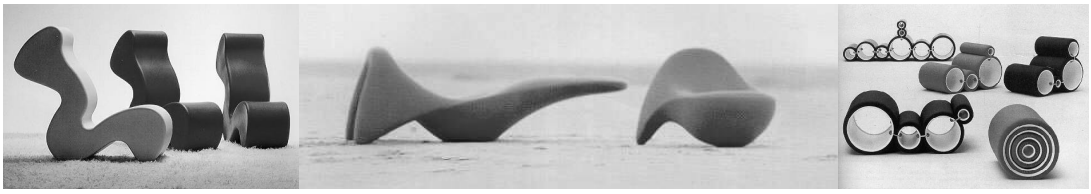
TOUCH: Creating Interactional Artefacts in a Physical World

The maxim states that seeing is believing but that it is touch that determines reality. Instinctively we reach out to touch those objects that attract or perplex. Touch conveys an intimacy both at a physical and emotional level. In the pursuit of the digital world, the sense of engagement that touch offers has largely been sacrificed. Instead the GUI has been created, the ubiquitous portal into the digital world, with its levels of indirection acting as a constant challenge to HCI practitioners and users alike. Interaction has lost its grounding in physicality.

The vision of an environment populated by interactive and interacting artefacts, as articulated by ubiquitous computing and tangible media, offers the opportunity to reclaim the interface and return it to the physical world. Form and function will be reunited leading to the design of artefacts which both engage and provoke interaction. In the words of Buxton (1996) there will be a move away from the safety of the Henry Ford school of design that practitioners currently adopt to a world populated with bespoke technologies. Breaking "the box" raises the question of where will these technological artefacts go? Most probably the migration from the desktop will be either into the environment or onto our skins. Technology will be more personal and form will impact on how users relate to and interact with these devices. This is more than product semantics - form and function are inextricably linked to the affordances conveyed by these new artefacts. Touch is a pleasurable sensation; the sweep of a curve, the precision of an angle, the tactile quality of a material. What is less well understood is how such haptic qualities play a role in the creation of a sense of engagement and a linkage with the body which underpins much of our learning.



The phenomenologist Merleau-Ponty's account of "being-in-the-world" emphasises the importance of the body. He places the body at the centre of our relation to the world and argues that it is only through having bodies that we can truly experience space. Not surprisingly a number of ideas underpinning phenomenology have been appropriated by the design community when discussing the acquisition of design skills. This in turn has lead some researchers (e.g. Tweed, 1998) to comment that design based skills are both bodily and cognitive. Studies of interior designers engaged in the early phase of design have revealed the importance of the creation and manipulation of physical models (Smyth, 1999). Such models enable the designer to manipulate through touch a 3D representation of a building space. The sense of engagement provided by such models was viewed by the designers as something qualitatively different to that provided by drawings, whether these were produced by hand or by CAD. The characterisation of the designer as "thinking with their hands" while creating and manipulating physical models supports the findings of Candy & Edmonds (1996) and Roy (1993). How might technology provide designers with such essential attributes and how might such requirements inform the design of the next generation of technologies?

References

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