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A Double-Bind? Taking New Materialisms Elsewhere in Studies of Education and Childhood

I welcome this intervention into recent debates about new materialist and post-humanist thought in education. To some extent, these debates mirror longer-standing considerations in childhood studies literatures as to the roles of Actor-Network (Prout, 2005) and Nonrepresentational (Horton and Kraftl, 2006) theories in conceptualising children's lives. Indeed, a good proportion of that scholarship has taken place in educational contexts. Thus, this response will concentrate less on the question of the relative 'newness' of new materialist ontologies, since this question has received considerable attention in recent exchanges around the so-called 'biosocial dualism' (e.g. Lee and Motzkau, 2011; Ryan, 2012; Kraftl, 2013a). Rather, I will focus upon what I consider the 'double-bind' (or double-binds) of new materialist thought, to which the article "*Data Found Us*" signposts readers, but which could be more fully fleshed out.

I choose the term 'double-bind' quite deliberately given the emphasis in new materialisms upon non-dualistic, non-hierarchical thought. Yet running throughout the original article is a series of tensions that afford a *sense* of dualism – an underlying sensibility that, if only affectively, works to unsettle the tropes of intra-action. In this response, I want to focus upon a series of these double-binds. Before doing so, I should come clean and clarify my own position with regard to new materialist scholarship as being 'guardedly enthusiastic'. Much of my own work for the past decade has been inflected with nonrepresentational and, latterly, new materialist thought. Yet – in a double-bind of my own – I have also expressed a certain ambivalence about the ways in which biosocial approaches privilege certain kinds of materiality and method above others, thus effacing a whole range of empirical and political questions, both old and new (Kraftl, 2013a; Horton and Kraftl, forthcoming).

With the above observations in mind, this response fleshes out four kinds of double-bind in new-materialist thought. Since my work straddles childhood and education studies, and since I write as a geographer, I combine insights from these areas of scholarship throughout. The first two double-binds are more directly broached in the original article; the latter two are inspired by it, but broaden the terms of the debate somewhat in terms of taking new materialisms *elsewhere*. Firstly, I tackle the original article's arguments about data and the role of the researcher, which I reframe as a question of intentionality. Secondly, I respond to the article's critical points about the agency and voice of nonhuman matter and a problematic Anthropomorphism that is (rather ambiguously) entrained therein. Thirdly, I explore what all of this means for range of pressing global debates affecting children and especially *education* – since, somewhat curiously, the original article is all but silent on the latter issue. Finally, I examine the potential role that interdisciplinarity might play in taking new materialisms elsewhere than debates about researcher/nonhuman agency/intentionality.

The first of the original article's main provocations is that new-materialist approaches seek a reconfiguration of the researcher (in relation to their data) that is, ultimately, unsustainable.

That is, that rather than being closed or controlling, the researcher enters the field through a state of openness: as a body, rather than a mind, which can be crossed, or permeated, or ‘found’, by nonhuman processes, which then become-data. This, the author argues, is a form of Othering. On the one hand, it Others those researchers who, for whatever reason, are deemed to be closed and controlling – those who would follow (perhaps especially) phenomenological traditions wherein all that really matters are human matters and human perceptions of Other matter. On the other hand, ultimately, the author contends that nonhuman agents and processes are Othered because they are spoken-for as a kind of subaltern who does not (and cannot) speak.

I return to the second observation below. But on the first, I am concerned that the debate thus far rests on a question of disposition and will: ultimately, on the intentionality of the researcher (figured here, ironically, as a bounded subject) towards the world they are studying. On this issue, the debate needs to be (substantially) widened. Of course the intentionality of the researcher themselves is significant. Yet the theoretical advances of new materialism stretch far beyond the conduct of scholars in the field. For instance, that conduct is – as I understand the work of Taylor (2013), Pacini-Ketchabaw and Clark (2016) and, indeed, Banerjee and Blaise (2013) – simply one aspect of a *wider* political and ethical acknowledgment of the ineluctable co-constitution of human and nonhuman worlds. It recalls far earlier, feminist arguments about the body, which, in some guises, arguably overemphasised the significance of embodiment in the constitution of society – and of embodied modes of data collection and writing – but did so precisely to draw attention to the wider neglect of embodiment in the patriarchal academy.

Ultimately, the conduct and intentionality of the researcher – whether they are ‘open’ or not – is, in my view, a place-holder for the (perhaps) more radical implications of new materialisms for research praxis. Perhaps, indeed, a focus on the researcher and their disposition is misleading: for, the starting point for new materialist scholarship is precisely one that endeavours “to shred the last vestiges of human sovereignty” (Gratton, 2014: 107). In the Deleuzian tradition, the starting point for that scholarship is a view of ‘the human’ that is radically decentred, porous, multiple, and entangled with and as the world. Thus – and the author is correct here – the double-bind that requires further consideration is the extent to which a focus upon the *praxis of the research-er* (as a recognisable human subject) is a necessary step along the way to *research praxes* that better resonate with the more radical underpinnings of new materialism.

My second, and related, response refers to the question of the agency (and will) of nonhuman matter in research. In focusing on Banerjee and Blaise’s (2013: 241) contention that, in their research, “Hong Kong air found us” (rather than they somehow encountering air), the author asks – provocatively – whether air agreed to be bestowed agency, to be represented as an agent that ‘found’ the pair. In this light, the author points to an important double-bind in theorising new materialisms and, especially, in ‘translating’ new materialisms into research practice. In part, this double-bind rests on a kind of odd, ambivalent anthropomorphism. On the one hand, in acknowledging or even affording nonhuman actants ‘agency’, new materialists are – inevitably, if perhaps inadvertently – inculcating air, or animals, or toys,

with a human trait: agency. On the other hand, then – and the author is correct – in this system of logic, it is quite right to ask whether nonhumans might ‘want’ that agency or not. Yet – in parallel with my observations about researcher intentionality – the language of agency and the anthropomorphism it begets is simultaneously unfortunate and necessary. It is unfortunate because it *could* imply that the agency of nonhumans is somehow commensurate with that of humans – even though to an extent it is so radically Other that to reduce it to the bare term ‘agency’ is to entrain that Other in a logic of the Same (Braidotti, 2011).

However, the term ‘agency’ is also necessary because in paralleling or at least *evoking* human agency, this linguistic manoeuvre is a key strategy in getting nonhumans on the agenda and at the very least acknowledging their role in assembling the social (Latour, 2005). Politically, this strategy is fraught with difficulties and further binds. For instance: is it better to at least ‘speak for’ the agency of nonhumans than for them to remain entirely absent (and silent)? Is a recognition of the agency of nonhumans an end-point or a step towards further, more radical, even ‘new’ forms of research praxis through which nonhumans may ‘speak’? And – I think most pertinently – what is the relationship between academic theorising and investigation of nonhuman agency, and multiple other strategies that humans might have for recognising our indivisibility from the ‘non’-human, towards ecological justice (Bennett, 2010)? In other words, is the point not that some new-materialist academics are *part of* a wider social movement – involving environmentalists, activists, educators and young people themselves – who are pushing for alternative modes of relating to the earth, and that theoretical languages of ‘agency’ are simply one discursive pillar in that movement? To broach this final question in particular is to significantly broaden the terms of the debate beyond that of the researcher and their relationship with data.

Certainly, it should be recognised that a key charge that may be levelled at attempts to translate new materialism into empirical research is that they risk somewhat endlessly describing manifold ways in which nonhumans ‘act’. In one sense, this move might be welcomed: as with studies of children’s play, there is a certain politics, ethics and aesthetics to recognising the intrinsic significance of different forms of nonhuman agency (Lester and Russell, 2014). In another sense, however, one might ask what should happen *next*? In particular, if one justification *for* new materialisms is to recognise the entanglement of humans with nonhumans in ways that might lead to forms of social, political and ecological justice, how do we make that leap (between the descriptive and the question of justice)? In the remainder of this response, I briefly broach these questions by considering where *else* we might take new materialisms.

My third response is prompted by the example of air that detains some of the author’s critiques. On this front, my argument is that – if education and childhood studies scholars are to invest further in new-materialist approaches – we must broaden our purview in terms of how exactly air (like water, soil, rock, etcetera) *matters* to our earthly predicaments (also Adey, 2015). Riffing on Banerjee and Blaise’s (2013) original article and taking inspiration Pacini-Ketchabaw and Clark’s (2016) theorisation of water in the early years classroom, it should be possible to ask wider questions about the social, political and ecological conditions of air. For instance, in the United Kingdom, there is live debate about the air quality of our

cities. There is mounting evidence that particulates – especially those emitted by diesel-fuelled cars – may cause a range of physiological and psychological diseases, to which those living near to major roads, and to which children, may be especially vulnerable (Oudin et al., 2016). In China and India, these debates are still more pressing, where levels of air particulates regularly exceed globally-set maximum thresholds for human safety and where – significantly, for the audience of this journal – those with lower educational levels are one of several groups found to be more susceptible to higher mortality rates associated with particulate air pollution (Chen et al., 2012).

In my mind, therefore, questions about air – or whatever forms of matter, for that matter – should not focus solely upon the interaction between researchers and their substance of choice (albeit, as the author recognises, and as I have done above, this is not to dismiss such a focus as a valid one for debate). Rather, they should presage a sense in which – whilst humans have always been ineluctably entangled with the nonhuman – human-environment interactions have reached a critical point at which it is simply no longer possible to arrogantly assume that we can continue with business as usual. From the folding of technologies into the biopolitical governance of children's lives (Lee and Motzkau, 2011), to the global circulation of anthropogenically-produced cements, metals and plastics in ecological, hydrological and geological systems, the social, technological and 'natural' are combined in so many ways, at scales both too small and too large for us to perceive, that they threaten to evade our control (Morton, 2013). In other words, humans have set in train processes in which we are so thoroughly infused, and whose effects permeate and constitute our corporeal existence and that of others: witness, for instance, the presence of micro-plastics on over a third of ten species of fish in the English Channel (Lusher et al., 2013).

Whilst the most pessimistic accounts of these processes see our Anthropocene condition as one totally out of the control of humans, the above observations nevertheless raise some very serious questions for childhood and education scholars, and which scholars inspired by new materialisms might be well-poised to address. Perhaps the most serious – and untapped by childhood and education scholars – is a recognition that whilst the designation of the Anthropocene works politically-affectively to afford a sense of the enormity of humans' impact upon the earth, it runs the risk of implying that air and water pollution, climate change, desertification and flooding – and their human impacts – might somehow be globally uniform. As I have already hinted, this could not be further from the truth. It will not come as a shock to readers of this journal to learn that, alongside women, several major international organisations have identified that children – especially in marginalised communities and many countries of the Majority Global South – are particularly susceptible to climate change as it combines with iniquitous social and economic forces (e.g. UNICEF, 2014). Moreover, notwithstanding the effects on children *now*, the current generation of young people faces, for potentially the first time ever, the prospect of growing up poorer than the previous generation (Resolution Foundation, 2016).

Framed by these global concerns, but zooming in to the scale of individual educational settings, childhood and education scholars have also begun to raise a range of compelling arguments for why attention to the multiple imbrications of the biological and the social is

warranted. For instance, Youdell (2016) notes how her commitment to understanding social inequalities in the classroom requires attending to the ways in which biological and social processes – and especially epigenetics – intersect in the production of relationships in the classroom and of learning itself. Through a series of brief examples, she demonstrates how learning may activate neural biochemical processes, and how cutting-edge neuroscientific research has shown that learning processes activate different regions of the brain. Thus, Youdell (2016: 56) emphasises that “[t]he challenge for critical education research is to resist the urge to bring these various approaches and accounts together only in contest, and instead bring them together in productive interaction, or intra-action”. We might not only challenge the potentially insidious ways in which ‘brain cultures’ (Pykett, 2017) are being mobilised in education settings, but, working with neuroscientists and others, assess the ways in which biological and social processes *combine* to produce conditions of inclusion and exclusion, within and beyond education settings.

In a rather different vein, in my own work, I have sought to understand the ways in which avowedly ‘alternative’ education spaces are imagined, constructed, practiced and articulated somehow against the grain of ‘mainstream’ and especially neoliberal educational regimes (Kraftl, 2013b). My work has, in part, been positioned in the context of growing fears in the UK and other Anglophone contexts about the apparent decline in children’s engagements with and learning about ‘nature’. Moves to address these fears – for instance through Forest Schools and other outdoor educational programmes – have been premised upon the idea that children’s interactions with nature are fundamentally good: pedagogically, emotionally, socially and medically. Critically, these kinds of programmes are founded upon fostering particular kinds of interactions with particular kinds of ‘natures’ – from fire-lighting in forests to animal care on farms. In this light, new-materialist theories are well-positioned to offer careful and balanced critiques since – if mobilised in a political as well as an analytical sense – they can enable scholars to cut through the often determinist, romantic characterisations of both nature and childhood that are propounded at some outdoor educational settings. At the same time (as Youdell, 2016 argues), new materialist scholarship may, in combination with other theoretical approaches, enable forms of critical engagement that may be (cautiously) affirmative. As I have argued, some alternative educational spaces may offer forms of biopower from below that, in contesting contemporary neoliberal forms of biopower, *might* be genuinely progressive in political and pedagogic terms (Kraftl, 2015).

I close my response with a fourth observation, which flows from the two examples above: that in taking new materialisms elsewhere (and here I have really only scratched the surface), education and childhood studies scholars could engage in more radical, perhaps ‘new’, forms of interdisciplinary inquiry. These should be theoretical as well as methodological. For instance, as I have argued above, it could well be that new-materialist critiques of the contested (bio)politics of ‘alternative’ education settings might only really gain traction if they are interwoven with insights from theorisations of (bio)power. Elsewhere, my (previously unacknowledged) arrogance that social scientists are ‘good’ at talking about positionality was blown out of the water when some Brazilian engineers with whom I have been collaborating for several years gave the single-most powerful, evocative, insightful and

theoretically-inflected account of what it means to hold a disciplinary identity that I have ever heard or read. In this light, I found myself nodding along with the author of the original article that “a post-representational practice [would] *foreground* the researcher’s ontologising activity” (unpaginated: original emphases). Yet I would argue that it is in perhaps surprising, even unprecedented, interdisciplinary conversations *beyond the social sciences* – to which a new-materialist sensibility might render us more (yes) ‘open’ – that such forms of reflexivity might be construed.

Methodologically, and empirically, we must not of course fall into the trap of assuming that simply by engaging in interdisciplinarity, or by including ‘scientific’ approaches, we might somehow instantiate a better or truer account of biosocial processes. To do so would be to be as equally seduced as would to uncritically assume the agential status of ‘air’ (and incidentally on this point I think the author somewhat misrepresents Banerjee and Blaise’s intentions). And that would be a final double-bind that would be hard to resolve. Nevertheless, if new-materialist approaches are to somehow ‘translate’ into research practice then the conversation needs to move away from the double-binds of researcher-intentionality and nonhuman-agency (as per my first two responses) to questions of how a ‘decentering’ of what most new materialists view as the fallacy of human subjectivity might be achieved (Spyrou, 2017). Youdell’s (2016: 56) intervention provides some brief insights as to what these kinds of interdisciplinary endeavour – involving epigeneticists, nutrigeneticists and neuroscientists – might allow in education settings:

“[t]his has the potential to allow us to investigate the possibility that all of [the following] might be true at the same time: learning as the interaction between a person and a thing; as embedded in ways of being and understanding that are shared across communities; as influenced by the social and cultural and economic conditions of lives; as involving changes to how genes are expressed in brain cells because it changes the histones that store DNA; as provoking certain parts of the brain into electrochemical activity; as relying on a person being recognised by others, and recognising themselves, as someone who learns.”

On another front, and to return a final time to the question of ‘air’, a pressing case could be made for collaborations between environmental scientists, medical experts, geographers and educators to address the ways in which exposure to particulate pollution is patterned by intersections of age, class, educational access, ethnicity and geographical location. Fairly simple methods exist (e.g. taking breath condensate samples) to ascertain the levels of different particulates in children’s bodies, which might be placed alongside environmental analyses of the circulation of different particulates at local, regional or even global scales. Simultaneously, human geographers and educators might engage in a range of qualitative research with children to examine their everyday, embodied, and thoroughly materialised engagements with local spaces – where they travel and spend time, what knowledges they have developed about air pollution, and what strategies they might develop to both avoid the most seriously polluted spaces whilst becoming part of a generation committed to reducing particulate emissions.

I have deliberately positioned my response to the original article through a series of ‘double-binds’ in order to draw attention to a series of tensions within new-materialist theorising on education and childhood. Some of these tensions were raised directly within the original article; others were prompted by my ongoing and often ambivalent engagements with new materialism. However, I remain optimistic that if debates engage with but also move beyond questions of the status and performative qualities of the ‘researcher’ and ‘data’, new materialist approaches to childhood and education might be uniquely positioned to critically address some of the entanglements of the biological and the social that challenge the current generation of young people. Having said that, new materialists cannot hope to do this alone: (perhaps) radical forms of theoretical and methodological interdisciplinarity are required. Moreover, as I have argued, new materialist *scholars* must be a part of a much larger community of praxis – involving educators, activists, politicians and young people themselves – who seek somehow to produce assemblages of human and nonhuman that are more socially, politically and ecologically just.

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