

Chapter 9

Spatial theory in educational research

This chapter describes specific examples of studies of education working with forms of spatial theory. These examples show methodological approaches, as well as the strengths and possibilities of these theories in terms of the questions they ask, what they make visible, and the understandings they can yield. There are two disciplinary strands to this work, which tend to exist in different journal and conference spaces with occasional cross-overs. The first is found among those geographers who pursue educational topics. The second is found among educators who draw upon spatial theories. This work has become more pronounced with both an interest in the learning spaces opened for exploration through the discourses and practices of lifelong learning, what Ferguson and Seddon (2007) refer to as *bubbles*, and the changing educational relationship associated with globalization (Gulson and Syme 2007). We explore some aspects of research by geographers on education in the first section of this chapter. We then go on to examine a number of spatial themes in the educational research literature. These themes recur in the research drawing upon spatial theory. They are curriculum spaces, globalizing educational spaces, technologized educational spaces, gendered spaces, and finally spatializing metaphors in education. This work is itself fragmented and diverse. It draws eclectically, and not always coherently, from the threads of spatial theory identified in

[chapter eight](#). Mostly, it attempts to frame education as spatial practices rather than as taking place *in* space or *in* particular contexts (Edwards *et al.* 2009). As with [chapter eight](#), this is an indicative rather than exhaustive exploration.

Geographers on education

Geographers have focused empirical study on many aspects of education. What is perhaps ironic is that some of this work tends to take space for granted in a fairly untheorized way. However, this is not always the case. For instance, feminist scholars such as Buckingham *et al.* (2006: 895) examine the ways in which women's training spaces problematize the public/private distinction: 'in allocating particular *spaces* to particular activities, both activities and spaces tend to be simplified so that they are stripped of their wider resonances'. Spaces, including educational spaces, can be essentialized as being only for certain activities rather than others. In examining the use of training spaces by lone women parents with low educational attainment, Buckingham *et al.* found that, rather than a linear stepping stone from the private (home) into the public (employment) space, their use was far more diverse and multiple, what they term 'liminal'. Liminality is 'ascribed to places which enable users to move beyond their previously circumscribed horizons or ways of behaviour' (Buckingham *et al.* 2006: 898). This is not simply through the acquisition of skills from training, but also through social interactions between the participating women that result in a suspension of their pre-existing identities. While Buckingham *et al.* use the concept of liminality to identify a space that is neither fully private nor public, others have used notions of 'in-betweenness' (Philo *et al.* 2005) and 'third space' (Pahl and Kelly 2005) to identify places and practices that cannot be neatly categorized within existing boundaries and binaries. This starts to raise the question that, if there are so many of these spaces which are not neatly categorizable, then do those binary spaces exist at all? In what sense does the notion of, for instance, separating public and private space continue to make sense if liminality or mobility is pervasive? Study of the practices in which people participate begins to raise questions about any foundational or assumed categorization of spaces as containers. Even prisons have visitors,

mail, food deliveries and internet.

Geographers have also researched higher education to analyse, for example, the shifting spatial patterns of recruitment (e.g. Christie 2007); the utilization of educational spaces (Turner and Manderson 2007); and the effects of students becoming a significant part of the population within specified cities and neighbourhoods – ‘studentification’ (e.g. Hubbard 2008; Munro *et al.* 2009). In respect of the former, for instance, in a study of English higher education, Holdsworth (2009: 1849) argues that:

While there is an important relationship between widening participation and localized study, observers fear that this will create a two-tier education system, distinguishing between those students who can afford to move away and those ‘forced’ to stay local. What is apparent in this discourse is the importance placed on the spatial practices of young people’s transitions to adulthood, and how the ideal of going away to university offers an opportunity for these to be realized.

Here mobility is associated with privilege, adulthood and independence, although for critics it also represents a loss of community and the growth of individualism. For those who study without moving, there are thus questions raised about the social meanings ascribed to their remaining in their own locale. Holdsworth (2009:1858) suggests that, rather than a rejection of independence, studying from home can signify an alternative form of adulthood:

Young people who attend a local university in order to care for a relative or because of the close interdependent relationships they have with family members or friends, are constructing a different model of adulthood and intimacy that is centred on obligations rather than distance.

Holdsworth adopts a mobilities framing of the issue to enhance research on educational transitions, such as home-to-school and college-to-work, in particular examining the spatial practices as well as the spatial metaphors within these movements.

Students are constantly on the move: between lecture halls; from place of residence (which may be halls of residence, privately rented accommodation,

or parental home) to campus; as well as from ‘home’ to university. Yet very little attention has been given to these different mobility practices; rather, it is the semi-permanent move associated with leaving home that is most closely associated with student life.

(Holdsworth 2009: 1852)

In relation to studentification in the UK, the movement of large number of students into a locale has evoked crisis narratives of student ghettos, communities ripped apart, urban and environmental decay, and an overload on services such as healthcare. Seasonal student populations are held to undermine community cohesions in local areas. Much of the mediated opposition to studentification thus focuses on the antisocial behaviour perpetrated by (some) students, marking them out as an “other” population whose values and lifestyles do not accord with those ascribed to by the majority’ (Hubbard 2008: 332). Here the effects of mobility are positioned as far from advantageous by the receiving community. Alternative tropes of gentrification and spatial marginalization have also been used to characterize the effects of studentification, alongside claims of the economic and social benefits generally that middle-class students bring to an area.

While not widespread and having differential impacting upon different areas within different urban spaces, studentification is identified as a growing phenomenon associated with the overall growth in post-secondary school education in the UK. In later work, Hubbard (2009) identifies a growing trend of purpose-built accommodation in urban areas for students in England as part of an extended gentrification process, given that many graduates continue to live and work in the towns and cities in which they studied. Here,

whilst lacking the economic capital associated with the ‘new middle class’ that is centrally implicated in processes of gentrification [...] it appears that students are increasingly involved in a form of urban gentrification underpinned by the same logics of social withdrawal and search for cultural exclusivity that help to explain the rise of middle-class gated communities.

(Hubbard 2009: 1920)

While these writers focus on the studentification of neighbourhoods, researchers have also studied the neighbourhood effects on student

attainment, particularly mapping relationships between socio-economic status, neighbourhood and attainment (Sykes and Kuyper 2009). Disruption emerges as an important theme here, and in higher education spatiality more generally. For instance, in their study of a higher education labour dispute in the USA, Wilton and Cranford (2002) draw upon Lefebvre, Harvey and Soja to examine how a movement was mobilized, and the spatial disruptions that were enacted to support its goals. Drawing upon an ethnographic case study, they conclude that

attention to the spatiality of social life suggests that disruption, as a movement tactic, works not only by upsetting the operations of institutions, but also through its power to disturb taken-for-granted routines and meanings inscribed into and reproduced by social space. This is not to suggest that all forms of disruption are inherently spatial.

(Wilton and Cranford 2002: 389)

Spatial disruption as a progressive practice is obviously different from the safe or protected spaces that educators sometimes seek to occasion to support students and learning. It points to the ways in which spaces can be inscribed with particular meanings and different values for particular purposes.

Finally, as part of the emergence of interdisciplinary social studies of childhood, geographers have also sought to explore the spatial practices of children and the ways in which space helps to shape those practices (e.g. Holloway and Valentine 2000). The use of ICTs and technological toys by children, and the spatial disciplining of the school in constructing childhood and children's identities, have become particular foci of attention. Holloway and Valentine (2000) point to the ways in which schools are not bounded but interconnected with society in ways that both reproduce unequal gender relations, and also provide possibilities for the expression of active subjectivity and resistance from children. There is also work on the othering, exclusions and agencies of children within the socio-spatial practices of disabilities, focusing on schools, playgrounds and homes (e.g. Holt 2007); and research on the specific conditions of traveller children (Vanderbeck 2005). The study of childhood is therefore one of the areas where geographers and educators, alongside researchers from other disciplines,

may engage in shared dialogue and research. Methodologically, this usually entails the use of ethnographic methods of observation and interview, and increasingly the use of visual methods such as participants taking photos.

What is interesting is that the research on education conducted by geographers is often not referred to by educational researchers. Nor is it always strongly located in the literature of educational research. The scope for more trans-disciplinary research is obvious, especially given their shared social scientific methods. Having outlined some of the spatial research in education conducted by geographers, we now turn to the work conducted by educational researchers drawing upon spatial theory.

Curriculum spaces

Given the decentring of education to which Ferguson and Seddon (2007) refer, it is perhaps unsurprising that the most significant uptake of spatial theory in educational research is in relation to comprehending learning spaces and the spatio-temporal orderings of practices (e.g. Nespor 1994, 1997; Edwards and Usher 2003). In such work,

the physical school is more than a context; it is an aspect in the shaping of these practices and processes producing differentiation. Decisions about the use of space involve decisions about location and movement of bodies in specific areas of the school.

(Gordon and Lahelma 1996: 303)

And not simply bodies – educative spaces also have material components integral to them. Thus in her study of school departments as workplaces and spaces, and drawing upon the work of Massey and actor-network theory, McGregor (2003) suggests the need to adopt what she refers to as a topographical approach to research based upon observation, interviews and photography. Here the physical and built environments can be considered as part of the hidden curriculum of education, enabling and constraining the practices possible within particular settings – schools, colleges, the home, workplaces, etc. For instance, an elite university system can rely on room spaces that comfortably house groups of 10–15 students. A mass university

system requires rooms that many more students can occupy together. Similarly, drawing upon visual methods, Edwards and Clarke (2002) point to the different spatial orderings of educational practices associated with attempts to introduce greater flexibility into the curriculum.

In such spatial approaches, conceptions of inside (classroom, school) and outside (home, community) are problematized. In a sense, there is no inside and outside, but rather a relational set of practices and mobilities. We see this in the increased research on playground spaces and environmental learning beyond the walls of schools (e.g. Mannion 2003). We also see it in the study of institutions as spaces of flux and flows rather than simple bounded spaces. Students and teachers do not drop their everyday knowledge and experiences at the entrance of the institution. Both will do school work at home, and bring objects and aspects of home into school. Similarly, the activities of work, study and leisure can all take place in the home. Aligning particular spaces with educational practices as taken for granted would therefore miss the spatial spread of such activities and their complex patterns, relations and mobilities. Particular places such as classrooms can be considered therefore as *knots* of things, practices and mobilities, and not simply as isolated islands. Thus, in his study of the work of the field trip in US schools, Nespor (2000: 28, emphasis in original) argues that

schools are *vehicles*. Field trips, along with sports events and daily bus rides to and from school, physically and symbolically transport young people through and across social and material landscapes. In the process, they help *produce* what people think of as 'public' spaces – indeed, they are of singular importance in the performance of public space to the degree that they serve as the means by which children are introduced to the downtowns, museums, national parks, monuments and historical sites that symbolize the public sphere.

In this case, the students are both introduced to, and participate in, practices that prefigure certain dispositions towards the public sphere as a space of individual consumption.

Such spatial studies are usually based upon detailed ethnographies, including observation, detailed field notes and interviews. They often draw upon visual methodologies to map interactions and the spatial organization

of the settings studied through floor maps and the use of photographs as interview prompts. McGregor (2003, 2004) studied two schools in England, while Nespor (1994, 1997) has focused a series of studies on a small number of educational settings. Overall, McGregor found that teachers viewed their workplace as primarily *their* classroom, and secondarily the department to which they belonged. The staffrooms were the places where personal/social interaction and discourse was greatest. This was signified through the actual use of space by teachers, and points to the way in which, within education, educators' affiliation to students and subjects may be stronger than institutional affiliation. In McGregor's study, the spatial ordering of buildings, objects and people provide possibilities for *knowing locations* wherein knowledge production can be achieved. The potential for examining pedagogy as the enactment of knowing locations, rather than simply focusing on individual cognitive gain or collective participation, has yet to be fully explored, not least because a knowing location is not necessarily human alone.

Perhaps the most important, if not necessarily the most influential, spatial study of education in the past 20 years is provided by Nespor (1994). In his exploration of teaching, learning and curriculum in undergraduate studies in physics and management in an American university, Nespor draws upon early actor-network theory to examine the ways in which students are organized in space and time, and the implications of this for both knowledge and knowledge-building practices, and also for subjectivity (see [chapter seven](#)). He illustrates that the different practices associated with the two subject areas result in different subjectivities, networks and representational practices. In other words, learning entails ways of being, ways of acting, ways of feeling, ways of interacting, ways of representing, as well as ways of knowing. For Nespor, these emerge through the networks and networking practices in which people are enrolled and the translations to which they are subject. These are network effects, arising from the specific orderings of humans and things in space-time, which he traces ethnographically in great detail.

Curriculum and pedagogy cannot therefore be identified as taking place in enclosed or contained spaces, for they are themselves assemblages of the human and non-human and multiple in their enactments. Here, Paechter (2004) provides a helpful typology of different spaces at play in education:

area space – concerned with the drawing of boundaries, e.g. field of study;
movement through space – concerned with how learners move in, through and around the curriculum, e.g. learning as a journey;
structural space – concerned with how learning is constructed, e.g. on foundations;
hierarchical space – concerned with assessment and attainment, e.g. top of the class;
distance space – concerned with teacher/student interactions, e.g. distance learning.

Paechter rightly points to the spatialization in different discourses of teaching, learning and the curriculum, and the conflicting ideologies they represent. This provides a useful heuristic through which to explore how many of the struggles in education are played out discursively through contrasting spatial metaphors.

Globalizing educational spaces

While there has been much discussion of globalization in education, less attention has been paid specifically to the changing spatial relationships and their significance. Most of the discussion has focused on policy critiques of globalization as an outcome of the spread of neoliberal capitalist relations and on the global reach of certain forms of policy (Gulson and Symes 2007; Ferrare and Apple 2010). Lefebvre's work has been particularly influential here. There have also been discussions of the impact of globalization on curriculum and pedagogy, on those matters that need to be covered where the aim is to enable students to engage as global citizens or consumers – covering, for example, issues such as global values, social justice, sustainable development and environmental education (Gough 1998). A further explicit study of globalization and education drawing upon post-structuralist spatial theory is provided by Edwards and Usher (2008). This is largely conceptual, drawing evidence from pre-existing studies. Inevitably, as with the wider spatial literature on globalization, it is closely linked to discussions of

technologized spaces and the relationships and mobilities associated with them, including the ways in which workplaces are linked by databases across continents and the learning associated with this (Farrell and Holkner 2004).

A question that is constantly asked is: does the spread of certain forms of Western curricula and pedagogy around the globe, accelerated through the use of ICTs, constitute a form of new and more subtle cultural colonization that replaces the more complete forms of economic and political colonization from which arguably so many parts of the globe have only so recently emerged? For, as Evans (1997: 18) puts it, nation-states are now presented with a dilemma wherein 'they access the world but the world invades them'. The very connectedness of globalization creates the conditions for possible new forms of colonization. Here we see the concern that the national or local is the space of the authentic, of bounded indigenous cultures. For instance, in relation to the spread of distance learning across the South Pacific from Australia:

Recent and future advances in their electronic media would mean that in our region [the South Pacific] multiculturalism, people's sense of situational geography will become disorientated and it is possible that where people are physically will no longer determine who and where they are socially [...] This trend may have serious implications for Pacific people's sense of identity.

(Thamen 1997: 31)

Disorientation, dislocation and loss of identity are the consequences of the spatial distribution of Western education. On the face of it, this seems a reasonable argument and it raises the larger issue of cultural imperialism through globalized education, particularly in an era of the greater international commercialisation of education. As Cunningham *et al.* (1997: 163) point out, 'there appears to be a rising level of concern in Asia that both exporting students and importing courses presents a very real threat of students' loss of identity, culture and family values'. Educational researchers are able to draw upon the work of both Lefebvre and Harvey to explore the annihilation of everyday culture and the spread of urbanization around the globe based upon the search for profit, with the associated educational policies and strategies, supported by bodies such as the OECD (Organisation for Economic Co-operation and Development).

However, it is also not unreasonable to question whether it is always desirable for place, the local and particular, to determine who and where people are socially. Clearly, place is an important factor, but it now makes more sense to look at place as globally mediated space, where difference is an effect of (en)counters rather than an expression of an essentialized bounded identity. Furthermore, the developments being pointed to here occur where there is a demand for such learning. As Mason (1998: 45) suggests, what is involved perhaps is 'not so much an exporting as a re-engineering of the educational paradigm'. Should it be assumed that those in the West who oppose colonization are always in the best position to prescribe what is best for those elsewhere – an invasion of good intentions – and is it colonization in the way suggested? And, as with other goods and services, is there not the potential for what some call the glocalization of education? As one of the respondents from Malaysia in the survey carried out by Cunningham *et al.* argues, globalization can be welcomed if it means 'we build bridges together' and is 'only a threat if it is used for a onesided victory' (Cunningham *et al.* 1997: 163). And, as Rizvi (2000: 221) argues, based upon his study of Malaysian students in Australia, 'the suggestion that international education represents an accelerating trend towards Westernization is unfounded'. He and his colleagues (Singh *et al.* 2007) argue that the mobility of students engenders more cosmopolitan identities, which displace what might be seen as the more parochial dispositions developed within place-based identities.

Thus the colonization–anti-colonization binary can work to produce an essentialism that can be challenged from more detailed spatial analysis of globalization. Edwards and Usher (2008) use the latter to suggest an active production of different forms of hybridity. The consciousness of the globe as one place is the very consciousness that heightens a sense of the relativity and value of particular location(s). They suggest therefore that pedagogy can be explored spatially through the mapping of (dis)locating practices, both dislocating and locating, where no *a priori* status is given to specific spaces and places. This is in tune with the mobilities thread of spatial theory introduced in [chapter eight](#).

Technologized educational

spaces

The impact of information and communication technologies (ICTs), of space–time compression, of physical absence and virtual presence, and of emerging forms of global education enabled by these developments has become a significant focus for educational researchers (Mason 1998). Lankshear *et al.* (1996) argue that education as a modernist institution is characterized by the 'spaces of enclosure' of the book, the classroom and the curriculum that work to enclose meaning and experience. Here the learner's task becomes one of extracting and re-presenting a singular canonical meaning, and the teacher's that of being the authority in terms of interpretation and accuracy. The implication of this is that there is a single definitive meaning waiting to be found.

Lankshear *et al.* maintain that developments made possible by the use of ICTs in education work in ways that call these spaces of enclosure into question. There is a questioning of underlying assumptions about the fixity and stability of the word, the linear text and the teacher as authoritative bearer of meaning. This opens up possibilities for learning to be more diverse, purpose-driven, self-imposed and self-monitored than that normally found in current mainstream educational practices. The claim is that cyberspaces create environments where the distinction between readers and writers becomes blurred and where, consequently, textual production and interpretation become less bounded. In cyberspace practices, there are no authoritative meanings waiting to be found by the suitably trained mind. By contrast, meanings are negotiated by participants. Image and text, multimodality and semiotics come to the fore in this respect (Snyder 2002; Kress 2003; Jewitt 2006). The possibility is that students do not simply interpret meanings, but actively collaborate in creating meanings. The emphasis shifts from meaning-taking to meaning-making, from canonical knowledge to transferable skills. Relationality and connectivity become more significant than dwelling and reflecting.

This, of course, is overgeneralized. However, cyberspaces and the increasing availability of a wide and diverse range of mobile technologies both to source information and to communicate do allow students more scope to construct knowledge in multimodal ways, and to interact more

continuously. Practices based on multilinearity, nodes, links, flows and networks seem more appropriate to understand educating practices in such situations. Furthermore, by undermining the stability and coherence of the book, cyberspaces contribute to a questioning of the modernist subject with its assumption of a core, fixed identity. Lankshear *et al.* (1996) argue that new forms of textuality, intertextuality and hypertextuality necessarily imply a reconfiguration of the subject – in both knowledge and subjectivity. With this comes the need to rethink pedagogy in terms of multiple paths and non-linear forms of learning and teacher–student transactions. Cyberspaces are therefore not merely a new educational tool, but can spatially reconfigure the forms of knowing, sociality and subjectivity enacted through educational (en)counters. It is fair to say that this has yet to be examined empirically to the extent it has been explored theoretically.

Words of caution are necessary here, however, since there are binaries at play in this scenario which it is necessary to question. First, there is the binary of enclosure–openness, which confers an emancipatory and democratic value to learning in cyberspace. It may well be that in both historical and contemporary classroom practices a pedagogy of transmission remains to the fore, but the learning within those spaces has always been configured by resources, discourses and experiences beyond the walls of the institution. Cyberspaces may intensify and highlight the ways in which learning is not confined either to the classroom or to educational institutions. However, whether such spaces and the practices associated with them are necessarily more open and egalitarian is another matter. The panoptic surveillance of online learning and online learners, the largely text-based modes of transaction, and the rules governing online participation, often informal and difficult to ascertain, may actually close possibilities. Second, the binary logic of code/space in ICTs needs itself to be taken into account. Although the possibilities for communication may grow, interactions with software work within the logic of either/or; the resulting logorhythms inevitably restrict the range of meanings that can be generated. This is a tension at the heart of many pedagogical practices, ones that are not resolved at a stroke through the mere existence of cyberspaces. The work of Bayne (2004) is careful in this respect. She has drawn from Deleuze and Guattari the contrast between smooth and striated space to analyse digital learning spaces. Smooth spaces are open and nomadic, while striated spaces are

closed and bounded. Each pervades the other, and Bayne argues that cyberspaces are often more striated than smooth. The important point here is that smooth and striated spaces are not either/or, but both/and. Mobility through cyberspaces is neither inherently emancipatory nor positive and relies upon its own immobilities and moorings. This is a point made by Edwards (2010) in an argument for a spatial analysis of the use of semantic technologies in case-based learning. He argues that educational researchers could formulate cyberspace as engendering practices of (im)mobility rather than those of learning. This entails examining education as a spatio-temporal ordering of mobilizing, mooring and boundary-making in the valuing and enacting of certain forms of subjectivities and practices, rather than focusing on a psychological or sociological framing of learning *per se*.

The non-linearity of technologized educational spaces is a significant strand to research. For Tabbi (1997: 239), 'the digital medium encourages a branching discussion in which students link up to a network – the pedagogical dynamic is more provisional, not question–answer but comment–elaboration with cues coming from a number of centres besides that of the teacher'. Lankshear *et al.* (1996: 172) emphasize the greater possibilities for teachers and students in developing understanding or meta-level awareness through 'communicative practices [that] presuppose openness, self-monitoring and constant reflexivity on the part of participants'. Any critical understanding of the effects of ICTs therefore requires an evaluation of the type of subject it encourages. When information can be taken up and used freely, the subjectivities of learners (and their identities as learners) are shaped without the policing of a traditional external epistemological authority. In cyberspaces, the disciplinary boundaries and legitimations of knowledge and information, undermined already with the widespread use of computers, becomes even more difficult to maintain. Legitimate or worthwhile knowledge becomes anything generated and used in the self-directing and self-monitored practices of cyberspace's virtual communities.

One set of questions is hotly debated in the discussion of technologized educational spaces. Can cyberspaces ever be universally accessible, and can they replace face-to-face interaction; can cyberspace ever be a true public sphere, and thus both educational and educative, in the way that the enthusiastic proponents of virtual communities argue? The fact is, of course,

that cyberspaces are not universally accessible and perhaps never will be. Tabbi (1997) argues also that it is precisely the disembodiment, disembeddedness and decontextualization (no bodies, no history, no place) of electronic interchange that will always limit the democratic and educational potential of cyberspaces. In addition to the pedagogical question, there is also the wider question as to whether, given their characteristics of disembodiedness and disembeddedness, cyberspaces can ever be a site of culture, although, as Porter (1997) argues, being able to construct and exhibit mobile, multiple and made-up identities, which now can be made manifest through avatars, may not necessarily be a bad thing. Perhaps what this implies is that we need to rethink any sense of culture as a homogeneous social sphere and as a means of realizing a core identity; instead, we might imagine culture as 'the collective response to this experience of ambiguity, the gradual process of adaptation to the semiotic universe of free-floating electronic alibis' (Porter 1997: xii). Here what is being suggested is the possibility of different post-Enlightenment conceptions of subjectivity, identity formation and what it means to be educated, certain aspects of which are manifested in the burgeoning phenomenon of blogging. As Burbules (2000: 352) argues, 'the traditional associations of community with proximity, homogeneity, and familiarity can be an impediment for forming *actual* communities – including online communities.'

At this stage, all that can be said with any degree of certainty is that the globalizing effects of ICTs and their associated modes of communication bring to the fore the need for thinking anew about what constitutes community, interaction and learning in virtual times. Examining the spatial orderings and knowing locations within different forms of technologized space provides an alternative to overgeneralized views on the implications of technology for education, reframing the debate from the universal to the specific and material.

Gendered educational space

The spatial framings of inequality and exclusion are important parts of critical educational research (e.g. Lipman 2007; Thomson 2007). In particular, feminist researchers have examined the gendered enactments of

space. McGregor (2003) and Paechter (2003, 2007), whose works are described above, both demonstrate the spatialization of unequal gender relations within the schools they studied in the UK. This is something the latter has studied in relation to attempts to develop cross-subject curriculum in schools and in relation to playground interactions and orderings of space.

Quinn (2003) has adopted a spatial form of analysis to examine women's participation in universities in England and question some of the conventional understandings in the research literature. She notes that, while the massification of higher education has resulted in more women than men participating, universities nonetheless remain spaces marked as masculine, although with some internal differentiations dependent upon the history of the institution and subject area. Quinn used focus groups, interviews, diaries, observations and discourse analysis with women students in two contrasting institutions in England to examine their active constructions of these spaces and what they represent for them:

The students make close connections between studying and selfhood, and the notion of protected space is integral to these accounts. In analysing how the students construct belonging, in the face of events and processes that seem to point to marginalisation, the university is revealed not as a transparently understandable space, but a space constructed from their own desires. However, this is also a space with material limits and always under threat from the encroachments of others.

(Quinn 2003: 450)

There is a question about how different actors enact educational spaces here. For Quinn's participants, universities are transitory protected spaces under threat – 'havens from the outside world and from various forms of threat' (Quinn 2003:451). They are a bounded space away from other spaces and places for these students. Here boundaries are not simply or inherently a sign of exclusion, but can mark a protected space within which some things are allowable which would not otherwise be the case. For the women students, therefore, the boundedness of the space of the university was a positive aspect, which troubles any universal association of boundaries with enclosure, and the associated negative connotations. Quinn's spatial analysis raises questions for alternative spatial formulations, such as Hughes' (2002)

argument that women 'returners' can be conceptualized as nomads and exiles.

There is sometimes a tendency to position educational settings as needing to provide safe spaces, especially those associated with children, and particularly in relation to children and youth who are excluded or marginalized by formal educational structures. Safety imperatives in policies affecting school spaces can be argued to discourage creativity, challenge and experimentation when the ideal of 'safe space' becomes a preoccupation. The dynamics of both safety and risk, and their relationship in education, are rich issues to explore in spatial terms. Preoccupations with educational 'safety' can reflect conflicting desires and fears projected into educational spaces, which configure particular constellations of circumstances for students and teachers. Perhaps we could examine education as enactments of specific and diverse forms of precarious space and the (in)equalities they effect.

Spatializing metaphors

A key rationale for educational practices is that they produce change and development – that we are all engaged in learning journeys of one sort or another. However, with increased interest in the spatial framings of practices in recent years, educators have also given more attention to the spatial metaphors in the enacting of such practices (e.g. Gordon and Lahelma 1996; Sfard 1998; Edwards *et al.* 2004). Thus, for instance, Gordon and Lahelma (1996: 305) use the metaphor of the ants' nest to make sense of the complex interactions and practices that go on in schools.

When we approach an ants' nest we see a great deal of hustle and bustle, we see a living, undifferentiated mass moving to and fro. When we look closer, we begin to see more organised activity; we see paths that are followed, and we see movement with more direction. We see ant soldiers looking after order. We see corridors and corners. We look for peace and quiet and see guarded nooks. We also see co-operation and caring for others. We see closeness and overlapping of spaces. We notice neutral embodiment; where are the differences – where is gender? We know that somewhere in the depths of the nest lies the queen.

They use this metaphor to illuminate the production of difference in schools. However, they also point to the limits of the metaphor, as they are unable to identify a queen at the heart of the school. We do need to bear in mind Lefebvre's (1991) warning that metaphors conceal as much as they reveal.

Lakoff and Johnson (1980) are influential in the specific moves to examine spatial metaphors. They argue that

most of our fundamental concepts are organized in terms of one or more spatialization metaphors [...] In some cases spatialization is so essential a part of a concept that it is difficult for us to imagine any alternative metaphor that might structure the concept.

(Lakoff and Johnson 1980: 17–18)

It therefore becomes possible to examine the spatialization metaphors at play and, indeed, the metaphorical contestations which attempt to be persuasive in constituting educational practices. In their rhetorical analysis of educational discourses, Edwards *et al.* (2004) point to spatial metaphors of teacher-centred-ness, student-centredness, subject-centredness, ladders of learning, distance learning, open learning, flexible learning, situated learning, distributed learning, distributed cognition, mobile learning, networked learning, deep and surface learning, legitimate peripheral participation, communities of practice, work-based learning, border crossing and (dis)location. In each of these there is a spatial orientation, drawing upon and supporting a particular spatialization of pedagogy, teachers and students, as well as often locating pedagogy in particular places. Education is being put in its place in these different spatial framings (Ferguson and Seddon 2007), yet how often do educators explore such issues and their effects?

Some of the metaphors of pedagogy are more explicitly spatial than others in their orientation. Either implicitly or explicitly, there is a temporal ordering here as well. A spatial ordering of pedagogy is also a temporal ordering, a dynamic embedded, for example, in the texts of school timetables, which distribute people and artefacts to both times *and* places, ostensibly to learn and to teach. Each such ordering has effects on what is taught, learned, by whom, where, what subjectivity work is being attempted, and how power is exercised in these particular orders of sociality. As

Paechter (2004) points out, this is not trivial. To achieve their discursive goals, these spatializing metaphors have to be rhetorically powerful.

What rhetorical work is being done in adopting particular spatial metaphors as figures of speech? Let us take some examples. For instance, in certain contexts student-centred learning has been prominent as an approach among progressive educators for many years. These ideas, derived from and supported by the humanist psychology of Rogers (1983), position the student at the centre of the learning process. In responding to their full range of needs – intellectual, practical and emotional – it is argued that teachers will enable students to learn more effectively and realize their full potential. Learning is ‘facilitated’ rather than poured into the empty heads of students, as is argued to be the case with teacher-centred approaches. This points to the embodied as well as the spatial work of metaphor. The argument is, in itself, an attempt to persuade by constructing a polarized choice of either student- or teacher-centred approaches and projecting a simplified caricature of the latter. At one level, this positioning of the student as central in the learning process seems like common sense, as does the notion that learning is about the whole person and not simply about the mind and the acquisition of abstract bodies of knowledge. Student-centredness seems to be about student autonomy and responsibility, which are obviously worthwhile.

Student-centred learning is powerful as a rhetorical apparatus, generating warm feelings among many educators in providing a discourse through which to manage and legitimize their practices. It is persuasive as a discourse of learning, even if it cannot be taken literally. One reason for this is that the spatializing of the student at the centre of the learning process cannot be matched in pedagogical practices founded on the mass processing of students through educational institutions. Nor should we ignore the performative aspects of such discourses. To promote a student-centred approach puts every aspect of the student under the spotlight and thereby more subject to surveillance. Normalizing processes of learning relate not merely to the mind, but extend to the person’s values and feelings, evidenced in the growth of use of portfolios, reflective diaries and learning logs. Students are both worked on and encouraged to work on themselves, to become a liberally educated subjectivity. The spatialization in student-centredness has been related to Foucault’s (1979) panopticon, wherein the student is constantly subject to the real and imagined gaze of the educator, a gaze that is internalized to produce

self-disciplining subjects caring for themselves.

A second example is that of communities of practice, and associated concepts of legitimate peripheral participation and situated learning. Despite a great deal of critique (e.g. Hughes *et al.* 2007), the notion of communities of practice has exercised widespread influence. Based on ethnographic studies of learning in diverse settings, Lave and Wenger (1991) provide descriptions of the practices through which people move from a community’s periphery to its centre, from apprenticeship to mastery, in specific areas. They learn to participate by participating; they become part of the community of practice. Learning in these contexts is located in the specific day-to-day practices of groups; it is situated. Wenger (1998) later went on to develop a pedagogy from this description and explanation of learning, which has almost become a technology, mobilized to support the development of communities of practice in many settings.

An interesting aspect of this particular discourse is the spatial tension within it. On one hand, it could be said to decentre learning, which is constructed as taking place in the enacting of particular spaces and relations. As Lave and Wenger (1991: 94) put it, learning

depends upon *decentring* common notions of mastery and pedagogy [...] To take a decentred view of master–apprentice relations leads to an understanding that mastery resides not in the master but in the organisation of the community of practice of which the master is part: the master as the locus of authority (in several senses) is after all as much a product of the conventional centred theory of learning as is the individual learner. Similarly a decentred view of the master as pedagogue moves the focus of analysis away from teaching and onto the intricate structuring of a community’s learning resources.

However, as well as this decentring, there is also a centring at play, as each community has a boundary, however fuzzy, which one crosses – legitimate peripheral participation – and then moves within as one gains mastery of the particular practice. This centring does not focus on the individual student, but is inherent in the practices of the community. Thus, rather than the student being the centre, the focus here is on centring as such as the metaphor for learning, while that for teaching is decentring.

The persuasiveness of this as a discourse of learning is interesting, as there is evidence for it, based on empirical studies. However, to adopt it is not simply a matter of rational choice, as there is an emotional and values-based appeal as well. Lave and Wenger (1991) refer to 'communities', and the positive value of the notion of community is apparent. It evokes feelings of belonging, proximity, and certain shared collective values. There is a rhetorical warmth in the notion of community, even though many communities are far from inclusive or warm. This is why it is important to consider the significance and effect of terms rather than simply taking them literally. The spatial ordering of a community of practice to which one belongs or could belong rhetorically evokes powerful feelings of identification. This is so, even when to be part of a community of practice means to exclude others, when communities can be oppressive to those who do not accept their explicit and implicit rules, and when they are riven by tensions and conflicts. And what happens to those who belong or aspire to belong to numerous communities of practice? The community may be centred, but the individual learner is in pieces, torn and stretched between the various communities and situations to which they belong, for example workplace, family, pub, political party, prenatal group.

Such analysis, as Davis and Sumara (2004) suggest, points to a notion of the curriculum based less on Euclidian geometrical metaphors of linearity, norms and right angles, and more towards one based on fractal geometry and chaos. 'People are not fumbling along a more-or-less straight road towards a totalizing and self-contained knowledge of the universe. Rather, they are all taking part in structuring knowledge [...] and this requires a completely different image' (Davis and Sumara 2000:821). However, how persuasive the notion of a chaotic or non-normal school might be is open to question.

Conclusion

The changing spaces of education and the framing of education as spatializing practices are clearly developing, both theoretically and as a focus for empirical studies. Ferguson and Seddon (2007: 127) suggest this points to a decentred education, and that this

begins to open up a landscape where the centre has not held, where the established institutions that consolidated that centre have been reconfigured as particularistic learning bubbles, where flows flow in all directions and accentuated diversity and proliferating movement serve the nation as sites of social production and localized control.

While we might not accept this completely, it is suggestive of a spatial socio-material agenda for educational research.