

## The Concert of Humanities and Natural science

—the Analysis for Essential Connotation of Science of Contemporar Design

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**Abstract:** this essay talk about the definition of science, natural science, humanities, science of design and so on. It also analyse the new nation of the science of design---Limited criterion, system conception and technology, sustainable and ecological design, humanized technology and design. In this essay, we can know the merge between technology and art is a distinct of design, get the perception that development of design should treat natural science as its basis and absorb the humanities continuously. This essay gives a suggestion for construction of science of design that look upon humanities and explore the connotation of design. This conclusion is the the concert of humanities and natural science.

### 1. Recognition of Science

The advance of the thinking shows as the suspect for based questions. Just like this, we have still scratched the identify of science. We conceive much more conception what are not exactly right about science. Sometimes, it was seen as natural method or logical method. We think the science is rational thinking, a spirit for pursuing objection. Barber, a famous scientist, says that science is a identified knowledge or a series of method what can get this kind of knowledge. Science must be a special thinking firstly, it must be rational and experienced. However, the deny to science from Postmodernism is reasonable to a certain extent in western culture, it can be seen as conscious for overcome Technical ruler[1]. We cannot find the universality of science usually as we think Newton and Einstein's physical theory just is science. Like Mao zedong said the science itself is seek truth from facts, objective and agreement between theory and fulfillment, it has a feature like culture. Science should include humanities and natural science, we see science as a wisdom, a method and an experience, rather than a knowledge.

### 2. The New Nation of the Science of Design

Design is a campaign what can sum up culture of making, it belong to humanities, but also natural science. Design used to be an art campaign (like drawing) or a technical performance service to industrial production. In fact, design permeate into all the human's campaigns. So, the development of design have to reach a integral circumstance instead of partial. As long as get this, we can overcome the limitation of human, mitigate the contradiction from human. Design is a based action, its evolution rely on designers, but also all the human.[2]

The radical problem of design after industrial society is the lost of human nature cause mechanize. This kind of conception that technology and market should be the main character of design push human to a jeopardy, let diverse and connection with nature, too. Eric Herro, a designer from Denmark, says that contemporary designers have already turn industrial design into some kind of method that pursuit huge production, purchase and consumption, it can also ruin our environment. If that is right, it means design has become a self destructive performance instead of rational method. So, Eric call for morality and humanitarian ethics in deign. Pan Changhou, a Chinese designer, identified contemporary culture is design culture, in one hand, he try his best to reveal the meaning of design at today, in the other hand that indicate his responsibility for design. In his mind, design's

connotation is not only create product, but foresee the future. Therefore, ergonomics is far less significant than ergonomics[3] in the field of design.

## **2.1 The Tension Field of Contemporary Design**

Contemporary design is intricate theme include design method, technology, style and culture. After 1960s, we came into a new era, a diverse era. In this period, because of merge of all the thinking and technology, the tension of contemporary culture has been visible.

Contemporary society and culture in a revival period and a new birth of culture. In this time, technology, thinking and culture interplay. This tension from high tech push design go ahead along vary direction, it makes perception and method of contemporary design has profound transformation. In this tension field, one polar depend on high tech to exert this advantage of technology, the other polar want to solve the peril from industrialization with humanities and get intelligent with new tech. With the innovation of science, industrial culture shows a new horizon, this objective transformation in design let the High-Tech being real. High-Tech .[4] insist its believing for technology and machine, it disagree with some anti-science group, like Postmodernism, worship Modernism and Technocratic extremely.

The purpose of technology is applying, that means it aims to change the real lives, so, it often be used into design as soon as possible and via designer into real lives. And of course, just like clay, the technology (e.g. Material science, computer science) has remarkable deformability and can do everthing. Many other new tech is similar as this, they make designers can amend some old style.

High tech is not only used to product design as material and approach, but change our conception of design as culture. For instance, after 1950s, humankind start many campaigns to explore space, because of this, a new science has its birth---aerospace industry. So, some distinct of this been a special mark into people's lives and design, we call it Cosmic style.

Humanities focus traditional culture and history, humanistic design should put the need of human first, and base humanity. There are some retro-trend while industrialization coming, at 1800s, Rskin and Mauris advocated Arts and Crafts Movement and regression of crafts, they hope people give abandon machine. And today, this trend arise again, some nation with long history realize the charm of convention, they has protected their traditional crafts and materials by themselves already.

## **2.2 The New Value and Conception of Design**

Except the retro-trend, someone who works for design or thinking want to embark on analyse logic and code of design along the philosophy, they hope to handle the problems about design and technology by a deep extent, so that can clear the Tech-Ruler, Rationalism and Utopia. Around the new high tech, design have to involve into the value evaluation for technology.

### **2.2.1 Limited Criterion**

The main character of design is human-being, human has double-relativity. Firstly, we have a creature relativity; secondly, we have a culture relativity. The creation and ideal are important qualities for design, whatever, design means go ahead of reality, pursuit a high quality in products, society and career. However, design usually be a abstract conception, is human-made, so, it is not a natural things, its limited and historic qualities are inevitable, sometime it will shows its bias for culture and value. Cause of that, all our design are regrettable and partial, even worry.

Limited criterion can decide that design itself never be perfect at any time, we pursuit better instead of perfect, this idea is very important for design.

### **2.2.2 System Conception and Technology**

The System Conception and Technology is a new method based on intricate science, Bell call it The new Intelligent Tech. See from some angle, we can find it is another part of question (one is Limit). It also is a method can handle many information and detail in the process that pursuing better.



science looks like Family resemblance that from Wittstein,there are no hegemony in this.Natural science is no different with social science or humanities,they all are a part of world,they all are reasonable.

It is a trend that all kinds of science are being together,even is a symbol of culture.Contemporary society must be a harmony developed society,the technology and emotion can be together in this.

In design, what we should consider is not only the relationship,but also how to express both of them together.

### **3.2 The Distinct of Design Science**

#### **3.2.1 The merge of technology and culture is constant.[7]**

Design is innovation,it involved in all the campaigns for human-made products.The design campaigns has three periods---Design bud,Craft,Industrial design.

##### 1) Design bud

At first,human can only use stone or bricks,and learned to make this more useful.At that moment,human can merge the usage with beauty,that is the start of design.

##### 2) Craft

Before 7000-8000 years ago,human find out the method to make the pottery.That is the first time human can change the materials.After that,they know how to foundry and improve their crafts.In that period,human had recognized they must to study crafts so that they can do more design.

##### 3) Industrial design

After 1700s,the transformation from crafts to machines made design separated with production.The conventional code was not reasonable,because of that,some kinds of design revolution appeared,for example, Arts and Crafts Movement,New art movement and so on.They all made contribution to design theory.

In the world war two,main split is Mechanized mass production.1919s,Bauhaus established and give three codes.Using ration to design instead of Romanticism is a huge advance.

After war, the invention of transistor marked opening of electrical age.Products became more and more small, so,designers can do more special design,by this trend,new designers start to challenge tradition. That push out Rationalism,New Modernism,Pop and Postmodernism go ahead.

#### **3.2.2 We should base natural science and wings of humanities**

We used to think the science is extreme rational subject.Any other subjects,however,are consequence of the merger of ration and emotion.although design science belong to humanities,but it still take natural science as basis.

Design science show more distinctions from humanities.that is the reason why people need it should be humanized.Humanized Design is a most important purpose,People Oriented can evident this.iMac could receive the great achievement because Apple utilize the humanized-design,they create a beautiful,charming form for iMac.



Fig.2 iMac

We can conclude that design's soul is humanized design and ration is its basis from numbers of

successful cases. Rational thinking can make design being real, we will be failed eventually if we cannot pay enough attention to function, crafts, materials, markets or legal, even lead the tragedy. For instance destroy of COMET. It had the highest speed, great quality and stream-line form, what is fatal is that some British designers desire square windows like architectures not the round, so, after many times of flying, the plane destroyed once again.

But of course, design should not spotlight only in function or tech, humanized design is its soul. The design which ignore emotion and connotation will be a pale work, that makes user feel uncomfortable. Just like Jens Belson says, the key of successful work is the fit between product with users' emotion, all the failure cannot achieve this.

## **4. How to Build the Spirit of Contemporary Design**

### **4.1 Pay More Attention to Humanity**

People can do anything to pursuit the spirit of industrial revolution, that lead to the lost of traditional culture and humanity eventually, finally, we can only feel void and distance. Because Batch production almost eliminate humanity. Now, we have to face the problems which from the lost, using technology solving problems is not popular, Postmodernism, not like Functionism and Modernism, disagree Reducing doctrine just like "less is more", they hope humanity revive by decoration.

One of the value of products design is express it self by visible form. This point can be showed obviously in contemporary, the development of technology makes products become more and more small, so, designers can do more to express the feeling what getting from the products. Form is the most direct way to express. Emotional design use many feminine curve instead of straight line to give us the stream-line organic modeling. This pattern looks like free, simple and meticulous, it can appeal citizens' sensitive hearts and shows kind. Essl, a company in Italy, has many witty designs, especially Juicer designed by Philip Stark, its form looks humorous and like some kind of insect. The color in contemporary is different with World War 2, we can see many light colors like pink color, light green, etc. Designers endow products by humanity, that makes users to feel, too.

The development of new science makes our society change from Entity Society to information society. In this society, people will pay more attention to spirit or feeling. The feeling in products is intangible, but we can get this only from tangible; we must though the way of visible things to express our feeling. So we should endow products a emotion and let technology could smile.

### **4.2 Scratch the Connotation of Design Science**

Design is culture, People Oriented is its core.

Every excellent design works are the merge of ration and emotion, it can not only give the charming form people desire, but fit with function and technology. Design shows the concert of ration and humanity from Modernism to Postmodernism, then to Non-material, that because the design contains culture, art, technology, economy and so on, this shows us the contemporary creation, like a American socialist Mark Diani says, design usually be in the gape of our culture, in this, one polar is technology and Industrial reality, the other is humanized producing and Utopia.

Rational thinking is kind of process that sort out the fragmented design information, that process include gathering, sorting data and using design methods rationally. From the beginning, rational thinking should be a limit code, design is rational campaign, because of this, it can be different with art, it is not just the way to vent emotion. Technology, culture, similar design is the constraint of design, and so are the market, users and medium. In essence, design is a creative campaign under many limitation.

According to the theory of aerodynamics, trains' driving resistance is related to its shape and speed, people designs its shape as stream-line to get the lowest resistance, this is a kind of limitation. 1946s, the first computer had its born, it is a huge monster which had 180000 tubes, cover an area of 170 m<sup>2</sup>, weigh 80t and its power up to 140kw, all of this makes it famous in the world, contemporary laptop, however, can reckon faster than it with smaller form, this can not be imagined

at that moment. But this is of course a result of design from science and technology, every single new craft or material can bring design a revolution.

## 5. Conclusions

Interchange and standardization are sign of contemporary civilization, many designs should fit with international codes, this is another limitation from market, economy and society. In front of the intricate desire of human and changing materials and crafts, design must takes ration as basis for its purpose. From regular process to strict crafts, then to sophisticated market planning; from Psychology to ergonomics.

Then to marketing.

The design makes more and more dreams become real under the banner of ration.

When we scratching the connotation of design science, we should show the respect to science, but also the spirit of science. It demand us that we must bring design aesthetic and reasonable ornaments along the line of our age.

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