

Please cite the Published Version

Ivinson, G and Singh, P (2018) Editorial: Special Issue on 'International policies – local affects: Regenerating the sociology of Basil Bernstein'. *European Educational Research Journal*, 17 (4). pp. 461-469. ISSN 1474-9041

DOI: <https://doi.org/10.1177/1474904118784126>

Publisher: SAGE Publications

Version: Accepted Version

Downloaded from: <https://e-space.mmu.ac.uk/621828/>

Additional Information: Editorial accepted by SAGE Publications and copyright The Authors.

Enquiries:

If you have questions about this document, contact openresearch@mmu.ac.uk. Please include the URL of the record in e-space. If you believe that your, or a third party's rights have been compromised through this document please see our Take Down policy (available from <https://www.mmu.ac.uk/library/using-the-library/policies-and-guidelines>)

Special Issue on ‘International policies – local affects: Regenerating the sociology of Basil Bernstein’

Gabrielle Ivinson

Manchester Metropolitan University, UK

Parlo Singh

Griffith University, Australia

It is perhaps no coincidence that the lead authors of the papers in this Special Issue on ‘International policies – local affects: Regenerating the sociology of Basil Bernstein’ are mainly women scholars. What may be more surprising is that scholars working within feminist traditions with an enduring scepticism about humanistic assertions for epistemology still work with Bernstein’s oeuvre, just when it is being appropriated to buttress strong claims for epistemology, such as the calls ‘to bring knowledge back in’ to the curriculum.

As a provocative introduction to the papers in the Special Issue we look at the tensions between epistemology and ontology as a way to explore Bernstein’s abiding appeal to us, and explain why, as feminist scholars, we have not simply abandoned what might seem like a grand, modernist sociological theory. We start by pointing to some of the contemporary appropriations of Bernstein’s work, and specifically those that make strong epistemological claims. Next, we introduce the renewed interest in ontology within new materialisms. We introduce concepts from the papers to read Bernstein’s work (diffractively) with and through other sources, including new material feminist onto-epistemologies, to exemplify why Bernstein leaves such a rich legacy and has ongoing relevance. In so doing, we challenge the idea that Bernstein’s theory is only about epistemology and hierarchical theory-building.

Epistemology

Movements that claim the need to ‘bring knowledge’ back into the curriculum cite Bernstein’s use of Durkheim’s ‘sacred’ and ‘profane’ knowledge, distinguished as vertical and horizontal knowledge discourses (Muller, 2000, 2009). Social realists (Young, 2000) perpetuate the now popular notion that elaborated codes are forms of ‘powerful knowledge’ (Moore, 2013a, 2013b). They argue that some schools are to blame for the low achievement of children living in poor areas, such as ex-industrial communities, because teachers fail to teach ‘powerful knowledge’ (Rata, 2016).

They argue that as teachers attempt to connect curricula to students' lifeworlds they dilute or debase knowledge (Young et al., 2014). Claims to bring knowledge back in found support, for example, when a former Secretary of State for Education, Michael Gove, revised the English national curriculum to make it more academic. In these readings of Bernstein's work, powerful knowledge tends to be narrowly conceived as its capacity for abstraction, epitomised by scientific concepts.

Zipin et al. (2015) counter the epistemological claims of social realism through standpoint theory to point out that scientific knowledge is always only partial. By taking a Vygotskian stance to learning, they argue for a dialectical relationship between scientific knowledge and everyday life-world knowledge. And, crucially, they argue that the social realist movement's notion of socio-educational justice is too thin for the educational issues faced by South Africa and globally.

We are aware that some Bernsteinian scholars value the strong grammar of the theory itself, and suggest that his theory builds epistemology in a hierarchical and rigorous manner (Maton, 2014; Muller, 2004, 2007). The papers in this Special Issue approach Bernstein's work from a very different perspective. Instead of valuing its supposedly monumental characteristics, we seek to work in the gaps and spaces where generative links with other theories allow us to create new concepts. We are interested in the onto-epistemological potentialities of the theory that afford concepts to be extended and regenerated for the new social conditions of regulation and globalisation in education.

Onto-epistemology of Bernstein's work?

Bernstein's theory is primarily sociological. According to his own formulations, sociology is a discipline that develops horizontally rather than vertically (Bernstein, 1996: 175). It builds outwards rather than upwards as new social conditions require new description. We might call this a logic of AND.

In *The Structuring of Pedagogic Discourse*, the fourth volume of *Class, Codes and Control*, Bernstein (1990) turned the focus to the pedagogic device as the relay through which social organisation is recreated with an emphasis on control. Bernstein creatively recontextualised Foucault's concept of discourse to regenerate code, and specifically knowledge codes that became fleshed out as horizontal and vertical discourses. In other words, Bernstein's theoretical distinction between horizontal and vertical discourses was designed to think about different knowledge forms and the relations between these knowledge forms. Horizontal discourses, he proposed, are realised as everyday and common-sense knowledge, and vertical discourses are realised as horizontal and vertical knowledge types. Moreover, while these ways of thinking about knowledge types and forms may seem rigid and fixed, Bernstein's focus was not simply on the boundary between knowledge types, but rather on the strength of boundaries (weak, strong classification) and the relations of control within and between boundaries (weak, strong framing). The focus on control relations shifts attention to the rapid, fluid dynamics of movement between everyday and scientific knowledge from moment to moment in daily interactions, and across time/space during a life course. It is this attention to both power and control relations that enabled Bernstein to claim that his theory was generative and open to change depending on which social problematic came into focus for him and his students. The theory is comprised of a complex language

[...] of transmitters, acquirers, agencies, fields, codes, grammars and rules. But the transmission/acquisition systems, the thesis projects do not create copper etching plates in whose lines we are trapped. Nor are the systems, grids, networks, and pathways embedded in either concrete or quicksand. (Bernstein 1990: 6)

In effect, he stressed that the theoretical architecture offers concepts to think with. The levels of the theory offer 'poles of choice for any set of principles and the assemblies possible within these poles' (1990: 6). Hence our claim that across the levels of the theory there are openings, fissures, spaces and gaps. In all five papers, we work those gaps.

Next we touch on the renewed interest in ontology as a way to introduce some of the pressing issues for education in a globalised economy that has effects for social organisation and forms of control in contemporary times. For example, the logic of securitisation (Clough, 2009) is used to justify new regulatory technologies that monitor and trace people's movement through digital coding, big data and self-sustaining algorithmic functions, without human awareness. We require new onto-epistemologies to enable us to fully grapple with the agentic power of non-human technologies that work directly on and in bodies, children, teachers, school leaders and parents/carers (Fenwick and Edwards, 2016; Ozga, 2016; Selwyn, 2016).

The ontological turn

Much of the turn to ontology is rooted in 'intensifying the decentring of the epistemological subject' to enable ways 'to think differently about the nature of being, the human and more than human, and so to find ways to live differently' (St Pierre, 2016: 25). The emphasis on 'being' and the more-than-human sustains a refusal of the Cartesian epistemological subject as the centre of scientific and social science methodologies and knowledge.

However, given Bernstein's clear lineage to Durkheim, how is it possible to read Bernstein in post-humanist terms, especially drawing on the radical philosophy of science proposed by actor network theorists such as Bruno Latour? First, Bernstein (2000) himself makes reference to Latour's (1979, 1987) work when writing about vertical and horizontal discourses and vertical and horizontal knowledge forms.

Latour makes a crucial distinction between science and research and produces a complex description of the invisible mediations of the social process in which research is embedded. He argues that 'truth' emerges out of the relative weight of mediations of opposers and affirmers. However, Latour considers the 'Modern Constitution' has attempted explicit work of purification by separating nature from society whilst invisibly colluding with society through processes of mediation. Truth is essentially a hybrid. From this point of view it does not make sense to ask any more where nature leaves off and society begins. Clearly there are outcomes where the dialectic of mediation is suspended and the battle lines drawn elsewhere (Bernstein, 2000: 173).

This reference to Latour's work, however, is inserted as an endnote in Bernstein's work, which means that the ideas require further exploration and elaboration. Typically for Bernstein, trains of thought that needed further exploration were written as endnotes and then picked up in later conceptual developments of the theory. All of the papers in this Special Issue attempt to work such spaces for further thought. In particular, they take up the above reference to Latour's philosophy of science and research. Latour (2005: 5) himself calls for a redefining of sociology not as the "science of the social" but as the tracing of associations. In this meaning [...] social is a type of connection between things that are not themselves social.' So, how does Bernstein's (2000) concept of re-contextualisation configure when read through Latour's concepts of re-association and re-assembling? Is it possible to continue to develop Bernstein's concepts in dialogue and debate with post-humanist, feminist materialist philosophies? All the papers in this collection not only think that these moves are possible, but actively engage in this work.

In addition, some of the turn to ontology is influenced by the works of Gilles Deleuze, and specifically what we might refer to as a new or radical empiricism.

In his radical empiricism, Deleuze removed the subject from its transcendental position as the synthesizing, unifying agent of judgment who recognizes (identifies) and orders the world using a priori categories and concepts, thereby *knowing* it, producing it as an object of knowledge. (St Pierre, 2016: 30. Emphasis in original.)

St Pierre points out that Deleuze was not primarily interested in knowledge, but instead returned to the empiricist philosopher David Hume to substitute belief for knowledge (Boundas, 1991, cited in St Pierre, 2016: 33). This shift forged the basis for a new empiricism that did not place the knowing human subject at the centre. Deleuze, she suggests, ‘was interested in the “concrete richness of the sensible” (p. 54) as it exists *for-itself*, not *for-us* after mediation by language, reason, or a priori categories into which it must fit’ (Deleuze and Parnet, 1977/1987 cited in St Pierre, 2016: 29). Here we might think of the sensible as the vitality of life, of matter and of the non-human. Patricia Clough suggests that

since the early 1990s, post-humanism has become a way to critically engage information and communication, genomics and microbiology, quantum physics and complexity theory while finding resources as well in the development of studies of biocapitalism, biopolitics, securitization and an economy of affect. Posthumanism has accompanied a rethinking of science, technology and causality, shifting focus from an epistemology of human consciousness to a ‘quantum ontology’ of matter and time-space. (Clough, 2009: 47)

We need methodologies that are able to address materiality, because matter is living, entangled and enmeshed with human and non-human bodies. Such methodologies need to critically recognise the changing configuration of economy, governance, disciplinarity and control in contemporary times (Clough, 2009).

We need post-human onto-epistemologies to understand the effects of digitisation, big data and personal data harvesting technologies based on algorithms that produce knowledge/information seemingly without human intervention. There is a specific kind of agentic power that comes from the self-organising, non-human capacities of algorithmic computation – a computation that can have all kinds of humanly unintended effects, leakages, mess-ups and powers of surveillance, which have real and material effects and affects on bodies of children and adults. We need to be able to recognise and realise the agentic power of technical objects (Simondon, 1958/2017) and how digitisation meets the self-informing capacity of matter (Hansen, 2007).

In Bernstein’s terms, we might say that there is a deep and dark invisible side to the intuitive pedagogy of, for example, smartphone use. Following the Cambridge Analytica, Facebook and Google scandals, there has been a wake-up call concerning the power of personal data harvesting and its commercial use. Many companies that rely on computation technologies and virtual media are now doing catch-up – to make more explicit the invisible encoding (classifications) and algorithmic computations (framing) intrinsic to the device’s digitization. Furthermore, to understand new modes of regulation, we need to recognise how specific ‘commercial’ groups are attached to global economies and are entangled with digital technologies that produce new material forms of regulation in educational institutions. We now turn to an overview of each of the papers in this Special Issue and articulate the ways in which the authors think with Bernstein’s concepts and extend his theoretical work in new directions.

Robertson and Sorensen put Bernstein’s concepts to work to explore how the data generation instruments produced by the Organisation for Economic Cooperation and Development (OECD), such as the Program for International Student Assessment (PISA) and, especially, the Teaching and Learning International Survey (TALIS), gave rise to new educational conditions of globalisation. They ask, if the state and forms of governance are changing due to the dominating influences of OECD and TALIS, and if the shift is towards a teaching profession that is charged with creating workers for a global knowledge economy, rather than for a knowledge society who are the new players and what new fields are being opened up? Their interest is specifically on the changing professional role of the teacher in a global context.

In Bernstein's terms this amounts to a challenge by a symbolic agent at the global scale regarding the existing rules around the classification and framing of the professional teacher. (Robertson and Sorensen, this issue, pp. 470-488)

They draw on Bernstein's work to explore the role of private consultants, consultancy firms, corporate philanthropists and entrepreneurial academics as diffusing and shaping symbolic agents. They demonstrate how TALIS acts as a pedagogic device that 'promotes learning through comparing, development and competition with other countries'. Robertson and Sorensen demonstrate the capacity of TALIS as a digitized, corporate enterprise, and show how its influence bypasses national state educational systems and reaches directly into classrooms. For example, the document, *A Teacher's Guide to TALIS 2013* (OECD, 2014b) represents a highly unusual move for the OECD in that it sought for the first time to bypass the national scale to attempt to reach into the classroom and speak to teachers directly and get buy-in and participation 'in future waves of OECD assessments and surveys' Robertson and Sorensen, this issue, p. 482.

However, they also explore cleavages and unexpected disruptions. For example, TALIS requires teachers to complete surveys to provide data through which they expose some as 'good' and others as 'not good', judged by the extent to which they report using constructivist approaches in their instructional practices. TALIS requires teachers to comply with the technologies to get the data needed to regulate them. Accordingly, the authors show where TALIS has had to make concessions to teachers to elicit their compliance. In effect, TALIS manipulates the teaching population's affective capacities. This works through a combination of fear and anticipation.

In her paper, Singh explores how the affective background inhabits the daily lives of teachers in schools in areas of high poverty in Australia. Test scores have an active affective force that deskills teachers. Head teachers spoke openly of the effort required to dissipate a pervasive sense of hopelessness in their staff. Singh draws on ethnographic work to explore moments when affects build and intensify by using psychodynamic concepts to understand teachers' defensive structures. She shows how global data league tables come to have direct influences in classrooms and on teachers and children without seemingly being mediated by the nation state education system. She inverts the hierarchy of Bernstein's levels of state governance, the Official Recontextualising field (ORF) and the Pedagogic Recontextualising field (PRF), by reading Bernsteinian concepts with and through Latour's (2005) flat networks, knots and circuits. In a further move, Singh reads Bernstein's concepts of social identities with post-Kleinian concepts of the split subject, ambivalence, psychic defences and mourning. Accordingly, she illuminates further Bernstein's concept of Totally Pedagogised Society (TPS). Indeed, the retooled TPS can now dialogue with Clough's (2009) logic of securitization, and elaborate Manning and Massumi's (2014) description of how technologies modulate the affect of the background of teachers' work. Singh's paper reinforces and further extends Robertson and Sorensen's descriptions of the affective power of new global agents entangled with digitized technologies and corporate enterprise to bypass nation state education systems and territorialise teachers' work in local classroom settings.

Tsatsaroni and Sarakinioti's paper describes the effects of global background affects (see Manning and Massumi, 2014) on mature students who return to education in times of mass unemployment in the Greek national context. They call on Foucauldian concepts to capture the complex, dynamic and contradictory movements of subjects, evident in the repertoire of trainees' talk around certain ideas that constitute the articulatory points of their positioning in lifelong learning (LLL) discourses as 'subjects of choice'. Bernstein's metaphor of 'boundary' enables them to rethink 'flexibility' as the fundamental principle of LLL. Their work gestures towards the affective work of taking up the imperative to be flexible. Reading Foucault with and beside Bernstein's concept of boundary, and his analysis of pedagogic identities, enables them to point to the different 'biases'

and ‘foci’ for managing change and choices in contemporary learning environments. They reveal the contradictions and tensions in the principles of organisation and transmission of knowledge as well as new forms of inequality.

Moss’s paper on gender and literacy demonstrates the generative potential of Bernstein’s methodological approach to create new concepts and insights. She pays attention to the gaps, openness and what we might call the logic of AND to extend Bernstein’s concepts for a new reading of PISA data on gender and literacy. She demonstrates the craft of empirical enquiry made possible by the gap between Bernstein’s concepts of languages of description (L1 – theoretical language and L2 –empirical language). As Moss suggests, both languages are analytical insofar as they create new terms with which to describe what is being researched. The languages of description translate the distinctions marked in practice and in the language of participants into a new theoretical language oriented towards the purposes of the research. They operate at different levels of abstraction: L2 provides a language of enactment and L1 a language of explanation. These languages of description are like the Freudian notion of ‘chains of ideas’ or ‘trains of thought’. Sometimes there may be synergy between different languages, but at other times there is outright contradiction (Bollas, 2007: 71). Both languages are open rather than closed systems and consequently, like all living languages, grow through the adoption and adaptation of new ideas and concepts.

Through her detailed work in classrooms in English primary schools, Moss shows how the language of explanation focuses on the way in which the curriculum creates social hierarchies of knowers, through the pacing and sequencing to knowledge it enacts. She suggests that this takes us back to the role Bernstein assigns to pedagogic discourse in social reproduction. It also creates a different space for thinking about gender relations and a gender politics of schooling, in which the question of whose interests the curriculum serves (boys versus girls) is replaced by a more precise set of questions about how to make a hierarchical knowledge base more accessible to all. She argues that Bernstein’s work is profoundly concerned with change, as much as with stasis. This is because it is the tension points within and between categories that matter most in his theory, not the categories in and of themselves. Her research reinforces the larger project to which Bernstein was committed by identifying more precisely the contrasting logics to reading that structure the school literacy curriculum in England. By showing how these ways of reading are variously mobilized to achieve different ends, the language of description helps construct a new grammar of possibilities, imagining how else such logics could usefully be put to work.

Ivinson suggests that new material feminist approaches and the turn to ontology provides concepts to enable us to work with the uncodeable, and unrepresentable of Bernstein’s unfortunately named ‘restricted codes’. Onto-epistemological concepts enable us to imagine (life) forces or residues that are realisations of culture that maybe never get to be articulated in speech. She points to a multiplicity of entangled assemblages where matter is implicated in the relay. We can look to Volumes 1 and 3 of the *Class, Codes and Control* series to recall that, while initially Bernstein derived descriptions of codes from linguistics and specifically Saussure’s *la parole*, he continuously nuanced what he meant by ‘code’ by drawing on the works of Cassiere and Whorf (Bernstein, 1974: 6); Mead and Sapir (Bernstein, 1974: 121); Maninowski and Firth (Bernstein, 1974: 122); Mary Douglas (Bernstein, 1975) as well as Weber and Durkheim to explore cultural realisations. As Kress (2001) reminds us, for Bernstein the fundamental basis of language was the real, active, everyday experience and behaviour of children, young people and adults involved in the specific family and school settings that made up their daily lives. By returning to the theorists Bernstein used as his touchstones, it becomes clear that there is more to codes than what can be captured by language, reason and a priori categories. Both Singh’s and Ivinson’s papers allude to the material and affective possibilities of the more-than-codeable to extend Bernstein’s codes in ways that do not violate their origins.

Concluding remarks

By reading Bernstein through other lenses, and here we have highlighted the turn to ontology, concepts are not prisms through which to interpret an external empirical reality, but rather interventions that perform realities. This is an onto-epistemic approach in which epistemic relations and relations of knowledge production are not separate or apart from the empirical world of schools.

What do Bernstein scholars gain? The approach enables us to take much more seriously the implicit, invisible and affective aspects of the pedagogic device, so taking it beyond the Foucauldian notion of discourse as power/knowledge to recognise discourse as having material effects and affects, and to explore power/control relations. It brings subjectivity into being as part of the practices of discourses and widens the terrain of the pedagogic device to get a better grasp on quantum space-time configurations. It enables a stronger focus on the role of materiality in the power dynamics in classroom and schools and beyond.

Furthermore, it shifts the emphasis away from boundaries that are more or less permeable to emphasise the blurring and indeterminacy of boundaries and to more fully recognise that boundaries cut together and apart (Barad, 2007). It dispels the optics of a politics of positioning and a researcher's privileged position outside phenomena and implicates us all in processes of worlding. As Barad (2007: 381) suggests, 'We are not only differently situated in the world; "each of us" is part of the intra-active articulation of the world in its differential mattering.' Data analysis becomes more a matter of 'diffraction' which, when put beside Bernstein's distinction between L1 and L2, and his emphasis on the gap, and his notions of internal and external values, starts to recognise, even if it does not privilege, the contingent openness of phenomena. Diffraction is not only about difference: '*it is a material practice for making a difference, for topological reconfiguring connections*' (Barad, 2007: 381, emphasis in original). It implicates the dynamics of knowing with the worlding of research processes as performativity, and requires researchers to take ethical responsibility for their interventions. Diffraction 'marks the limits of the determinacy and permanency of boundaries' (Barad, 2007: 381). This resonates with Bernstein's politics and ethics, albeit with the emphasis tipped towards ontology rather than epistemology.

The papers in this Special Issue revisit Bernstein's work and focus on the complex and dynamic relations of control; that is, the interactional and locational communication principles that contest and challenge power relations (Robertson, 2012). While increasing attention is given to theorising control relations by scholars of educational policy and educational sociology, few scholars have explored the potential of elaborating Bernstein's theories of control relations in dialogue with contemporary theories of control, such as that offered by new material feminisms, Deleuze and Guattari, Foucault, and other scholars (see Taylor and Ivinson, 2013; Søndergaard, 2013).

Arguably, our sensitivity to the generative, open and concept building potential of Bernstein's endeavours and our scepticism about the epistemological mission, allows us to attune to the hesitancy and constant worry that accompanied Bernstein's grand theory building. We acknowledge that Bernstein's sociological work over forty years, encapsulated in five volumes, is conceptually dense. He does, however, produce, modify, revise and extend his ideas using various devices, including diagrams and models, accounts of his own research and that of his students. In particular, Bernstein's models enable complex ideas to be condensed in a form that can be 'easily internalised' and assist the researcher to 'think about a highly complex matter' (Bollas, 2007: 77). These models are not meant to be rigid, adopted in an unthinking way, as a recipe or formula for doing research. Rather, they are devices to think with and about research. As St Pierre recognises,

due to the power it gathers for the epistemological subject, who invents the world through the audacity of the claims to know [...] women's knowing has not traditionally been granted the same voice and status as the 'spectacular cogito' which 'invents the world'. (St Pierre, 2016: 25)

Maybe this is why, when feminist scholars put Bernstein to work, they are remarkably sensitive to the voices of caution, most strongly articulated when he was at his most reflective. Maybe we read Bernstein in the minor key (Manning, 2016; Heimans et al., 2017) and think with and through other texts to creatively invent in a speculative vein that opens concepts up to vibratory effects, that begins to imagine the world differently.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

References

- Barad K (2007) *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning*. Durham, NC: Duke University Press.
- Bernstein B (1974) *Class, Codes and Control 1: Theoretical Studies Towards a Sociology of Language*. 2nd (revised) edition. London, Henley and Boston, MA: Routledge & Kegan Paul.
- Bernstein B (1975) *Class, Codes and Control 3: Towards a Theory of Educational Transmissions*. 2nd edition. London, Henley and Boston, MA: Routledge & Kegan Paul.
- Bernstein B (1990) *Class, Codes, Control, Volume IV: The Structuring of Pedagogic Discourse*, London and New York: Routledge.
- Bernstein B (1996) *Pedagogy Symbolic Control and Identity: Theory, Research, Critique*. London and Bristol: Taylor and Francis.
- Bernstein B (2000) *Pedagogy, Symbolic Control and Identity: Theory, Research, Critique. Revised Edition*. 2nd edition. Lanham, MD, Boulder, CO, New York and Oxford: Rowan & Littlefield.
- Bollas C (2007) *The Freudian Moment*. London: Karnac Books.
- Boundas CV (1991) Translator's Introduction. In: Deleuze G (ed) *Empiricism and Subjectivity: An Essay on Hume's Theory of Human Nature* (C. V. Boundas, Trans.) New York, NY: Columbia University Press (Original work published 1953), pp. 1–19.
- Clough PT (2009) The new empiricism: Affect and sociological method. *European Journal of Social Theory* 12(1): 43–61.
- Deleuze G and Parnet C (1987) *Dialogues*. Translated by H. Tomlinson and B. Habberjam. New York: Columbia University Press. Original work published in 1977.
- Fenwick T and Edwards R (2016) Exploring the impact of digital technologies on professional responsibilities and education. *European Educational Research Journal* 15(1): 117–131.
- Hansen MBN (2007) 'The diachronic thing'. *Ubiquitous Media, Asian Transformations*, Tokyo, Japan, July 2007.
- Heimans S, Singh P and Glasswell K (2017) Doing education policy enactment research in a minor key. *Discourse: Studies in the Cultural Politics of Education* 38(2): 185–196.
- Kress G (2001) A tribute. In: Power S, Aggleton P, Brannen J, et al. (eds) *A Tribute to Basil Bernstein 1924–2000*. London: Institute of Education, University of London, pp. 62–67.
- Latour B (1979) *Laboratory Life: The Social Construction of Scientific Facts*. London: Sage.
- Latour B (1987) *Science in Action: How to Follow Scientists and Engineers through Society*. Milton Keynes: Open University Press
- Latour B (2005) *Reassembling the Social: An Introduction to Actor-Network-Theory*. Oxford: Oxford University Press.
- Manning E (2016) *The Minor Gesture*. Durham, NC and London: Duke University Press.
- Manning E and Massumi B (2014) *Thought in the Act: Passages in the Ecology of Experience*. Minneapolis, MN: University of Minnesota Press.
- Maton K (2014) *Knowledge and Knowers: Towards a Realist Sociology of Education*. London: Routledge.

- Moore R (2013a) *Basil Bernstein: The Thinker and the Field*. Abingdon and New York: Routledge.
- Moore R (2013b) Social realism and the problem of the problem of knowledge in the sociology of education. *British Journal of Sociology of Education*, 34(3): 333–353.
- Muller J (2000) *Reclaiming Knowledge: Social Theory, Curriculum and Education Policy*. New York and London: Falmer.
- Muller J (2004) Introduction: The possibilities of Basil Bernstein. In: Muller J, Davies B and Morais A (eds) *Reading Bernstein, Researching Bernstein*. London: Routledge, pp. 1–14.
- Muller J (2007) On the shoulders of giants: Verticality of knowledge and the school curriculum. In: Moore R, Arnot M, Beck J and Daniels H (eds) *Knowledge, Power and Educational Reform: Applying the Sociology of Basil Bernstein*. London: Routledge, pp. 11–27.
- Muller J (2009) Forms of knowledge and curriculum coherence. *Journal of Education and Work* 22(3): 205–226.
- Ozga J (2016) Trust in numbers? Digital education governance and the inspection process. *European Educational Research Journal* 15(1): 69–81.
- Rata E (2016) A pedagogy of conceptual progression and the case for academic knowledge. *British Educational Research Journal* 42(1): 168–184.
- Robertson SL (2012) *Teachers' Work, Denationalisation, and Transformations in the Field of Symbolic Control: A Comparative Account*. Available at: <http://susanleerobertson.com/publications/>
- Selwyn N (2016) 'There's so much data': Exploring the realities of data-based school governance. *European Educational Research Journal* 15(1): 54–68.
- Simondon G (2007) *On the Mode of Existence of Technical Objects*. Translated by Cecile Malaspina and John Rogove. Minneapolis, MN and London: University of Minnesota Press. Original work published in 1958.
- Søndergaard DM (2013) Virtual materiality, potentiality and subjectivity: How do we conceptualize real-virtual interaction embodied and enacted in computer gaming, imagination and night dreams? *Subjectivity* 6(1): 58–76.
- Pierre EASt (2016) Rethinking the empirical in the posthuman. In: Taylor CA and Hughes C (eds) *Posthuman Research Practices in Education*. Basingstoke: Palgrave Macmillan, pp. 25–36.
- Taylor CA and Ivanson G (2013) Material feminisms: New directions for education. *Gender and Education* 25(6): 665–670.
- Young MFD (2000) Rescuing the sociology of educational knowledge from the extremes of voice discourse: Towards a new theoretical basis for the sociology of the curriculum. *British Journal of Sociology of Education* 21(4): 523–536.
- Young M and Lambert D, with Roberts C and Roberts M (2014) *Knowledge and the Future School: Curriculum and Social Justice*. London: Bloomsbury.
- Zipin L, Fataar A and Brennan M (2015) Can social realism do social justice? Debating the warrants for curriculum knowledge selection. *Education as Change*, 19(2): 9–36.