thaler, R. and Sunstein C. (2009) *Nudge: Improving Decisions about Health, Wealth and Happiness*. London: Penguin Books.

Thrift, N. (2004) Intensities of feeling: towards a spatial politics of affect. *Geografiska Annaler Series B Human Geography* 86(1): 57-78.

van der Tuin, I. and Dolphijn, R. (2010) The transversality of new materialism. *Women: A Cultural Review* 21(2): 153-171.

Victora, C.G., Bahl, R., Barros, A.J., França, G.V. et al. (2016) Breastfeeding in the 21st century: epidemiology, mechanisms, and lifelong effect. *The Lancet*, 387(10017), 475-490.

Whelan, B., Thomas, K.J., Van Cleemput, P., Whitford, H. et al (2014) Healthcare providers' views on the acceptability of financial incentives for breastfeeding: a qualitative study. *BMC Pregnancy and Childbirth,* 14(1), 355.

Whitehead, M., Jones, R., Howell, R., Lilley, R. and Pykett, J. (2014) *Nudging all over the World*. Swindon: Economic and Social Research Council, UK.

Whitehead, M., Jones, R., Lilley, R., Howell, R. and Pykett, J. (2018) Neuroliberalism: cognition, context, and the geographical bounding of rationality. *Progress in Human Geography.* https://doi.org/10.1177/0309132518777624. Accessed 29 Nov 2018.

Youdell, D. and Armstrong, F. (2011) A politics beyond subjects: the affective choreographies and smooth spaces of schooling. *Emotion, Space and Society*, 4(3): 144-150.