

AN INTERVIEW WITH ELIZABETH DE FREITAS

SANDY BAKOS

Simon Fraser University

MAGALI FORTE

Simon Fraser University

CANAN GUNES

Simon Fraser University

MATTHIAS STURM

Simon Fraser University

Introduction

In the spring of 2018, the four authors were involved in a graduate level directed readings course entitled, “What’s the matter with education? Faculty seminar in new materiality.” The course was offered collectively by an interdisciplinary group of faculty members within the Faculty of Education at Simon Fraser University in order to introduce some of the theories, research and pedagogies of new materiality and to delve deeper as a group into these diverse theories and concepts which are becoming more widely recognised and used in many areas of study. The seminar was organized around presentations given by guest speakers who are leading thinkers in new materialities scholarship, followed by interviews led by groups of students. This article presents our interview with Dr. Elizabeth de Freitas, following her presentation titled, “Calculating matter and worldly sensibility”. Dr. de Freitas holds a PhD in education and has a background in mathematics, as well as in the history and philosophy of science. As doctoral students, we are intrigued by possible applications of new materialist theories in our chosen fields of research. As such, our questions reflect our interests in pedagogy, identity, ethics, responsibility and assessment practices.

The Interview

Q1: You’ve written extensively using new materialist approaches in a variety of areas, including mathematics education, science and technology, while pursuing the implications and applications of this work across the social sciences and humanities. This is a broad range of areas, what initially drew you to using new materialist approaches in your research?

Elizabeth de Freitas: When I first started in educational research, I was focused on school mathematics cultures, mathematics teacher identity and the political framing of mathematics. I was always interested in the material culture of mathematics, in the lived experience of mathematics, and the kind of unusual encounters entailed in mathematical activity, and I was always looking for new ways of examining mathematical practices that attend more carefully to its specificity. One of the things I was really frustrated about when doing earlier political work on mathematics education was how the mathematics itself was treated as though it were immaterial and transcendent, untouched by the political framing of its lived experience. Much of the earlier work in our field on the socio-political framing of mathematics education doesn't actually dig into the specificity of mathematical practices, attending only to how these are elite gate-keeping practices. So I've always been looking for ways to get deeper into mathematical activity itself, at a more micro scale, in order to really track social, material, political life at all scales.

Certain theories, perhaps associated with new materialism, were appealing for that reason. I'm trying to remember specifically which texts came first for me, because I don't really know what would be considered a new materialist text, as it is such a debated tag. So many people would refuse that tag. The most important theorist for my own approach would have been Gilles Deleuze – I organized reading groups and attended the Deleuze Studies conferences. But my earlier reading in the 1980s had focused on Foucault and feminist history and philosophy of science – Haraway, Harding, Fox-Keller, Latour, etc. – while I was doing graduate work in Science and Technology Studies. My interest in more recent work in that field – through Karen Barad for instance – is linked to my past scholarship.

Q2: Recently, we read your 2008 article, 'Troubling teacher identity: Preparing mathematics teachers to teach for diversity' in which you used theoretical tools such as self-study narratives and critical discourse analysis to explore questions of pedagogy and social justice issues in pre-service mathematics teachers' experiences. If you were to revisit this question and the field that you were exploring at that time again now, using a new materialist lens, what would change? Is there anything that could be added that would help make sense of this research in a different way?

Elizabeth: Well, in 2015 I returned to this topic and co-wrote a paper on the posthuman future of identity with my colleague Matt Curinga. In that paper we revisit critical discourse analysis and conversation analysis as powerful methodologies that allow one to track the way people negotiate and mediate their identifications through discourse. But the paper also turns to the work of Manuel Delanda on language, to try and consider language in more material and non-symbolic ways. Nathalie and I also do this in our 2014 book, *Mathematics and the body: Material entanglements in the classroom*, in the chapter on language. We play around with the protocols of classroom transcript data. I think someone like Delanda keeps the focus on language, but begins to examine language a little differently in terms of its material force or its material activity. Brian Rotman does that as well, looking at prosody and the corporeal labour of

producing and understanding speech. It's important to note that neither of these thinkers would describe themselves as new materialist.

However, the question of identity is more problematic. There's this great piece of writing by Stuart Hall that he wrote about twenty-five years ago, called 'Who needs identity?' (Hall, 1996). In my article with Matt, we started with that question, and we asked what was this identity that so many of us had used to examine life in in all kinds of contexts? How would you begin to look at identity in a post-human ecology? Sometimes a term just gets too weighted down with associated meaning to be useful.

Q3: In the 2015 article you mention above, which is called 'New materialist approaches to the study of language and identity: Assembling the posthuman subject' you refer to Braidotti's "alternative political ontology for a more ethical future" (de Freitas & Curinga, 2015, p. 261) and there is reference to your work with Nathalie Sinclair "advocat[ing] for an 'inclusive materialism' that might also meet ethical demands of the future" (p. 261). We are interested in how the issue of the human's responsibility may shift when viewed through a new materialist lens, and what ethical implications this may have. Can you share your thoughts about how a new materialist lens can help understand the human / non-human intra-actions, and if new ways of thinking can contribute to a different way to identity formation and offer a path to taking responsibility for one's actions?

Elizabeth: We deliberated over the tag "Inclusive materialism" and whether that would be helpful for readers – we hoped that it might capture the 'more-than-human' as well as underscore our concerns about dis/ability in mathematics education. Our particular mixture of theory in the book is principally based on the historical work of Gilles Châtelet, and the philosophical work of Deleuze, but we wanted to link to other literature that was being published under the banner of new materialism. The problem with our inclusive term is that it can be read as being all encompassing, as perhaps too self-serving in its affirmation. There is a lack of responsibility really, I think, in imagining that pure inclusiveness. On the other hand, response-ability has to involve some sort of inclusive or sympathetic act, movement or tendency.

Obviously, there have been many, many, many different kinds of materialisms, and they have certainly been fascinating in different ways around the world. So this idea about being responsible for a theoretical position is important to consider – there is a responsibility to know as much as you can about the history and diversity of related theories. Tags come and go, and people claim new theories all the time. I've spoken about Mark Hansen in my lecture today, and he would never consider himself a new materialist. My commitments, in terms of responsibility, are to understanding particular texts and theorists, because they speak on their own behalf and not, usually, on behalf of a tag or school of thought.

I see Deleuze's work as really political and really concerned with an ethical future. On the other hand, some people see Deleuze and Guattari's work as invested in advanced capitalism and a kind of empty accelerationism. I would argue that Deleuze and Guattari are attempting to confront and engage with our capitalist condition, and that doing so involves a disturbing process of understanding it (learning it). I think this is what they do so well; they go to that hard place,

and look for counter-forces and lines of flight. So I see that as a kind of ethical responsibility in my work as well; I try to push theory into places where it is uncomfortable, where we have to face the hard questions, and yet still affirm creative and inclusive perspectives.

But over the years I have also written various papers that bring theory to bear on classroom events or curriculum documents or other specific practices. Of course it's easier to write a theory paper, but when you write a paper that actually tries to use theory to make sense of an everyday kind of experience or a classroom experiment, that's when you see your theory in all its nakedness. And often there is an embarrassing clash where you feel like 'the theory's not fitting, it's way too heavy-handed, it doesn't apply well'. But I enjoy the challenges of this practical venture. I think that this kind of practical application is another form of ethical responsibility, in research and intervention.

A few years ago, when asked to deliver a talk on new materialism at the American Education Research Association, to the Arts-based Research Special Interest Group, my first slide was "Is this really new?" and then I listed all these competing theories and philosophies, and tried to explain how they might differ. How do non-Western and Indigenous philosophies differ from new materialist philosophies? We need to take up these kinds of questions. This kind of work involves trying to make sure that you are carving out a contribution that is notable and distinctive, and that you haven't trampled on someone else's territory, while declaring yourself to be the next best thing.

*Q4: In your book *Mathematics and the body: Material entanglements in the classroom* (2014) cowritten with Nathalie Sinclair, you write about the pedagogy of concept. If students learn mathematical concepts, which you define as indeterminate in the process of becoming, how might this definition put current views of assessment into a different perspective? It is difficult to convert from a dualistic approach to this new materialist approach, and I am trying to think about how I could apply this (new materialism approach) in my classroom. As a teacher, I still see learning as a process. Given that the process of learning is in the realm of becoming, in order to potentially affect this process, I feel like I need some data. So I approach assessment in terms of collecting data, but if the concepts are constantly changing, then this data at one point is going to affect the other points.*

Elizabeth: I can well imagine that in classrooms where the indeterminacy and becoming of concepts is explored, you would find yourself thinking, 'I want some assessment, I need some feedback in this loop so that I can understand what they are learning.' We have been talking about learning events - what a learning event is, how it unfolds, etc. Maybe the question we need to pose is then: 'When does assessment seem like the right thing to do?' *When* would it be the right thing? Is it because you've always wanted it? I think the assessment industry makes teachers feel like they need to do it all the time, and this continued emphasis on assessment can lead to the kind of biomedical interventions in learning experiments of which I spoke today, used for that very purpose. That is a nightmare situation of ubiquitous assessment using 'pre-cognitive' physiological data in the service of predictive analytics. So there is an anxiety about the future that drives a need to assess all the time. We need to resist that. On a more practical

note, being able to figure out the appropriate time to actually assess something is important. It would be a big project to figure out when the time is appropriate, given the emphasis on process and potentiality. I am just trying to brainstorm. I think my starting point would be the question of when. If we don't use learning trajectories as models for tracking student learning 'towards' the designated concept, then how do we assess a line of flight or skills at mutating concepts and engendering mathematical monsters? Maybe looking again at the work of Imre Lakatos on the importance of a process that brings forth mathematical monsters? What makes a good monster?

Q5: Given the diversity of the range of disciplines involved with new materiality and the complexity for those of us just beginning to learn about it, do you have any words of wisdom or any advice that could help some of us that are at the beginning stages and feeling entangled with our journey with these ideas?

Elizabeth: It seems to me that you're already doing great work in this regard; you have this course going, you've got a community where you're sharing ideas and you're working really hard at trying to tackle these difficult texts. I think that it's important to find one text or one thinker that really works for you and then become an expert. I say this because tags like new materialism are important and powerful devices in academia, but they are also too easily open to critique. If you develop deep familiarity with the texts of Bruno Latour, for instance, then you've got your Latour, and you can debate and consider alternate readings of his work. I'm not suggesting that you become someone who only knows one theorist – but having that kind of anchor can help. You can speak through them. Then if someone asks you a hard question, you can locate yourself in those texts, because you've done that hard work of diving deep into them. But that's not the end of it. Then I suggest you start to build a theory map, tracing the differentiated links between theorists. Imagine this like a big map on the wall of your office, populated by various people, some more important to you than others.

Acknowledgement: We would like to thank Dr. Elizabeth de Freitas for her invaluable assistance in completing the best version of this project.

References

- Braidotti, R. (2013). *The posthuman* (1st ed.). Cambridge: Polity.
- de Freitas, E. (2008). Troubling teacher identity: Preparing mathematics teachers to teach for diversity. *Teaching Education*, 19(1), 43-55, doi:10.1080/10476210701860024
- de Freitas, E., & Sinclair, N. (2014). *Mathematics and the body: Material entanglements in the classroom*. New York, NY: Cambridge University Press.
- de Freitas, E. & Curinga, M. X. (2015). New materialist approaches to the study of language and identity: Assembling the posthuman subject. *Curriculum Inquiry*, 45(3), 249-165, doi:10.1080/03626784.2015.1031059
- Hall, S. (1996). Who needs identity? In S. Hall & P. du Guy (Eds), *Questions of cultural identity* (pp. 1-17). Thousand Oaks, CA: Sage.