Moving city

Curating architecture on-site

Jonathan Hale and Holger Schnädelbach

This chapter investigates the potential for developing a more vivid, engaging and ultimately meaningful paradigm for architectural exhibitions, combining the experience of real architectural space with a curatorial overlay of interpretive information normally only available within a gallery setting – effectively bringing the viewer, the building and the interpretation together in a 'third space' created by the use of mobile and interactive media technologies. The final part of the chapter presents an ongoing series of case studies describing an interdisciplinary collaboration between the School of the Built Environment and the Mixed Reality Lab of the School of Computer Sciences at the University of Nottingham. In taking an architectural exhibition out onto the street in the form of a self-guided walk around the real spaces of the city, this approach to curating architecture *in situ* adopts the methods of 'augmented reality'. Using a handheld computer (PDA) allows explanatory, interpretive and critical material to be presented simultaneously with the fully embodied experience of moving around in real three-dimensional space.

As an approach to making exhibitions about buildings, the 'book-on-the-wall' has a long and dogged history. Typically consisting of photographs, drawings and panels of text displayed within a gallery (occasionally supplemented by architectural models), this has been the dominant paradigm for architectural curating throughout most of the last century – at least since Hitchcock and Johnson's 1932 MOMA show *The International Style*. The experiential limits of a mainly two-dimensional presentation format are all too obvious but at least this method has the benefit of graphical abstraction, allowing a specific focus on thematic issues without the real-world 'distractions' of the building's programme, contents and context. By contrast, the 'salvage yard' approach involves the use of actual full-size building fragments – material samples, components and constructional assemblies – in order to provide some degree of real-life spatial experience while also referring to the temporal process of construction. Alternatively, the paradigm of the 'office/studio/workshop' tries to sidestep the problem of capturing the experience of built space and instead focuses on the story of its creation. By presenting drawings, sketches, models and mock-ups pro-

duced during the process of design, the gallery is transformed into a place of intellectual production, offering an insight into the often arcane world of the professional design studio. One of the best historical examples of an approach which combines some elements of all three of the above scenarios is the Sir John Soane Museum in London – created originally as the architect's house, library, gallery and teaching space all rolled into one.

In the broader context of exhibition design in the art world, Nicholas Serota's essay *Experience or Interpretation*: *The Dilemma of Museums of Modern Art*[1] suggests a dichotomy between exhibitions that try to recreate the experience of the artist's studio and those that emphasise the interpretive role of the curator. The former may involve using the actual studio itself, thus taking the viewer to the work: providing an insight into the artist's own creative experience by giving a sense of the context in which the work was produced. A good example of this approach can be seen at the Barbara Hepworth Museum in St Ives, Cornwall where the works are displayed within the spaces used by the artist herself between 1949 and 1975 as a home, studio, workshop and gallery. The second of Serota's two curatorial approaches remains within the confines of the traditional museum or gallery setting. In this situation the work is brought to the viewer: organised and contextualised according to the wishes of the curator and displayed along with an explanatory narrative of captions, labels and texts.

Serota's alternatives highlight the main choices open to the architectural exhibition curator with the added dilemma that regardless of whether the studio or the gallery model is chosen, graphic representations, scale models or building fragments are likely to be the only items that can normally be physically accommodated within the exhibition space itself. Insight into the experience of the actual buildings themselves will still require an imaginative leap that many viewers – particularly those not professionally trained in three-dimensional visualisation – will find impossible to make. The main dilemma remains that of the absence of the work itself and thus the absence of the multi-sensory and dynamic experience of a real three-dimensional architectural space unfolding in time. Buildings provide a fully embodied and highly visceral experience arising out of the movement of the human body in space and this experience is dependent for its depth and richness upon the fundamental cognitive connections between perception and action.

To understand the importance of the relationship between action and perception and how it might be useful in helping to expand the potential impact of architectural exhibitions, it is worth considering some recent advances in the fields of cognitive neuroscience and consciousness studies, as well as some key philosophical insights on the role of the body in the process of perception.

Just prior to the emergence of what became known as phenomenology – beginning around 1900 with the mature work of Edmund Husserl – the French philosopher Henri Bergson, writing in the book *Matter and Memory*, published in 1890, suggested that: 'The objects which surround my body reflect its possible action upon them.'[2] His statement implies that our perception of the things around us is dependent on the body's capacity to transform them. Taking the action of the body-in-the-world as

the ultimate root of knowledge, he suggests that our physical engagement with the environment around us provides both the source and the limits of our understanding of it. Second, if the actions of the body form the basis of what (as well as *how*) we can know about the external world, then this same external world – having been acted on in a variety of ways – then becomes an equivalent source of knowledge about the capacities of the body. Thus, the body is both the source and medium of our knowledge about the world – and the world is the source of our knowledge about the body. The two realms are interlinked within a reciprocal process of 'information exchange'.

Bergson was also implying that our understanding of the environment around us is based on an intuitive grasp of the activities afforded by it – an implicit assessment of its opportunities and obstacles as defined in relation to our needs and goals. This idea is similar to what the American psychologist James J. Gibson later called the 'affordances' offered by the environment – a component of his novel 'ecological' theory of perception based on a study of the interdependence between an organism and its surroundings.[3] Within the phenomenological tradition this idea was further elaborated in the late work of the French philosopher Maurice Merleau-Ponty, specifically in his concept of the 'chiasm' or intertwining of the body and its immediate environment in a new in-between realm he described as the 'flesh of the world'. This term refers to a similar interdependence between the body and the outside world, and was described in an essay entitled 'The Intertwining – The Chiasm', published posthumously in the book *The Visible and the Invisible* in 1964. The essay explores the idea of an intertwining – or 'crossing over' – between the organism and its perceptual environment, through which the body becomes part of an intermediate realm situated somewhere between the mind and the world of physical objects, or things-in-themselves. The instability of this in-between status was also addressed by Merleau-Ponty in an earlier essay ('Eye and Mind', first published in French in 1961), where he described a similarly fundamental continuity between the body and the 'outside' world:

> Visible and mobile, my body is a thing among things; it is caught in the fabric of the world, and its cohesion is that of a thing. But because it moves itself and sees, it holds things in a circle around itself. Things are an annex or prolongation of itself; they are encrusted into its flesh, they are part of its full definition; the world is made of the same stuff as the body.[4]

Merleau-Ponty's most famous illustration of this idea is the example of a blind person navigating with the aid of a stick, where the stick – like a hand-tool – becomes an extension of the arm that holds it. In other words, with skilful use the boundary of the body-image expands to incorporate the tool – the stick, in a sense, disappears or becomes 'transparent' and the world is experienced through it. This idea was further developed by Merleau-Ponty in reference to the role of the artist's body in producing a visual image. The interaction between body and world that takes place through the medium of the paint provides the philosopher with a model for all perceptual activity: the mind's access to the outside world must inevitably arise initially from the body's movement *in* it, which also always to some extent involves a movement *of* it:

> The painter 'takes his body with him,' says Valéry. Indeed we cannot imagine how a *mind* could paint. It is by lending his body to the world that the artist changes the world into paintings. To understand these transubstantiations we must go back to the working, actual body – not the body as a chunk of space or a bundle of functions but that body which is an intertwining of vision and movement.[5]

The precise mechanisms by which movement and vision may be related are still not fully understood, although recent work in the cognitive neurosciences has begun to reveal some powerful supporting evidence. A key experimental benchmark is provided by the work of Richard Held and Alan Hein who in 1963 published a paper describing their observations of animals brought up in a specially adapted environment.[6] Pairs of 8–12-week-old kittens were placed inside a cylindrical enclosure, both were restrained by a 'gondola' apparatus, but only one was able to control its own movements by relatively normal walking. The other was fully suspended within the mechanism that also linked the two together and thus its movements remained subject to the whims of the first. On release from the apparatus after as little as ten days confinement, the second kitten showed signs of 'experiential blindness' – a lack of awareness of obstacles or edges in its environment caused by an inability to relate its visual perceptions to its own bodily movements. The implication of the experiment is that a proper understanding of three-dimensional space is dependent upon a process of movement-produced sensory feedback. This most likely involves a cross-modal 'intertwining' of perceptual data from all the bodily senses – a form of synaesthesia – where sensory input is combined and situated within a spatial and temporal framework provided by the body's movement through a particular environment.

A further demonstration of the centrality of bodily movement to the processes of perception and cognition in general is provided by the recent discovery of the 'mirror-neuron' system by researchers in the neurosciences using new visualisation technologies such as Functional Magnetic Resonance Imaging (fMRI).[7] Mirror-neurons appear to constitute a matching system within the brain whereby the visual observation of a particular bodily movement triggers a similar pattern of neuronal activity to that which occurs during the actual performance of the movement itself. These findings suggest that our understanding of the actions of others is based on an empathic process of self-projection – when observing goal-directed human or animal behaviour we perceive these movements by unconsciously 'imagining' ourselves carrying out the same tasks. Vittorio Gallese, among others, has written extensively on the application of this discovery to the understanding of phenomena as seemingly diverse as emotional and social empathy, gestural communication, imitative learning and tool-use.[8]

It may still require a cognitive leap to accept that we might also understand important aspects of the designed environment via a similar neural mechanism, but the possibility is certainly suggested by these experimental findings that we may be constantly and unconsciously – through the mirror-neuron system – 'enacting' the

affordances offered by the objects, equipment and spaces that surround us. Philosophers are also beginning to draw significant inferences from these discoveries, for example in the attempt to redefine such long-contested phenomenological concepts as *body-image* and *body-schema* as deployed in debates on the perception of space. It seems clear that at the very least, as one philosopher has recently put it, these findings prove: 'a direct and active link between the motor and sensory systems.'[9]

If this mechanism does in fact form a core component of our perceptual and cognitive systems, then it would make sense to exploit the multiple 'channels' of sensory awareness in the attempt to achieve more engaging forms of communication. To return to the question posed at the start of this chapter as to the most effective modes of architectural communication, it becomes clear that exhibitions should attempt to address the entire spectrum of the human sensorium and thereby engage more fully the body's intertwined motor-cognitive apparatus.

Case study 1: 'Andorak' + 'spectacular spaces'

These questions were first addressed on a practical level through a postgraduate teaching project at the University of Nottingham in the academic year 1999–2000.[10] The initial brief was very open: simply to devise an exhibition about a chosen architect's work and to challenge the conventional gallery format such as discussed here already. The most promising of the approaches to emerge from the studio was a project entitled 'Andorak', a self-guided walk around the centre of Nottingham that set out to present the architecture of Tadao Ando. While most of Ando's buildings had been built in Japan, it was clear that the exhibition would have to rely heavily on photographs and drawings. To avoid the usual pitfalls, and as an alternative to presenting individual buildings, the project focused on some of the more generic themes at play in Ando's work. By picking up on broad thematic issues such as materiality, light, nature and history, a series of spaces around the centre of Nottingham were identified that could illustrate Ando's ideas in 'real life'. The exhibition became a self-guided walk using a CD-sized information pack containing a fold-out map and a set of 24 cards, one for each stop on the tour. At each location a small photograph on the card would suggest a detail to look out for – sometimes a well-known landmark such as a church or a clock tower, often an incidental feature like a shadow on a wall or a piece of graffiti. A short quotation from Ando's writings and a piece of haiku poetry suggested a connection between the highlighted feature and an aspect of Ando's architecture. On the back of each card a longer text offered a more in-depth explanation. One of the most powerful moments on the walk was during a long walk up a cobbled hill, where a connection was made to the ramped approach to one of Ando's museums in Japan. The visitor was invited to consider for a moment the physical exertion involved in carrying the weight of the body up a slope – the sudden awareness of gravity experienced directly through the muscles – and the effect this might have on the expectation of reward for the effort in a dramatic view at the end of a long ascent.

The project was tested on a group of local A-level students and a good range of feedback was collected. The most common response was a comment on the way it invited a reassessment of familiar locations. Each visitor was invited to exchange their outdoor coat for an elaborately folded yellow cagoule – hence the title 'An(d)orak' – which lent a ritual element to the start of the tour as well as offering a temporary new identity through which to re-experience the city. Evidence gathered a few days after the event suggested that for some people it had had a longer-term effect – visitors reported paying more attention to the experience of their own bodies as they moved; continuing to examine their surroundings in forensic detail; and enjoying the more subtle and transient qualities of the city such as movement, light and ambient sounds.

In 2002 a variant of the project was offered to a new group of students, this time the objective being to design installations for pieces of public art.[11] With the support of a small grant from the Arts Council, this work was presented to the public during Architecture Week 2002, again as a self-guided walk but this time using a more traditional guidebook format. Most of the stops were empty spaces that had simply been taken as sites for the designs reproduced in the guidebook, so there were fewer 'real' places to experience and more reliance on the printed imagery. This seemed to produce a less satisfying experience than the original Andorak tour, where the interplay between the text, images and the physical locations created a more engaging dialogue between presence and absence.

Case study 2: 'moving city'

In 2003 a new opportunity arose to extend the project through a collaboration with Nottingham Castle Museum and Art Gallery involving a link-up with an exhibition of kinetic sculpture called *Making a Move*.[12] The scale of the project and the funding available allowed a new phase of experimentation with mobile digital technologies, hence the collaboration of the present co-authors on the writing of this chapter.[13] The Mixed Reality Lab at the University of Nottingham already had a substantial track record of working with artists and performers on interactive public installations, including various arts festivals around Europe with companies such as Active Ingredient and Blast Theory.

The original idea for the guided walk was to devise a route around sites in the city centre where the Castle Museum was proposing to install actual pieces of sculpture. As it turned out, all the artists in the exhibition chose locations inside the castle grounds. The student project therefore involved presenting imaginary installations for art works of their own devising – all site-specific pieces rather than 'off-the-shelf' works by recognised artists. This gave an added dimension to the tour as there were more direct and meaningful connections between the projects and the particular locations being visited. Using a PDA instead of a printed guidebook allowed a mix of visual images, animations, text, sound-effects, voice-overs and video clips. Beginning

with a clickable map of the city centre, visitors navigated their way along a prescribed route, following the instructions on the touch-screen display. The interface was constructed using Flash software similar to that used on many websites, so most visitors were able to use this without needing special assistance. The individual projects presented at each location employed their own distinctive graphical interface and some of these did prove difficult to access for some visitors due to the variety of different formats used. Returning to the overall map on the main menu allowed the visitor to vary the route of the walk – either by short-circuiting or repeating parts of it and thereby personalising the experience. Some visitors again remarked that there was too much textual information. They would have preferred more audio guidance – such as a continuous voice-over commentary – leaving them free to enjoy viewing the city without becoming too absorbed in the PDA itself. Positive feedback focused on the experience of seeing familiar places in a new and unexpected way, alongside the enjoyment of walking through the city 'accompanied' by the curatorial narrative.

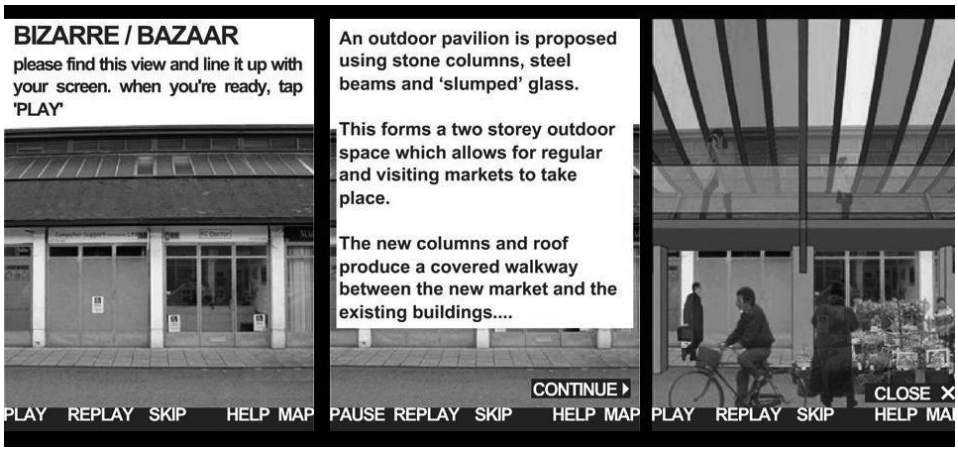
Case study 3: 'future garden' + 'anywhere-somewhere-everywhere'

The most recent phase of the project began in May 2006 and involved a further collaboration between the current authors and the Vienna-based artist and choreographer Cie Willi Dorner.[14] A public event was presented as part of the *NottDance06* festival of contemporary dance and included a self-guided walk around the Sneinton Market site

***Moving City*: PDA interface (Clickable map).**

on the east side of Nottingham city centre which is scheduled for demolition. Willi Dorner set out the basic agenda for the project which was planned as a way of questioning the current regeneration plans and stimulating debate on the future of the market. He consulted with local artists and market users about their ideas for what should happen. A group of architecture students were then given four weeks to work up designs based on the findings of this vox-pop research (most of which proposed retaining and refurbishing the market) and present this material via a similar PDA interface as used on the previous *Moving City* project. This time the navigation was done using a 'video follow' approach, where video clips of the route between 'stations' around the site have to be followed at walking speed by the viewer. This creates a more restricted linear structure which is more difficult to short-circuit, although it does provide a stronger sense of an unfolding narrative which in this case was driven by the artist/curator. At most stations viewers were asked to identify a photograph of the market as shown on the screen and then line up the view to provide a kind of 'augmented reality' overlay. When activated, this view then gradually dissolved or morphed into the completed design proposal, with a CAD animation showing the gradual installation of the new architectural elements. Additional information was provided by a layering of voice-overs, sound effects and text captions. At some stations visitors were shown video interviews, historical archive photographs and a pre-recorded site-specific dance performance set within the market. At points along the tour there were also opportunities for live or interactive elements, including: a voice recorder inside a temporary homeless shelter; a fortune-teller in a nearby warehouse; and a live dance performance inside one of the market buildings.

***Future Garden*: PDA in use at numbered 'station'.**



***Future Garden*: PDA interface (CAD montage/animation).**

Feedback from visitors to the event was generally very positive. Over a three-day period, out of a total of 44 participants 28 completed a written questionnaire. Most enjoyed the video-follow navigation approach and found the more interactive elements more memorable. Physical marking of ground with the numbers of each station provided valuable confirmation that viewers had reached the correct locations. At each station there were also options as to how much of the content to engage with, so it was possible to speed up the experience if viewing time was limited. The sense of intimacy created by the one-to-one 'dialogue' between visitor and curator also helped to communicate the underlying political message of the *Future Garden* project. Aside from the sensory impact of the multimedia presentations of design proposals, viewers were also able to empathise very directly with the plight of established market users being forced out by the commercial pressures of the currently fashionable urban-regeneration agenda.

In April 2008 a new project with the same artist funded by a major grant from the Arts Council was staged in Nottingham in partnership with the Broadway Media Centre.[15] This event explored the more abstract theme of hidden spaces within the city and offered viewers a more interactive experience using an adapted mobile-phone interface. Direct communication with the curators/performers allowed the information displayed to be dynamically updated via the mobile-phone network, responding to the viewer's movements and preferences as described to an unseen guide or 'shadow'. The intention was to engage the viewer in the personal reconfiguration of their own exhibition/event experience, thereby intensifying the sense of a direct and embodied engagement with both the spaces of the city and the curatorial voice.

Conclusion

The case-study projects presented above have provided valuable opportunities to assess the impact and implications of mobile digital technologies within the 'expanded field' of outdoor real-life architectural exhibitions. Downloadable 'podcast' audio

walking tours around major cities and museums are already becoming part of the mainstream tourist industry. As the software tools for visual interfaces such as PDA, MDA, mobile phone and iPod become more widely and easily accessible, it is likely that they will be used more and more frequently as personal interpretation devices both within the traditional confines of the museum and gallery setting as well as, hopefully, in what has been described here as the most vivid, engaging and ultimately most effective context for architectural communication – the experience of the buildings themselves.

Notes

1 Nicholas Serota, *Experience or Interpretation*: *The Dilemma of Museums of Modern Art (Walter Neurath Memorial Lectures)*, London: Thames and Hudson, 2000.
2 Henri Bergson, *Matter and Memory*, New York: Zone Books, 1988 [1892], p. 21.
3 James J. Gibson, *The Ecological Approach to Visual Perception*, Hillsdale, NJ: Lawrence Erlbaum Associates, 1986 [1979], pp. 127–43.
4 Maurice Merleau-Ponty, 'Eye and Mind', in M. Merleau-Ponty, *The Primacy of Perception* Evanston, IL: Northwestern University Press, 1964, p. 163.
5 Maurice Merleau-Ponty, 'Eye and Mind', in *The Primacy of Perception* Evanston, IL: Northwestern University Press, 1964, p. 162.
6 Richard Held and Alan Hein, 'Movement Produced Stimulation in the Development of Visually Guided Behaviour', *Journal of Comparative and Physiological Psychology*, 1963, 56 (5), pp. 872–6.
7 V. Gallese, L. Fadiga, L. Fogassi and G. Rizzolatti, 'Action Recognition in the Premotor Cortex', *Brain*, April 1996, 119 (2), pp. 593–609.
8 See, for example, Vittorio Gallese, 'The "Shared Manifold" Hypothesis: From Mirror Neurons to Empathy', *Journal of Consciousness Studies*, 2001, 8, pp. 33–50. Atsushi Iriki, 'The Neural Origins and Implications of Imitation, Mirror Neurons and Tool Use', *Current Opinion in Neurobiology*, 2006, 16, pp. 660–7.
9 Shaun Gallagher, *How the Body Shapes the Mind*, Oxford: Oxford University Press, 2005, p. 9.
10 The authors would like to acknowledge the input of the two students who developed the original version, Andrew Puncher and Peter Richardson. The project was further developed by the author with the support of a grant from the University of Nottingham's New Lecturer's Research Fund, 2000–1.
11 The authors would like to acknowledge the efforts of all the students in the 'Building Project' group 2001–2, but special thanks are due to Ishaan Saccaram and Katherine Kemp for their generous editorial and production assistance.
12 The authors would like to thank Kate Stoddart, formerly Exhibitions Officer at Nottingham Castle Museum and Art Gallery, for her kind invitation to participate in the *Making a Move* exhibition.
13 The authors would like to acknowledge the financial support of Opun – the Architecture and Built Environment Centre for the East Midlands, and Neil Horsley of Nottingham Development Enterprise. All the students in the 'Building Project' (2003) group deserve thanks for their efforts but special credit goes to Jon Meggitt and Simon Hobbs for their additional work on the PDA interface.
14 The 'Future' event was commissioned by Dance4 as part of the *NottDance06* festival and involved the choreographer Willi Dorner; dancers Suzie Firth, Satu Herrala and Sonja Pregrad; film makers Adam Robertson and Jules Winter; project manager Jo

Mardell; evaluation was carried out by Ben Bedwell of the Mixed Reality Lab; additional material was supplied by Tom Huggon, Steve and the Sneinton Market users. The 'Building Project' (2006) students again deserve a mention, with special thanks to James Alexander for extra help formatting the PDA interface.

15 'Anywhere-Somewhere-Everywhere' was a project by Cie Willi Dorner developed in collaboration with the Mixed Reality Lab and the School of the Built Environment at The University of Nottingham. The project is funded by Arts Council England and supported by Broadway Media Centre, Dance4 and the Austrian Cultural Forum.