Design as Reflexive Action: The Four Loops of Design

Ilpo Koskinen
School of Design, University of Art and
Design Helsinki
Ilpo.koskinen@gmail.com

Turkka Keinonen
School of Design and Environment,
National University of Singapore
akitkk@nus.edu.sg

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Abstract

This paper takes a look at design in sociological terms as an element of modern society. The design field has grown during the last 50 years significantly in many countries. Simultaneously, it has diversified from its traditional basis in crafts towards not just art, but also towards what this paper calls the innovation loop and, more recently, towards research. This paper interprets these directions not as strategies, but in reflexive terms as loops, then relates these loops to their antecedents in society, and finally relates the loops to society's belief systems. At the end of the paper, we discuss design as a feature of modern society.

Key words

Design, reflexivity, modernity, loops

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1. Introduction

While Germany sells design in the name of science, Italy in the name of art, Scandinavia in the name of craft and the USA in the name of business, all these national images of design were necessary strategies in the highly competitive markets of the immediate post war years. The role of the designer was to help develop a marketing strategy, which would give his product a special place in that market. (Sparke, quoted in Woodham 1997: 177)

It seems to me that there are at least three responses from design schools to the current crisis [that says that the purpose of design is to produce beautiful objects, writers comment]: position product design as a business(week)-friendly, innovation-focused process (IIT and Stanford); focus on research rather than form making and align it with other humanities disciplines…; or take the art-school route epitomized by the Royal College of Art, in London, and Cranbrook Academy of Art, which have reputations for critical thinking and producing sexy imagery of objects — often more hypothetical than manufacturable. (Hall 2007)

In their present form, the design occupations are relative newcomers to university education. Even today, many of the leading design schools are still setting up postgraduate programs which, unlike in universities, does not mean post-doctoral education, but master's programs. For example, *Danmark's Designskole*, Denmark's leading design school, got rights to grant master's degrees as late as 2005. Few design schools have seriously got into doctoral education and even fewer into research. When one compares design to such new, massively successful groups as the social sciences or information technology, the difference is striking. Still, the design professions behave strategically, and are a stable part of modern society. There has been a massive increase in education, design has achieved a semi-professional status,

it has gone through massive technological change like few other occupations, and research has become a new subspecialty in many countries and universities.

Although Penny Sparke's and Peter Hall's observations capture some of these strategies, their accounts have obvious problems. Most importantly, their analytic units are not appropriate. When Sparke links design to national styles and Hall to the leading schools of the English-speaking countries, they gloss over differences within these units. For example, the relatively small Finnish design community is partly artistic, partly craft-based, partly research-oriented, and partly market-oriented. These characterizations are too coarse to account for more subtle variations in the design field.

Instead of using the passive metaphor of responses, this paper looks at the main strategies of how the design occupations relate to society. As implied above, designers have done far more than just responding to social changes; they have been busy in developing ways to manage these changes. By "design," we mean people who have been entering the design professions through an education in art and design schools or in universities that give designers an education in visual and creative problem solving rather than in technology alone. Thus, we count in Art Center in Pasadena and Glasgow School of Art, but also the design programs of, say, Korean Advanced Institute of Technology. When we talk about the design field, we mean all areas of design within the more encompassing definition. That is, we regard fashion designers and glassblowers as designers just as industrial designers as long as they have a university-level education.

2. Design as Reflexive Action

Several social processes drive design to change just like any other occupations. As Abbott (1988) has noted, technology and organizations both provide new opportunities for designers, shaping them in many ways, as we shall see later in this article. However, design is also shaped by political economy, i.e. government policy (for example, Korvenmaa 2001; Woodham 1997), changes in consumer society (Gans 1983), and media and design promotion organizations, museums among them, have become increasingly important in shaping how the public understands design. (See Woodham 1997; Julier 1999).

However, as we have already noted, designers are by no means innocent parties in social change: they contribute to the change. A good example is the story of one of the icons of the 20th century, Alvar Aalto's Savoy vase. The Finnish organizers for the Paris World Fair in 1937 invited a submission from the glass company Karhula-Iittala. Surviving sketches by Aalto show that Aalto's design was heavily influenced by Jean Arp's art. When Aalto designed the interior for the upscale Savoy Restaurant in Helsinki, his vases were placed there, and one version came to be known as the Savoy vase, which still finds its way into exhibitions of the best of 20th century design (see Alvar Aalto Foundation and Alvar Aalto Museum 2002: 145-150; Koskinen 2006). Of course, agency in design goes beyond individual designers. Primarily, it is university presidents, leading professors and design office owners who maintain, create, and reconstitute structures and resources of design's key institutions, and in so doing lay down the rules to follow. Perhaps most importantly, if they are able to co-opt political decision-makers and industry leaders to their schemes, they are able to impose their vision on design particularly efficiently (see Willmot 1987: 249).

When one thinks about design in reflexive rather than in causal terms (see Lash and Urry 1994; Lash 1999), one begins to see design as a part of society. Of

course, there are many types of reflexive loops in design. The Savoy vase represents the artistic high end, while many designers maintain design a technological and research-oriented rather than artistic flavor (Kelley 2001; Cagan and Vogel 2002; Simon 1968). Probably the most direct and successful link between design and natural sciences has been through ergonomics and usability, which both model the relationships between human and environment in a manner that follows, or at least is strongly inspired by, examples set by natural sciences. Others seek ideas for their work through observing people using some of the new participatory and user-centered methodologies that have entered the design over the last few decades (Beyer and Holtzblatt 1998; Mattelmäki 2006). Another obvious link is the one where design leans on technical sciences and utilizes the developments in research about materials and manufacturing methods. Design functions in many types of loops, each taking design into a different type of future.

Now, these loops are more than feedback mechanisms. They are forms of action. They set limits to what can be done in design and what cannot. As we later argue in this paper borrowing terminology from Weber (1964), some loops are legitimized by tradition, while the artistic end more typically builds on charismatic leaders who, occasionally, manage to create movements like Memphis in Italian design or postmodernism in Dutch architecture. Increasingly, though, design is grounded in what Weber called legalistic and bureaucratic rationality. For instance, the most typical reasons for building design on user-centered research have been not just ideological, coming from humane ideals, but economic. It is far cheaper to fail early and on the drawing board rather than on the marketplace or in the laboratory after years of technological development. Not just individual designers and offices,

but also institutions like universities and corporations build their strategies around these kinds of arguments.

However, society today is more complex than the one described by Weber. Instead of being ordered by states and the competition between superpowers, it is disorganized, having multiple simultaneous orders. In this "second" modernity (Lash 1999), design has no obvious social basis either. Rather, it is characterized by several loops simultaneously. They are more like building blocks for designers, who use them in giving direction to activities and to configure their institutions. For instance, at the School of Design in University of Art and Design Helsinki, the craft loop is maintained by workshop courses in wood, metal, glass, ceramics, textile printing and weaving. The art loop lives well in fine arts, exhibitions, and design shows in which objects are presented for evaluation as *objets d'art* with no reference to manufacturing, design processes, or use. Industrial designers are the main proponents of the innovation loop in collaboration with industry, engineering and business universities, exposing students to technology and business. They have also explored models for research from more established academic fields, modifying and applying these to make sense of design (cf. Keinonen and Koskinen 2007).

3. Four Loops in Design

Historically, design has grown around crafts in Scandinavia, Britain and Germany (for example, Heskett 1997). More recently, design schools around the world have with few exceptions adopted the Bauhaus model for education, stressing teaching craft skills in an art school context. Even today, most design schools and offices look very different from science universities. Out of design professions, the craft loop mainly characterizes disciplines like leather works, glass blowing, and to an

extent, ceramics. Teaching takes place in studios, next to burners, ovens, and chemicals, and is tutored by a master who typically has learned his craft first from older masters. This tradition is still alive and well in workshops in design schools and offices alike.

A related loop builds around art, as the term "applied art" suggests. National romanticism was an early, but key influence on design in many countries, including Scandinavia, Germany and England (for example, Cummings and Kaplan 1995). In places like Finland, the reasons may have been political, related to the birth of the nation state, but even when there was no such political basis, as in Britain, this loop linked design with traditional culture through art. In particular in Scandinavia and Germany, modernism become almost a self-evident foundation for design during the 20th Century. However, as Sparke correctly points out in the quote that opened this paper, it is in particular in Italy, in which design has been based on art, utilizing the country's rich artistic heritage (also Sparke 1988). Cubism, surrealism, dada, expressionism, pop art, and conceptual art have found their way into several design disciplines like glass and ceramics design, interior design, and fashion.

A third loop, which we call the innovation loop, connects design to the marketplace through in two ways. First, there is design management, which focuses on corporate identity and branding (see Olins 1978; see also Molotch 2003: 205ff). For designers, branding has meant many types of new work, from product graphics in packages to constructing corporate identities. The first steps in defining the field took place in the 1970s and 1980s through several books, first published at London School of Economics, and then in the United States, and with the establishment of *Design Management Institute* (DMI) in Boston in 1975, and the *Design Management Journal* (from 2000, *Design Management Review*) in 1989 (Svengren Holm and Johansson

2007: 291-295). Secondly, as the importance of information technology has increased in manufacturing and media, industrial, media design, and graphic design rebuilt their methods and processes. For example, in a typical industrial design office, one sees less and less traditional model making and power tools, and more and more computers and CAM machinery. In this loop, collaboration with engineering and marketing is seen as a key strength and core competence of designers, while within craft loop it is unnecessary as designers master the whole process, and within art loop there is an inherent tension between manufacturing and more rebellious design.

The fourth current loop in design builds on research. Perhaps the best known historical proponent of giving design a scientific foundation through research is *Hochschüle für Gestaltung* in Ulm, Germany, but similar attempt at connecting design to science have also taken place in the United States – the best-known example is ergonomics – and the design methods movement in London in the sixties (see Woodham 1997: 177-181). In particular, industrial designers have been in the forefront in this effort. In addition to ergonomics, designers have been studying electronics, aerodynamics (in car design), and a variety of other engineering skills. A new specialty, interaction design, has its research basis lies in cognitive psychology, ethnomethodology, and participatory design, and has a close affinity to action research.

4. What Drives Design: Loops in Society

These loops may look like stable, institutionalized patterns of activity, but ultimately, they are based on how designers and society interact. These forms of interaction are particularly complex in the craft and art loops. While in early 20th

Century, these loops were mainly maintained by upper-class patronage, the situation has changed after the sixties. For example, Sassen (1991) explains the growth of new markets for designer goods by the growth of the FIRE sector (finance, insurance, real estate). However, other evidence shows that her demand-driven explanation only works in cities with global financial industries. For instance, Narotzky (2001) explains the rise of the design sector in Barcelona by the Olympics and subsequent surge of high-end tourism, while Koskinen (2005) links the growth of design in Helsinki to both demand and supply. On demand side, there was an increasingly wealthy and stable upper-middle class in the eighties; on supply side, the design occupations were there, ready to respond to increased demand. When design became a celebrated topic in media, it pushed the design field into an artistic rather than just an industrial direction. Many designers found work in the craft and the art end of design, and institutions like universities found a reason to maintain their traditional basis in crafts and arts. However, this explanation accounts for the growth of the art and craft complex mainly.

The interaction patterns that explain the growth of the innovation loop are somewhat easier to pinpoint. The huge increase of logos, product identities and company brands has created lots of new work for graphic and industrial designers. The increasingly digital nature of production technology has created several new design specialties. In particular, industrial designers, who started to digitalize their design practice in the early 1990s, became an increasingly important subspecialty in design, while less technologically agile specialties lost their bargaining position in industry (Valtonen 2007). Another significant change has been the growth of in-house design organizations (Kunkel 1999; Heskett 1989; Valtonen 2007; Blaich and Blaich

1993). As even a cursory reading of design policy programs shows, these trends in design have found ample support through the political economies of Europe and Asia.

The growth of research in design is a response to several social issues. First, most design universities have a small staff for researching the history and philosophy of design for teaching, finding support among policymakers in the cultural sector. Second, the political economy has pushed design research towards the innovation loop for decades. For example, ergonomics was first introduced to design by Dreyfus (1955), whose primary customer was the military. More recently, increase in applied R&D funding has made research funds available for designers, and governments encourage design schools to build links to industry. Typically, as in Korean design policy, design is seen as a way to enhance the value of production. However, design has allied with more ideological politics too, as in Sweden, whose design policy stressed environmental concerns, and in Finland, whose design policy had a cultural undercurrent (Saarela 1999). Not all reasons have their origins in policy, though. In particular, the Ulm School (Vihma 2005) and the design methods movement in Britain in the 1960s created a research agenda partly to respond to demands from the industry, which faced increasingly more abstract and thorny ("wicked" in Rittel and Webber's (1984) language) problems, and partly to systems thinking.

As this brief analysis shows, design cannot be understood without relating it to society. Roughly, the reasons can be categorized in two main classes, the market and political decision-making. On the other hand, media promotes the idea that design is about photogenic objects (Hall 2007) that are sold using the designers' name as the main argument. On the other hand, industrial development and the research agenda of political economy push designers to a technical and business-oriented direction. Over the last two decades, design has increasingly been characterized by this cleavage.

5. The Legitimacy of the Loops: Towards a Cleavage?

The loops outlined above have many types of consequences for design. For example, they provide sensitivities for observing society and material culture, for identifying design opportunities, and for selecting working methods. An artist in his atelier faces different opportunities than an industrial designer works with CAD/CAM. Also, they shape the design fields through recruitment. Being talented in art is evaluated differently from being talented in branding and management. They also set parameters for evaluation: what counts as good art differs from good branding. In fact, as Weber (1964) implied in his analysis of legitimation, the loops have a moral dimension. The loops are not unilateral affairs: they are the design professions' main responses to society's key institutions, and these institutions respond to designers' actions from their own perspective. Design comes to be favored or disfavored depending on whether what the designers do is legitimate in the eyes of more powerful social institutions.

Within design, the craft loop has its legitimacy in tradition, with a degree of success. There is a growing market for handicrafts, and media upholds the image of design as craft. However, although this loop occasionally leads to stellar successes and provides an attractive, sometimes almost Nietzschean self-image for designers, more often it leads to massive failures. For example, despite its world-famous alumni, Danish Design School in Copenhagen remains a small college of about 700 students. Its graduates face high unemployment (in 40% range), and earnings are comparable to

art schools rather than universities (Brandt 2007). Industry and society increasingly appreciates mastery of technology and symbols rather than skills of the hand.

Although art and craft have a troubled coexistence (see Becker 1982), the artistic loop shares many features with the craft loop. It leads to a two-tier system in which those few who get into the media loop win handsomely, as the example of Philippe Starck shows. However, most artists and designers have to scrap their living out from several sources like teaching, waiting tables in restaurants (Zukin 1999; Mundelius 2006; MacRobbie 1998). Massive media attention and stories about companies like Apple cannot hide the fact that industry does not appreciate artists. Companies also appreciate products that result from repeatable processes and methods rather than acts of individual creation, especially if dressed in obscure language stressing subjective creativity as the starting point of design.

With its rationalistic ethos, the innovation loop has the potential of linking design to marketing and management. The management field is lucrative, but with the exception of a few London-based graphic design offices in the 1980s, design management has remained a small specialty in design. Agility in digital production technology gives designers means to work with high-end production, but even after 20 years of design management education, designers have seldom entered strategic levels of management, which suggests that design still has a serious legitimacy problem in economy. Designers' claims for business expertise clearly are not respected (see Svengren and Johansson 2007).

Although a small field in design, research has created new work and new roles for designers, improved university funding, made designers viable for research funding, and helped designers to develop new discourses that makes their claims to competence legitimate in the eyes of the policy-makers. Still, design research

continuously faces legitimacy problems. In design universities, research competes for funds with the other loops and with few exceptions, like curatorial and critical programs, remains a subordinate activity that supports education rather than drives it. Research funding bodies still find it hard to understand how a practical activity like design can become as a basis for research and media feeds these suspicions by promoting the craft and art loops. Outside technical fields of research, there are worries that design research is little more than a cover for business interests. Needless to say, historical and philosophical research has few adversaries in academia, but is treated with suspicion by industry leaders for whom the main value of design lies in its capacity to foster innovation. Also, a close link to the innovation loop makes design research susceptible to the fads of political economy.

If we are right, consumer demand and media currently pushes design towards the craft and art loops, while political economy pushes it towards the innovation and research loops. The craft and art loops build their legitimation on Weber's (1964) traditional and charismatic forms of authority, while the innovation and the research loops clearly align with Weber's rationalistic ethos, creating a cleavage in the design field. However, the way in which this cleavage is configured at the individual and institutional levels depends on local social relations and also on the dominant belief systems of any individual society. In particular, in the United States design programs are slashed down and specialties vanish due to market demand while in Europe, public policy acts as a buffer against the market. While the more industrially and commercially oriented end of design, also agile in research, gather technology and research funding, the craft and art world increasingly builds on wealthy consumer markets. The cleavage is increasingly becoming institutionalized, as technical

universities are setting up industrial design programs in countries like the Netherlands, Norway and Korea.

6. Discussion: Design in Second Modernity

The design field has gone through several changes over the last 50 years. The hub of the field has moved from traditional design disciplines producing objects to more abstract, process, technology and, more recently, research-driven disciplines like industrial design. The globalization of economy adds to this change, even though there are other forces at work in design that balance this development. Notably, design has become a target of intense media attention that mostly constructs design as a creative occupation having its basis in star-quality, artistically inclined designers. We have argued that designers have been active agents in this change. They make sense of society, construct interpretations about it, and position their discipline to it in terms of these interpretations.

As we have pointed out, the main drivers of change of what we called the craft and art loops relate to the growth of the art market and the market for personal goods (Sterling 2005; Hall 2007). Although the reasons for the existence of this customer basis vary from one country to another (Sassen 1991; Narotzky 2001; Koskinen 2005), it is wide enough to give work for tens of thousands of designers in Europe alone. The growth of the innovation loop can be attributed to changes in production technology, the growth of design organizations, and the increased demand for branding. The research loop mainly builds on public demand, i.e. the growth of research funding and the growth of the university system, which is pushing the top end of the design schools towards a research-driven university model.

The loops have varying consequences for design. The crafts loop may gains strength and legitimacy from tradition, but apparently leads to a high degree of failure that would be unacceptable among such relatively new academic disciplines as the social sciences and software engineering. The artistic loop opens up funds meant for the arts for designers, and responds to media demand but like the craft loop, it leads to high failure rates in terms of employment and salaries for most (Brandt 2007; MacRobbie 1998), while a few star-quality designers reap the benefits of the system. The innovation loop and the research loops feed less on media attention and lead to more stable incomes within powerful institutions like major companies and universities. However, the rationalistic ethos in these loops lead to tensions within the design field, leading to a growing cleavage in the design field.

If we treat design as a feature of the landscape of second modernity (Lash 1999), it tells us the story of modernity in nutshell. In only slightly over 100 years, design has grown from humble beginnings in national romantic thinking, nation building, and the valorization of crafts into a part of the modern economic landscape. A couple of years ago *Business Week* called the first decade of the 21st Century "the decade of design" (*Business Week*, July 4, 2005, p. 54). It has become a stable part of the art world, and is transforming the cityscape (Koskinen 2005). Design is built into the very fabric of society. It is a living testimony of modernity, carrying the legacy of pre-industrial production, blending in the legacy of charismatic movements through an artistic loop, while it also builds on what Weber (1964) called the legal-bureaucratic rationality typical to modern society. Even if the design field may currently be splitting in two, as our reasoning suggests, the first century of design has left an important, enduring legacy to modern society, worth studying by sociologists and social historians.

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15

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