

Introducing space

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The spaces of education can, for many people, be very vividly drawn. They are delineated by the symbols of the classroom, the school or the university: rows of chairs, blackboards or whiteboards, libraries, corridors. Modern influences may be seen in computer rooms, an interactive whiteboard or equipment for practical science experiments. But, in many respects, the spaces would be recognisable to the parents, grandparents and great-grandparents of today's children. However, experiences of space are changing.

The various manifestations of globalisation have given rise to global culture, global markets and global information networks. The operations of global capitalism and multinational companies are overlaid onto national systems of political representation and state control of public services and regulation of national industry. Political power at the level of the nation-state is juxtaposed with supranational political bodies such as the UN and the EU. Theorists refer to “cosmopolitan space” or “the space of flows” created by international relations and electronic or corporate networks (Archibugi and Held, 1995; Castells, 2000). In everyday life, global space is manifested through the constant movement of things and people. Shops stock fresh fruit that has travelled halfway round the world. Business can be conducted by phone or email with companies whose geographical location is dispersed or unclear to the customer. Those with the money and the right passports benefit from considerable international mobility for work or for leisure.

In the first chapter of this section, Stephen Heppell engages head-on with changing experiences of space, their impact on learning and their implications for the spaces of education. He outlines the challenge to policy makers and practitioners in education to keep up with the way he argues that “learning is changing” in the world. He refers to both the physical and metaphorical space of the corridor to embody a form of education that is outmoded in the 21st century, and criticises the linearity and constraining nature of thinking in corridors as well as the practical barriers to education presented by the systems and architecture of

many school buildings. He calls for radical thinking in terms of the scale and size of learning institutions. For Heppell, it seems that solutions will be found from bridging disciplines and geographical space, from personalisation rather than uniformity in educational space and from the bottom up. His challenge is wide-ranging and provocative.

Most school and university students have a very strong sense of where they think science happens. It is a practice strongly associated with spaces of education and even with particular spaces in the institutions. Indeed, you can find school science labs all over the world that would bear a remarkable similarity to each other. While many scientists and non-scientists were inspired by their experiences during the time they spent in such places, most leave them behind on leaving school. Indeed many of those who use science in their everyday work have little use for Bunsen burners and test-tubes – the symbols of school scientific space – relying rather more on computing power as their principal tool. Other scientific professionals such as doctors, nurses and other health workers have to work in a variety of spaces and places, drawing on knowledge generated in laboratories but applying it in surgeries, clinics, hospitals, people’s homes or workplaces. Scientific knowledge clearly travels between social settings and across geographical borders but it is not unaffected by the journey. The scientific facts may be the same in a high-tech Californian lab as in rural Africa, but people’s relationship to them, the way they are applied and their impact on everyday life is likely to very different.

In the chapter by Simon Turley, Jeff Teare and Anthony Pinching, the idea of space is used both in a physical sense to refer to the spaces of the theatre, the rehearsal room, the clinic and the classroom, and also in the sense of disciplinary or expert space. They talk about their collective process of discovering each other’s ways of working in terms of a journey through different “conceptual and technical expert spaces”. Taking turns with the

roles of “mountain-guide” and follower, they have explored the way different spaces situate science and human experience. Turley remarks on his surprise at being moved by a clinical narrative in a medical school lecture. Pinching notes the role of narrative and metaphor in the practice of clinicians. Motivated by the difficulties of patients suffering from a condition, CFS/ME, that is profoundly experienced but with a lack of a firm, disciplinary space of reference, they make use of the relative freedom provided by theatrical space to explore it in all its lived experience and scientific uncertainty. In *Something Somatic*, the demands on the playwright, Turley, were to stage the insubstantial: to present the complex workings of the body in dramatic space. In their earlier collaboration on *Seeing Without Light*, Turley and Pinching had started off with a dialogue around scientific accuracy but moved onto issues of situating the science in social contexts in the UK and Africa. The educational challenge in their use of dramatic space is encapsulated in Pinching’s reference to the way performance can combine “distance for perspective” and “a new proximity of experience”. Their reflections on their own interdisciplinary learning have profound implications for their and others’ practice as educators in the theatre, the school and in the training of clinicians.

In the final chapter of the section, Anna Ledgard reflects on a highly experimental example of educational theatre-making in which there was a departure not only from conventional spaces of science education but also from expected artistic spaces. In the projects she discusses, there was an attempt by quirky and often surreal symbolic means to transform spaces for art and learning. Both *Visiting Time* and *Boychild* were created in places loaded with significance and symbolism of their own. In both cases the performances brought ideas and ways of seeing the world into the spaces, which had an indelible impact on the perception of these spaces by both performers and audiences. Through the pedagogical processes used by Mark Storor and the author in the creation of the

performances, they tried to create safe, trusting spaces for raising big ideas and asking questions students might not normally be expected to ask in formal education settings. However, through the strong links between the collaborators and scientists and between the performance themes and scientific ideas, these projects demonstrated the possibility of linking formal and informal learning spaces in new ways and creating productive interactions between classroom-based learning and more experiential approaches.

All the practices discussed in this section, and indeed throughout the book, indicate potential for finding new places in which to engage with science outside the laboratory and the classroom. There is also a sense in these accounts that the incursion of scientific ideas into artistic space can make for a richer and more powerful cultural landscape. The journeys artists and scientists have made into each other's spaces and the journeys on which they have guided their students as educators suggest ways of making connections between different forms of knowledge. Such flexibility in the navigation of space may well prove essential in the globalised, interconnected world of the 21st century.

Bibliography

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