WWW.EFMN.INFO The European Foresight Monitoring Network

The Future of Design

Foresight Brief No. 086

Authors: Werner Reutter werner.reutter@rz.hu-berlin.de
Sponsors: European Union,
Land Northrhine-Westphalia
City of Essen
Type: Overview brief
Organizer: Zollverein Essen and Zeche Kohlenwäsche info@entry-2006.com
Duration: 2006 **Budget:** n.a. **Time Horizon:** n.a.

Purpose

New technologies will radically alter both the future of design and the design of the future. While design used to be a means in order to bring the very essence of given objects - mostly products, to the fore - "form follows function" -, bio-, nano- and information technologies will enable designers to interfere into the foundation of life and nature. In consequence, the possibility to design **B**its, **A**toms, **N**eurons, and **G**enes (BANG-Design) will trigger a convergence of design and science and lead to yet unknown ways to design objects and products.

How Will We Live Tomorrow?

"Entry2006" and "Entry Paradise" are previews on the convergence of design and technology describing the beginning of design by exploring the role of the first designers and running through the history of design. It then examines modern design and the role of cult brands. But most importantly, it previews future developments, the risks and chances that new technologies might provide for design.

These previews are the more important as the art and the profession of "design" are facing a paradigm shift. Originally, a design was to serve the function of an object - mostly products. The mantra of this approach was: "form follows function".

However, new technologies enable designers to intervene into nature and to radically alter the way we live and shape our surroundings. Designing is no longer just a technique to enhance and bring functions of objects better to the fore. But due to new technologies design can create and sustain emotions, social relations, or even change the nature. As a matter of fact, in the future it might be feasible to "design" modules of our very existence, i.e. our bodies, landscapes, houses and cities. In addition, the objects of design can be invisible due to the use of nanotechnology. Overall, this raises not only technological questions, but also social, political and philosophical ones.

"Entry2006" and "Entry Paradise" are neither forecasts in a traditional sense nor do they claim to predict a specific future. Rather, they can be understood as an interdisciplinary approach that combines artistic visions with an exhibition, political debates, and scientific discussions. In consequence, a number of disciplines were involved in this project: e.g. design, history, social sciences, cultural studies, philosophy.

The overall goal of the project was, hence, less to predict specific developments or provide policy recommendations – even though there are some included – but rather to describe artistic visions, to increase our understanding of changes and

The EFMN is financed by the European Commission DG Research. It is part of a series of initiatives intended to provide a 'Knowledge Sharing Platform' for policy makers in the European Union. More information on the EFMN and on the Knowledge Sharing Platform is provided at WWW.EFMN.INFO

raise our awareness about the risks and opportunities new technologies may create for societies in general and design in particular. The brief reflects this unorthodox approach. It attempts to highlight some crucial dimensions of this project.

Disconnecting Form from Function

In a recent movie entitled “The Devil Wears Prada”, Meryl Streep plays the merciless and extremely bossy even cruel chief editor of a fashion magazine. In a short scene Meryl Streep tells her poorly dressed assistant, who regards fashion as unimportant, the history of the pullover the assistant is wearing. Streep tells her stunned assistant that the colour of the assistant’s pullover goes back to a decision made by a fashion designer a number of years earlier. The colour, an undistinguishable blue, was copied by others and eventually used for the cheap pullover the assistant had bought in a junk store somewhere. But by picking that pullover the assistant made a statement. What she was saying was: I am too important to be bothered with fashion or the way I am looking. That is what the pullover was telling. Yet, as Streep points out, the assistant is wearing a pullover with the undistinguishable blue because fashion designers have decided so.

This little story reflects the conflicting demands contemporary design has to meet. The design of an object has to be original, individual and fit for mass production (Jan van Rossem, journalist for Architektur & Wohnen) at the same time. In addition, the example points to the fact that form and functions of design are not necessarily connected any more. Form and design have acquired a value of their own. As a matter of fact, very often the design or the brand of an article is more important than the function of an object.

As a profession design came into being as an effect of the division of labour and of industrialisation. These roots have defined the character of design in its early stage. I was a skilled craft rather than an art not to mention a science. A design was to serve the functions of an object - mostly products; it was an auxiliary aspect that was supposed to bring the essence of things to the fore. Consumerism and mass production have changed these basic tasks. Nano-, bio-, information- and communication-technologies will alter design once again.

New technologies and social change have triggered a paradigm shift of design. Design tries to create emotions, thus focusing less on objects rather than on relations. Even more importantly new information-, nano-, and biotechnologies will radically alter the nature of design. The objects of design - bits, atoms, neutrons and genes - will be different as well as the methods and the goals of design. This paradigm shift has led to what has been coined BANG-Design.

BANG-Design

In BANG-Design two developments are meshed together: On the one hand the aforementioned paradigm-shift in design. Design has itself emancipated from objects. On the other hand design has to manage the movement toward converging technologies (Norbert Bolz, Communications Departments, Technical University of Berlin). It twill be the major challenge for designers in the 21st century to manage these processes of convergence.

BANG is the acronym for: Bits, Atoms, Neutrons, and Genes. The fact that we are able to analyze and manipulate the constituent modules of our physical environment (including our bodies) the very foundation of designing is put into question. Design can produce emotions, it can create products - “food design”, and it even can form bodies - “body design”. Norbert Bolz even argues that the co-evolution of technology and society will lead to socially intelligent and convivial technologies.

In a way BANG-Design has to transcend nature. Bio-Design will enable us to create a perfect environment, which Bolz coined: post-humane paradise. Norbert Bolz even goes further and sees four dreams of mankind in the reach:

- Understanding: User-friendly interfaces are becoming a necessity; designers have, hence, to create new possibilities of communication and networking.
- Creation: We are able to use new materials for clothes, houses, cities, food etc. We can add molecules to existing materials thus enhancing functions of objects like in clothes with new materials etc.
- Immortality: The idea to remain forever young has become widespread. And we already have the technologies to come closer to this idea by manipulating genes, by undergoing plastic surgery etc.
- Security: Western societies are facing new threats that produce an increasing demand for security. At the same time western societies are less inclined to sacrifice people for their protection. Hence, warfare will become more technical and virtual. Robots, un-staffed airplanes are logical consequences as well as a dense network of supervision and control.

The Beauty of Designs and the Economy of Products

Some understand beauty as the opposition of meaning and purpose because real beauty serves no function - like a field of flowers. This postulate has shaped and determined the tasks of design for a long time. Design had to support the economic

success of objects not to mention the fact that the first designers were to provide prototypes that could be copied by the workers. However, nowadays designers also attempt to make objects more beautiful regardless of functions or economic necessities. This is partly a reaction to cultural shifts in society but also a consequence of the possibilities of new technologies.

In the past we already tried to improve the "design" of our selves by picking a certain hairstyle, by sticking to a specific fashion brand or by having cosmetic surgery. In the future biotechnology and the result of genetic research will provide an exponentially increasing number of choices and possibilities in this respect. Some see in these developments reason for hope because genetic research may give us the means to overcome diseases or discover resistant plants. Some rather fear the negative consequences of this kind of scientific progress.

Mutants of Objects of Design

Ulf Poschardt, a pop journalist, discusses the ramifications of such developments. Yet, he disregards the existing cultural norm that the genetic status quo of human beings should not be altered. Thus, he raises the question: How would society deal with yet unknown forms of humans? As there are no "scientific" studies that would give an answer to this question, he looks at the way contemporary art has addressed this topic and he especially deals with mutants.

Mutants are a common topic in movies, comic strips, paintings, or other products of art. E.g. in the movie Blade Runner mutants are seen as a threat because they look exactly like human beings. Yet, men created them. In another movie, X-Men, mutants are a next step in the evolution of mankind. In X-Men mutants are able to use the whole range of their DNA. They develop superhuman powers and capacities. In this movie the difference between mutants and human beings are described as a battle for domination fuelled by fear and anxiety. According to Ulf Poschardt due to biotechnology and genetic research such evolutionary leaps may well be possible. It will then be the task of designers to bridge the gap between the anthropocentric and humanistic thinking of our time and a world that knows other forms of existence.

The realistic potential of artistic or cinematic visions is shown by the fact that genetic research is more and more able to design the very modules of human life: i.e. cells (Frank Edenhofer, stem cell engineer, University of Bonn). For example it is possible to "enhance" embryonic stem cells by adding hormones or other extra cellular signals. Thus, in principle, it would be possible to predetermine eye-colour, intelligence etc. of a baby.

The Coming of 'Next Nature'

Similarly, we used to think of nature and culture as two separate things (Koert van Mensvoort, media artist and researcher). However, mankind has more and more conquered nature in the sense of plants, animals and climate. One can even say that nature has turned into a culturally defined environment created and shaped by men. We restore nature like forests, lakes and parks, based on the image we had built about it. Nature has become a cultural category or something what Koert van Mensvoort called "next nature".

'New Organic Design'

Similar effects can be found in "new organic design" (Ellen Lupton, Cooper Hewlitt Museum, New York). This type of design uses e.g. human "skin" as a sort of blueprint in order to create innovative materials and surfaces. Human skin is a very complex and sensitive material. Objects with a skin-like surface react to light and temperature and can convey information. Yet, these qualities are the reason why designers use these new materials. Such developments also point to the fact that the boundary between technology and nature is disappearing. While skin has become a commercially produced object, the objects and buildings with skin as a surface become similar to natural organisms.

Space and Communication: Houses and Cities

It is just a commonplace to state that information technologies have altered our way of communication. Architects and designers also start to use these technologies in order to redefine houses or reshape cities and landscapes. For example, the concept of an "open house" tries to overcome our way of living (Jochen Eisenbrand, curator, and Alexander von Vegesack, Vitra Design Museum, Weil am Rhein).

While smart homes are still limited to predetermined options like regulating the temperature, the light etc., an open house adapts itself to the user and the needs of the user. It is assumed that computers will be integrated in our surrounding and they will be able to communicate with each other. This will lead to an "ambient intelligence". In an "ambient intelligence" remote controls like personal digital assistants would be superfluous because sensors in the walls or the floors or fixed at persons would allow the system to identify our whereabouts and our movements. Based on this information the system would automatically adjust temperature, light etc. This would also include to what has been coined ubiquitous computing. Instead of having a single computer all the objects in a house would be enhanced by computers.

Other ideas try to use information technologies to redefine the boundaries between private, public - e.g. parks - and commonly used spheres. In a project called *Seoul Commune 2026: Rethinking Towers in the Park* the idea is pursued that our private space - bedroom, bathroom - is reduced, while the occupancy of our commonly used space - e.g. living room, kitchen - is organized by information technologies. We would book these rooms in advance and then be entitled to use them for the time we made the reservation.

The project *Megahouse* goes even further. It is an attempt to better use existing space in a city. It is a sort of improved and complex timesharing system: Offices or other rooms that are not used in a city can be booked online. The access to this space would then be limited to the person in question and biometric scanning could control it. Both projects would, however, presuppose a totally new understanding of property and privacy.

Warnings against State Interventions

The goal of the project was not to come up with some concrete policy implications or forecasts. It was rather an attempt to describe possibilities or visions, even though many of them seem still highly unrealistic. Nonetheless, such an approach helps to increase our awareness about possible developments and describe opportunities new technologies may provide for designers.

However, the project also included some sort of risk assessment. Bill Joy, a pioneer in computer technology and programming, saw notably two dangers: First, in a foreseeable future we will produce computers that will be far more powerful than the PCs we actually use. We will have robots and "nano-robots" that will dispose over complex intelligence and will be self-managing. However, in this case the machines don't need mankind any more. In consequence, Joy fears that we risk of being extinguished by computers. Second, even a small group of men can use new technologies for a terrorist attack. While formerly rare raw materials or large-scale equipment was necessary, nowadays just technical skills are required to launch an attack on a country.

Yet, in spite of these risks Joy argues against state intervention. Public regulations and laws would not only be ineffective, but they would necessarily infringe upon our civil rights and limit the private spheres. In addition they would lead to an immense apparatus that would have to supervise us. Hence, Joy asks for a sort of self-limitation. Researchers and computer specialists have to become aware of these risks and abstain from developing technologies that might eventually endanger the human race.

Sources and References

The articles referred to in the brief can be found in Gerhard Seltmann/Werner Lippert (Hrsg.): Entry Paradise. Neue Welten des Designs, Basel etc.: Birkhäuser Verlag für Architektur 2006.

Further information on "Entry 2006" can be obtained from: http://www.entry-2006.de