

Some basic Thoughts on Design in Context of Technological and Economic Change

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I. Abstract

When talking about design development, it is necessary to talk about the present economic and technological status. In both fields, an ongoing change has to be considered. The globalized economics take place in no longer industrialized but post-industrialized societies; what are the specialities of so called post-industrialized societies? What are today the fundamental technologies that drive economics? What does this effect to the understanding of design, design development and design education?

II. The need for Design.

Although there is no general accepted definition of design the fundamental development of the discipline is well understood. As industrialisation went on, the gap between consumer and producer grew on. The time of a full product cycle was cut down. The innovation of a product was no longer an evolutionary process with the following steps:

- manufacturing the single object with or without changes by producer,
- test of the object by customer,
- information feedback to producer,
- all single objects seen as the same are the sample of a specific product

In times of mass production a change – or its absence – does not only inflect a single object, but the product as itself. A wrong change – by shape or by time – could easily disturb the foundation of a whole company. One thing was the necessity of growing financing of the production and the growing risks of this financing. Another was the growing time shift between product development and the information feedback from market.

In short, times of try and error has gone. Specialists for product innovation has been needed. Despite of all other disciplines who's impact in product innovation is not to be underestimated, the designer is the specialist who substitute in his work holistic the evolutionary process of product development.

III. What has to be considered.

It seems that the demand of the society will always change. Sometimes faster sometimes more slowly. But meanwhile some changes only inflect a cosmetic change of the products others get together with technological changes to real new products or even new classes of products. If the industries of a nation could hook on those changes of paradigms the economic effort is enormous if not its a great loss. Germany for example had the technologies of the coming so called informational revolution, but could not see the upcoming demands and so didn't brought up new products.

As we can see from the past new technologies has been first, but also unspoken demands and visions. Only those innovators used to be successful, who could combine new technologies with new ideas on usage in a thoroughly understood economic market.

In short:

- New products grow on technological development not beside
- New products have good chances if they float in the streams of economic changes
- Successful products are driven by societies' demands; mostly unspoken or encoded in visions and narrations

IV. Information society? Not yet.

Since now we are in an ongoing change towards an information society. This means information technologies are the big factor of product development.

But in contradiction to many opinions the big change of consumer products has just started. From the insight of technological genesis it is known that new products evolve as robust prototype with broad but unspecific functionality. After its success it diverse into many different products. This is nearly like the natural evolution of species. So the computer, also as personal computer whatever it looks like, must be seen as one prototype. We will see pervasive computing, what means we won't have any more one computer for everything but many computer, each for a specific task. It is estimated the number of 1000 computer per person. Now we are at maybe 20? PC, clocks, cell phone, mp3-player, stove, heating, TV, radio,

In industries the big change of the last decades was the breakthrough of automation, control, supervision and logistics enabled by information and telecommunication technologies. It was not just an improvement, but a shift of paradigms because things not only become faster, cheaper, more effective, but things get possible no one thought about 30 years ago. Nowadays nearly no two Golf manufactured by VW are all the same. The possibilities of customization are nearly more the customer could bear. But the changes in the manufacturing on one side are still missing the complementary changes in distribution to bring out all possibilities that could be.

So mass customization as well as computerization still remains to be fulfilled in new products and concepts.

V. Service society? Not without planned product development.

For most mature societies there is no way but the way into the service society. This means that most of the gross domestic product comes from the 3rd sector. In Germany the first, agricultural sector is about 3%, the second, industry, is about 32% and the third sector, service, is about 65%. You see similar or higher rates in every western country. In the times of industrialization, as the numbers for the first and the second sector changed as dramatically as they does now, there has been a big demand for new ideas and concepts for new products. As shown above the need for design emerged. Since now the service sector stuck in a phase which has many similarities to the second sector in times of manufactories and the early phase of industrialization. Meanwhile nearly every product of the first and second sector is managed with a professionalized and planned development, is it wine or ship. But the third sector is developing its products under pre-industrialized conditions, by try and error.

Besides the sheer numbers, products of the third sector have another big point in the globalized economics: by nature they can't be imported, they must be produced and consumed at same time. Even if many of the foregoing products could be imported a big part of gross product is produced in the country.

VI. The tasks for design at the beginning of the 21st century?

From the points above it is possible to draw following thesis for the future fields of design.

- Design is a trans-disciplinary process with the assignment to emulate the evolutionary process of (product-)culture.
- Design is a management job.
- Innovation is a design job.
- Innovation must meet all three: technological, economic and cultural development.
- Computer and IT-technologies must be seen just as a tool, as a "way of", as a basis technology. Computer goods must be identified by their use, their specific functionality and benefit.
- Computer-design, just as industrial-design, does not design computers or with the computer, but designs goods that are build by and with computer technology.
- Computer goods are not just faster, smaller, cheaper, how ever better copies of classical products. They just have so far unknown capabilities and functionalities.
- Modern products are products tailored for and by the customer. Designers must give up a part of control.
- Mass customization needs designs, that includes manufacturing and distribution and service.
- The 3rd sector needs professional product development. That means professional innovation. That means professional design.
- Service societies need service-design.
- Computer-design, design for mass customization and service-design needs designers that think abstract, in elements and systems more than in colours and materials.
- The benefit from design is a holistic view on the product as element of the subsystems technology, economics, culture, as elements of the system nation, as element of the global surrounding system.
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