Ethnography and Design?

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ABSTRACT

We consider the role of 'workplace studies' in design and specifically, what it means to use ethnography to 'inform' design. We suggest that there is a need for a foundational change in the configuration of the practical relationship between ethnography and design if the approach is to be of lasting utility: from the traditional product-oriented configuration where ethnography attempts to inform requirements specification, to one where ethnography supports the broader research endeavour, the development of abstract design concepts, and the exploration of the social application of new technologies.

Keywords

Ethnography, workplace studies, informing design.

INFORMING DESIGN

Over recent years a corpus of workplace studies has emerged from computer science research. Workplace studies have been commissioned by computer scientists in order to inform the design of new technologies. The notion of employing workplace studies to 'inform' design has traditionally been construed as one where ethnographic findings are used to identify 'system requirements' – i.e. to identify *just what* functionality or services a system should deliver [5]. Construed like this, workplace studies are configured to fit into the initial requirements analysis phase in the overall software engineering life-cycle [22].

This configuration of ethnography in design has proved to be less than straightforward in its application, however. The basic problem that has been encountered here is one of working out just what the highly detailed accounts of situated activities supplied by ethnographers mean in terms of the actual construction of technical systems supporting the activities observed. In other words, the practical problem produced by this configuration is one of *linking* ethnography to the actual design of computer systems. In order to build systems it is necessary to abstract from and simplify ethnographic accounts; to focus down on such

entities as components, dataflows and processes that can be modelled and manipulated. Requirements analysis is essentially reductionist in character then, which does not sit well with ethnographic inquiry. Compounding the problem is a lack of technical competence on the ethnographers' part. Few ethnographers are technically proficient and so it is difficult to translate ethnographic findings into concrete system requirements that 'tell' designers just what to build [8].

MANAGING THE RELATIONSHIP

Researchers have attempted to manage the problem, which is perceived as being essentially one of communication, in various ways. Notably, these include the development of the Designers Notepad [16] and of a Pattern Language as a lingua franca for interdisciplinary design teams [11]. Others have sought to reconfigure the relationship that gives rise to the problem. Plowman et al. [21] argue that it is 'unfair to expect any more from social scientists' – i.e. that the requirements problem is not, nor should it be, an ethnographers' problem. Identifying systems requirements is a designers' problem and it should not be passed off onto ethnographers and other multidisciplinary design partners. The ethnographers' task is to 'impart knowledge' to systems builders, not to 'give form to design' (ibid.).

In one sense we agree with Plowman's attempt to reconfigure the relationship between ethnography and design. We do not do so for the same reasons, however. As Shapiro [23] points out, and as Plowman et al. [21] read ironically,

> Any role at all for sociologists in this field rests on their claim to being in a better position to identify particular aspects of 'what is really going on' in a given field of work and 'what is really the problem' that people encounter in doing it. If this claim is not sustainable then sociologists have no contribution to make to systems design.

Shapiro's, and his colleagues [15], comments do not imply that the ethnography-design relationship should be organized in terms of a distinction between imparting knowledge and giving form to design. Rather, they raise the question as to what it means *to* give form to design? Is identifying 'what is really going on' in a given field of work and 'what is really the problem' that people encounter in doing it, *etc.*, a constructive feature of the job of design?

Rather than make a hard and fast distinction between ethnographers and designers work, such comments actually blur the divide by drawing into question the assumption that giving form to design is exclusively a matter of specifying system requirements. One might say: only those who specify and implement requirements are designers (an absurd notion). Perhaps there is a great deal more to the 'creative process of design' [24] than trading in systems functionality then?

Naturally we take it that there is a great deal more to be considered here. The traditional configuration of ethnography in design is based on a certain version of design work, which might be described as 'product-oriented'. On the one hand, this orientation overlooks the fact that most workplace studies are conducted for research purposes (in both academic and commercial labs) and not for the design of products. Where technical systems are produced in a research context they are instantiations of design concepts rather 'products' in the consumer sense of the word. On the other hand, the product-orientation overlooks the fact that where consumable products are concerned then they are themselves the outcome of a labour process. The product-oriented perspective places an emphasis on organizing the design of an end-product rather than on the nature of the production process itself.

An alternate point of view - the process-oriented view – places emphasis on the role of *learning* and *dialogue* between the parties to design throughout the development process [12]. Learning is, of course, fundamental to design, especially in a research context, and it is in this respect that ethnography has proved to be of considerable value. But learning what and to what end? As Plowman et al. [21] rightly point out, the most prominent contribution of workplace studies to design is the *identification of researchable topics*. The literature is replete with topical concepts derived from workplace studies such as surreptitious monitoring [14], distributed awareness [5], and bricolage expertise [3]. These might best be understood as 'alerting' [15] or 'sensitizing' [2] concepts which draw attention to important features of work and provide guidelines directing research in specific settings. Such concepts flesh out and support ongoing analysis of the sociality of the design space.

Sensitizing concepts are generalized products of specific studies of work. Specific studies are of further and arguably more immediate relevance to design, however. Workplace studies are often commissioned to as means of *developing abstract design concepts* by consulting 'perspicuous settings' [13, 7] – i.e. workplaces that may shed light on what abstract design concepts might mean concretely. A practical example is provided by the notion of an 'abstract electronic landscape', which was developed concretely in light of studies of searching's work in the library [10].

The notion of 'developing a concept' is a gloss on a polymorphous assemblage of cooperative work that takes place between ethnographers and other design partners.

Stable features of the polymorph consist of *employing workplace studies to sketch out and work up potential design solutions* [9]. This is a very different kind of activity to specifying system requirements. It is concerned to establish over the course of time a mutual understanding of the practical situations of work for which novel technical support might be effectively devised.

Abstractly, we might say that stable features of the polymorph are concerned to establish a mutual understanding of the A and the B of the matter. Just how one gets from A to B in technical terms is not at stake here. Working out particular configurations of technology to support the accomplishment of A and B is the problem of a technical staff. In the early stages of design this means that social and technical viewpoints are quite divergent. The two come to be aligned, and solutions worked up/concepts developed, through employing workplace studies to *conjointly formulate sequences of machine-based interactions* for the accomplishment of A and B. These formulations pull the social and technical together and are often expressed in an unfolding sequence of increasingly refined scenarios [18].

Abstract design concepts may be further developed through ethnography's deployment in systems evaluation. Evaluations may be both summative, where ethnography is employed as a means of conducting a 'sanity check' on design [16], and formative, where prototyping sessions are treated as sites of work amenable to study and findings are used to drive iteration in design [25, 6, 19]. While useful in a research context, both of these strategies are essentially derived from product-oriented concerns with utility. A more interesting deployment of ethnography occurs in situations where the approach is configured to assume *an exploratory role in innovative technical research*.

While the focus of exploratory studies remains fixed on technology-in-use [4], their purpose is not one of conducting sanity checks or producing specific design recommendations (though the latter may be a by-product of such studies). Rather, the aim is to explore the sociality of novel design spaces opened up through the deployment of radical technology configurations in real world situations of use. Practical examples are provided in the development of the *Distributed Legible City* [20] and the mixed reality production *Can You See Me Now?* [1]. The main outcome of these studies is one of furnishing sensitizing concepts that draw attention to important features of social interaction implicated in technology usage, which may be further explored through design. This reconfiguration of the relationship between ethnography and design leads to a development model where technology becomes a vehicle for social research, the results of which in turn propel design.

BEYOND REQUIREMENTS ENGINEERING

Ethnography has traditionally been configured to be part of the requirements process in design. This has proved to be a problematic relationship however, based on narrow

product-oriented definitions of what is involved in the job of design. We have suggested that a broader conception of design work opens up a new play of possibilities for ethnography's involvement in systems development. Specifically, the approach may be constructively deployed in the following ways:

- ❑ To identify general researchable topics for design through continued workplace study.

- ❑ To develop abstract design concepts concretely by using workplace studies to sketch out and work up design-solutions.

- ❑ To drive the development of novel technologies by evaluating the social application of innovative technological research.

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