

### **3. Lab, Field, Showroom: Doing Design While Doing Research<sup>1</sup>**

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Research has become a routine part of design in many art and design schools. By now, there are many ways to do research. While in mid-nineties, research in design schools usually meant history, the picture is far wider today. There are user-centred designers, who brought methods from the social sciences. There are designers who have become natural scientists. There are artists, who do research under the name of practice-based research.

One striking thing about contemporary design research has been the speed in which it has developed. It was only in 1993 that Christopher Frayling, then the rector of Royal College of Art in London, classified research in his school<sup>2</sup>. One of his categories was “research through design”, which for him meant work in which design is somehow an elementary part of research. Frayling’s term has been criticized for many ills – lack of specificity in particular – and there is no agreement about what it means. As Pieter Jan Stappers has noted, words like “design” and “research” carry too much implicit meaning to describe anything accurately<sup>3</sup>. However, there is certain wisdom in taking Frayling’s term seriously. Design universities are becoming academic. Researchers who populate them in the future need to be able to do research as well as design.

In this paper I will briefly describe three programmatic ways in which design researchers currently make design a key part in their work. Rather than talking about research through design, I will prefer to talk about constructive design research to avoid the ambiguities of Frayling’s

1. This paper is based on talk given for doctoral students at Politecnico di Milano, July 6<sup>th</sup>, 2010. It is based on a book that will be published by Morgan Kaufmann in September 2011. My co-writers are Thomas Binder, Johan Redström, Stephan Wensveen and John Zimmerman.

2. Frayling 1993.

3. Stappers 2007.

terminology (and the English language), and look at how such research is done rather than define it *ex cathedra*. These three ways of doing research are successful in a particular sense: even though in their early stages, key researchers usually were typically not designers, they have produced at least one generation of designers with a doctoral degree. It is these and their former students who have the relay now.

The notion of programme comes from the philosopher of science Imre Lakatos. In essence, he tells us to look at how research develops from one study to the next, and evaluate whether a programme is successful only in the long run. A productive programme leads to new questions, which a failing one does not. A productive programme also consists of many types of activities, like case studies, comparative studies, theory-building efforts, method development, methodological debate, and also internal criticism<sup>4</sup>.

### 3.1. Three Programmes: Lab, Field, and Showroom

The mainstream of design research builds its understanding of research on experimental methodology. This is how many natural sciences work, but experimentation has been the choice for psychologists since the mid-nineteenth century, when that discipline was born in Germany. Psychology is relevant here for social reasons: the first generation of constructive design researchers was typically trained in ergonomics, usability, or psychology<sup>5</sup>.

Here designers' expressions – ultimately a prototype – are seen as hypotheses that embody a theory, and can be used as stimuli in a study evaluating the theory. This programme aims at building theoretical knowledge that leads to law-like statements. Were such laws found, they would surely lead to better designs<sup>6</sup>.

The best work using this methodology is done in the Netherlands, and especially at Technische Universiteit Eindhoven, although research done in Carnegie Mellon University is also noteworthy. The first PhD thesis that applied laboratory-like methodology consistently was Stephan Wensveen's. He first studied ecological psychology and interaction design literature, developed a hypothesis of what a tangible alarm clock should to, and then designed a clock through a user-centered process. The prototype was tested in laboratory-like conditions, leading to the idea of “feedforward,” suggesting that the ecological psychology of J. J. Gibson is a better starting point for

4. Lakatos 1970.

5. Like Gerda Smets and Kees Overbeeke in the Netherlands, and Bill Gaver in London.

6. See Overbeeke et al. 2006.

design than cognitive models that stress the importance of “feedback”<sup>7</sup>.

Another programme build on interpretive social science, stressing the need to study people in their ordinary life, not in laboratory. The logic is simple: designs end up being used not in laboratories. They ought to be developed and studied in those very contexts in which they are meant to be used. This approach avoids problems of ecological validity that riddle any laboratory work with humans.

Interpretive methodology has long history in design, going back to Xerox PARC, the Doblin group in Chicago, and companies like IDEO. Two strands can be distinguished: those who build design on anthropology and sociology, and those who put design first, and then do short field studies, “deep dives” to use IDEO’s old language, to get a dose of realism and inspiration to design. By now, design ethnography even has its own conference, *Ethnographic Praxis in Industry*<sup>8</sup>.

This is the method of choice for Scandinavian researchers especially in Helsinki and Copenhagen<sup>9</sup>, where research has focused on issues like garbage collection, tuberculosis related behaviours in favelas, and services for senior housing. However, most research done in Milan also builds on the premise that key to good design is understanding people. The Milanese also tend to build on action research, trying to change behaviour and communities. Scandinavian work is currently converging action research, as it is increasingly building on the notion of co-design. The best mapping of this notion is in Francesca Rizzo’s work<sup>10</sup>.

The third successful programme takes design out from scientific traditions altogether, and builds on design and art. By far the most influential work has been done at London’s Royal College of Art at the end of the nineties, where Anthony Dunne and Fiona Raby developed the idea of “critical design”, finding their inspiration from cultural studies, critical theory, radical architecture, and Italian *controdesign*<sup>11</sup>. Working with Dunne and Raby was Bill Gaver, the chief ideologist of cultural probes<sup>12</sup>. Trained as an experimental psychologist, Gaver decided to build an art-based methodology by building on Guy Debord’s Situationist idea of *psychogeographie*, and also on what the French critic Nicholas Bourriaud called “relational artists”, including the likes of the photographer Gillian Wearing and Sophie Calle,

7. Wensveen 2005.

8. For ethnography in the United States, see Cefkin 2010.

9. See Koskinen et al. 2003; Halse et al. 2010.

10. Rizzo 2009.

11. Dunne 1999; Dunne & Raby 2001.

12. Cf. Gaver, Dunne & Pacenti 1999.

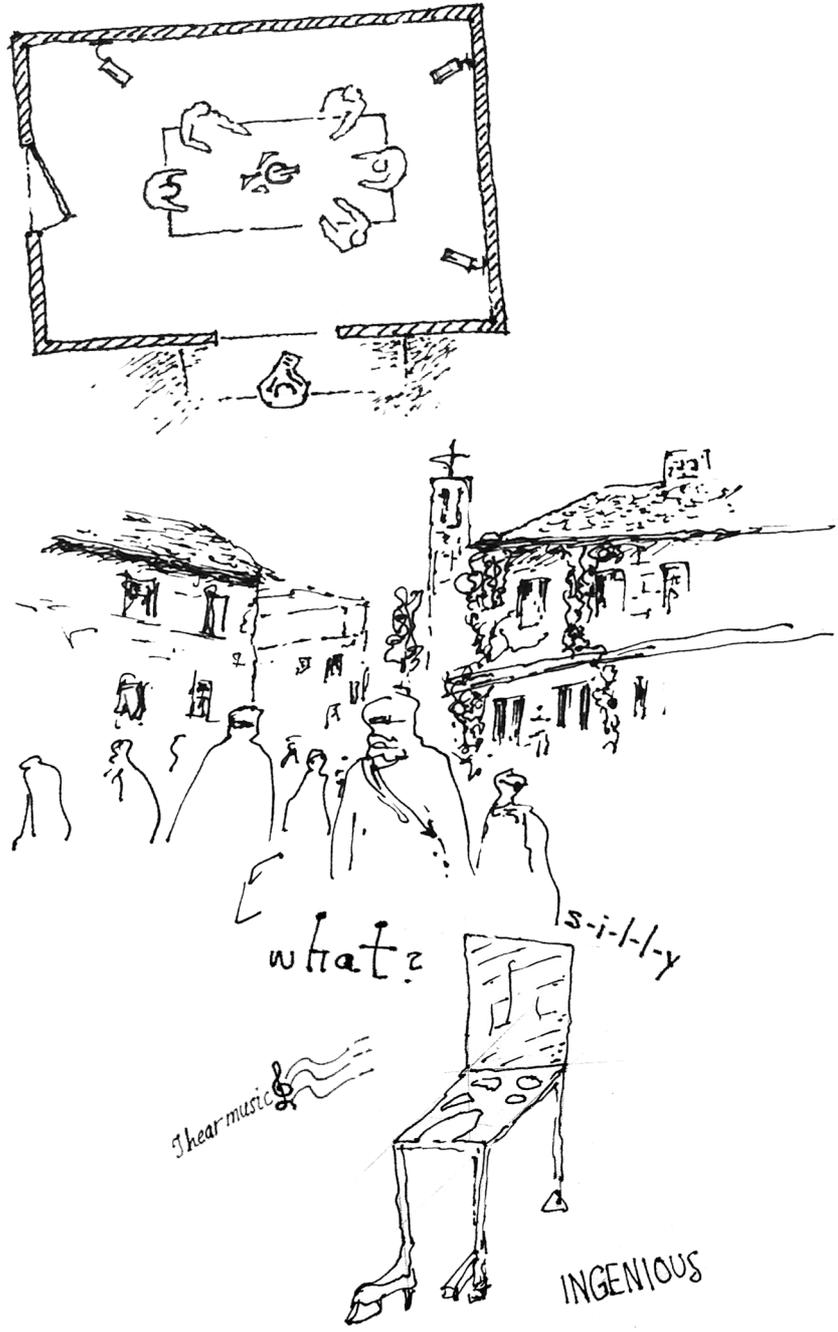


Fig. 1 - Following design in laboratory, field, and showroom.

always difficult to classify. For these artists, human relations are material<sup>13</sup>.

As one can imagine, the main aim in critical design has been to question the prevailing commercial ethos of design. Why is it that designers are taught to please? Why do they dream about making blockbuster hits, like Hollywood studios? Why do they not dream about objects twisted and troubled, having dark secrets, like in *film noir*? Why not *design noir*? The means of change is public debate, not knowledge in any traditional sense of the term.

Recently, critical design has been inspired by the public problems of science. The drive has been to make the implications of science an object of discussion by making them tangible long before true applications hit us. Remember how genetically modified foods basically just came to the market without any debate, raising huge public outcry that went to the other extreme, leading politicians to ban many products. Better debate now, in the name of reasoned discourse<sup>14</sup>.

### 3.2. Programmes Are Not Silos

It goes without saying that many things change as one goes from one programme to the next. For example, the aims of design change from typically realistic in Lab and Field to conceptual in Showroom. The audience changes too: although critical designers fight hard the label of art, they do exhibit mostly in galleries and museums.

Also, notions like “knowledge” change. While Lab researchers have no problems in talking about knowledge as the aim of research, this is not the case with the two other programmes. Field researchers are happy to produce local and temporary understanding for a specific project, and if this knowledge is later useful as references or precedents, this is fine. But what is “knowledge” in Showroom, where things like “generalization” take place in debate provoked by a piece of design?

However, despite such differences these programmes are not silos. If one reads the key texts of each programme, one sees a lot of common ground. In particular, one sees references to “post-Cartesian” philosophy, including references to pragmatism and phenomenology, but also existentialism, Ludwig Wittgenstein’s later philosophy, and also such sociological traditions as symbolic interactionism and ethnomethodology. Through references to Dada and Surrealism, the programmes link to early

13. Bourriaud 2002.

14. MoMa 2008.

20<sup>th</sup> Century art, but also to psychoanalysis.

In terms of design, the grandfathers of current research can usually be traced to Milan, and its highly experimental and debating design world. In particular, this is the case of Dunne and Raby's critical design, which is clearly in debt to Germano Celant's *controdesigners* and their heirs in Studio Alchimia and Memphis. Some of these debts are intellectual, but designers like Daniel Weil have also linked these worlds.

This common ground gets even more solid if one looks at what the programmes are doing. Wherever one turns to, one sees design methods and techniques. Constructive research is not traditional research that just happens to focus on design. Design is at the heart of the very enterprise. Sketches, scenarios, moodboards, foam and clay models, mock-ups, prototypes and role-plays literally populate the pages of the best PhD work. Not surprisingly, constructive researchers find themselves not only from libraries and writer's dens, but also from workshops, studios, and CAD/CAM laboratories.

What comes to the success of the programmes, it is obviously too early to say. All have their immediate roots at mid-nineties, lie on firm intellectual foundations, and continue to attract students. Graduates find work in universities, but also outside the academia. For these reasons, I tend to believe that we are seeing another design specialty growing, and although in the world of current design research, constructive research is still but a minor current. It is not a response to every imaginable research problem designers and design researchers face, but it has a story worth listening to.

I believe that constructive work will reflect changing design in the next few years. Contemporary design is increasingly "post-object", dealing with abstractions like interaction, services, and communities. So far, constructive design research has been largely product and interaction oriented, but I believe that service and community design will change this focus in near future. There are signs of such reorientation throughout Europe. I also believe that researchers will rediscover experience at Politecnico. They will once again be, to borrow the name of one of Andrea Branzi's books, learning from Milan<sup>15</sup>.

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15. Branzi 1988.

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