

Executive Summary

This workshop, held on 8 and 9 March 2007 in the dynamic environment of the Think Lab at Salford University, brought together people at the forefront of neuroscience and sensory perception research, as well as artists and designers making an original contribution to the way we view our environment. Twenty-seven invited international experts attended from Canada, Denmark, Holland, Italy, Portugal, UK and the USA. The companies represented included Sainsburys, Manchester City Council, Barclays, the BBC and Philips Lighting. The aim was to engage in a discourse on the multiple factors involved in the holistic sensation of spaces by individuals.

Brief individual presentations to instigate discussion were combined with group interaction and moderated plenary debates. Four group sessions were held within the workshop and in each session the groups were divided up into the various use specialties, namely: schools, housing, retail and offices. A virtual model of a school had been developed and this was used at one point to help shift the groups' thinking to a design mode.

Analysis of the early memories, provided by participants in advance of the workshop, revealed a very complex set of perspectives. Aspects, such as cramped space, that might be expected to have negative connotations were quite often positive. Social context was important and linked to the need for personalisation of spaces. People seemed to calibrate spaces through comparison to other more positive memories of space and individuals could inhabit spaces physically, or imaginatively transcend them. The various memories have been grouped under five main sections: those dealing with large spaces, cramped spaces, sense factors, individualisation, way-finding and a decay/destruction/décor category.

Various presentations were made on discrete sense dimensions, namely: acoustics, colour, air quality / smell, natural and artificial light and planting. These highlighted a recurrent theme around the dynamics of the experiences involved. This was in two ways: the changing nature of human needs over time (whether within a day or over years); and the complex interactive effects between the various sense experiences, both physiologically and socially driven. Another recurrent theme was that of "naturalness".

It would seem that humans do have characteristics derived from our evolutionary roots and these are likely to underlie the recurrent impact of dimensions of nature. The complexity is rooted in the fact that spaces are, in practice experienced by individuals holistically and interactively. At a base level this is confounded by the cognitive limits of humans, so that perception becomes an "ill-posed question", in which the brain endeavours to represent reality probabilistically, as best it can. This capacity varies over a life time, generating different needs at different times. This practical complexity is compounded by the psychological and sociological layers of issues associated with spaces, such as status, control and social belonging. Alongside all of this is the dynamic human "design" tendency to imagine, experience and reflect on spaces, so progressively seeking better solutions. Thus, finding optimal solutions is not a simple search for *the* answer. It is, rather, a subtle process of addressing multiple aspects and moving towards a better understanding of the questions we need to address. Elegant solutions can then more confidently be derived at the dynamic interface of spaces and individuals over time.

The group work and subsequent discussions identified the broadly elements of an agenda for action. This has three components: first, responding to user needs, second, the knowledge base regarding impacts of spaces on behaviour, and third, process issues concerning the co-production of design. In a bit more detail:

First, the particular aspects of *“responding to user needs”* highlighted by the workshop were:

- Age dependency issues
- Identity and personalisation aspects
- Wellbeing-health
- Ownership
- Navigation
- Learning
- Belonging and community

Second, the particular aspects of the *“knowledge base regarding impacts of spaces on behaviour”* highlighted by the workshop were:

- The need for a better definition of the knowledge base to help improve design drawing from neuroscience, psychology, sociology and physiology.
- The need for greater understanding of the relationship between design choices and behaviour.
- The ethical aspects of how this knowledge might be used to manipulate people.

Third, the particular aspects of *“process issues concerning the co-production of design”* highlighted by the workshop were:

- The involvement of users in the design as an iterative process, moving from the ‘inside’ responding to needs through mechanisms such as briefing /consultation and to the ‘outside’ where the building is seen as an entity. Further to discover from users whether their needs have been met. It as felt that these processes should have an element of serendipity, so that the place of chance is acknowledged within the design process.
- The evidence base should lead to informing design policy and strategy for example in terms guidelines and norms.

These three generic areas are highly interdependent. How they can inform actions in each of the use areas, with different stakeholders and operating in a variety of markets, needs careful study.

Of course a report cannot hope to capture the depth of the expertise present in the participants or the richness of the discussions that took place. So, further collaboration is key to making real progress. There was a strong consensus that the momentum created by the workshop should be built upon.