

An introduction to formgiving in Chinese product design

Vigleik Norheim
Department of Product Design
Norwegian University of Science and Technology

ABSTRACT

The article is a holistic and cultural introduction to formgiving in Chinese product design, both theoretical and practical. Observations were made during a 4-week stay in China in a university and two design offices. Introducing and comparing various Western approaches to form in product design with the Chinese approach proved to a certain degree unfair, as their tradition in the field is yet very young. The aim of this text is thus to explain why form in Chinese product design is where it is today in a cultural and social context. The article concludes that Chinese designers need more freedom and authority, much like the early Western designers at the dawn of our own industrial revolution.

KEYWORDS

China, culture, product design, formgiving, creativity, design process

1. INTRODUCTION

In Western industrial design, form has a tradition in following function. Beautiful and brilliant products have evolved from a long and fruitful exchange between artists, designers and the industry. China is 30 years behind in some areas of the industry, but is eager to catch up learning from Western product design. This paper will take a closer look at the background of Chinese form in product design, based on acquired knowledge about Chinese thinking, culture and communication, company visits and a case study at Xi'an University of Architecture and Technology (XUAT).

During my stay in China, I learned that there are at least two problems involved in the simple evaluation of form in "Chinese versus Western product design":

Firstly, Chinese product design is a rapidly growing, newborn thing. A product or visual form survey will be outdated by the time it is written: it would take too long to get a decent overview, and

new elements would be thrown into the discussion all along.

Secondly, art and design in China have different ideals than in the West. Most people I met agreed that formgiving in China in general is very conservative and - sadly - lacking creativity. Artists are awarded for making impressive copies of classic art pieces from various dynasties, and design students are (for reasons discussed later) not too focused on creativity and innovation. There is of course good exceptions within a country of more than 1.3 billion inhabitants, but the scope of this article is the mainstream formgiving.

It also became evident that the approach needed to be holistic. The situation in present formgiving in the country clearly has roots to Confucius and ancient thinkers.

Literature in formgiving

The focus of the article is Chinese culture and formgiving from a Western point of view. It is therefore relevant to mention some literature to

outline my background. In the Department of Product Design at NTNU, exercises in 3-dimensional form are taught in the first and second year. An important share of this is covered by the book "Three-Dimensional Visual Analysis"(1994) by Cheryl Ackner-Koler.

The teachings of Rowena Reed Kostellow has had great impact on Western industrial designers. She and her husband Alexander Kostellow taught many of the early American and European great designers in three-dimensional design.

Ackner-Koler was a student of Kostellow, and the method is based on a continuous, physical and 3-dimensional discussion with the object you are working with. The approach is logic and systematic, and starts out describing the elementary, geometric shapes like lines, planes, cubes, spheres and so on. The framework is:

1. Elements and their properties
2. Movements and forces
3. Relationships
4. Organization

During thorough training in these steps, students learn to analyze and create visually complex 3-dimensional form. The immediate directness of manipulating the actual geometric shapes, moving them around and do morphing and blending is a most valuable and intuitive approach. This method triggers much creativity, and at the same time arms the student with the vocabulary to discuss form with others. The discussion of abstract form needs to be specific and precise in order to be meaningful in the process.

About XUAT

XUAT is situated in Xi'an, the capital of the Shaanxi province in the middle of China. Xi'an is one of the most important cities in Chinese history, as it has been the capital of 13 dynasties. Here we find one of the world's seven wonders, the famous old terracotta army with more than 6000 excavated statues.

The university was founded in 1895, has approximately 20 000 students, and is ranked as number 87 among almost a thousand universities

and colleges in China. My fellow students from NTNU and I had the pleasure of getting to know students from the industrial design department, and many of us cooperated closely with them in teams. The two-week workshop featured idea generations, making concepts and carrying through a final presentation. I tried to be both an observer and a participant, and have discussed teamwork with my fellow Norwegian students afterwards.

The article will focus on the current topic of Chinese product design with a cultural historic background, as follows:

- An introduction to Chinese culture
- The present product design situation in China
- Interviews, observations and company visits
- A discussion of the three points above

2. CHINA: CULTURAL BACKGROUND

In order to understand local education, experimentation and creativity in the Chinese culture, it is important to have an understanding of the Chinese collectivist culture. This section provides some of the information necessary to understand this culture. The cultural background will show that China is a very conservative and traditional collectivist society where it might be hard and not always preferable to tell right from wrong.

Importantly, the very core of creation, innovation and design is defined by a questioning of established mindsets. Be critical, provoke, break limits, challenge thoughts, walk outside the given path - the rule is not to follow rules, and to speak up. At this point, Confucius would turn in his grave.

Confucius

Confucius (551- 479 BC) is often viewed as the supreme philosopher in Chinese history and culture. He based much of his thinking on a retrospective view of a golden age (the antiquity) where he presumed everything to be perfect. In antiquity, the sages (wise men) had great influence on the unification of China, and Confucius based his thinking on their odes and classics. He

educated a group of disciples, and wrote the Five Classics containing his thoughts and discussions with his students.

In Confucius' teaching we find an urge to suppress discussion when he describes how the ideal man speaks and acts.

The superior man is diligent in duty but slow to speak (I, 14).

The superior man is slow to speak but quick to act (IV, 24).

In antiquity, men were loath to speak (IV, 22) (Confucius)

"Confucius sought to provide sound rules for every occasion in life. Profoundly concerned by the miseries of the world, he wanted to make men noble in order to bring about a noble world. His concepts of benevolence, ritual and propriety became state ideology during the Han times." (Hyperhistory.com, 2005)

The fact that Confucianism became the official state cult had far bigger impact in China than it would have had in e.g. France in the 17th century. The Chinese society was dominated by a clear cut bureaucracy, and religious beliefs were tightly knit with the spirits of dead ancestors (Brøgger, 1999). Confucianism thus reached far into the minds and souls of the Chinese people by being both the state ideology and an ideology idealising the past, a familiar thought in ancestral worship. Book-burnings and thought-control also has a long history in China, made in order to maintain the impact of state ideologies.

Confucianists were defenders of the established order, and were articulate defenders of authority, both within the family and in relationship with the government. This probably is the element that led to the alliance between the government and Confucianism." (translated p 259, Brøgger, 1999)

This ideology has been dominating Chinese culture from the first dynasty, it has been massive in its impact, and it represents a retrospective, reluctant culture that suppresses the individual and favours old solutions.

Religion

The two most important religious beliefs in China throughout history has been Buddhism and

Taoism. They go well with the state ideologies of China.

Parts of Indian Buddhist texts were actually rewritten to the *opposite* of their original meaning when translated into Chinese from Sanskrit. Unacceptable statements such as "he opened his eyes without looking to his master for help" in the sutras just had to be changed. This specific sentence was translated into "he listened to his master's teaching and accepted it as true" (Nakamura, 1964). This widespread, straightforward forgery shows how unalterable the Chinese hierarchy has been to external influence. As Becker puts it:

"Naturally, a society which cannot conceive of a student questioning a master (even in a foreign culture) but feels compelled to rewrite scripture to eliminate such situation, is not going to tolerate debate and argumentation within its own borders." (1986)

To shed light to the Taoist point of view on the case, a quoting from Tao-te Ching will be useful:

"True words are not beautiful; beautiful words are not true. A good man does not argue; he who argues is not a good man....The Way of the Sage is to act but not to compete."

Which obviously supports that it is more important to be pleasant than to be true and defiant.

Ancient society

Since ancient times, China has been a densely populated, rice-growing culture. The agriculture was very sensitive to changes, and when problems occurred, the inhabitants turned to the elder. A bad harvest or hazardous experimentation could be fatal to the community. This contributed to a culture with an emphasis on "being humble and respectful, rather than bold, assertive or innovative" (Becker, 1986)

Today's society

Communism has shaped today's China in too many ways to describe here, but Mao did use the cultural elements in his favour. He managed to control the people by manipulating these elements and the Chinese mindset. Therefore, today's society still reflect many of the values that outlined the old China.

Elaine Ann is the founder of Kaizor Innovation, a Hong-Kong based design company specializing in helping foreign companies to translate their efforts into the Chinese market. As an introduction to their services, the company has made an interesting overview (Ill. 1, Kaizor Innovation, 2005)

hieroglyphs or symbols with meaning, which does not arrange much for eloquence. The English language has approx 500 000 words, and there are still double meanings. Chinese signs may have over 20 double meanings, and you need to know 3000 signs to read the newspaper. The precision is low in comparison with languages based on the Latin alphabet, where plurals, times and forms are easily manipulated by adding or changing letters. To

Chinese Model of Thought	Western Model of Thought (U.S.)
Confucius	Plato
Collectivist society	Individualistic society
Hierarchical social order, all men are not equal	Equality
Authoritarian	Democratic
Relationship-oriented	Logic and scientific inquiry of the "truth"
Indirect and implicit communication	Direct Verbal communication
Practical	Philosophic
Family	Self
Harmony & balance	Truth

III. 1 Kaizor Innovation

The old philosophers still play an important role, and the Chinese civilization is the one which has had least connection with West-European civilization (Brøgger, p 232). After my four weeks in China, I can confirm that the values mentioned in the table are active and important.

- Collectivism come out in all activities, like all students doing morning gymnastics from kindergarten to university, and shopping in groups.
- People are interested in your age and educational level in order to rank themselves under or over you socially.
- Students have massive respect for the teacher, and prefer to do as they are told. In a discussion, the most important thing is not to find the answer, but to make friends and keep it that way.
- In brainstorming and idea generation, the students tend to not linger upon the ideas, but go for it as soon as something new comes up.
- People do not see themselves as individuals, their person is defined by their role in relationships to other: being a father, a sister and so on (Gao, 1998).

Language

The indirect communication in China is much due to the written language. Chinese writings are

understand a sentence in Chinese, the reader often needs to know the context and use gut feelings. This also affects the spoken language, and as we know from Confucius, he did not favor verbosity either. The result is the need for an awareness of hidden meanings in interpersonal communication, which can give both lots of misunderstandings in complex discussions and create an almost telepathic skill in simple understanding of people.

Face

Face in the Chinese culture would mean your reputation and esteem among other people, and it is very much dependant on the rest of the collective.

To avoid shame is important in the West, but in Asian collectivist culture it is crucial. Because a person is much defined by relationships to other people, shame and reputation is a distributed, collective property, and a shameful act will throw a bad reputation on your relationships as well. This goes both ways - you need to avoid making other people loose face, because it is so important to them. If you do or say anything that might degrade the "face"-value of a person, you will loose face yourself too. Such sensitivity in interpersonal communication makes it hard to discuss delicate subjects in a logical or scientific manner.

3. THE PRESENT PRODUCT DESIGN SITUATION IN CHINA

Industrial designers in the west who have come aware of the Chinese boom in design educations are worried about their profession. The country has 400+ industrial design schools that are ready to feed 10 000+ designers into their industry, which has the largest production capacity in the world. The country is also facing the biggest industrial revolution the world has ever seen, with a growing middle class that demand more and more standard material goods and products.

Aspiring Chinese product design students in the middle of this situation will play an important role in assuring the quality of the products emerging from Chinese production facilities. First of all, they need to fight the fact that Chinese industry has not yet recognized the designer's key role the same way as in many Western countries. There are many similarities with their situation and the first industrial designers during the Western Industrial Revolution, meaning the underestimation of the designer as a problem solver in the entire development process and a conceptual resource.

It might seem like the Chinese government has consulted only the industry and not experienced, western/japanese designers when assembling the design education in the country. Alas, the industry does not know its own best. Zhou Yi, the president of S.Point Design in Shanghai, told us in an interview that the industry employed these young designers to their own inhouse design department. There, they continue to do the styling and copying of other market successes with no focus on product innovation. S.Point therefore has 70% foreign clients and are still working to be accepted in the Chinese industry. S.Point has clients like Motorola, Siemens, Panasonic and Samsung.

(The name "industrial design" is in China mostly referred to as design of heavy machinery and industrial business-to-business products (Kaizor Innovation, 2005). Industrial design therefore does not include system design and the ability to design bigger changes than on a product level. This might

be due to the current role of a designer in China - he/she is almost always hired by the manufacturer. From hereon the term "product designer" will be used for what we also might call an industrial designer.)

There is also no strict line between copying and inventing. Pure copying is often referred to as borrowing or being inspired by another product. A natural cause is that copying has overwhelmed the Chinese market.

4. OBSERVATIONS

We came as fresh Western students in a Chinese university, and did not know the language nor the culture. The gap between us and the Chinese students was shortened by workshops in ecological design and concept development. When I did not attend these workshops, I searched the university for resources in form teaching. After a week I found and managed to make an appointment with the teacher in 3-dimensional form at XUAT, Wang Ting:

Interviewing Chinese form teacher Wang Ting

"What do you feel are the biggest challenges in teaching form?"

The challenge is to help the students find a new way. The first part of the challenge is to make the students understand what I do. I have my own style, and this is what I teach them. The second part of the challenge is to help the student find his/her style.

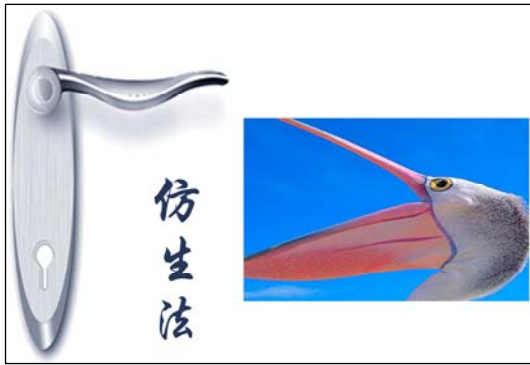
What exercises do you give the students?

I have a set of exercises that the student should do through the semester.

1. Geometric shapes

This one is about cutting shapes from a basic geometric shape. When you put all pieces together, you will get the full original shape.

2. Forced relationships between products and objects in nature



III. 2 Pelican-inspired door handle

The exercise abstract elements from the nature into product design, like for example "Myran" from Arne Jacobsen does (at this point, the student draws a humidifier, which was her last exercise. The product has a strong reminiscence to Shrek, the animation character by Dreamworks. She tells me another student made the humidifier looking like a bundle of bamboo-pipes)

3. Abstract 2D art transformed into 3D products
The student chooses an abstract painting and transforms it into a product. A good example of

this is the Gerrit Rietveld Red-and-Blue chair, which is a transformation of a painting by Mondrian. Yves Saint-Laurent has also made a dress from this painting.

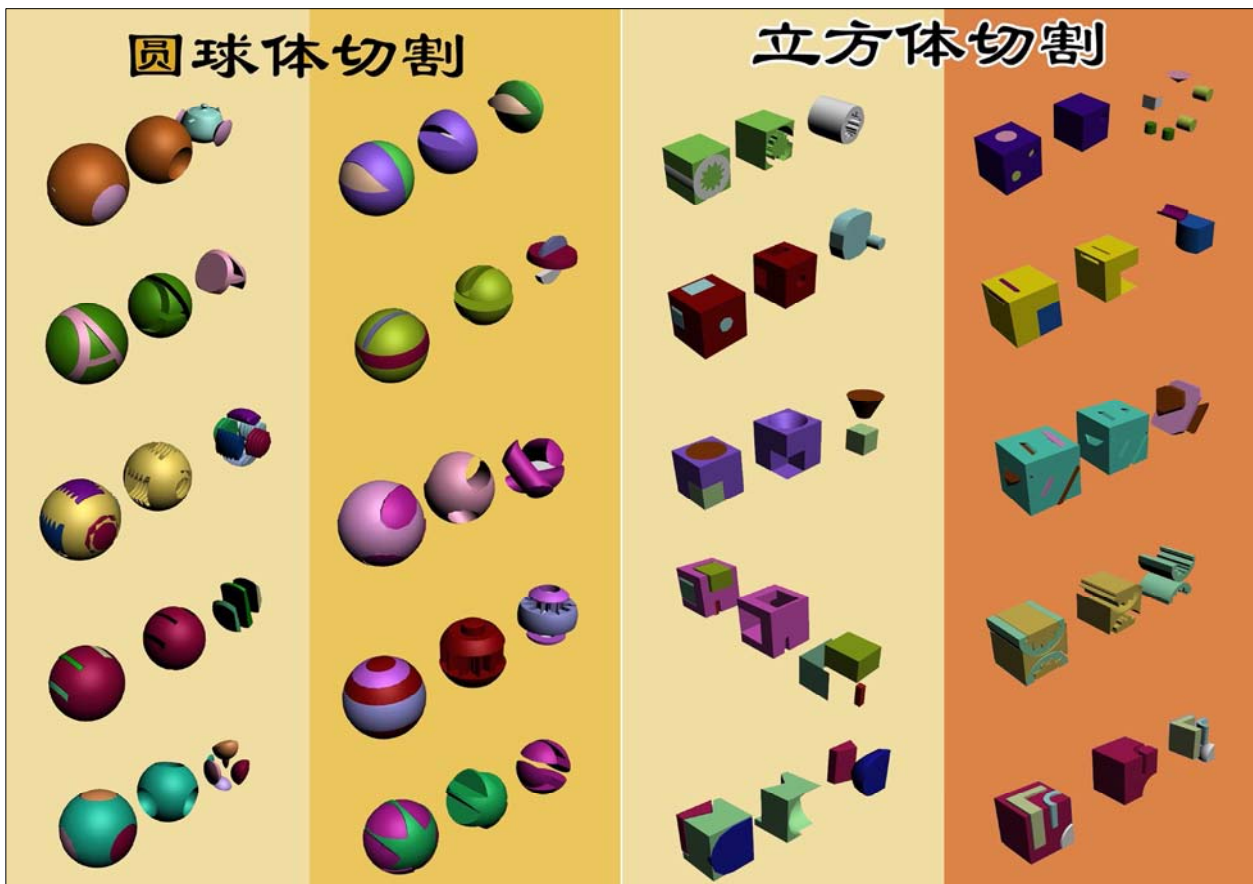
Do the students work in some kind of groups during the process?

Never. Usually I have lectures 3-4 days in a row, and then the next period the students do exercises in the classroom while I walk around tutoring their individual work. My class is approximately 70 students.

Do they have homework?

No. They might talk about the exercises in their spare time, but it is not expected by me.

In my school, we have individual work and group discussions. We do form exercises for homework, and the results are discussed in groups of four-five students in addition to the teacher and an assistant teacher. All students have to say something about the shapes, and are not allowed to say just "nice" or "ugly". Afterwards, the teachers sum up the comments and guides the student what



III. 3 Form exercise at XUAT - cutouts in Rhinoceros

to do about his/ her work. This is in order to give thorough feedback to all students, and to give them a vocabulary in describing and discussing form. If you have done bad work, you will hear it from the other students. And if it is nice, you will hear that too. The point is to be honest, otherwise no one will get better. Sometimes the comments could be hard to swallow, and the teacher might even break parts off the shape to show the student what he/ she has done wrong. Some other time, the shapes are nicely balanced, and you will get an explanation to why it is so. Could this kind of approach work with your students?

Sometimes. But the first problem is of course capacity. I have 70 students alone. If we were more teachers, we could be more flexible. But then again, I think western students have more initiative, and it is easier for your teacher to work that way. Here the students like to listen and learn. (My comment: another aspect here would be not to "loose face", see the discussion part)

Ok. The way I see it, Chinese students tend to have much more respect for their teachers than we do? The group work approach in teaching of form is a democratic way of doing things, while here teaching is more hierarchical. The Chinese way of lecturing might fit very well for maths or physics, but isn't it hard to teach form in a standard lecture?

Yes, that is right.

Thank you for your time."

Comment: I showed Wang Ting Ackner-Kolers book (1994), which she found most interesting. She copied the whole book, and said she would get it translated so she could start using the exercises with her students.

In order to get a better understanding of the education, I attended several lectures that I was told would be typical and relevant for my project at XUAT. I had great benefits from my friendship with Zhen Bo, the main lecturer in Industrial Design at XUAT. Like many Chinese teachers in industrial design, Zhen has little experience as a professional designer, but was most helpful and enthusiastic.

Design process in the university

Ulrich and Eppinger (2003) describes detailed and well known product design processes to ensure every step from planning to production ramp-up.

Their processes have at least six main phases with up to ten sub-levels, and a mobile phone would need approximately one year to get through this traditional process. In China the design process for the same product would be three months (CBD Design Beijing).

If the design process is compromised, the visual design will most likely also be affected. A good design process will keep order and give enough attention to the right phases at the right time. Zhen Bo (12th October, in a design introduction for freshmen students at XUAT) describes the Chinese design process roughly in four steps.

- 1: Market opportunity*
- 2: Concept design*
- 3: Core design*
- 4: Product launch*

I suggested to her that the concept design phase would be the most important to an industrial designer, but she made quite clear to me that the third step was the most important and should be paid most attention. On this step, the materials are chosen, the mould is made; in short the product is made ready for launch. She confirmed that this design process is the prevailing work method for Chinese product designers. This was later confirmed in Beijing by CBD Design.

I also introduced Zhen to the different roles of a designer in Europe. She was a bit surprised when I told of independent designers that tried to sell their ideas to a company - this is quite unusual in China, and does not fit into a normal design process.

Observations on campus

I did not have the language skills to understand the lectures, so I could only observe how the students were taught. Surprisingly, most courses in industrial design are taught the same way as any other subject. Classes are 70 students and the teacher is behind his/her desk, teaching in a one-way communicative manner. As a curiosity: in all classes that I visited, the use of PowerPoint was extensive, and with almost no pictures in the presentations. The student involvement was minimal, and at the end of one of the lectures 14 out of approx 60 students were sleeping on their desks.

Chinese education is founded on Confucianism. The implications are that creativity does not have a strong position - to learn by heart and the ability to reproduce perfectly is widely preferred. The results are for instance that brainstorming tends to be silent, inwards and less creative than western industrial designers are used to. During the concept phase workshops here, the Chinese students are reluctant to let go of their respect for the professor. "Is this what they are asking for? Is this the right idea?" This might of course be a question that all design students ask themselves from time to time, but for the Chinese student it is pervasive, at the best leading to immature ideas. It does not mean that they do not have creative skills, but their education does not push to release this enormous potential.

Sketching and rendering as a design tool

An interesting observation was a thick, pocket-sized book with printed, hand-drawn renderings. A number of students carry this book around, flicking through it until they find something they like - and copy it. This might be a good way to see through the tricks of the masters and learn shadowing, which pen to use, and maybe some perspective training. But, importantly, this does not pursue the continuous discussion that the designer has with himself and other through drawing. As most western designers see it, the foremost point in drawing for design is to discuss the idea on the paper, to come up with new ones or to be able to throw away the thirty first bad ideas blocking the mind. When the idea development is finished, the renderings or CAD-models may be made in order to present a realistic product to the world outside. If a concept is bad, problems will be discovered earlier in the process, as more time is spent on discussing the validity of solutions in form and function.

Lecturer reactions to shape experiments

One day the teachers from HiAk and NTNU had joint lectures at a neighbour university, where professors and teachers from all universities in Xian with a design education attended. Especially the lecture by Peer-Bjørn Moen earned great interest among the audience. What he showed was results of physical, experimental form exercises done at HiAk.. He realised that the audience did not seem to have practical knowledge with this kind of form innovation, where abstract terms

could be discussed and applied in experimental ways for the sake of innovation in form. After the physical models were presented, all teachers flocked around the models. It did not seem like they were used to physical form exercises in product design.

On the other hand, much attention is paid to learn the students CAD and hand-renderings.

5. DISCUSSION

About Chinese culture

Confucianism, religion, language and face have much impact on two crucial aspects in the creation of form; discussion and creativity. As described earlier, the culture seemed to have tied down these two, in ways that has affected the maturing of a good form tradition in Chinese product design. In the light of the culture, it is possible to explain many things:

Lack of good and logical discussions around form

There are few open, democratic, public, logical and scientific discussions in China according to Becker (1986). This creates problems for the propulsion in art and design:

- The social hierarchy is in the way of revolutionary opinions. If somebody outrank you socially, their opinion on a design will usually mean more to you than your own. The most conservative opinion will therefore rule.
- Oversensitivity and the fear of losing face in discussions can make it hard to turn down or come up with very personal ideas, which are essential in creative form.
- The language does not arrange for very precise descriptions of abstract matters, and a form discussion will often be cumbersome or very short. According to CBD Design, a Chinese client usually says "I like it" or "I don't like it".
- The Confucian ideal about copying the well-known solutions seem to affect the avoidance for concept development, and makes designers focus on styling. This gives an unhealthy short design process and little meditation on form.
- In lectures, the hierarchic form shuts down student initiative, as observed in the lectures at XUAT. This probably makes it harder for the

design student to form his/her own opinion and style.

It can seem like China is doomed to a poor future in form creativity, but it does not have to be so. Japan shares much of the same values, and one can instantly recognise Japanese architecture, design and art. The first thing could be a more democratic approach to discussing form.

About XUAT

The observations of another university will inevitably be coloured by one's own education, and this discussion is no exception. There are still some points that I will point out:

The experimental form lecture by Peer Bjarne Moen raised many Chinese eyebrows, and the small exercises were "nearly torn apart by the teachers" (quoting Moen) afterwards. This unfamiliarity with 3-dimensional experimentation could be a sign that their students will not be able to recognise the sculptural possibilities of a new design. The Chinese way is practical, not philosophical (Ill. 1), and this seems to have influenced the education to focus on the parts that give immediate results, such as renderings and CAD.

I got a CD from Wang Ting with 600 images of student works in her class. Almost half of these are form exercises in CAD. Several problems may occur using this approach:

- Students need advanced CAD skills to make simple shapes. For complex shapes, it will take many hours just to see what it might look like.
- The images make the shape look tight and finished, which we are taught puts creativity on hold too early.
- The observer is tricked by lighting and smooth materials.
- The view angle in the viewport has much more to say on the direction of a curve than the actual coordinates of the curve. The human eye has a view angle of approx 55mm (on standard, analog cameras), while popular CAD renderings often have a 35mm view angle.
- There is a perception poverty in only using sight for creating form. The student will probably not develop a hands-on sensitivity for the object. In the end, the product will be

physical, and it is therefore a good thing to start that way too.

It did not seem that this was Wang Ting's first choice - the problem lies with the educational system, which does not consider teaching form much different from other disciplines and therefore does not provide the proper curriculum. Wang Ting seemed to embrace the literature that I brought her.

"Chinese students would knock out Western students in hand renderings and CAD," Zhouyi Yi at S.Point Design told us. "But they are much less creative." We saw impressive sketches at XUAT, but most of them were copies from the hand rendering book they carried around. Elements that we see in good design schools and companies in the West were in place at XUAT, but there seemed to be little continuity. The students learned market analysis, CAD and drawing, but the short and production-focused design process does not ensure good concepts or form solutions. According to Zhang Bo, the concept is not considered as important as the product's presumed ability to appeal to the market or the technical specifications of the product.

"Several teachers that we spoke with lamented that Chinese design education focuses on traditional styling and basic problem-solving skills rather than the bigger, problem-defining issues that they could be tackling." (core77.com, 2005)

The role of the industrial designer in China is quite a bit different from in Europe (Norwegian/Singapore lecturer Andre Liem, NTNU and Zhang Bo, XUAT). Larger companies such as Phillips contact the potential manufacturer of a product and provides him with the product specifications. From there, the manufacturer finds a designer for the product or gets drawing from his own, Chinese in-house designer. From a Chinese manufacturer's point of view, the designer is more a necessary evil than an authority. The profession does not earn much respect in the industry yet, but is taken seriously by the government. Hopefully, the misconception of the designer's natural role may change when the country gets a certain number of design houses that are able to communicate the design process with authority.

On the whole, the teachers we met were young teachers with little professional experience:

China's design schools also have an inherent culture of in-breeding, hiring design graduates to become design professors. This phenomenon is very typical, as "trust" is very much placed on established relationships, hindering the diversity of culture and backgrounds. (Core77.com, 2005)

Zhang Boa and Wang Ting were my age, and graduated the same year at XUAT. Many Western design schools benefit from having foreign teachers, pushing new ways of thinking across cultures.

6. CONCLUSION

The article has sought to bring forward the elements that affect the Chinese mindset. This has been used to explain the educational situation, the methods for creativity in form and the design processes.

The combination of a literature study and a case study has been helpful but also hard, as the reliability of the sources vary between unformal chats with designers and scientific publications. On the other hand, I have been observant on this matter, and discussed presumably bold assertions with more than one source.

Formgiving in China will probably get on its feet when the industry and the market develops. There are many similarities between contemporary designers in China and early designers in the Western industrial revolution. According to Heskett (1980), they were mostly occupied with styling, display design and commercials - activities that we observed most frequently in Chinese design. But, in order for this to happen, the government needs to see the design education as a forum for discussion and free thought. Creativity can not do without.

ACKNOWLEDGEMENTS

All Chinese and Norwegian students at the workshop in Xi'an were most helpful in assisting our work and helping us getting around.

Kjersti Kviset, Tore Gulden and Johannes Sigurjohnsson were the best of parents in China, thank you for inviting us on this trip.

Zhang Boa and Wang Ting at XUAT provided much of the essential material for my study of Chinese formgiving.

Thanks to Alex Booker and Elin Aussen Idsøen at NTNU for guiding me in finding the approach before setting out to China.

Andre Liem at NTNU has been most helpful through his business contacts in Asia. S.Point Design is a large, Shanghai-based design office with important, international connections.

Zhouyi Yi, the President of S.Point Design gave us valuable insight in the life at a cutting-edge Chinese design company.

Brian and all the other designers at CBD Design Beijing have been most helpful in making us realize what it is like to be a Scandinavian designer in China.

Last but not least, I would thank my fellow students Tov, Live, Tollef and Anne for sharing this experience.

REFERENCES

- Akner-Koler, Cheryl. (1994). *Three-Dimensional Visual Analysis*. Reprint, Stockholm, Sweden.
- Becker, Carl B. (1986). *Reasons for the lack of argument and debate in the far east*. Vol. 10, pp75-92, International Journal of Intercultural Relations
- Brøgger, Jan. (1993). *Kulturforståelse - en nøkkel til vår internasjonale samtid*. Millennium, N.W.Damm&Søn AS
- Confucius (D.C Lau, Trans). (1979) , *Analects*. Harmondsworth, England: Penguin Books.
- Heskett, John. (1980) *Industrial Design*. Thames&Hudson World of Art.
- Nakamura, H. (1964). *Ways of thinking of eastern peoples*. P. Weiner (Ed.). Honolulu: East-West Center Press.
- Ulrich, Karl T. and Eppinger, Steven D. (2003). *Product design and development*. McGrawHill

INTERNET

- Core77.com (2005) *We Got Sick of Hearing About Design & China, So we Got on a Plane and Went There*
http://www.core77.com/reactor/08.05_china.asp September 20 2005
- Core77.com (2005) *The Top 10 Myths & Truths about Design in China*
http://www.core77.com/reactor/08.04_china.asp September 20 2005
- HyperHistory (2005) *Confucius*
http://www.hyperhistory.com/online_n2/people_n2/persons1_n2/confucius.html September 20 2005
- Kaizor Innovation (2005)
<http://www.kaizor.com> September 20 2005

MEETINGS AND LECTURES

Lectures during the international design weeks in Xi'an, October 10 to 21, 2005:

Lecturers:

- Kjersti Kviseth, Professor at Akershus University College and NTNU
- Tore Gulden, Professor at Akershus University College
- Peer Bjarne Moen. Professor at Akershus University College
- Shei Leiming Professor at Xian University of Architecture & Technology
- Zhang Boa, Professor at Xian University of Architecture & Technology

Meetings:

Professor in Industrial Design at XUAT, Zhang Boa, interview, October 10 2005

Professor in form at XUAT, Wang Ting, interview, October 17 2005

CBD Beijing Design, Brian Lambæk Hansen and Thomas Thrane Carlsen, October 26 2005

S.Point Design Shanghai, President Zhouyi Yi, October 31 2005

Laerdal Medical Co Ltd Suzhou, Managing Director Thomas W. Scholtz