

GORDON PASK AND ARCHITECTURE

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There has recently been a groundswell of interest in Gordon Pask's work by architects, artists and designers¹, though his association with architects stretched from the 1960s through to the early 1990s, with collaborations undertaken in particular at the Architecture Association, London, and with the Architecture Machine Group at MIT (later to become the Media Lab). It may be argued that these collaborations were too far ahead of their time and were not fully grasped by the wider architectural community, but they did help to set the foundations for an architecture constructed from dynamic, responsive and authentically interactive environments.

The extent of Pask's research, theories and artefact design/construction was enormous². As such, different groups of people find completely different tracts from his back catalogue relevant to their own work. In the 1960s, he worked with the architect Cedric Price on his *Fun Palace* project as resident cybernetician, introducing the concept of underspecified goals to architecture systems. In the 1970s, Pask's contribution to the philosophy of MIT's Architecture Machine Group was focused around the notion of architecture as an enabler of collaboration³. And in the 1980s and early 1990s, architects such as John Frazer at the Architecture Association were particularly interested in how Pask's adaptive systems might be applied to the architectural design process in order to evolve building forms and behaviours.

Now, at the beginning of the 21st century, Pask's *Conversation Theory* seems particularly important because it suggests how, in the growing field of ubiquitous computing, humans, devices and their shared environments might coexist in a mutually constructive relationship. If we think of having conversations with our environments in which we each have to learn from each other, then

¹See, for example: recent attempts to replicate Gordon Pask's electrochemical experiments by Peter Cariani, Tufts Medical School; collaborations between Jon Bird, University of Sussex and artist Andy Webster; *Dendrite* by architect Pablo Miranda, Royal Institute of Technology, Stockholm; Cornell University professor Maria Fernandez, writing about Reichardt's *Cybernetic Serendipity* exhibition at the ICA, London, with special emphasis on Pask's installations; Andrew Pickering, historian of science from the University of Illinois, preparing a book on English cyberneticians; the collaboration between Omar Khan, Buffalo University and Raoul Bunschoten, Architecture Association, London.

²Even now his archives (in both Europe and North America) have not been fully classified, though his UK archive has recently been transferred to Vienna.

³Nicholas Negroponte, *Soft Architecture Machines*, MIT Press, Cambridge, MA, 1976.

Pask's early experiments with mechanical and electrochemical systems provide a conceptual framework for building interactive artefacts that deal with the natural dynamic complexity that environments must have without becoming prescriptive, restrictive and autocratic⁴.

In this context, his teaching and conversational machines demonstrate authentically interactive systems that develop unique interaction profiles with each human participant. This approach contrasts sharply with the 'Star Trek Holodeck' approach often attempted in so-called intelligent environments, which presumes that we all see all things in the same way and which denies the creative-productive role of the participant in interactions with such environments. Pask recognised, for example, that interpretation and context are necessary elements in language - as opposed to locating meaning itself in language - which is particularly important to consider for any design process, not least the construction of architectural experience.

It is vital at this stage in the development of architecture and interactive and time-based media to reconsider Pask's model of interaction, particularly because we are no longer naive in dealing with our technological interfaces. We now expect more from them and are better able to comprehend the structures behind them. A Paskian approach to architecture does not necessarily require complexity of interaction - it relies on the creativity of the person and the machine negotiating across an interface, technological or otherwise.

In his designs, theories and constructions, Pask provides rigorous guidance on how to build such systems, with strict definitions for 'performance', 'conversation', 'interaction', 'environment' and 'participation'.

I concede that simple reactive devices designed to satisfy our creature comforts are useful for functional goals. These include systems such as those employed in Bill Gates' technologically saturated mansion, which tracks visitors' locations to provide them with preset optimised temperatures in each room they enter. They also include building management systems that optimise sunlight distribution, rooms that change colour as people enter them, and facades that represent environmental or internal conditions on their surfaces. These satisfy very particular efficiency criteria that are determined during, and limited by, the design process. However, the key to Pask's innovative underspecified systems is that input criteria are determined dynamically; sometimes, like Pask's *Musicolour* by adjusting the weighting of particular input criteria - varying how important they are in the overall calculation - and sometimes, like his *chemical computer*, by enabling the system to select or construct its own input criteria.

These dynamic input criteria are a crucial requirement for making spaces and environments that foster engagement with their occupants. Architectural systems constructed with Paskian strategies allow us to challenge the traditional architectural model of production and consumption that places firm distinctions between designer, builder, client, owner and mere occupant. Instead we can consider architectural systems in which the occupant takes a prime role in

⁴For more on this, see "The Architectural Relevance of Gordon Pask", by Usman Haque, in *4dsocial: Interactive Design Environments*, ed. Lucy Bullivant, John Wiley and Sons Ltd, London, 2007, which expands on the text presented here.

configuring and evolving the space he or she inhabits, a bottom-up approach that enables a more productive relationship with our environments and each other. Pask's approach, if implemented, would provide a crucial counterpoint to the current pervasive computing approach that is founded on interaction loops that have been fixed by the designer and, if implemented, would have a positive impact on the design of future environments.

This interpretation of Pask's way of thinking about interactive systems does not necessarily result in technological solutions. It is not about designing aesthetic representations of environmental data, or improving online efficiency or making urban structures more spectacular. Nor is it about making another piece of high-tech lobby art that responds to flows of people moving through the space, which is just as representational, metaphor-encumbered and unchallenging as a polite watercolour landscape. It is about designing tools that people themselves may use to construct - in the widest sense of the word - their environments and as a result build their own sense of agency. It is about developing ways in which people themselves can become more engaged with, and ultimately responsible for, the spaces they inhabit. It is about investing the production of architecture with the poetics of its inhabitants.