

## **‘Doing designing’: on the practical analysis of design in practice**

Editorial for the special issue: Studying design in practice

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A strong sense of ‘the social’ underscores the study of design. This can be traced through seminal texts including Bucciarelli’s study of engineers at work (1994), in recognising designers’ reflective practices (Schön 1983; 1992) and predating this, in the design research founders’ commitment to design’s social intent (Jones 1970; Alexander 1979; Archer 1984 [1965]). This commitment to progress our understanding of the social nature of design is developed in this special issue ‘*Studying Design in Practice*’. Here we draw attention to the study of design as it is practiced through the application of the analytic orientation of ethnomethodology and conversation analysis, and to the empirical, investigatory matters associated with it.

*“Ethnomethodology and Conversation Analysis are cognate approaches to the study of social action that together comprise a major perspective within the contemporary or human sciences. This perspective focuses upon naturally occurring talk and interaction and analyses the methods by which social action is ordered and accomplished. From its origins within sociology, EM/CA has ramified across a wide range of human science disciplines, including anthropology, social psychology, linguistics, communication studies, and social studies of technology”* (Hester and Francis 2008). It is the potential to develop our understanding of design as it is practiced through these kinds of analyses that will be explored in each of the articles within this special issue.

Ethnomethodology and Conversation Analysis can be considered to share an analytic sensibility and interest in the ways that people organise their practical actions: be that actions in conversation, in the exchange of turns at talk, or other actions in the conduct of their lives. Making visible the methods that people display in organising how, for example, design gets done becomes an analytic task, and these analyses are useful for understanding the social matters that are endogenous to design. We will see this illuminated in the empirical papers that form this collection of design studies in practice, in context, and importantly, in what each study reveals about *design* itself through the analysis of its practice. Intentionally then, these contributions are analyses of design conduct through this lens, rather than rehearsing theoretical and methodological debates that are well versed in other arenas, although each article orientates to aspects of theory and method in its argument. While relationships between ethnomethodology and conversation analysis have been contested, recent joint international symposia demonstrate increased research attention to reaffirm their shared analytic sensibilities. Indeed, “although they differ in problem selection and formulation, methodological preference and foci, they are not incompatible but complementary” (Psathas 1995). The spirit of the Summer Sessions in Boston, where the founders in the fields of both EM and CA met, seemingly is resurgent (Psathas 1979; IEMCA 2011).

Fuelled by this renewed co-operation, this special issue attempts to build stronger connections between several research tribes that coalesce around design but have different motivations for its study. The contributors to this issue include a number of design researchers who conduct EM/CA informed studies of social interaction, academics with developed EM/CA expertise who study design, and research-practitioners from Xerox, the organisation that pioneered the involvement of social science researchers in technology design and in developing better ways of working. Analyses of this kind are evidently more than an academic exercise, as these are ingrained in some practitioners’ methods of working (Button and Sharrock 2009; Szymanski and Whalen 2011). These contributions reflect a broad community with distinct and complementary interests in design and its research.

In this collection we will see the *practical application of EM/CA approaches* in the design of products, systems and services in the wild, as well as *arguments for analytic ethnography in the study of design practices*. The distinctiveness of this collection is that it is *design work*, as it is being conducted and accomplished in a diversity of design domains that are studied. It is the *doing of designing* in practice that is displayed in these papers and not analyses of work practices *for design*, which informs the design of products, services and systems. There is a difference. An orientation to design, debating for instance the ‘usefulness’ of analytic accounts, is evident in what Arminen (2002) has dubbed ‘design-orientated sociology’ and that Crabtree (2003) characterises as the ‘requirements problem’ in systems

design. Studies *for design* can be viewed as pre-design ethnographic analyses. It is designing in practice, in the naturalistic settings where design work is actually conducted that are studied in each of the papers, and not pre-design studies of practice, nor research that is conducted through practice. The distinct analytic focus for these papers then, is in presenting accounts of the participants' everyday practices in the conduct of design work: in the *doing of designing*, and not artificial arrangements intended to represent something else. It is the very practices of designing; the endogenous members' actions that are evident in the course of situated design work that these articles open-up for inspection.

Design work, in distinct domains of practice are explored through each of these contributions. This collection of papers exemplifies, and each uniquely exhibits, ethnomethodological and conversation analysis in heterogeneous design settings: ranging from architectural students' crits, graphic designers in a studio, residents and architects in participation designing housing, software designers at a whiteboard, design and occupational therapy students' inclusive design education, and a research company's interaction design meeting. The 'witnessable and accountable' actions and features in the conduct of design that are recovered in these settings are from a different analytic foundation to studies that make comparisons across design disciplines (Blackwell, Eckert et al. 2009), although they do share a common focus on design as it is practiced.

This focus on the study of design as it is practiced is not novel. There is a trajectory of research that studies designers at work, in action. This includes studies of human practical action and social interaction that are attentive to multimodal, embodied conduct through video-based analysis (Buur, Binder et al. 2000; Heath, Hindmarsh et al. 2010; Koschmann, LeBaron et al. 2011; Streeck, Goodwin et al. 2011). A broad range of social interactional conduct is opened-up to inspection, and this methodological progression is reflected in several papers in this issue. The use of video, as a data collection and re-viewing medium in design studies is not entirely novel ('The Delft Protocols Workshops' DTRS 2 (Cross, Christiaans et al. 1996) and 'Design meeting protocols' DTRS7 papers in Design Studies, volume 30 issue 2 and Co-Design, volume 5 issue 1) and is now a mainstay in studies of gestural actions in design interaction: in studies which readily acknowledge that human conduct is embodied, within a setting, and that language use is multimodal. It is against a rich design research backdrop that new light is shed onto fundamental design research matters through EM/CA studies of design in practice. A previous special issue focused our attention on activities of 'Designing in context' (volume 24 issue 3), building on debates at the Design Thinking Research Symposium in 2002. This matter is developed in this issue through analytic attention to 'situatedness' and 'what is happening, now' through *in vivo* actions, as well as how the characteristics of a setting contingently and in an ongoing fashion feature in what is taking place. Human conduct is essentially situated and connected with context, as 'both context shaping and context renewing' from this analytic perspective (see Heritage 1984; Schegloff 1997; Maynard 2006; Sidnell 2010). Routinely design's relationship with 'the field', the naturalistic settings where design work happens, is viewed as a matter of context and this was the subject of another themed issue 'Ethnographic approaches to the study of engineering design: an industry perspective' (volume 21 issue 4) following the Design Research Society's workshop at Rolls Royce, Derby in 1998. Subjects that were raised at the time are still debated: the creation of (design) context (Martin, in this issue), an analyst's sufficient understanding of the work they are analysing (Baccus 1986) and criticism of fieldwork glossed as ethnography (Button 2000). Button follows up on this earlier work within this issue, in an article that argues for a more complete appreciation of what constitutes 'work' in ethnomethodological analysis. Indeed the recovery of (design) work is complex. As Sharrock and Randall note: "We are ... concerned with how [design] is *done*" (Sharrock and Randall 2004, original emphasis p.189) however "the injunction to 'go out and look' tells us nothing about what to look at and in what kind of detail. Moreover the 'method' gives us no purchase on the significance or otherwise of the chosen subject in respect of design issues" (Sharrock and Randall 2004 p.186).

These longstanding commitments to a better understanding of how designers design and the ways that this happens in practical settings is complicated, as Sharrock and Randall note (*ibid.*), by the ways that we study practice. Throughout the twentieth century developments in the philosophy of science and social scientific theory mark an interest in exploring scientific practice itself, in a turn to practice (Pickering 1992). Under inspection are the very actions, activities and practices through which human endeavours in science are accomplished (see Lynch 1993). Indeed, Matthews and Heinemann in this issue note an 'empirical turn' in design studies. The studies of (scientific) practice are, in turn, subject to scientific scrutiny. How to provide an adequate account of an observed action is a classic problem in social theory, and as we will see there are 'technical' requirements in the presentation of these

analyses. While everyday conduct, including design, is open to scrutiny from different practice perspectives (Bourdieu 1977; de Certeau 1984; Schatzki, Knorr Cetina et al. 2001; Nicolini, Gherardi et al. 2003; Hindmarsh and Llewellyn 2010) a particular analytic approach is advanced in this issue, whereas an empirical route is not so clear with other practice perspectives. The analyses of design practice presented in this volume are not impressionistic descriptive accounts of surface features of conduct in practical settings, but instead mark an ethnomethodological call for rigorous praxeological accounts of (design) practice.

Ethnomethodology and conversation analysis offer an empirical, analytic route through the practical application of a social theory of action, that is, a 'practice-based theory of knowledge and action' (Goodwin 1994). This distinct analytic approach to practice is, then, without deviation from the members' 'ethnomethods'. In other words, their actions and accounts reflexively document 'what is going on' as it is being accomplished in their situated practical actions (Garfinkel 1967 [1984]). The founders of ethnomethodology and conversation analysis, Garfinkel and Sacks noted that 'members', as competent language users in their practical actions (which includes actions in speech), accomplish things in the world (Garfinkel and Sacks 1986). These practical actions, ethnomethods, practices and procedures are 'witnessable' by others as accomplishing things, and this 'noticing' includes the observers of actions who have an analytic interest in noticing them (Garfinkel 1967 [1984]). This way of documenting action has been described as, "the strong sense of the observeability of real-world activities" (Baccus 1986 p.3). In studying action from an endogenous, members' perspective then, "these studies established their existence, provided the methods to study them, and provided what methods and their accompanying phenomena of relevance, evidence, adequate description, observeability, empiricism, validity, structure, object coherence, details and the rest could be" (Garfinkel 1986 viii).

### **Implications for design studies**

*"First of all, don't worry about whether they're 'thinking'. Just try to come to terms with how it is that the thing comes off. Because you'll find that they can do these things. Just take any other area of natural science and see, for example, how fast molecules do things. And they don't have good brains. So just let the materials fall as they may"* (Sacks 1992).

This steer from Harvey Sacks in his first recorded lecture was to approach the study of social phenomena from what is evidenced in the materials, in what the participants (the members of a language community) say and do, and in what is accomplished in conversation. This quote draws to our attention several matters that underpin analyses of this kind, and while no full explication of their workings are offered here, acts as a primer for reading analyses of this form with a design studies disposition. Let us consider the matters of 'cognition' and then practices in formulating an account of action that this 'genre of reportage' entails.

There is deep interest in relations between interaction and cognition and how cognitive categories including thinking, knowing, understanding and discovering might be explored through fine-grained studies of embodied interaction in ethnomethodological and conversation analysis (Coulter 1990; Coulter 1991; Button, Coulter et al. 1995; Koschmann 2011). Topics of interest in philosophy, psychology, computing, and indeed design, from an EM/CA sensibility are approached without assuming some privileged access to 'what is going on' in a speaker's mind-brain (Antaki, Billig et al. 2003), nor a cognitive-interpretative order of patterned actions because of shared internalized frames of reference and value systems (Maynard and Clayman 1991). The 'location' of cognition is contested (Coulter 1990; Coulter 1991) and an approach to interaction and language is adopted that is developmentally and analytically prior to thinking to yourself 'inside your head'. Presented is a "view of human action that places emphasis not on the internal cognitive representations of individuals or on their 'external' attributes (doctor, woman, etc.) but on the structures of activities within which they are embedded" in social interaction (Sidnell 2010). It is not that these studies refuse to deal with cognitive categories, or ignore their existence, but just that they are regarded in ordinary language terms, as Randall, Marr and Rouncefield (2001) say: *"The critique of cognitivism Suchman presents is clear and unambiguous ... It specifies, no more and no less, that the principles that underpin some forms of cognitive science cannot fully account for human behaviour. It is important to be clear, because the source of the confusion lies in the conflation of quite ordinary terms like 'thinking', 'memory', 'plan' and so on – terms with which everyone is familiar – with the same terms as they are sometimes used*

*within cognitive science to express a scientific and causal view of the relationship between 'things' which exist in functional relationships in the mind/brain and 'what goes on in the world'. Ethnomethodology, for good or ill, is concerned with critiquing a model of the relationship between the mind and the world, not with denying that people plan and think".*

In a field where design is often examined with an internalist conception applying methods from cognitive psychology, and as the notion of 'design thinking' garners increasing attention, re-examining 'cognition' might seem unusual. Oddly, in the fields of information systems design there is increasing acceptance of social scientific methods that challenge 'cognitive' insight into mental processes, in what people say and in reported accounts of what they are doing, even though this is an area where, in various guises, artificial intelligence and natural language processing are making marked inroads. In studies for systems design there is criticism that 'cognitivism' obscures the 'actualities of work' (Randall, Harper et al. 2007) and at a Design Thinking Research Symposium it has been noted that "the view of design as an essentially cognitive activity is receiving increasing criticism" (Lloyd 2003). While there is divergent interpretation in what 'design thinking' entails, the term has become a potent rhetorical trope. It has enabled rich associations between design as a mode of thinking with a capacity to approach problem-solving creatively. Thinking in a designerly way recognises creative problem-solving competencies and these capabilities are considered important in many situations (Boland and Collopy 2004). In this vein, inspection, or thinking about a subject, entails the development of sensitizing or illuminating concepts and it is in this mode that 'thinking' can usefully be construed (Randall, Harper et al. 2007). These papers are not presented as a criticism of design studied from other analytic orientations. It is just that a different perspective on the study of human conduct is oriented to here, where what can and cannot be evidently shown, or epistemically warranted, is different from some accounting methods. To be clear then, in analytic ethnography it is not 'thinking' as a mental process that is witnessable in a sequence of actions, but what it is that a sequence of actions accomplishes (without assuming insight into thought processes, or interpretation of the motive behind an action). In these papers then, presented are accounts of the lived-work that are intrinsic to the *doing of design*.

The papers in this collection present an account of *doing design*. There are characteristics that mark analyses of this kind as distinct from other accounts of practice: in their attention to ordered, situated sequential actions. Ethnomethodological approaches explore the distinctiveness or 'just-thisness' of particular situations and notably this involves *doing analysis* (Goodwin and Heritage 1990; Psathas 1995; Antaki, Billig et al. 2003). An account of this 'distinctiveness' however is not a 'natural history', ideographic, nor a descriptive constructive account of design work (see Antaki, Billig et al. 2003; Ingold 2011). In this mode the ontological and epistemic orientation of the analyses is evident in the way that an account is formulated. Put another way, this kind of analysis is evident in the descriptive way that an account is explicated (where linkage between what can be evidently seen and what is epistemically warranted are made known). In the use of specific terms to denote a particular orientation there is something of a language game that is ongoing in these accounting practices. Knowing how to formulate an accurate praxeological account is an art: "*Being able to account for the work in terms of its endogenous organization provides the basis for writing 'praxiologically valid' accounts (Garfinkel 1996). Unlike constructive analytic accounts, praxiological accounts do not attempt to make work-practice available through a generic inferential apparatus but instead, through description of the 'lived work' of a particular, distinctive, real world setting of human jobs (Garfinkel, Lynch and Livingstone 1981)*". A skill then in crafting a paper where the phrasing of an account is specific, is in maintaining analytic rigour yet remaining relevant and comprehensible to a broad audience.

### **Organisation of these studies**

In each case, studies of real-time design conduct bring something distinctive into view. The lead article 'Embodied reasoning in architectural critique' by Murphy, Ivarsson and Lymer, focuses on how analogical references in architectural critique serve to clarify or challenge student presentations. There is sustained interest in the study of analogical reasoning in design, and these analyses display just how reasoning about the architectural designs were interactively achieved at particular moments in time. An analogical reference was introduced as a means for challenging a student's design and offered a means for exploration and even dispute through competing references. The achievement of the communication and argumentation around the analogies is seen to be thoroughly multimodal. This study marks more recent analytic attention on multimodal conduct, on how people organise their body

movement and talk when they interact with the world, and coupled with this, video-based analysis of social conduct. This analytic emphasis continues in the second article, 'Kinds of seeing and spatial reasoning' by Luck. Our attention is drawn to the accomplished spatial reasoning skills that a group of residents display as they find and attempt to resolve problems in the design of a social housing scheme. We see how analyses of this kind are able to challenge some design preconceptions, in this case users' capabilities at spatial reasoning when designing. The embodied and vocal actions in this setting that drew attention away from a plan were at times seen to be as important as what was shown on the drawing. The use of artefacts in a workplace setting is also studied in the article by Martin, 'The Cooperative Use of Material Resources and Contextual Features in Graphic Design Work' where marshalling attention between resources, on a computer screen and the materials at hand in the workplace feature in how the aesthetic work of graphic designers is organised. These analyses show how an ethnomethodological study can be carried out using a wide variety of materials, over a sustained period of time, to recover work practices from the field. In this article we see how designer intent is studied in an ethnomethodological mode and how discursively, and in conjunction with the use of material resources, a context for aesthetic assessment is constructed. In Ikeya, Luck and Randall's analysis of the interaction of software designers pair-working at a whiteboard, we see how this material resource serves as a medium for representing the 'emergent logic' of the system modelling problem. Presented is an account of the software designers' documentary of their practical reasoning whilst undertaking an experimental task (data that is also examined in the special issue 'Studying professional software designers' vol 31 issue 6).

While the first four papers, in different ways, report on the embodied conduct of participants as they engage in various forms of design work, in the next two empirical papers there is increased attention to design work accomplished through spoken conduct. Closer attention to transcription detail and the micro-analysis of the sequential order of actions in talk is evident in these analyses. Oak's paper, 'You can argue it two ways': The collaborative management of a design dilemma' uses aspects of ethnomethodology and conversation analysis to consider talk from a meeting that occurred in a university course on universal design to show how a practical and moral dilemma of design is carefully managed and resolved through the collaborative social interactions of practice. A canonical conversation analytic piece is presented in Matthews and Heinemann's paper 'Analysing conversation: studying design as social action'. Their analysis of the conversation at an information interaction design meeting is intended both as a means of exemplifying how conversation analysis can be applied to design, and as empirical groundwork for sketching out what a CA program of research in design studies could offer the field. It is proposed that CA can provide an empirical respecification of central conceptual and theoretical topics in design research. Broadening an appreciation of the practical activities that these kinds of analyses are relevant to is the subject of the concluding article, where Button questions "What does 'work' mean in 'ethnomethodological studies of work'?: its ubiquitous relevance for systems design to support action and interaction". Design's interest in social networking, gaming, and fun, and non-work settings such as the home are equally suitable for ethnomethodological studies of work. This argument contends that ethnography can be analytically grounded in ethnomethodology as a ubiquitous method for building 'the social' into systems design.

### **So what?**

The contributions presented in this volume demonstrate the distinct analytic nature offered by ethnomethodology and conversation analysis and a renewed enthusiasm for the study of design practice. It is an opportune time to reconsider the repertoire of practice-based methods within the design studies canon. This collection reflects several domains in which design is practiced and multidisciplinary expertise in the application of these approaches. These papers endeavour to give a flavour of what analyses of this kind look like. There is a distinct analytic rigour that is being pursued in the papers presented here but this may not be easily recognised. Seemingly, if there is a revolution that is waiting to happen in design research (Dorst 2008) it may be a slow, methodological one: one that mirrors the intermittent interest and resurgent uptake of these analytic approaches in other fields. This uptake may increase as we move towards publishing 'the article of the future' (Elsevier 2011), when video extracts and other materials can be presented together with an analytic account. Readers will then be able to witness the lived-praxeological work of design for themselves, viewing the live data sources that preserve the temporal order of design conduct.

These inspections of design work are potent. The studies explore the distinctiveness of design situations and as such are not directed towards generalisation, although, as we shall see, they can be

considered generative in nature. In recovering a situation's 'local logics' analytic ethnography might offer sensibilities that will lead designers to question the 'pre-suppositions of their conventional outlooks'. Analytic ethnographies can make a contribution to design by deliberately questioning conventional frames of reference and in doing so, they might well bring novel and deep design possibilities to light that 'instantiate problems in need of a solution' and enable designers, and design researchers, to question taken for granted assumptions. In holding up a mirror to design as it is practiced there is a kind of double inspection. On the one hand, attentive to what these analyses reveal to advance our design understanding, and on the other, in exhibiting the potential relevance of EM/CA analyses for design studies. It is with these matters in mind that we approach this collection of papers.

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