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Design theory and concepts of the consumer-user

Mapping design theory.

Cross (2000), in suggesting that design knowledge exists in three forms (design epistemology, design praxiology and design phenomenology), is developing the arguments of Archer (1981).

The main attraction of this structure appears to lie in its suggestion that there is formal knowledge structure in the form of a coherent theory of design alongside the more tacit knowledge embedded in design practice and the products of that practice. It is certainly the case that much design knowledge is tacit – design is largely a collection of craft skills relying on know-how rather than explicit, formal methodological rules. Equally, design generates artefacts that are an embodiment of knowledge from many sources. The phrase 'design epistemology', however, is more troublesome: the quest for formal theories of design knowledge is a recent phenomenon that has to accommodate, or at least be compatible with a longer history of design practice and design artefacts. I suggest 'epistemics' as an alternative – the construction of formal models of the processes (perceptual, intellectual, and linguistic) by which knowledge and understanding are achieved and communicated, rather than a philosophical theory of knowledge.

As a starting point for mapping design theory, we have used this tripartite structure to classify papers in leading design journals. A longitudinal study of 'Design Studies', from its launch in 1979 to 2005 reveals shifts in the balance of papers in each of the categories. Categorising papers raised some interesting issues – a clear taxonomy did not become evident, but provisional maps of layers of sub-categories were generated.

For example, Cross defines phenomenology as 'the study of the form and configuration of artefacts', and in scientific or general use it is defined as the science or study of phenomena, or things as they are perceived or experienced, and the content and meaning of that experience. We have included:

- technology and implications of new technology on designers
- design morphology (theoretical studies of development of form and shape)
- semantics and syntax of form
- efficiency and economy in product design
- relationships between form and context (including ergonomics and usercentred design)
- environmental design (including sustainability and design for recycling)

• design for mass customisation

The emergence of the consumer-user

From some early beginnings in ergonomics, consideration of users has developed some strong themes. Concepts of 'user-centred design' and 'inclusive design' have help re-define design objectives, and techniques of 'designing the user experience' and 'interaction design', such as 'user trips' and 'scenario building' are now well established. However, aspects of consuming that are outside the central focus of product usage – acquisition, assembly and appropriation are less frequently considered.

Consideration of users has also brought increased awareness of aspects of practice – the importance of what Shove and Pantzar are calling 'image' for the normalisation of products into accepted practice is often a major driver in the design of consumer products. However, design theory has been influenced by the heritage of design practice, with its focus on self-contained creative projects (evidenced by a dominance of praxiology in design writings), making it resistant to concepts of product evolution that offer prospects of radical change in design practice.