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Understanding designing from within

Towards a practice perspective of design

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When I first read Latours studies of scientific practice I had for several year been working in the Scandinavian tradition of participatory systems design where user involvement and prototyping played a central role. Latour and others in the STS tradition provided an eye-opening insight into why iterative prototyping seemed to work so well in collaborative design processes as we could now see them as inscription devices through which different stakeholders could become part of the evolving practice of design. We also learned how this practice had to be maintained and developed through a continuous production and appropriation of artifacts in an interplay between what Wenger called participation and reification. On a more general level Science and Technology studies also provided a much welcomed contradiction of the cognitive model of rational problem solving which since Simons work on the Science of the Artificial had been paradigmatic at least in engineering design. And last but not least the STS literature gave a new framework for understanding the complexity of the transformation from envisioned design to the sensemaking of the crafted object whatever at macro or micro level.

Since then analytic tools such as actor-network theory and SCOT analysis have become widespread and although this surely has produced interesting studies it has in my view also established a more distant perspective less informative for exploring the practice of designing. My impression is that these studies tend to either take the designed object as an entity in its own right entering yet new configurations and networks of human and non-human actors (like the zimbabwean bush pump in Moll and Laws article on fluid space), or the studies have a more episodic focus where a variety of artifacts participate in intermediary networks. These are definitely legitimate delimitations, but to me the ethnographically oriented studies of design practice such as for example Bucciarellis studies of engineering, Dana Coffs study of architectural practice or Kathryn Hendersons study of drawing practices in engineering design offer stepping stones for a participant perspective potentially more powerful for informing the work of designers.

Where Latours studies of scientists showed how scientific facts are produced and maintained through localized practices of inscription and re-presentation, Henderson and Bucciarelli developed this interpretative scheme with reference to the

more volatile and fluid regime of on-going engineering projects. Bucciarelli has from his observations of engineering teams dealing with wicked problems, proposed that localized knowing are not even spanning the complexity of the engineering project, but forms a fragmented patchwork of what he calls object worlds from which no over-arching conceptualization of goals and methods can be derived. Different design engineers engage with and negotiate framings of the engineering problem that are doable within their particular object world, and as a micro-ecology of knowing and acting the engineering project is taken forward through the linking of compatible yet partly opaque contributions from each sub-community of specialists. Along somewhat similar lines and informed by Leigh Stars notion of boundary object Henderson trace the emerging coherence of collaborative design projects as closely tied to what she calls conscription devices. As opposed to the homogenizing effect of inscription in the work of particular communities of scientists, conscription to Henderson means negotiating and reifying heterogeneity through shared documents that remains open to multiple interpretations. Her main example is the use of notations on assembly drawings circulating between different groups of developers within large engineering projects. As the assembly drawings are a primary documentation of the interfacing of contributions from different developers, it both produces hard facts of required compatibility and offers a stage for qualifying how this compatibility can be met. Both Bucciarelli and Henderson are highly influenced by (and can even be seen as part of) the STS literature and apply conceptual frameworks borrowing heavily from science studies, but as I have here very briefly hinted at, their studies tell a different story. Where the production of scientific facts and the stabilizing of socio-technical ensembles can be seen as the institution of particular knowledge regimes, maintained through localized practices, the imagery provided by for example Henderson and Bucciarelli indicates that collaborative design processes involve heterogeneity and drift and a persistent ephemerality that cannot be done away with (a least not before the result of the work is cast in steel). Cuff's study of architectural design is older and less informed by the STS-tradition, it does however take up two themes that complement the kind of analysis most often engaged by STS scholars. First it applies a historical perspective on architectural education and architectural practice and shows how the forming of an architect involves an initiation into a professional community that is shaped by a particular ethos. As a young architect you have to learn to acknowledge the mastery of great architects and you have to develop a portfolio and a working method that positions you within the architectural tradition of apprenticeship. Cuff also shows that this professional ethos in many ways are at odds with everyday practice of the architectural office in the sense that a heterogeneity similar to the one depicted in the studies of Bucciarelli and Henderson challenges and to some extent even brackets the professional ideal. Where the initiation works as a way to secure a recognizable autonomy of the architectural profession and, to compare to Bucciarelli , gives us hints as to the social mechanisms keeping the object world of architects in place, Cuff also takes up another interesting theme in her work as she examines the interplay between architect and clients in a number of highly acclaimed architectural designs. Here she exposes in a small number of case studies the often very intimate

and energetic exchanges and interactions that seems to play a crucial role for the final design, and persist also after the house is constructed but however tend to vanish in the post hoc tales of the building.

Studies like the ones quoted above give indications of how we must understand what designers do through examining the way designers are embedded in an on-going professional practice. This practice can be studied much along the same lines as the STS literature have studied the practice of scientist, and the intermingling of objects and people and the forging of alliances foregrounded in the STS tradition certainly make sense also in the study of designers. When this is said it is however also important to acknowledge that what is at stake in designing is something different from what is going on in the scientific laboratory. In order to develop this point further I must however first be more specific about how I define design.

Design as problem-solving or....?

Design to me is something in between "invisioning posible future" and "facilitating change". Although this is not much of a definition it is an acknowledgement of two important predicaments often associated with the kind of authorship which in my view is constitutive for the practice of those who see themselves as designers. On the one end of the scale designers are people who engage with others in order to devise a plan for how things could be different. In this respect designing differs from making in the sense that the outcome has to be negotiated and taken over by others in order to accomplish a change in the world. On the other hand designing also implies an institution of agency in order to actually engage with the process of change through which the new can become reality. Comparing with the work of the analyst sketching future scenarios, we expect a more firm involvement by the designers including some sort of envisionment of the mechanisms through which the vision can be taken over by others. In short what makes designers distinct from other professionals is a commitment to intentional change, that must somehow be reflected in their practice.

Returning to the STS perspective we here have a slight but important shift in analytical framing. Where must STS literature take as its point of departure a working technological ensemble or an established scientific fact and set out to shed light on how this has come into being, the study of designers, must ask how those who claim authorship to change processes go about doing their work and what it means when they associate this authorship to particular outcomes of this work. The difficult balance to maintain in such an analysis is on the one hand to remain open to the findings of many STS studies indicating that there is much more to change than what can be accounted for through identifiable individual authorship and on the other hand to accept that designers exist and would hardly have been able to take on their professional role if not what they did made some sort of recognizable difference.. What i am proposing is thus to follow a similar strategy for the study of designers as

the STS literature so successfully have applied for the study of scientist, a study of the practice of designers taking for granted that this practice mean something but remaining open to what this meaning may be.

Design discourse and situated action

At the Danish Center for Design Research we have recently conducted a qualitative pre-study of how design school trained designers present their professional curriculum, supplemented with a small sample of work place observations and walk throughs where the researchers have followed the designers during their daily work. The study included 9 designers deliberately selected to cover a broad field of design areas (from ceramics, over fashion and textiles design, to graphics design and industrial design) and a mix in age, specific educational background and gender. The purpose of the study was to identify common traits in the way the informants conceived of themselves as designers, and to look for indications of tensions and transitions in their professional role. The informants were all reasonably well established in the sense that they have been active in the design field for a number of years, and have had one or more succesful commissions or attractive jobs. In the study we deliberately avoided to include designers with a high public visibility and profile as we expected this group to be potentially too self-censoring in the interview situation.

It is outside the scope of this paper to give a full account of the study but I will point to three core observations that indicate where we may need to look in order to develop an inside perspective on the practice of designing. First I will look at design as concrete production. Second I will go into design as an arena for change and finally I will suggest that design practice must also be seen as a negotiation of networks.

For the ceramist it may be trivial to think of her workshop and her particular choice of materials and production technology as an integral part of her practice as designer. Nevertheless it is striking in the interviews we have made how the designers field of inquiry is in-grained with the tedious and delicate work of mastering the process of representations. It is not a matter of controlling final production, most designers today from ceramists to interaction designers pass on their work to others (or are at least prepared to do so) once a clear design emerge. But to designers working for clients there is always an artifact that has to emerge, which holds and conveys the vision for future production. In the architectural design studio this production is most often about drawings and renderings, and the entire studio with its software packages, printers and model workshops are well proven production facilities that lets the studio craft particular designs in formats that are stable and recognizable across the individual commission. Production of designs have however no fixed mode from design firm to design firm. For the in-house designer of the industrial cooperation production may include the running of design workshops or the careful exploration and documentation of user studies. For the designer working alone as a free agent with many collaborators the production process may resemble the organization of committed collaborations leading up to a

carefully staged event. In any case the competent designer must have a process and a repertoire of outcomes that she can command and control in order to let 'the rubber hit the road'.

To see design as concrete production is however only part of the story. Design today appears more often than not to be an open arena for collaborative exploration of change. Clients and collaborators are bringing up still more open commissions and they want to be part of the process through which possibilities and constraints are revealed and explored. The designer is invited into processes of clarification with the client whatever these concern new direction to go in terms of designs to be manufactured or the forming of corporate identities within the client organization. But with this invitation also comes a request to be participant in the design work. The client neither wants to be a spectator to the work of the designer nor does he want to be offered a facilitation of in-house processes. So the designer has to find ways to lay open the design work as a collaborative arena for envisioning change. The designer is providing possible form based on insights both in the clients area of interest and in the general state of design, but offering a genuine dialogue that also instates the client as a competent partner. This is not an easy job for design firms today as it also stretches the contractual arrangements of royalties etc that have worked well for long, but on the other hand it appears to be one of the characteristics of those who do well today that they excel in managing this challenge.

A third aspect of successful design practice that stands out from our interviews and observations is the emphasize on negotiating networks. Like in many other professional areas designers seem to be increasingly operating as free agents constantly negotiating the organization and conditions under which they design. Whatever the designer is employed with a large organization, operating from a design firm with many colleagues or working freelance, a significant part of the work goes into positioning, sub-commissioning or drawing upon competencies and commitments from other members of a larger network. There are still large organizations attempting to control the flow of design hierarchically but even the large organization undergoes changes in the direction of divisioning and out-sourcing that leaves the work of ensuring that a design may eventually manifest itself in a final product or service for the designer to negotiate.

Not all the people we interviewed had equal emphasize on these three different aspects of designing, and our sample is still small and far from covering the whole field. With these reservations it is nevertheless a strong impression from the study how the three rather different aspects with their claim for what may appear as very different competencies are interwoven and amalgamated to form the particularity of the individual designer working across highly different design areas. Where this may be controversial for design professions nurturing the autonomy of the creative act of form-giving, the observations will to the STS scholar indicate a familiarity to the heterogeneity and fluidity also of other professional practices. I will end this brief

exploration of why and how we need to study the practice of designers, by touching upon how we can think of transitions from design to use.

(Beyond) the object of design

With its heritage from the arts, high-end design have for many years been studied as artistic objects embodying in their material form the full impact of the designers work. Particularly design in the modernist tradition with its deliberate neglect of embeddedness in style and tradition has promoted the idea that the designed object can become detached from the process through which it has been created, and it is not until more recently that the interdependency between object and context has truly been accommodated in the common sense of designers. The growing interest in user centered design and user-driven innovation has in many professional design firms and design school environments led to a renewed interest in broad framings of design, such as Herbert Simons notion of design as problemsolving, or the more recent notions of experience design or interaction design. What these new framings often share with the conventional idea of design is a confidence in what is embedded in the object. Such a belief is easily questionable with the studies in the STS tradition pointing to the intricate interrelations and continuous localized practices needed to keep systems of knowing and sense making in place. But where the strong point made by STS towards the science and engineering community is that facticity can only be accomplished in practiced networks of human and non-human actors, thus playing materiality back in to the game of a world of science in the abstract; a similar point made towards the design community must come out with an emphasize not on materiality but on the mobilizing practice without which we will be left with materiality and not a design. Some scholars have studied the appropriation of artifacts deliberately neglecting how it has come into being. This is surely justifiable in many contexts and have produced interesting results, but such an approach cannot account for what designers do. Instead we must search for the mobilizing practices of designers and the way they enrol heterogeneous objects, acknowledging on the one hand that such practices must bear similarities to the practices of other professionals, but on the other also being sensitive to the crucial difference between the scientists institution of rigorous knowledge regimes and the designer-user engagement with evoking the new.

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