

Ethnography, materiality, and the principle of symmetry: problematizing anthropocentrism and interactionism in the ethnography of education

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Abstract

In this article we draw on actor-network theory (ANT), an established branch of a broader approach to social and interpretivist inquiry that is described in terms of sociomaterialism, relational materialism or material semiotics, in order to challenge the methodological and empirical orthodoxies of anthropocentrism and interactionism that have for a long time informed dominant discourses of ethnographic work. We draw on paradigmatic concepts from ANT to open up new possibilities for understanding education processes as emergent in relational fields where non-human forces are as equally necessary as and possess an agency equivalent to, human forces: this is described in actor-network theory as the principle of symmetry. We argue that such a shift, exemplified here by ANT but not restricted to it, generates important conceptual as well as political possibilities in constituting different possible outcomes in the accomplishment of ethnographies of education. In this way, we draw attention to the problematic of the decentring of the human subject and the critical investigation of the interface between people and objects that frame this special issue, and also propose a methodological response framed by a commitment to empirical research through ethnography as well as a theoretical response framed by relational materialism, operationalized here through recourse to ANT.

Key words

Actor-network theory; ethnography; materialism; post-structuralism; relational symmetry.

Introduction

The relational turn represented by interactionism and the various structuralist turns that predated it, produced conceptual templates for ethnography of education (typically reified within research methods textbooks and handbooks) as an approach that could and should be based on certain identified principles for practice. An anthropocentric gaze was established that took human beings and their relationships, interactions, expressions of consciousness, reflections and communication as the only possible starting point and centre for any kind of meaningful data production, with consequences that might not necessarily have been so positive for research development. One of them was that humans and human consciousness and interactions were given a self-evident higher position above other matter and that other important aspects in the conduct of the conduct of life were marginalized.

In this article we seek to challenge the methodological orthodoxy of anthropocentrism and interactionism and put concepts to work that are able to open up new possibilities for understanding education processes as emergent in relational fields where non-human forces are as equally necessary as human forces in education. We operationalize this challenge through using actor-network theory (ANT) to provide the ethnography of education with theoretical and methodological affordances to disrupt the reifications from the anthropocentric gaze. A further valuable affordance of ANT is located in the possibilities that it offers for the explication of subjectification processes and the development of structurally and interactionally sound interpretations, derived from ethnographically produced data, with a focus on the relationships between practices, things and bodies, objects and subjects, and contexts and fields to inform a standpoint in relation to the ethnographic research of mundane or everyday educational activities and patterns of educational work within their cultural locations or contexts. These are the so-called 'ordinary' or 'everyday' activities that nonetheless have the potential or capacity to emerge or unfold in potentially surprising or powerful ways (Smith, 2005; Trondman, Willis and Lund, 2018).

Our standpoint rests then, on a commitment to the study of not only the human but also the non-human, the material, and the environment, through adopting a theoretical framework that allows ethnographers to avoid the conventional bifurcations of micro and macro analysis, human and non-human agency, and global and local activity. Within sociological and/or anthropological ethnography, such a standpoint is not uncommon: however, we suggest that they are less common within educational ethnography (Beach, Bagley and da Silva, 2018): it is this lacuna that we seek to address.

We are outlining an epistemological and ontological standpoint that also involves tangible elements of both creativity and unpredictability, which requires a rich and careful understanding of everyday life and lives. It is about ethnography as a methodology for registering and inscribing cultural autonomy in

ways that no other methodology or theoretical orientation can pick up. It involves an understanding of context that goes beyond simplistic notions of field (in a methodological sense as a geographically, institutionally, or discursively constructed enclosed space), to a more agentive perspective. We shall return to agency below; for the moment, it is sufficient to note this shift in what we wish to foreground when we discuss context, through recourse to an analogy derived from the work of Willis (2018) in unpacking the complexities of formal works of art:

Too often 'context' is seen as a kind of passive framing of a still enclosed human picture, a kind of flat but necessary chore of construction for mounting in the institutions of sociological display. But this 'framing' invades the picture internally at every brush stroke! The human capacities on which we focus must be seen as always thoroughly entrained by circumstance and symbolic/discursive materials. (Willis, 2018: 582; emphasis added).

Following Willis, we argue that the emphasis of this relational perspective is to be found in a process that necessarily involves the enrolment of appropriate empirical approaches (that is, ethnographies of education, and we shall return to the paradigmatic empirical approaches of educational ethnography below), that in turn provide us with affordances to focus on context not in flat terms, as an inert stage across which social actors move and speak, but instead as an active space in ways that allow us to take aspects of historicity, materiality and social power into account. Within and across such a stage or field or space, people "should be a construct from the middle of the analysis, not a given boundary condition" (White, 1992: 196-7), and our focus should therefore involve initially suspending the "applicable boundary between the person and the object, to enable [us to] observe how the two are constituted within a shared system" (Jörissen, 2015: 218). The challenge, therefore, is to combine socially critical thinking, in the tradition of cultural studies that we have made reference to above, with a criterion of openness to different appropriate research methods and methodologies, as a means also to focus on agency, and specifically to maintain:

a theoretical warrant and respectability to explore how agents seek alternative ways of imagining themselves [...] against dominant classifications in the face of the enormous condescension of grand theory to one side and, to the other, the depressing consignment of whole and sentient beings to inert social categories and processes (Willis, 2018: 578).

Thus, our argument is for a mode of ethnography of education that: foregrounds the agency of social actors (as beings capable of making meaning of their own lives) but also of materiality; that problematizes the relationships between social actors and the field(s) in which we, as ethnographers, find them, but that also provides a robust rejection of grand theory; and, finally, rejects structuralist explanatory frameworks in favour of more complex and 'messy' approaches to the sorting and

categorising of the social. In order to do this, we draw on the theoretical and empirical opportunities afforded to us through the philosophical anthropological approach of Bruno Latour, and specifically actor-network theory (ANT), to the analysis of cultural production through ethnography. We seek to analyse the contents and effects of human activities and their dependency on social context in terms of consistencies, contradictions and interpretations, with outcomes that can be “connected to everything from resistance to quiet forms of disaffection to instrumentalism to conformism and their different ways of shaping futures, individual destinies and larger social structures” (Willis, 2018: 578). Our analytical concern is thus to outline an approach or standpoint to ethnographic research in a way that can develop a robust theoretical warrant for registering, analysing and understanding the general capacity of human beings to make sense of their conditions of existence in ways that are not wholly predetermined by outside ideologies, discourses and social forces, but at the same time not wholly independent from them either, when producing a thickly described ethnography of educational contexts and objects as well as individual and group interpretations of and responses to the context that they find themselves within (Trondman et al, 2018).

Analogous to the arguments posed by Willis (2018), briefly rehearsed above, and those of Eagleton (1990, below), we are also challenging the bourgeois vision of the aesthetic project that privileges autonomous human subjects that need obey no laws but those they give to themselves as universal subjects, initiating a pervasive aestheticizing of social practices that infiltrates the textures of lived experience as “intuitive good sense or inbred decorum” (Eagleton, 1990: 41).

When, for Kant, we find ourselves concurring spontaneously in an aesthetic judgement, able to agree that a certain phenomenon is sublime or beautiful, we exercise a precious form of intersubjectivity, establishing ourselves as a community of feeling subjects, linked by a quick sense of our shared capacities. The aesthetic unites us with all the authority of a law and this is certainly one major reason why the aesthetic has figured so centrally in bourgeois thought (Eagleton, 1990: 75, emphasis added).

We consider that the emergence of anthropocentrism (that is, human-centeredness in data construction, analysis, and theorisation) in ethnography, reified over a long period within textbooks on methodology (epitomised by, for example, Spradley (1980)) and steeped in an interactionist hegemony (that is, a hegemony that perpetuates the notion of a mind/body dualism), resides within a privileging of bourgeois intersubjectivity such as that recounted by Eagleton. Through recourse to ANT, we want to challenge this imposition of privilege in the human subject, given the authority of a law through the aforementioned intersubjectivity. We mean to foreground that ordinary or everyday social actors and not just the inheritors of bourgeois capabilities have their own ability to think creatively with and through the tools and materials that surround them and that they draw on in their

everyday lives. We see the 'just plain folks' about whom we write in our ethnographies going about their everyday work or practice (Lave, 1988) as being not only informants but also theorists, as having the capacity, if not necessarily or always the affordances, to construct faithful accounts of their own practice (Latour, 2013). As such, we "should take as much care tracing the symbolic complexity and layered-ness of lived culture as the literary critic takes in analysing the allegories, emblems and figures of literature and poetry" (Willis, 2018: 578) by focusing on the interfaces between people and objects, thereby necessarily moving away from anthropocentrism in favour of a standpoint that not only foregrounds people and materiality in an equal manner but also foregrounds the primacy of the material in some contexts (Miller, 2008).

At the same time, we understand making sense or meaning as a creative ability or capacity that has many features and many possible objects of attention. More specifically, it enjoys unpredictable outcomes, drawing as it does on perspectives that derive from a point of view beyond those of, firstly, educational processes as being primarily subject-based or, secondly, educational processes as being predominantly object-based arrangements (Jörissen and Meyer, 2015). Instead, it is their relationality, or their entanglement (Rieger-Ladich 2017), that provides the starting point for our inquiry, and as such we need a methodology that takes this relationality seriously. That is to say, we need a theory that explains the ways in which the historicity of materiality articulates itself by way of relational practices, whilst rejecting those dualisms that privilege the social actor over the material context of the action, the human actor over the non-human object, or the mind over the body (Rosiek, 2018; Ryle, 1949; Trondman et al, 2018; Willis, 2018). Here again, ANT provides us with the robust theoretical framework that we need to begin such an undertaking.

Actor-network theory, and the principle of symmetry

Actor-network theory remains an under-used sociological/philosophical approach within educational research more broadly. It has been employed to explore a number of diverse aspects of educational provision, including university physics and business curricula (Nespor, 1994), PISA testing (Gorur, 2011), higher education policy and the Bologna Process (Sarauw, 2016), teaching in nurseries (Plum, 2018), professional standards for teachers (Mulcahy, 2011), professional education (Tummons, 2010), medical education (Tummons et al., 2018), the relationship of technology to theory in education research (Thumlert et al., 2015) and, of particular importance to the argument that we are building here, the construction of knowledge through ethnographic research in education (Larsson, 2006). It has been described as: a component of ethnography that is concerned with "the processes of ordering that generate effects such as technologies" (Law, 1994: 18); and a "way of talking... [that] allows us to look at identity and practice as functions of ongoing interactions with distant elements

(animate and inanimate) of networks that have been mobilized along intersecting trajectories” (Nespor, 1994: 12-13).

The central contribution of ANT to the argument that we present here can be found in the principle of symmetry, which states that “humans are not treated differently from non-humans... Humans are not assumed to have a privileged a priori status in the world but to be part of it” (Fenwick and Edwards, 2010: 3). In an actor-network ethnography it makes no difference whether the phenomena or events that being explored are centred around people, or around things: both human and non-human elements can come together and be held together in order to ensure the performance of the social practice(s) in question. Indeed, it may well be the case that both human and non-human elements are always present and need to be so. This is not because such a mixture of people and objects can make a network seem to be more sustainable than if it was made up of just people or just things. Rather, this is a reflection of the fact that to attempt to bifurcate people and things when considering how the social is enacted creates a false dichotomy. It is simply the case that the one cannot be without the other (Latour, 2005: 75-6).

It is perhaps unsurprising to note that ANT has evolved over time, and that different versions of it can be relatively straightforwardly identified. Gorur (2011) positions her research within an approach that is referred to as an ‘early’ or ‘classic’ actor-network model as epitomised by Latour and Woolgar (1979): for her, the PISA assessment is her laboratory, and the ways by which the results of the PISA assessments are translated into objective policy statements are her scientific facts (2011: 78). Nespor (1994), in his ethnography of two different university departments – physics, and business studies – provides another standout example. Later approaches tend to be identified as ‘after’ actor-network theory, and other terms that are used to denote an actor-network informed approach include material semiotics and method assemblage – a plurality of approaches that reflects a postmodernist standpoint. As such, we need to maintain a critical perspective as to our use of ANT. For the purposes of the argument that we are presenting here, it is sufficient to note that this plurality exists, whilst maintaining a pragmatic response to the challenge that it poses: such a plurality of method/methodology is hardly unique to ANTish studies and research; nor need it prevent us from establishing accounts of everyday practice that are robust and truthful, that are faithful to the words, values and practices of our informants and participants without resorting to the spurious scientism of ‘critical distance’ or ‘positivism’ (Latour, 2013), acknowledging the exigencies of the social and rejecting explanatory frameworks that purport to explicate causality but in fact serve to gloss over complexity (Law, 2004).

Thus, notwithstanding these variations (analogous to, though dwarfed by, the proliferation of types of ethnography noted by Hammersley (2018)), we can identify four clear characteristics of Actor-

Network Theory that can be used to underpin the approach we argue for here. Firstly, ANT is a sociology of association (Latour, 2005), or of ramifying relations (Law, 2004): it is a way of thinking about how the social is joined together, in ways which can be empirically traced, using networks of associations or links consisting of people and stuff such as tools, routines, papers, buildings, or habits. Secondly, ANT provides ways of thinking about how different networks influence each other, and the ways in which people are made to do things across networks differentiated by geographical, temporal, or institutional boundaries: in this way, ANT can be aligned to the paradigmatic features of Multi-Sited Ethnography (MSE), as they both share a commitment to look beyond the single, bounded site and to problematise the very notion of boundary instead (Hine, 2007; Pierides, 2010). Thirdly, ANT goes on to explore the ways in which people are made to do things through analysing the technologies, tools, or other structuring resources which are used to achieve this: both people and non-people can make people do something; that is to say, both people and non-people are granted agency within ANT. Objects, materials, artefacts and reified practices can travel across networks, and can carry meaning and intention. Many such objects are text-based and are referred to as immutable mobiles: they are stable in form, but are transportable (Latour, 2005; Law, 1994): in this way, ANT shares the concerns of Institutional Ethnography (IE) for the ways in which texts regulate everyday work (Smith, 2005; Tummons, 2010). Finally, ANT moves attention away from the role of amorphous social forces such as 'culture' or 'society', employing an anti-reductionist commitment to complexity, whilst foregrounding the practical means by which social ties are kept in place through rich empirical investigation (Law, 2004).

The emergence of an ethnography of education

At first look, the presentation of an approach to ethnography for addressing aspects of materiality through the principle of symmetry by studying the sites where things come into being as well as the things themselves, alongside the people who inhabit these same sites and use these same things, might seem to be a relatively uncontroversial approach for the ethnographer of education. But in fact such an approach constitutes a significant disruption of longer-standing conceptual templates for ethnography (of education) as a form of anthropocentric interactionism, characterised by human-centeredness and the bifurcation of mind and body, that have been established for more than one hundred years. This ontological/epistemological standpoint is typically reified within research methods textbooks and handbooks, as a methodological as well as philosophical approach that positions ethnography, and by extension the ethnography of education, as being based on certain principles for practice that can be more-or-less discretely specified (Hammersley and Atkinson, 1983; Walford, 2018). Embodying the double edge of reification (Wenger, 1998), the social phenomenon by which abstract or philosophical constructs are inscribed in a physical form that by definition limits forms of interpretation and debate, these principles have in turn become applied in such a way as to block possibilities of and for

experimentation. Or, to put it another way, this assemblage of ideas and practices (we might just as easily describe it as a network) for the doing of ethnography of education has taken on 'a life of its own' (we might here, drawing on the ANT vocabulary of Callon (1986) say that this network has been 'mobilised') through the creation of foundations for practice that reified the anthropocentric and interactionist gaze. This gaze has in turn positioned human beings and their relationships, interactions, expressions of consciousness, reflections and communication as the only possible and permissible starting point and focus for any kind of meaningful data production and analysis (Beach, Bagley and da Silva, 2018; Larsson, 2006). One consequence of this anthropocentric and interactionist standpoint has been that humans and human consciousness and interactions has been given a self-evidently higher position above other matter, with other important aspects in the conduct of the conduct of educational life and learning consequently ignored, marginalized, or otherwise reduced in importance (Cassirer, 1944; Eagleton, 1990).

The foundations of this anthropocentric interactionism can be traced in the archaeology of ethnographies of education which in turn date back to early arguments concerning the identity of ethnography, as distinct from sociology, as an empirical as well as theoretical exercise. As far back as 1906, the Economics and Social Science section of the Committee on Historical and Scientific Works in France played host to a debate between René Worms, who labelled ethnography as a method for describing 'uncivilised' societies, and Emile Durkheim, who argued that not only was it impossible for ethnography to be 'merely' descriptive but rather it was in fact always analytical, but also that all societies had their own civilisation and as such the civilised/uncivilised dichotomy was false (Durkheim, 1906). And notwithstanding the challenges to so-called 'traditional' models of ethnography posed by feminist methodologies, postmodernism, and post-structuralism (Cairns, 2013; Popoviciu et al., 2007), as well as the more fundamental problematic proposed by Hammersley (2018) in his critique of methodological pluralism in ethnography, the key elements identified for educational ethnography can be codified in several ways in a manner that would have been broadly familiar to Durkheim (Beach, 2017). Specifically, it can be defined in terms of: an in-depth focus on cultural life in the particular case; learning from direct involvement with and long-term engagement in the field; the use of theoretical generalization and multiple methods; awarding high status to the accounts of the participants; research across formal and informal educational institutions; a cyclical process of data collection, theory building, and theory testing; and the use of macro- and micro-sociological perspectives (Beach, 2017). Similarly, Walford (2018) proposed that the defining characteristics of the research work done by ethnographers rests in their having to follow people in their everyday lives over a long period of time, interview them, weigh the credibility of their statements against observational data, look for ties to special interests and organizations, and write an account of what they have witnessed, usually as some kind of narrative about the routine patterns of everyday human life and behaviour. Eisenhart (2018) and Jeffrey (2018) echo these concerns, whilst also

foregrounding the importance of recognising the value of learning from participants through close up encounters, using multiple methods of data production in carefully selected case study sites, and giving serious consideration of what counts as evidence and what sort of knowledge it is possible to produce.

Actor-network ethnographies

For now, we wish to focus on the possible contribution of actor-network theory to ethnography. Specifically, we wish to foreground the ways in which actor-network ethnographies treat knowing as situated, embodied and distributed, and challenge ideas about knowledge as being codified, identifiable commodities that can be straightforwardly deployed as 'evidence'. A seminal idea here, in the sense that it is both original and generative, is that knowing is an enactment that is held together by a network of human and non-human connections (reflecting the principle of symmetry) that must be continually performed and refreshed and that do not arise and then remain permanent simply due to certain institutionalized practices (Fenwick and Edwards, 2010): any social project is never ordered; rather, there are endless attempts at ordering (Latour, 2005). Neither cultures nor their logic (once we have accepted them as being networks) are considered as static, impermeable, or geographically anchored; nor are they necessarily coherent and consistent. They are instead seen as being able to connect people across geographic, institutional, or temporal boundaries, and anthropologists therefore need to be able to trace these networks as they develop and change, as they begin to accommodate multiple differences, enrolling heterogeneous practices (Tummons 2010; Tummons et al., 2018).

More specifically, inspired by the broadened concept of relations inspired by ANT, ethnographers of education shift from studying those educational practices that are defined and mediated by the daily life of and activities in a bounded distinct group, such as a school classroom or a university department. Instead, they move toward studying circulating symbols, logics and semiotic representations that are taken up, contested, and sometimes re-purposed, in on-going social practices and across social, cultural and geographic boundaries (Beach et al, 2018; Eisenhart, 2018). The effects of discursive forces in constituting identities and experiences are highlighted, as is the contingency of social processes and the possibilities to document and represent not only what actually happens in schools and classrooms but also how schools and classrooms are actually brought into being, how they are accomplished and how, as networks, they are maintained (Eisenhart, 2018). Reflecting the broader postmodernist turn in qualitative inquiry, the extent to which the ethnographer of education is able to authentically represent the perspectives of participants is questioned (Rosiek, 2018), as is the capacity to prioritise humanity above other species through research (Dennis, 2018).

Law (2004) posits that the process of research is always, necessarily, both messy and heterogeneous, not due to a particular epistemological or ontological standpoint that requires research to be contingent, improvised, and chary of simplistic overarching explanatory frameworks (although it is all of these things), but instead due to the need for research to reflect a social world that is messy and unknowable in a regular and routinized way. And yet, it remains possible for the social to be accounted for in ways that are still definite and possible to render in a coherent manner – in peer-reviewed articles, blog posts, and monographs. This, then, is the crux – and the paradox – of ANT (a feature that is particularly stressed within the ‘after’ iterations already discussed (Fenwick and Edwards, 2010)): a rejection of neat, artificially-ordering processes of inquiry, replaced with a commitment to ‘mess’ that is sometimes mistaken for a postmodernist free-for-all at worst, or bricolage at best, but that in fact nonetheless posits, albeit obliquely, a sociological as well as ethnographic method and methodology. Indeed, in his more recent work, Latour regularly equates the process of inquiry with the work of the anthropologist or ethnographer (Latour, 2013). In ANT, the starting point for any inquiry is to be found in the unravelling and tracing of networks of people and objects and they are both/all analytically placed on the same ontological footing.

The aim of our inquiry, therefore, is to get inside everyday educational contexts and close to everyday practices and to the people involved in them in order to access their perspectives, as in conventionally understood ethnography of education. But the goal to portray the world of human actors solely on their terms as the sole permissible, idealised mode by which ethnography ought to be conducted, as exemplified by the paradigmatic features of ethnographic research that we outlined above, is both challenged and forced to change as conceptualisations of its object of inquiry, epistemological premises, and aims become messier, more contingent, more resistant to unifying explanations. Research and its objects are all intertwined with politics and changing social conditions and relations (human and material); and values from outside academia as well as within (Beach, 2017). New patterns of globalisation, mass global diaspora, postmodernism, the spatial turn in social theorising, the critique of anthropocentrism, and continuing global dispossessions by capital, have all become social actors that have led to new challenges and developments for the ethnographer of education as well as for the education cultures, systems and practices that s/he has chosen to explore (Dennis, 2018; Denzin, 2018).

The proliferation of digital technologies is a development that adds further weight as well as complexity to these shifts in practice and culture (Walford, 2018). These new technologies have grown in tandem with the demands for increased productivity that are characteristic of neoliberal economic and political models that seek to maximise the efficiency of human capital. But they can also, at the same time, be understood and discursively deconstructed in different ways. For instance, they can be constructed as useful tools for improving ethnographic work and accessing ‘new (virtual) spaces’ of

interaction (Marques da Silva and Parker-Webster, 2018; Tummons et al., 2015), or for challenging and displacing archaic forms of ethnographic practice (Hammersley, 2018). They can, simply put, seem very enticing (Beach, Bagley & Marques da Silva, 2018; Walford, 2018). But it has to be recognised that they also generate significant profit (of not only economic capital, but cultural and intellectual capital as well) for producers and distributors alike. In a manner akin to the portable and miniaturised audio cassette recorders of the 1960s, they are not only making ethnographic practices more effective (Beach, 2017), but are also actually changing research ideas and activities, extending the capacity and reach of the ethnographer of education in a manner best exemplified by the affordances of online or virtual ethnographies (see for example Landri, 2013; Vigo-Arrazola, and Dieste-Garcia, 2019). But at the same time, these practices are all contributing extensively to economic productivity and to private profit through the realisation of material capitalist interests situated in and derived from academic life (Shore, 2010). What appears to proliferate most in the lives of the majority of 21st century human subjects, is the effects of a rampant capitalism and the global mass insecurities it creates (Bright and Smyth, 2016). Neither the spaces of education investigated by ethnographers nor the ethnographers themselves (including their practices, irrespective of the reasons for which they were chosen) can be meaningfully separated for the purpose of analysis and inquiry from this precarious context and the different kinds of hostility and symbolic and physical violence it entails for many people, places and things (Beach, 2017). Notwithstanding the more-or-less complicit role of the researcher in the maintenance of socio-economic norms and conditions, we now arrive at the crux of our argument: ethnography can and should be a useful if not revelatory tool for empirically exploring, describing, historically situating and critically analysing this situation in education research for a better future, including our role, as ethnographers, within this (Beach, Bagley and Marques da Silva, 2018; Bright and Smyth, 2016).

It is our contention that ANT and relational symmetry can provide conceptual tools, a philosophical warrant, and a theory for bringing sense to ethnography of education for these purposes. But we would suggest that some of the current legacies of a more conventionally interactionist ethnography of education may be standing in the way of this. The tracing of an actor-network can start at any point within/across the network: there is and will always be a dizzying array of starting points and trajectories for the ethnographer (Latour, 2005). And, in keeping with the principle of symmetry, this starting point might be a human or a non-human actor. It might be the moment where there is a breakdown or fracture in a network: one of those moments that cause the ethnographer to pause in her tracks, or cause the respondent to stop mid-sentence or in the midst of a particular course of action. They will include things like the complex relationships that exist between governments, technologies, knowledge, policy, history, texts, money and people and the connections between them. These are things that are important for why and how we have the education systems, conditions and outcomes that we do. All too often, as we foregrounded at the beginning of this article, 'context' is seen

as a passive framing of an enclosed human picture in the institutions of sociological display. But the human capacities on which we focus must be seen as always thoroughly enveloped within, as well as acting upon, by circumstance, by historical, geographical or institutional context, and symbolic/discursive materials and relationships.

Latour provides an example (Latour, 2013: 30), placing his archetypal ethnographer within a laboratory (and thus deliberately harking back to Latour and Woolgar (1986)). The ethnographer notes that the artefacts, routines, people and artefacts around her all indicate that she is situated within a place that, through the work being done, the conversations taking place, the words being written, the measurements being taken, is 'in science'. But as she continues her inquiry, she records visits to the laboratory from a patents lawyer, a member of the clergy discussing ethics, a microscope repair technician, and an industrial end-user of one of the laboratory's products. Upon speaking to her informants, she learns that these visitors are all as important to the success of the laboratory as are the microbe cultures, lab coats and so forth: from the standpoint of the actor-network that is being traced, they are all 'in science'. So where will her inquiry take her next: to the law offices to explore the work done by patents, or to the factory where the end product is used in manufacturing? To the ethics committee that is discussing the implications of the work of the laboratory, or the retail outlets where the profit margin that accrues from the sale of the laboratory product is being evaluated? The answer, of course, is that in a way it does not matter, except insofar as Latour's ethnographer might have specific research questions to answer or only a fixed amount of time within which to present her thesis, or insufficient funds to justify a trip to the factory and a trip to the patent office. The heterogeneous practices, elements, habits, or actions that she might choose to follow are not bounded by any inherent essence that marks them out as being within different domains, from the point of view of the network that she is interested in tracing, or the people, things and practices that she is interested in following as they move around the network.

In practice we often bracket off non-human materials from our data and analyses, by assuming they have a status which differs from that of a human and that renders materials into either (mere) resources or constraints (Callon and Law, 1997). They are said to be passive and are considered as being active only when they are mobilized by flesh and blood actors. But if the social is in fact materially heterogeneous (and our position, like that of Callon and Law, is that it is) then this asymmetry simply does not work. Whilst there are undoubtedly qualitative differences between conversations, texts, techniques and bodies, why should we start out by assuming that some of these have no active role to play in social dynamics, in the endless attempts at social ordering that an actor-network perspective draws our attention to, whilst others do?

A brief consideration of some further examples of what we can describe as Actor-Network Ethnographies illustrates the ways in which ANT provides powerful insights into educational processes and practices across heterogeneous contexts, where the interplay of people, things, and places are all equally necessary for the accounts being constructed. Thus for Wright and Parchoma (2011), the ways in which school students learn with mobile devices (tablets and phones) can only be understood in terms of the interplay between the devices, the people using them, and the places that they are used. For Roehl (2012), how school students learn in physics and mathematics classes will always in part be mediated by the models and objects that are employed by teachers to illustrate key tenets or concepts. For Plum (2018), the rhythms and activities of day care centres are shaped by objects as mundane as lunchboxes as much as by people such as nursery teachers. For Bleakley (2012), the ways in which medical students learn about 'illness' is based on notions of 'evidence' that vary across ontological contexts. And for Mulcahy (2011), the professional learning of teachers can only be made sense of through exploring the ontologically variable agentive effects of teacher professional standards. The 'ANTs eye view', to borrow Latour's (2005) pun, affords us, as educational ethnographers, ways to think about what happens in all kinds of contexts (training hospitals, nurseries, schools) with all kinds of social actors, human (teachers, quality assurance officers, technicians) and non-human (models, documents, lunchboxes, phones), all entangled and all equally important to the other if the account being constructed by the ethnographer is going to be robust.

Conclusion: de-centring the human social actor

Our argument in this article has been that it is necessary to challenge the methodological orthodoxy of anthropocentric interactionism, with its roots in the privileging of bourgeois sensibilities, and instead put concepts to work that are able to open up new possibilities for understanding the ways in which education processes can be viewed and assessed, understood in the sense argued by Willis (2018) as being emergent in relational fields where non-human forces are as equally necessary as are human forces (the principle of symmetry), where they work by constituting various forms of possible outcomes (some of which are realized) in education contexts, some of which are constitutive of further actions whilst others may be resisted. What is important here is the de-centring of the human social actor, which we are foregrounding in an attempt to contribute to new possibilities for ethnographic research for initiating possible processes of change in interpretivist research practices generally. By having ambivalent meanings as both a research method and a text genre, ethnography has generally been quite amenable to post-structural and post-modernist critique and reconstruction. Yet this does not seem to have been as apparent in the field of educational research, where neither the fall of imperialism nor the suspicion of scientism has unfolded as rapidly or deeply as in other fields, and whilst we welcome recent work that has occupied relational materialist approaches (see for example Dennis, 2018; Rosiek, 2018), we conclude this discussion with a call for the wider adoption amongst

ethnographers of education of methods and methodologies which describe how relational materialist approaches change not only what we do as researchers, but why we do it. Latour argued that ANT is “simply another way of being faithful to the insights of ethnomethodology” (1999: 19). Indeed, ANT has been described as requiring an “insistence on painstaking ethnographic research” (Kipnis, 2015: 43, emphasis added). As such, we argue that a shift to the sensibilities afforded by ANT represents nothing more than a necessary process that was anticipated over a century ago by Durkheim:

The word 'ethnography' has, moreover, no definite accepted meaning [...] We have here one of those scientific frameworks which, because they have been built up empirically, are destined to be transformed in the future (Durkheim, 1906: 210).

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