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INTRODUCTION

Materialities, textures and pedagogies: socio-material assemblages in education

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Research in learning and pedagogy has for some time been turning away from preoccupation with individual learners, teachers or minds to embrace the situatedness of these processes and their many interrelations. Some researchers have explored socio-cultural or activity conceptions, some spatiality approaches, some ‘practice-based’ conceptions of learning, and some even draw from complexity science\textsuperscript{1}. All of these have sought to decentre a long-term educational focus on the individual human subject. They also eschew the domination in education of representationalist conceptions of knowledge, and explore ways that learning and knowing are rooted in action – including the ongoing action that brings forth the objects and identities constituting our worlds. At the same time they attempt to move beyond overly simplistic notions of ‘participation’ and ‘community of practice’ that have been so widely critiqued (\textit{inter alia} Hughes, Jewson, and Unwin 2007).

This issue of \textit{Pedagogy, Culture & Society} joins this developing tradition, but with a special interest in foregrounding the materiality of educational processes. The problem with educational views that are overly preoccupied with developing a particular kind of human subject is that materials – including human material – become invisible or subordinate to human cognition and agency. In this issue we challenge this hierarchy theoretically and empirically, and foreground the ‘matter’ of education as the mutual entailment of human and non-human energies in local materialisations of education and learning.

Sociomaterial studies in education have been slowly emerging in the past two decades or so. In a review of this work, Fenwick, Edwards, and Sawchuk (2011, 1, 3–4) explain:

\begin{quote}
[W]hat is material is often taken to be the background context against which educational practice takes place or within which it sits, and material artefacts are often taken to be simply tools that humans use or objects they investigate. While giving a focus to the materiality of education therefore, both approaches still
\end{quote}
tend to privilege the intentional human subject, which is assumed to be different or separate from the material; the material is the non-human. In educational research therefore, Sørensen (2009: 2) argues that there is a ‘blindness toward the question of how educational practice is affected by materials’, and suggests that its consequence is to treat materials as mere instruments to advance educational performance … What socio-material approaches offer to educational research are resources to systematically consider both the patterns as well as the unpredictability that makes educational activity possible. They promote methods by which to recognise and trace the multifarious struggles, negotiations and accommodations whose effects constitute the ‘things’ in education: students, teachers, learning activities and spaces, knowledge representations such as texts, pedagogy, curriculum content, and so forth. Rather than take such concepts as foundational categories, or objects with properties, they become explored as themselves effects of heterogeneous relations.

In particular, this issue is devoted to exploring one of the more radical socio-material orientations that educators are beginning to apply to studies of learning and pedagogy, drawing upon frameworks such as actor-network theory (ANT), ‘after-ANT’ and feminist ANT studies, and the broader realm of science and technology studies (STS). These orientations are highly diffuse, with many tributaries, voices and critiques. While it is a mistake to attempt to pin down and explain the ever-evolving experiments of ANT as though it were a monolithic theory, its overall approach can be described broadly as:

tools, sensibilities and methods of analysis that treat everything in the social and natural worlds as a continuously generated effect of the webs of relations within which they are located. It assumes that nothing has reality or form outside the enactment of those relations. (Law 2008, 141)

Education and educational things in an ANT approach are, as Fenwick and Edwards (2010) suggest, not seen as pre-existing objects of enquiry, but as emerging through enactments of various forms of association, as network effects. Here education, or the social more generally, is viewed as assembled and only becoming possible through its own enactment as a separate domain. Most important, ANT should not be viewed as a theory prescribing a way to think, but as ‘a way of intervening in educational issues to reframe how we might enact and engage with them’ (Fenwick and Edwards 2010, 11).

In a similar way, science and technology studies are characterised by a heterogeneity of themes, research and theoretical interests. Plurality and the maturation of the field are represented by the diverse versions of STS handbooks (Spiegel-Rösing and de Solla 1977; Jasanoff et al.1995; Hackett et al.2007). A standard story of the STS field (Sismondo 2007) calls us back to Kuhn’s *Structure of Scientific Revolutions* (1962/1996). From there we might consider STS development through the articulation of the ‘strong programme’ of the sociology of knowledge (Bloor 1976; Barnes 1974), the empirical programme of relativism (Collins 1985), the studies of laboratory (Latour and Woolgar 1979; Knorr Cetina 1981; Lynch 1985), the social con-
struction of technology (SCOT, in Pinch and Bijker 1987), the symbolic interactionism study of scientific under the rubric of work, studies of co-production (Jasanoff 2004) and so forth. Some have deliberately attempted to bridge the worlds of education and STS (e.g. Roth and McGinn 1997).

In education, studies drawing from these orientations explore ways that human and non-human materialities combine to produce particular purposes and particular effects in education. They examine the messy textures woven through different kinds of networks – and the resulting ambivalences – that intersect in pedagogical processes. Actually, the human/non-human distinction becomes very problematic in these sociomaterial conceptions. Most phenomena are understood to be hybrid assemblages of materials, ideas, symbols, desires, bodies, natural forces, etc. that are always active, always reconstituting themselves. Sociomaterial studies shift the conversation from issues defined by the personal and the social to questions about these assemblages, how they move, and how they produce what may appear to be distinct objects, subjects, and events. How and why do certain combinations of things come together to exert particular effects? For example, what knowledge is produced through patterns of assemblage? How do some assemblages become stable, and what force do they wield? How can more oppressive assemblages be interrupted and weakened?

Such sociomaterial research still remains somewhat marginal in education, even though it is proliferating rapidly in other social sciences such as geography, environmental studies, gender studies, digital humanities, organisation studies and new sociologies. Even the growing field of STS itself has devoted scarce attention to the sociomaterial practices of education in spite of classic studies examining the role of education for science (Polanyi 1958; Kuhn 1962/1996) or which analyse sites of education in terms of social technologies of disciplining (Foucault 1975). Sociomaterial researchers in education are gradually creating an in-between place of sociomaterial/STS studies and education, and showing this to be an important area of inquiry.

New questions, new vocabularies

The authors in this issue, while drawing from orientations associated with ANT, each expand and push forward ANT or STS conceptions of pedagogical enactments. Pedagogy here is understood to encompass a broad range of pedagogical encounters and situations. Some authors address curriculum and practices related to public schooling, others examine learning and pedagogies in the workplace, community, and post-secondary institutions: wherever learning is occasioned through specific purpose, content and activity.

Most express concerns about visions of education that emphasise output-driven learning, accountability, standardisation, performativity, representationalist forms of knowledge, and so forth. They use sociomaterial approaches to analyse and interrupt such enactments by making visible the
everyday, particular micro-dynamics of education and learning. The authors articulate their problematisations in different ways, and in some respect their articles may be regarded as experimental trials producing complex accounts of material educational practice. Some authors, such as Dianne Mulcahy and Helen Aberton, start by considering the lack of bodies and affects in dominant psychologised, individualistic descriptions of education. Others, such as Terri Lynn Thompson or Arva Mathisen and Monika Nerland, problematise learning processes entangled in widespread uses of new digital technologies. They examine how (apparently) simple devices like Thompson’s ‘delete button’, or Mathisen and Nerland’s ‘complex infrastructure’, are entry points for describing complex assemblages of objects, people, and knowledges. Carlijne Ceulemans, Maarten Simons and Elke Struyf follow the making of ‘a self-evaluation report’ in a Flemish teacher programme to understand its effect on the educational reform process. Tobias Roehl focuses on the way in which material machineries in science classrooms contribute to evoking particular human presences and participation.

The vocabulary of post-humanism emerges in these sorts of analyses, in the sense of reconsidering what is ‘human’ when we accept the relational entanglement of human and nonhuman intensities. However, the post- is not anti-humanistic: ‘It is not “after” in terms of going beyond, but in terms of offering a constant experimentation with or questioning of the human’ (Edwards 2010). Thus these authors consider with Latour (2005, 71) that ‘any thing that does modify a state of affairs by making a difference is an actor’. In following this route these authors transform materialities of education from ‘matters of fact’ to ‘matters of concern’. They ask not only how human/nonhuman entanglement affects educational practices and policies, but also where are the openings for change.

Thus this attention to socio-materialities and assemblages in education and learning raises important critical questions. For example, Dirk Postma argues for a ‘materiality of critique’. He criticises approaches (Marxism, neo-Marxism, and post-modern approaches) that are deeply embedded in humanism for limiting the boundaries of critique within linguistic discursivity. By interconnecting ANT with Butler’s notion of performativity (1990), the ontological politics of Mol (1999), and the agential realism of Barad (2007), Postma reimagines a critical educational challenge to hegemonies of exclusion: ‘This sociomaterial conception does not see critique in the first place as a form of theorising but as something present within practices’.

**New approaches: for pedagogy and pedagogical research**

Methodology is an ongoing struggle for researchers attempting to work with these sociomaterial approaches. Prominent commentators in the ANT tradition have emphasised the importance of following details in the everyday, to look down at the particular, not up at abstract categories that homog-
enise and control (Law 2004), because the local is all there is. The particular and local is not assumed or understood to be an instance of, nor situated within, a larger social system. But when the focus is particularly meant to be on materiality, and when material assemblages are meant to be taken as they arise rather than interpreted through prior categories, how can the presence and shaping influence in these phenomena of the human researchers and their inevitable pre-conceptions be explained? Researchers are commonly reminded that they must be reflexive about what is actually going on in constructing such research, and highly reflexive researchers struggle with the processes through which they translate material enactments into symbolic representations. How does one reconcile what is conjured into view and what is flattened? What categories, ultimately, is one using to shape, repress, highlight and inscribe? How are materials being anthropomorphised through a researcher’s intervention? Whose meanings constitute what is claimed to be materiality? In this issue, we see authors working through these issues in different ways. Some, such as Arve Mathisen and Monika Nerland, have relied upon interviews with human participants which they analyse to foreground the material interactions embedded in people’s narratives about their practice. Others such as Helen Aberton and Terri Lynn Thompson work primarily with interviews but also include observations of interviewees-in-action which are then photographed and discussed with the interviewees to surface significance material interactions. Dianne Mulcahy works with video recordings to explore teachers’ bodily affectivity, examining moments that ‘move and affect teachers and learners as embodied practices of assembly, which are often mundane, everyday, and seemingly trivial’.

The appropriate balance between showing and telling is difficult to assess or achieve. Sociomaterial studies would be expected to show diverse material enactments and the forms of knowledge they perform. However, the fine-grained tracing of detail necessitates a great deal of what seems like telling. We see this difficult balance in the study presented by Carlijne Ceulemans and her colleagues, who trace how teachers’ ‘standardisation-in-the-making’ occurs: they analyse documents specifying standards for teacher competencies as well as textual traces of teacher activity such as self-evaluation reports, examining the resulting assemblages of texts, teachers and events that produce standards.

Finally, turning to pedagogy itself, these sociomaterial orientations treat pedagogy as uncertain and heterogeneous assemblages – not as an identifiable or prescribable event, and certainly not as the exclusive concern of a teacher. This approach opens important questions about what appears to be inevitable and who is responsible: as Dianne Mulcahy writes in this issue, ‘thinking pedagogy as an assemblage affords a sense of collective responsibility’. In contexts of schools and children, this approach helps to unpick the apparent black boxes of much curricular knowledge and educational practice, and offer resources to trace the many webs and players and noncoherences
embedded in them. Studies such as Tobias Roehl’s in this issue illuminate how particular knowledges such as scientific ‘evidence’ and practices based on them become powerful through obligatory passage points, gatekeepers, and supporting networks. Students, too, can be taught how to critically analyse their worlds with a sociomaterial sensibility: tracing the micro-strategies of power in the ways that entities including themselves can become translated into networks that normalise, and examining how all things are effects – unstable alliances – produced in continuous webs of action.

In community contexts such as the voluntary organisations that Helen Aberton writes about, important everyday learning achieves an unusual visibility when it is appreciated as material enactments: this visibilisation throws up critical questions about how ‘pedagogic authority’ codifies and values some knowledges and overlooks others. In workplace contexts, sociomaterial analysis can make visible those aspects of infrastructure that function pedagogically. In this issue for instance, Arve Mathisen and Monika Nerland show how a software system becomes a pedagogical device forming the sociomaterial organisation of processes through which practitioners engage and develop knowledge: their analysis reveals what sorts of ‘epistemic agency’ as well as knowledge resources become produced through people’s interactions with this software. These sorts of analyses reveal the ubiquitous political negotiations and inscriptions that occur through sociomaterial interactions. Power relations and the politics that infuse pedagogy are by no means confined to human interests and ideologies, but are created and sustained through materialising processes indelibly enmeshed with the social and semiotic. Ultimately, these sociomaterial analyses open new directions and vocabularies for reconceptualising what is taken to be pedagogy, where and how pedagogical processes occur, and what effects they have on culture and society.

Note
1. One way to show the proliferation of this literature is to note special issues of scholarly journals that examine these different conceptions on terms of learning and/or pedagogy: see for example Management Learning 40, no. 2, 2009, ‘The Practice-based Turn’; Pedagogy, Culture & Society 12, no. 3, 2004, ‘Space, Identity and Education’; Educational Philosophy and Theory 40, no. 1, 2008, ‘Complexity Theory and the Philosophy of Education’; and Educational Philosophy and Theory 43, no. 9, 2011, ‘Actor Network Theory in Educational Research’.

References


