Abstract

Chinese manufactured products are operationally effective but have styling (materials and finishes) which is trend-following of the general world market rather than trend-leading. As such, the Chinese have carved out a space in the market place by emulating stylistic elements that are characteristic of established brands.

The aim of this research is to develop a design strategy that can effectively create products that are unique and innovative, and will differentiate products from the general market trends by stylistically imbuing them with elements of traditional and contemporary culture. In the case of this research project, Chinese culture.

Sony and Braun products were examined to better understand how these products are imbued with culture-based elements that are highly recognizable as originating from their respective countries. In particular, direct comparisons can be made between the early years of Sony and contemporary Chinese manufacturing companies such as Haier and Cacos.

Project One focused on developing a design strategy based upon aspects of Chinese culture such as music, dance and the proportions of musical instruments. In contrast, the approach in Project Two was derived from experiential, spiritual and emotional sources of Chinese culture. In progressing from Project One to Project Two, the approach has moved away from the direct application of “form” to a more individualistic interpretation.

The developed design strategy was tested through the design of a music electronic appliance called the Butterfly-E. The design strategy was validated when Sampo, a global manufacturer secured a copyright agreement of my design.
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CHAPTER 1: ARGUMENT FOR A NEW METHOD

1.1 What is a culture-based product? Can a product brand encapsulate the notion of a country?

Sony is a well-known product brand. How did it become so successful within a global market? Sony products have an aura of quality about their high-level function and attention to detail. Sony is also one of the leading exponents of product miniaturization; buttons, components and whole products are often very small and delicate.

Sony’s country of origin, Japan, is represented symbolically by the colors red and black. Colors, however, are not highly featured in Sony products. Products are usually represented in gray, silver and metallic tones. Instead, Sony represents a feeling of “Japan” through geometry, proportion and form.

Products currently retailing within the world market are represented by forms that are generally similar. For example product forms are standardized, with variations in shape and scale to suit the users. As a culture-based product, Sony is characterized by its diminutive size and highly effective applications.

The term “culture-based” is sometimes misunderstood. Culture-based products draw upon the symbols and features of their respective country. Such a definition will be reflected upon within this project. It is my hypothesis that Chinese products should be derived from unique technologies and be of a high quality. Chinese symbolism will enrich the design, while maintaining harmony with current world design trends.
1.2 Why review case-studies?

Project Two will involve the design of culture-based objects for China. China is not represented by any unique products that significantly represent China or the Chinese. In contrast are countries such as Japan, Germany, Italy and America; countries whose products have obvious representation of the values of the respective countries in an international market place. Sony is a well known Japanese brand that symbolizes Japan’s culture-based essence of high-technology, and high quality. Another successful design and manufacturing country is Germany, well represented by renowned brands such as Mercedes, Audi and Braun.

Design historians Charlotte and Peter Fiell use the following words to describe German design: “innovative, distinctive, desirable, functional, clear, honest, and aesthetic”. Consulting some successful examples from other countries as case studies helped me to understand how certain manufacturers capture the essence of a local culture in order to create global products, thereby aiding in the design of products that represent China. Such case studies will demonstrate the design of products encompassing unique product characteristics, a strong market strategy and use of high-technology.

1.3 The choice of case-studies (Sony and Braun)

Innovation and product design have been key distinctive elements for Sony since its beginnings in 1945. Sony started with fairly modest and utilitarian products and has evolved to today's exciting digital products. Sony’s creativity is demonstrated by the release of new technologies such as the miniature “Memory Stick” storage media and flat-screen monitors and televisions. These new products incorporate delicate design that is attractive to users. A close examination of Sony products reveals characteristics that reflect traditional Japanese culture-based values and modern Japanese experimental aesthetics derived from geometric forms. The Japanese culture-based lineage goes back to the Chinese and can be evidenced by some similarity in spoken words and written characters, art and architecture, the style of food and drink, and in dress. It is therefore arguable that the successful Japanese model can be applied to China, and that Sony can be studied to learn about what is appropriate for Chinese product design. I have chosen Braun because the company has a venerable history (from 1921 - 1941) and because, as a designer, I believe Braun is synonymous with what we might simply call “German products”. It is therefore an instructive model for my attempt to define a Chinese identity in product design.
1.4 Review of case-studies

The case studies involve reviewing the product's aesthetics (texture, color, form, proportion and attention to detail). Form analysis will focus on products’ exteriors, analyzing the popular trends and the company’s visual product characteristics.

Such characteristics will then be used to suggest a possible Chinese language of design styling. The case studies will be followed by an analysis of market trends. Through objective analysis, the research will provide a workable method for understanding the Chinese market, and highlight Chinese culture - based designs that will more likely succeed as culture - based design objects. This research into defining a Chinese culture - based product can arguably also be applied to other countries such as India, Singapore and Thailand. While these countries differ in their manufacturing technologies, they do not have modern mass - produced consumer products which are representative of their respective cultures.
1.5 How will the information gained influence the concept development?

A well-designed product should consider market conditions together with aesthetics and functionality. The analysis of the case studies will provide support for the design stages of this project. The case studies will involve companies whose products are world-leading, setting trends within the areas of style, function and technology. The analysis will also provide an insight into future product trends. The analysis will identify culture-based elements from the products and be used as a methodology for the project to develop particular Chinese culture-based elements for product design. The information gained through these case studies will have direct influence upon the conceptual stages of the design process utilized throughout this project.

1.6 Unpredictable elements (political, economic, social, technological) that affect product development

China’s economy is growing at a tremendous pace and consumption by the population is increasing accordingly. Chinese manufacturers are also increasing their uptake of technology. However, also participating in the economic growth of China, are many companies involved in the manufacture of products copied from other international models, then retailed at lower prices. The transition of a communist political system to a more consumer oriented and capitalist environment has created inefficiencies in the country. These are some of the challenges faced by a manufacturing company.

CHAPTER 2: ANALYSIS

2.1 Review of case-studies - Sony

2.1.1 History of Sony

Sony was established by the engineer Masaru Ibuka in 1945, when he opened an electrical repair shop in Tokyo. Called the Tokyo Tsushin Wenkyujo in 1950, the company added some products such as the Soni-tape, reel to reel tape recorder and the G-type. Later, the company created the H-type which was more practical for home use. In 1958, Sony changed its name to Sony Corporation to promote its products internationally.³

In the 1980s Sony predicted that it was the age of the PC; the 1990s would be the age of the Internet; and the 21st century would be the age of the robot. Sony claims it assists the interactive relationship between humans and machines.⁴

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2.1.2 Sony product analysis:

1. Color
   a. Cold colors
   b. Metallic finishes
   c. Impression of high technology

2. Physical characteristics
   a. Delicate
   b. Geometric shapes
   c. Soft and curved forms
   d. Rhythmic shapes
1. Color

In the Sony range of products, the colors are limited to a palette of cold colors, chiefly silver, often with metallic paint finishes. The finishes arguably give Sony's products an impression of sophistication and high technology.

All Sony products images consulted two websites:
The two websites are:
http://www.sony.net/SonyInfo/IR/financial/fr/
http://www.sony.com
Delicate, light, and slim. These are characteristics which seem to represent the aesthetics of Sony products. Buttons are delicate and the bodies of the products tend to be light and noticeably thinner in bulk than those of competitive products.
b. Geometric shapes

Sony’s products are most likely constructed using geometric forms such as the circle, rectangle, square, and triangle. The shape of the products can be separated into several geometric forms. Also, the relative points and lines are easily found. The product is also ergonomically shaped and so able to be used appropriately.
2. Physical characteristics

1. Color

2. Soft and curved forms
   a. Delicate
   b. Geometric shapes
   c. Soft and curved forms
   d. Rhythmic shapes

*Made in China: An Alternative Design Strategy*

It is visually apparent that the styling of Sony products is guided by geometric shapes and simple forms. These are softened by some arcs and curves and decorative lines.
China Style Design

Made in China: An Alternative Design Strategy

1. Color

2. Physical characteristics
   a. Delicate
   b. Geometric shapes
   c. Soft and curved forms
   d. Rhythmic shapes

- d. Rhythmic shapes
2. Physical characteristics

- d. Rhythmic shapes

Sony’s products exhibit a kind of rhythmic form which is comprised of different geometric sections. This is especially apparent in the product’s proportion where each part has its own harmony and balance. The entire product’s form can be analyzed in terms of harmonic tone and rhythmic line, similar to listening to music. One large “loud” form followed by a small “quiet” one. Sony’s product form is very similar to the traditional Japanese art of “dry landscape gardens”, both in spirit and the same graphic look of shape and spaces.
2.2 Result of the Sony product case-study

Japan has a rich design tradition. “Dry” landscape gardens and traditional clothing have inspired many Japanese designs. My analysis of the physical characteristics of Sony products shows Sony designers are indebted to this history. But Sony designers also look forward. Their designs are in line with new technologies and they lead global trends. Sony products are a good example where culture-based symbols are used to promote product design, combined with marketing strategies, in order to become a global company. This case-study can be used to inspire Chinese culture-based inspired product design.
2.3 Review of case study - Braun

2.3.1 History of Braun

* Braun* was founded in 1921 by the engineer Max Braun. Many dynamic design movements were occurring around this time including: the Deutscher Werkbund (DWB), 1907, the Bauhaus Weimar, 1919, the Bauhaus, Dessau, 1925 and the New Deutscher Werkbund (DWB), 1950. In this half-century, German design developed its distinct style and character. *Braun* was significantly influenced by these design movements and is often cited as being representative of the best of German design. It therefore makes a good case study.

*Braun* views its brand image as a key success factor. It is based upon three core values: design, innovation and quality. Extensive ongoing tests in its own laboratories guarantee that all products meet the high *Braun* standards of safety, performance and long service life.

With its distinctive design philosophy, the company has often led new fashions. *Braun* products consistently achieve outstanding ratings in quality tests conducted by independent consumer organizations.  

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7 Braun company website  [http://www.braun.com/global/company/history.htm](http://www.braun.com/global/company/history.htm)
2.3.2 Definitions of Braun products

Consistent design

Consistent design is a very important principle. *Braun* products impress users with good functionality and high quality. *Braun* products are evolving, but in contrast with other brands such as *Hitachi*, *Panasonic* and *LG*, who change their product style continually, *Braun’s* design is consistent. The *Braun* company subscribes to the theory “form follows function” for their product design. The result is a well functioning product which is simple, ergonomically correct and useful. And it can be argued, beautiful.

Modest design

*Braun* products are simple and modest in styling with no unnecessary curved lines or decorative shapes. This is because the *Braun* design principle focuses upon functionalism and pragmatism.
2.4 Sony and Braun

Sony and Braun are undoubtedly international leaders in the design and manufacture of household goods, and make good case-studies for emerging Chinese companies. Also, Sony and Braun are companies that many designers believe represent Japanese and German values, and they are leaders in advanced consumer products internationally.

Sony and Braun were found to have very different design styles. Braun could provide a good example of consistent quality for Chinese companies to emulate. But it is probably not an appropriate aesthetic to apply to a Chinese product. Sony, however, with its shared history and culture-based lineage, could offer some clues.

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2.5. Haier Company: an analysis

2.5.1 About the Haier Company

_Citation: Haier was incorporated in 1984. Over the past 17 years, Haier has witnessed an annual sales increase of around 78%. Haier now produces a wide range of household electrical appliances in 86 categories and 13,000 specifications._

_Citation: Haier products are exported to 160 countries. Haier’s international promotion framework encompasses competitive globalized trading, design, production, distribution and after-sales service networks. Haier now operates 18 design institutes, 10 industrial complexes (one in USA, one in Pakistan, five in Qingdao, one in Hefei, one in Dalian and one in Wuhan), 58,800 sales agents and 11,976 after-sales services throughout the world. Domestic Chinese market share of Haier refrigerators, freezers, air-conditioners and washing machines is as high as 30%._

_Citation: Haier products are marketed to 12 of 15 European and eight of 10 American top supermarket chains. With the development of a globalization strategy, Haier has established a multilateral cooperation with major unit companies. In early 2002, Haier concluded agreements for joint investment ventures with Sanyo of Japan and Sampo of Taiwan, respectively, for mutual development and benefits._

_Citation: On March 4, 2002, Haier unveiled its American headquarters in New York, indicating that Haier had moved into a new phase of globalization of product design, manufacture and sales, with a strong determination for long-term market development in the United States._

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9 http://www.haier.com/indexc1024.asp
10 http://www.haier.com/indexc1024.asp
11 http://www.haier.com/indexc1024.asp
2.5.2 Haier product analysis

1. Haier produces a broad range of electronic products such as kitchen products, household electronic products, home comfort, small appliances, and cell phones.
2.5.2 Haier product analysis

The forms of household electronic products are too "rigid" in their styling to appeal further to a global market. Nor do they contain enough Chinese culture-based symbolism to further grow within a domestic market.
2. Mobile phones are diverse in style and it is difficult to find culture-based characteristics or brand identities in them. Each one has its unique form and function. It could be argued Haier has simply copied the different styles of Sagem, Sanyo and Samsung. The Haier marketing strategy might focus on low prices, but this is not a sustainable business practice. Haier needs to embrace design as a way of adding value, just as German and Japanese brands did more than 50 years ago.
2.6 A brief of summary of Haier

My research aims set up to a strategic design philosophy for Haier. We discussed some inherent problems with their products and a strategy for the best way of reinvigorating Haier company.

In January 2002 Haier agreed to commission me to design a stereo system for them. This product, and the research which led to its development, is the focus of my doctorate.
2.7 Design issues with Haier products

1. Lack of similar features in their products which might act as a unifying aesthetic. For example, Sony products always have the Sony logo prominently displayed.

2. Haier products have no unifying overall “family” characteristics.

3. Haier products do not have Chinese culture-based characteristics.

4. Graphic design is not of a professional level for the world market.

5. A low price policy can leave an unfavorable impression.

6. There is no clear market orientation in terms of function or form.

7. There is no creative product design program to counter the Haier habit of copying competitors’ products.

8. The technical department is not conducting leading-edge research.

9. There is no global marketing policy. Instead they mostly focus on the domestic market.
2.8 Haier Company: A new strategy

1. Keep the same quality and continuity of features throughout product ranges.
2. Create unique product forms to represent a Haier image.
3. Develop a unique design language that is characteristically Chinese.
4. Set up a comprehensive design package that includes product design, graphic design, website design and product packaging design.
5. Raise the price policy; a higher price will attract new markets.
6. Create unique products.
7. Develop a good design group to maintain product design direction and quality.
8. Develop a good technical department that incorporates the latest technology.
9. Develop an international market and establish an international image.
CHAPTER 3: DESIGN RESEARCH

3.1 Perspectives for new design

1. Contemporary Chinese products

Today, modern products on the world market are characterized by high-technology, a high degree of functionality and human interaction. Some products express symbols that are unique to their particular country, yet they share some similarities that follow world trends. Analysis reveals that Haier products follow world trends only.

My design for a new product (a stereo system) incorporates Haier's existing technology. This includes Haier's new speaker technology, providing my product with world class performance.

2. Incorporating Chinese symbols

This new product uses symbols which are uniquely Chinese. For example, the design uses a gold color which is traditional among the Chinese, signifying wealth. Also, the control panel at the centre has elements of the flowing drapery of Chinese costumes. However, the design is still consistent with current world trends, making it suitable for Haier, and their aspiration for broader domestic and world markets.
3. Creating a new design, setting a new style

The product shape, with its references to dancing figures, is distinctive in the world market and will create a new positioning for the *Haier* product on the international scene.

4. Contemporary styling

The luxurious styling, abreast of world trends and imbued with Chinese symbolism, should make the product desirable.
3.2 Design application and discussion of pre-design culture-based elements

a. Establishment of a Design Culture Research Office

Following the earlier analysis of the characteristics of products produced by Sony, Braun and Haier, I now seek to utilize culture-based design to present an actual example of applying culture-based elements. In April 2002, in my job as Assistant Professor at Tatung University, Taipei, Professor Tsao Yong-Qing and I organized project researchers and helped to establish a Design Culture Research Office to undertake various experiments and research in the field of culture-based product design. This process is discussed in more detail below:

In April 2002, the Design Culture Research Office began to sponsor this research project. Use was made of workshops, team brainstorming and field surveys. This made it possible to discuss a number of actual design cases and thereby identify a series of rules and proposals to guide culture-based design work.
Design Culture Research Office

Motivation for establishment:

The Design Culture Research Office was established to help design better products which had a uniquely “Chinese” cultural identity. Professor Tsao Yong-Qing from the Industrial Design Department at Tatung University in Taiwan has a deep and long standing interest in Chinese culture, as a result of which he recognizes the importance of culture-based product design. With Professor Tsao’s support we designed a project, which was submitted to and approved by the National Science Council for funding. The Research Office was established on April 2002 and since that time has been engaged in culture-based design research and taken on several design projects from industry.

Location:

Room 402, Industrial Design Department, Tatung University, Taiwan   TEL: +886-25925252-3436-223

Organizer:

General Design Supervisor: Mr Fu-Yuan, Li (Research author and DDes candidate)
Research Office Organizer: Associate Professor Yong-Qing, Tsao
(Dean, Industrial Design Department, Tatung University, Taiwan)
Members:

The Research Office has a staff of 12. Two are professional product designers and 10 are Master's students from the Graduate School of Industrial Design at Tatung University.

Funding:

Sponsorship of A$ 120,000 was provided by the National Science Council.

Results:

The Design Culture Research Office activities between July 2002 - March 2005 include:

1. July 2002 – Cooperated with the National Palace Museum in Taiwan to conduct a survey asking museum visitors to select objects which embody Chinese culture.
2. December 2002 – Completed actual design cases involving Chinese culture-based elements.
3. February 2003 – Received a project from Ying-Song Co Ltd to design a culture-type clock.
4. May 2003 – Received a project from Yang Yan Co Ltd to design a handle for a craft knife.
5. April 2004 – Received a project from Dong Yuan Co Ltd to design a LED television screen.
6. March 2005 – Commissioned by the National Science Council to undertake the ELED design project.

(In all cases, copyright has been secured and the products will go into production.)

Once this thesis was completed in August 2004 and during the period it was sent for external appraisal, I returned to Taiwan to take up an Assistant Professor teaching post. I also made use of work from the Research Office when instructing students in the Master's Degree classes at Tatung University, introducing courses in culture-based product design and culture-based design aesthetics.
b. Selecting Chinese culture - based elements

Following the establishment of the Taiwan Innovation Center, of which I am the General Design Associate under the Ministry of Economic Affairs in 2002, a number of surveys were conducted into identifying Taiwanese culture - based elements, along with analysis of representative Taiwanese colors. The selection and recording of culture - based elements was conducted jointly with the Taiwan Culture Bureau. Staff at the Design Culture Research Office decided to conduct a survey of Chinese culture - based elements in conjunction with the National Palace Museum. In applying culture - based design, my research first had to deal with the problem of a multiplicity of Chinese culture - based elements and therefore how to select the most appropriate. I, along with the Museum Director Lin Chin-Yi and 24 members of the museum staff conducted a survey of Chinese culture - based artifacts at the museum and listed the 50 most representative. For more details on the 10 most popular Chinese culture - based elements and differences in male/female selections refer to tables below:

The survey

Over a three-month period, visitors to the National Palace Museum filled in a total of 760 questionnaires. From the 120 Chinese culture - based artifacts chosen by museum staff, 50 were identified as most representative. (For more details on the content of the questionnaire please refer to Appendix one)
Analysis of representative Chinese culture-based artifacts

We collected a total of 760 questionnaires, which were analyzed using Excel 4.0 software. The details of that analysis are presented below:

I. 50 representative Chinese culture-based artifacts

Table 1 shows the 50 most frequently selected Chinese culture-based artifacts by the public. They are ordered chronologically, not in order of popularity.

<table>
<thead>
<tr>
<th>Han Dynasty clothing</th>
<th>Han Dynasty buddhist culture - based arti-</th>
<th>Han Dynasty ku-chin (stringed instrument)</th>
<th>Han Dynasty obelisks</th>
<th>Western Han food container</th>
<th>Han Dynasty painting/calligraphy</th>
<th>Han Dynasty hair ornaments</th>
<th>Han Dynasty wood carvings</th>
<th>Han Dynasty printing</th>
<th>Warring states period sword</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warring states period Fan</td>
<td>Tang Dynasty white jade</td>
<td>Tang tricoloured pottery</td>
<td>Tang Dynasty porcelain tiles</td>
<td>Tang Dynasty sculpture</td>
<td>Tang Dynasty womens paintings</td>
<td>Tang Dynasty official sacrificial vessel</td>
<td>Ch’ing Dynasty terracotta warriors</td>
<td>Ch’ing Dynasty sword</td>
<td>Ch’ing Dynasty clothing</td>
</tr>
<tr>
<td>Ch’ing Dynasty bamboo painting</td>
<td>Ch’ing Dynasty shoes</td>
<td>Ch’ing Dynasty furniture</td>
<td>Ch’ing Dynasty gun</td>
<td>Ch’ing Dynasty opium pipe</td>
<td>Ch’ing Dynasty mirror</td>
<td>Chun-qi period writing</td>
<td>Mongolian yurt</td>
<td>Mongolian bow and arrow</td>
<td>Mongolian vehicles</td>
</tr>
<tr>
<td>Yuan Dynasty official hat</td>
<td>Yuan Dynasty chariot</td>
<td>Soong Dynasty literati painting</td>
<td>Soong Dynasty four study treasures</td>
<td>Soong Dynasty furniture</td>
<td>Soong Dynasty jade carving</td>
<td>Northern Soong period ferry boats</td>
<td>Ming Dynasty drum</td>
<td>Ming Dynasty writing brush</td>
<td>Ming Dynasty jade pendant</td>
</tr>
<tr>
<td>Eastern chou armour</td>
<td>Eastern chou knife</td>
<td>Eastern chou ancient coins</td>
<td>Chun-qi period sacrificial vessel</td>
<td>Chun-qi period coin carvings</td>
<td>Five-dai Dynasties clothing</td>
<td>Five-dai dynasties chariot</td>
<td>Early republican period furniture</td>
<td>Early republican period clothing</td>
<td>Early republican period utensils</td>
</tr>
</tbody>
</table>

Table 1: 50 Representative Chinese culture-based artifacts
II. 10 Most popular Chinese culture - based artifacts

Table 2 shows the top 10, in ranked order, of objects chosen as most representative of Chinese national identity. For example 85% of 760 people surveyed chose Ch’ing Dynasty bamboo painting in their top 50, so it becomes no. one in the survey.

<table>
<thead>
<tr>
<th>10 Most popular Chinese culture - based artifacts</th>
<th>percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ch’ing Dynasty bamboo painting</td>
<td>85%</td>
</tr>
<tr>
<td>2. Han Dynasty Buddhist culture - based artifacts</td>
<td>83%</td>
</tr>
<tr>
<td>3. Soong Dynasty four study treasures</td>
<td>83%</td>
</tr>
<tr>
<td>4. Chun-qiu period writing</td>
<td>82%</td>
</tr>
<tr>
<td>5. Ch’ing Dynasty clothing</td>
<td>80%</td>
</tr>
<tr>
<td>6. Tang Dynasty porcelain tiles</td>
<td>80%</td>
</tr>
<tr>
<td>7. Ch’ing Dynasty terracotta warriors</td>
<td>80%</td>
</tr>
<tr>
<td>8. Han Dynasty obelisks</td>
<td>80%</td>
</tr>
<tr>
<td>9. Ming Dynasty jade pendant</td>
<td>80%</td>
</tr>
<tr>
<td>10. Chun-qiu period coin carvings</td>
<td>78%</td>
</tr>
</tbody>
</table>

Table 2: 10 Most popular Chinese culture - based artifacts
Table 3 shows the top 50 elements selected by respondents as most representative from a total of 120 Chinese culture-based artifacts (all of these received scores of 60% and over).

<table>
<thead>
<tr>
<th>Code</th>
<th>Selecting 50 Chinese artifacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Han Dynasty clothing~76%</td>
</tr>
<tr>
<td>2.</td>
<td>Han Dynasty buddhist culture - based artifacts~83%</td>
</tr>
<tr>
<td>3.</td>
<td>Han Dynasty Ku Chin (stringed instrument)~73%</td>
</tr>
<tr>
<td>4.</td>
<td>Han Dynasty obelisks~80%</td>
</tr>
<tr>
<td>5.</td>
<td>Western Han food container~74%</td>
</tr>
<tr>
<td>6.</td>
<td>Han Dynasty painting/calligraphy~75%</td>
</tr>
<tr>
<td>7.</td>
<td>Han Dynasty hair ornaments~68%</td>
</tr>
<tr>
<td>8.</td>
<td>Han Dynasty wood carvings~65%</td>
</tr>
<tr>
<td>9.</td>
<td>Han Dynasty printing~60%</td>
</tr>
<tr>
<td>10.</td>
<td>Warring states period sword~70%</td>
</tr>
<tr>
<td>11.</td>
<td>Warring states Period Fan~62%</td>
</tr>
<tr>
<td>12.</td>
<td>Tang Dynasty white jade~78%</td>
</tr>
<tr>
<td>13.</td>
<td>Tang tricoloured pottery~65%</td>
</tr>
<tr>
<td>14.</td>
<td>Tang Dynasty porcelain tiles~80%</td>
</tr>
<tr>
<td>15.</td>
<td>Tang Dynasty sculpture~62%</td>
</tr>
<tr>
<td>16.</td>
<td>Tang Dynasty woman paintings~70%</td>
</tr>
<tr>
<td>17.</td>
<td>Tang Dynasty official sacrificial vessel~65%</td>
</tr>
<tr>
<td>18.</td>
<td>Ch’ing Dynasty terracotta warriors~80%</td>
</tr>
<tr>
<td>19.</td>
<td>Ch’ing Dynasty sword~70%</td>
</tr>
<tr>
<td>20.</td>
<td>Ch’ing Dynasty clothing~80%</td>
</tr>
<tr>
<td>21.</td>
<td>Ch’ing Dynasty bamboo painting~85%</td>
</tr>
<tr>
<td>22.</td>
<td>Ch’ing Dynasty shoes~61%</td>
</tr>
<tr>
<td>23.</td>
<td>Ch’ing Dynasty furniture~65%</td>
</tr>
<tr>
<td>24.</td>
<td>Ch’ing Dynasty gun~73%</td>
</tr>
<tr>
<td>25.</td>
<td>Ch’ing dynasty opium pipe~64%</td>
</tr>
<tr>
<td>26.</td>
<td>Chou Dynasty mirror~71%</td>
</tr>
<tr>
<td>27.</td>
<td>Chun-Qiu period writing~83%</td>
</tr>
<tr>
<td>28.</td>
<td>Mongolian yurt~74%</td>
</tr>
<tr>
<td>29.</td>
<td>Mongolian bow and arrow~60%</td>
</tr>
<tr>
<td>30.</td>
<td>Mongolian vehicles~74%</td>
</tr>
<tr>
<td>31.</td>
<td>Yuan Dynasty official hat~64%</td>
</tr>
<tr>
<td>32.</td>
<td>Yuan Dynasty chariot~73%</td>
</tr>
<tr>
<td>33.</td>
<td>Soong Dynasty literati painting~60%</td>
</tr>
<tr>
<td>34.</td>
<td>Soong Dynasty four study treasures~82%</td>
</tr>
<tr>
<td>35.</td>
<td>Soong Dynasty furniture~76%</td>
</tr>
<tr>
<td>36.</td>
<td>Soong Dynasty jade carving</td>
</tr>
<tr>
<td>37.</td>
<td>Northern Soong period ferry boats~70%</td>
</tr>
<tr>
<td>38.</td>
<td>Ming dynasty drum~76%</td>
</tr>
<tr>
<td>39.</td>
<td>Ming Dynasty writing brush~77%</td>
</tr>
<tr>
<td>40.</td>
<td>Ming Dynasty jade pendant~80%</td>
</tr>
<tr>
<td>41.</td>
<td>Eastern chou armor~76%</td>
</tr>
<tr>
<td>42.</td>
<td>Eastern chou knife~60%</td>
</tr>
<tr>
<td>43.</td>
<td>Eastern chou ancient coins~76%</td>
</tr>
<tr>
<td>44.</td>
<td>Chun-Qiu sacrificial vessel~77%</td>
</tr>
<tr>
<td>45.</td>
<td>Chun-Qiu Period coin carvings~78%</td>
</tr>
<tr>
<td>46.</td>
<td>Five-dai dynasties clothing~68%</td>
</tr>
<tr>
<td>47.</td>
<td>Five-dai dynasties chariot~69%</td>
</tr>
<tr>
<td>48.</td>
<td>Early republican period furniture~73%</td>
</tr>
<tr>
<td>49.</td>
<td>Early republican period clothing~64%</td>
</tr>
<tr>
<td>50.</td>
<td>Early Republican Period utensils~60%</td>
</tr>
</tbody>
</table>
Table 4: Gender differences in selecting Chinese culture-based artifacts
Table 5: Age differences in the selection of Chinese culture-based artifacts.
III. Gender differences in selecting Chinese culture-based artifacts

Table 4 shows gender differences in the 50 representative Chinese culture-based artifacts; female choices are expressed in red, male choices in blue. A comparison of these choices reveals that in terms of the top 50 selected artifacts, the proportion of men and woman making the same choice was very close. Only in a handful of cases were differences identified. For example, women appear to like ancient clothes more than men, whereas men were much more likely to choose ancient weapons and chariots. The research also showed only a very small difference in gender selections of the 10 most representative items. This suggests that the most popular culture-based artifacts selected were little influenced by gender.

IV. Age differences in selecting Chinese culture-based artifacts

This research made use of standard product consumer market age groups to establish four control groups; 20-30 (200 questionnaires), 31-40 (190 questionnaires), 41-50 (190 questionnaires) and 51+ (180 questionnaires), in order to determine the preferences of different age groups with regard to Chinese culture-based artifacts.

The analysis presented in Table 5 indicates a preference for different Chinese culture-based artifacts in the different age groups. For example, “Han Dynasty Buddhist culture-based artifacts”, “Han Dynasty obelisks”, “Ch’ing Dynasty terracotta warriors” and “Chun-qiu period coin carvings”, increase in popularity the older the respondent. “Tang Dynasty porcelain tiles”, “Ch’ing Dynasty clothing” and “Soong Dynasty four study treasures” are all popular, which indicates” their popularity does not vary according to age. This research also discovered that “Chun-qiu period writing” and “Ming Dynasty jade pendants” were more popular with the 20-30, 31-40 and 41-50 age groups than with the over-51 age group.
How I used the information

This survey of 760 people visiting the National Palace Museum allowed me to reduce the overwhelming number of Chinese artifacts and symbols from centuries of history which were available to inspire my culture-based design.

The survey has given me a group of 10 objects, from which to select symbols, colors, patterns, shapes, textures, and proportions, which are representative of aspects of Chinese culture, to integrate into my design.

For my major Professional Doctorate Design Project, I decided Ch’ing Dynasty clothing was a logical choice of object to work with. It attracted positive responses from both men and women within the 20 - 30 and 31 - 40 age groups, which I determined as the primary market for the stereo system. The flowing shapes also lent themselves to a stereo system. See my notes on the sketches explaining why other Chinese artifacts were rejected as inspiration on pages 67 - 77. Before embarking on my stereo system design, I first tested the culture-based design method in my design classes aided by 10 Master of Design students at Tatung University.
The Design Office first undertook pre-design research work, defining the central design motif as “a sound system” or a “portable computer system”. Designers in each group were Master of Design students under my direction. They were asked to base their work on Chinese culture-based elements, freely developing related concepts or providing different design ideas.

The students selected some of the most popular of the 50 culture-based elements to inspire their work. (Each group did all it could not to replicate the choices of the others). As the individual in charge, I brought the groups together to conduct regular joint discussions and share experiences. After three months and multiple design discussions, we successfully detailed the results of our culture-based design in four case studies.
Case study 1: Motif: Sound of Wind

Chosen elements: Ch’ing Dynasty bamboo paintings
Team members: Design supervisor: Fu-Yuan, Li

Design process:
In terms of the process of developing design concepts, this group of designers selected the bamboo paintings of Ch’ing Dynasty painter Chang Ta-chien as their design inspiration. The bamboo painted by Chang Ta-Chien fully conveys the nature of the strength and tranquility of bamboo. The reason for choosing bamboo was because this design strives to craft a “sound system” using the idea of wind blowing through a bamboo forest and the sound of the shaking bamboo.” In traditional Chinese history, explanations of bamboo indicate that it symbolizes the behavior of the gentleman in observing rites, and of the literati as a model of refinement.

Design inspiration:
Use of the symbolic meaning of the bamboo painting to create a “sound” system.
Proposed use of the way in which sound resonates within bamboo, for the stereo system’s wrap-around speakers.
This involves an attempt to develop new technology and sound quality.
Focus on the way that bamboo stands upright, to change the stereo system’s horizontal placement in pursuit of other possibilities.
Use of the sections of bamboo to highlight the product’s possible combinations and sense of extension.
A stereo system, based on the image of bamboo, symbolizes the stability and uprightness of the gentleman in traditional Chinese culture.
Sound of Wind
Sound of Wind

Design concept:

This product is divided into a main player and speakers. It is inspired by the succinct nature and symmetrical lines of bamboo, with particular focus on the concept of a hollow interior core, through R&D to develop new wrap around speakers. At the same time, pearl white rubber is used as an allusion to the refinement of a Chinese gentleman, just as the arrangement of the overall product components creates the image of a bamboo forest, so that one can almost hear the sound of the wind blowing through it.
3. Discuss product exterior differentials created by different proportions and the influence of sound.

4. Utilize the hollow central area associated with bamboo to craft the product's sound effects.

Idea sketch:

1. Locate the succinct lines of bamboo and use these as a basis for the exterior appearance of the product. Also explore the three dimensional space created between bamboo and consider the product functions and operational interface to which the style corresponds.

2. Explore comparisons of product texture and the natural material of bamboo.
Case study 2: Motif: Dust

**Chosen elements:** Han Dynasty Zen Buddhist culture - based artifacts and Soong Dynasty furniture

**Team members:**
- Design supervisor: Fu-Yuan, Li
- Team members: Designer Yan Yu. Master of Design student: Hui-Zhong, Chen

**Design process:**

Of the culture - based relics from the Han Dynasty, many of the most distinctive are Buddhist artifacts. This is particularly true of the reign of Han Wu-ti during whose rule Zen Buddhism became popular, making it fashionable to learn the Buddhist habits and culture. Zen spirit represents the emptiness of all things and the pursuit of spiritual tranquility and harmony. This research seeks to use Zen spirit as a way of infusing the product exterior with greater meaning. However, the question is how best to express that spirit in concrete form. After much discussion this research decided to use the legend of the Zen Master Dharma as a focal point for design. According to legend Dharma was not only especially learned in scripture, but also possessed magical powers. On one occasion he used a banana leaf as a boat to traverse a river. His purity of heart and calmness of mind made him able to achieve harmony and balance in all things.

**Design inspiration:**

Utilizations of product style as an allusion to the tranquility and emptiness of Zen. The image of a “banana leaf” and “boat” are used as metaphors for this spirit.

The product is a sound system and the sound is created as a result of close proximity to the skin, emphasizing the interactive relationship between people and product.

The overall structure of the product combines the characteristics of furniture, bass stereo and high frequency stabilizers and lights.

Use of the horizontal structure of Soong Dynasty furniture to create a product type.

In terms of operation, the product needs to be user friendly and provide technical assistance.

Discussion of how this product will impact on people’s behavior.
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Made in China: An Alternative Design Strategy

Fu-Yuan, LI

...
Dust

Idea sketch:

1. The whole product is a high quality stereo and also a chair. When used in different postures the user experiences different sound effects.

2. The interior structure of the chair is based on the same principles of harmonic resonance as a piano, designed as a high quality stereo system, with three top quality speakers hidden in the seat cushion.

3. At the same time, to emphasize the user’s enjoyment of music when meditating, if the product is placed at various angles or seating postures, different sound effects are created.

4. Touch-control lights change with the rhythm of the music
Case study 3: Motif: Gentleman’s Books

Chosen elements: Soong Dynasty four study treasures
Team members: Design supervisor: Fu-Yuan, Li
Team members: Designer: Mei-Hua, Lin. Master of Design student: Jun-Qiang, Huang

Design process:

During the Soong Dynasty the literati were at their peak; not only did educated men dominate politics, but importance was placed on the preservation of culture and historical books.\(^{14}\) Because the Soong Dynasty stressed the importance of the literati, particular importance was also placed on the utensils cultured men used to write with. This was the reason for the development of the culture of the famous “Four Study Treasures” (paper, brush, ink and ink stone).

This case study focused on the characteristics of the “Four Study Treasures,” transforming them into the individual components of a mobile electronic system. As expression the image of a scholar when writing, the design is intended to evoke the heritage of the Soong literati in the mind of the consumer.

Design inspiration:

The four culture-based artifact elements represent individual product functions, and encourage thoughtful consideration as to whether the function and the image element are suited.

Use of modern materials to replace the quantitative spirit of the element.

The overall crafted design style needs to accord with the mind set of the literati when writing calligraphy.

Gentleman’s Book
Mobile electronic system

Details:

1. The retractable keyboard and monitor can be used to achieve formal layering. When the keyboard is not being used a touch-screen light-pen can be used instead, operating functions by selecting individual points. When not using a tablet computer, the operational pen can be placed on the screen as a traditional form of decoration.

2. Chinese writing brush
   a. Microphone  
   b. Infrared camera  
   c. rubbered light pen

3. USB/Memory Stick & speaker linking ports

4. The two arched white ink stones as key motifs adjust the two directional curved style, so when using the keyboard it feels as though the user has placed his or her hands in a white mountain valley and is playing with the water in a white inkstone.
Product Functions:

1. Inkstone:
   a. Touchable LCD
   b. Touchable keyboard

2. bamboo slip (paper)
   - Titaniumed reel, static electricity & infrared rays are avoided

3. Chinese writing brush
   a. Microphone
   b. Infrared rays camera
   c. Rubbered light pen

4. Chinese ink stick, USB/Memory Stick
Made in China: An Alternative Design Strategy

Fu-Yuan, LI

Design concept

This design takes as its starting point the four treasures of ancient study: paper, brush, ink and ink stone. Images of these four traditional elements are incorporated into an information product through modern design methods. The gentleman’s book design alludes to the images of the various writing materials used by the literati in their daily lives. For example, bamboo slips (paper) symbolize the noble and unsullied moral quality of the literati. The brush and ink are analogous to the sincere, honest and circumspect language of a gentleman; the ink stone represents the purity of heart and magnanimity of a member of the literati’s home. When a modern person uses this product, it is like awakening in the user exquisite feelings of the past to greet the arrival of the information age.
Gentleman’s Book
Mobile electronic system
Examination of existing technology and technological possibilities over the next five years to support product design.

**Case study 4: Motif: Cirrus Clouds**

**Chosen elements:** Chun-qiu period writing

**Team members:**
- Design supervisor: Fu-Yuan, Li
- Team members: Designer Zhen Yang

**Design process**

Because printing technology had yet to be developed in the Chun-qiu period, writing and historical records were etched into pieces of wood or strips of bamboo and made up into scrolls, which created a highly distinctive writing culture. Because many historical disputes and changes occurred during this period there are a great many such historical book records. This design uses the importance of these recorded historical writings as an allusion to the continuity of sound.

**Design inspiration:**

The style of these rolled up writings alludes to the way in which music reverberates and echoes. The bold use of modern aluminum alloy serves to highlight the sense of modernity. The product’s operational interface is designed using micro-touch methods, which makes control easy and simple.

---

Cirrus clouds

Idea sketch:
1. Discussion of the uniformity and degree of flow created by combining three different arcs.
2. The rolled bamboo slip shape of the product style creates a special sense of rhythm.

1. Design inspiration:
1. The aspect style of these rolled up writings alludes to the way in which music reverberates and echoes.
2. The bold use of modern aluminum alloy serves to highlight the sense of modernity.
3. The product’s operational interface is designed using micro-touch methods, which makes control easy and simple.

3. At the tail-end of the arc the design includes a control panel.
d. Discussion of culture-based design case-studies 1-4

Case study 1: Motif: Sound of Wind

Analysis of design results and proposed improvements

1. Using images of bamboo to design this sound system proved to be an extremely successful case. This design explored the sound in terms of the product’s application. The image of the sound of bamboo is a beautiful experience that most people can imagine. We can see that the thinking behind this design takes instinctive connections as a design consideration. This method is highly suitable and makes it very difficult for users to misunderstand.

2. Moreover, instinctive element connections relate to the inevitability of properties. This has long since been a subject of much dispute in modern design methodology (post-modern products have consistently looked for ways to break away from this inevitability in an attempt to make products surprising and different from the mainstream. Perhaps the best example is the work of Memphis who delight in shocking the viewer.\(^\text{16}\))

\(^{16}\) See Fig. 4 in Project Three
Case study 2: Motif: Dust

Analysis of design results and proposed improvements

1. On the whole the Dust design remains incomplete, but what should be mentioned is that the hardest thing about culture-based design is spiritual transformation. The challenge is how to use abstract shapes to create perceptual situations, so that users feel the depth of meaning of the original elements. This approach to design means that designers need a lot of time to cultivate a deep understanding of the elements if they are to produce concrete results.

2. At the same time, in order to achieve the interaction of man and machine, this design takes furniture (a horizontally extended image of Soong Dynasty furniture) and combines it with the function of a stereo system. Although the whole product is a little on the large side, it is clear that controlling the proportions in culture-based design work is extremely important. As soon as the proportions change, this influences the spiritual feeling the elements give the user and their existential value.

3. In addition, the design of Dust utilized boats, water drip patterns and large arcs as allusions to the spirit of tranquility inherent in Zen. This design approach coincidentally combines with the extended image of furniture, so the feeling created ensures people experience harmony and comfort. Clearly, it is possible to use design methods to extend the concept into other design areas, which makes it even more likely that expected demands will be realized.
Case study 3: Motif: Gentleman’s Books

Analysis of design results and proposed improvements

1. In terms of design methods, the Gentleman’s Books product draws upon the scenario of four scholars in a study, creating something extremely refined. However, in terms of functional design more consideration of technical resolution was necessary.

2. The culture-based design application of the Gentleman’s Books abstraction successfully alludes to literati writing calligraphy, making it the best possible model of culture-based design.
Case study 4: Motif: Cirrus Clouds

Analysis of design results and proposed improvements:

1. The application of the culture-based elements to the design was far from ideal, because during the Chun-qi period, writing emphasized the fact that the wooden or bamboo strips were connected by thin rope. This research transformed this into curves, which was just the condition of its type and did not discuss the symbolic meaning of the elements in more depth. We can see that the method by which designers attempt to interpret the meaning of elements is extremely important. It is best to have a culture-based understanding rather than meaningless copying.

2. Although the use of aluminum alloy highlights a sense of modernity, it also sacrifices the spirit of the original elements. If people were informed that the design concept behind this product came from writings in the Chun-qi period, they would take some persuading, because the modern design approach is too strong and clear.
3.3 Summary

In all of the four case-studies there was much trial and error and discussion between the 10 Master of Design students and myself. The joint results of this design team will also provide a model for future culture-based design work for the Tatung Design Culture Research Office. Moreover, on the basis of the four design case-studies undertaken, this research identified a number of rules and methods to be adhered to when engaging in culture-based design:

1. Culture-based design methods tend to focus on the connectedness of culture-based elements and product properties. In this way, it is easier to retain the original spirit of culture-based elements.

2. Designers need a long time to nurture a full and proper understanding of elements to make it less likely to fall into purely formalistic copying.

3. Culture-based design focuses on the proper combination of original culture-based elements and product proportions. If elements are magnified when used with a product this impacts on the user's original understanding of the element.

4. When designing culture-based elements, other similar culture-based conditions can also be enhanced to assist the effect. This approach enriches product design demands.

5. Culture-based product design requires not only a suitable scenario for transformation, but also attention to considerations of actual functions. It is necessary to avoid overly modern design methods, so as not to lose the significance of culture-based design.

The design principles and experience derived from the above culture-based design process, will be used as part of this research project's ongoing cooperation with Haier company on the design of a stereo system, the focus of my Doctorate. They also offer in depth culture-based analysis and a detailed design process.
CHAPTER 4: DESIGN - my Professional Doctorate Design Project

4.1 Concept development

Now I have successfully experimented with four case studies with my students, I need to explain the development of the stereo system I designed.

As a result of the Design Culture Research Office’s preparatory experiments, my research was better placed to identify a number of rules and approaches suited to culture-based design work. I chose “Ch’ing Dynasty clothing”, “Han Dynasty obelisks”, “Ch’ing Dynasty bamboo drawings”, “Ming Dynasty drums” and “Tang Dynasty porcelain tiles” to inspire my stereo system design. (See pages 60-65 for culture-based design development work and 66-76 for discarded design paths.)

Related issues were discussed with Haier company and after much communication and experimenting with idea sketches it was decided to take “Ch’ing Dynasty clothing” as the central design focus. In order to cultivate a deeper knowledge and understanding of Ch’ing Dynasty elements, this research also involved much research into the details of Ch’ing Dynasty clothing, developing a strong foundation on which to complete our cooperative project.
CHAPTER 4: DESIGN

Culture - based design concept development

The first sketch uses the image of a Chinese musical instrument to create an aesthetic for the music system. The concept is derived from adapting the organic form of the instrument to a more structured geometric form. The styling of the speakers is inspired by Chinese scenery such as the mountain and the waterfall.

The development of product appearance.

Symbol 1

Han Dynasty Ku Chin (stringed instrument)
This design is inspired by a Chinese landmark.
Combining a traditional Chinese buddha statue and the image of bamboo into a form study, to be utilized as surround sound speakers.
This concept was inspired by the spirit of Chinese drums and Chinese symbols.

Ming Dynasty drums

Symbol 4
Applying earthenware to the product’s control panel will be a great challenge.
The product form is inspired by Chinese traditional costumes. The form was finally used in the centre panel of the stereo system.
Idea sketch 1

Not unique derivative of competitive product

Too abstract
Does not easily provoke Chinese culture
Too far removed from Chinese style
The design idea is too rigid.

Lack obvious culture-based identity.

Idea sketch 2
Idea sketch 3

Not consistent with competitive product
may be too much of a jump (too advanced)

Exploitation of natural forms, bamboo, vegetation; proportion is inappropriate for electronic components

too easily accessible and does not denote luxury
Not consistent with competitive product
may be too much of a jump (too advanced)

Inspired by Chinese brush lettering.
But not suitable for kids, because
sharp and dangerous for user.

Idea sketch 4
Symbol: sword

culturally not like to target market of product use.

Difficult to manufacture (expensive)

Based upon Chinese shoe. Too utilitarian.
Idea sketch 6

Building Bricks, could be appropriate system / modular units

Vase: Wrong proportions, little connections to music
Idea sketch 7

- Too similar to phone, not pure shape.
- Would work well for youth market, cliche rejected idea.
- Does not fit with target market.
Made in China: An Alternative Design Strategy

Idea sketch 8

Lacks Chinese culture-based musical image.

Not really representative of Chinese culture.
Idea sketch 9

Does not translate well

Temple lacks ability to modular capabilities
Idea sketch 10

Lacks dynamism and logic.

Would work well.
China Style Design

Made in China: An Alternative Design Strategy

Idea sketch 11

Possibly, but lacks excitement and luxury.
CHAPTER 4: DESIGN

4.2 An analysis of Chinese culture-based elements: design concept for stereo system

Selecting Ch’ing Dynasty clothing was an appropriate choice. As a central element of culture-based design to represent the characteristics and historic significance of “China”, it would be understood by Chinese consumers. This chapter will discuss in detail the historical value and effect of Ch’ing clothing as a way of expanding the development of the design application.

Chinese traditional clothing in all dynasties was mainly based on traditional Han styles and innovated through continuous assimilation and merging together with characteristics derived from other races. Making a comprehensive comparison of the of Chinese clothing in different dynasties, this study found those in the Ch’ing Dynasty to be the most special and representative of Chinese identity.
4.3 Research background and motive

The development of Chinese clothing shows that aesthetic changes were caused by cultural and philosophical changes. These inherited ideas are separately displayed in the shapes, colors and monograms of different clothes. This study tries to apply the concept of Chinese clothing to the design of modern information products to realize culture-based product design in another way.

4.3.1 Research goals and methods

Although the development of Chinese clothing has been full of distinguishing features in past dynasties, most variations appeared in the Ch’ing Dynasty and this period has therefore had the greatest influence on modern clothing. This study attempts to discuss a taxonomy of clothing, to understand why Ch’ing furnishings changed and what their defining characteristics are (including Ch’ing clothing, decorations, shoes.)
4.4 Discussion of Ch’ing furnishings

4.4.1 How did Ch’ing furnishings develop?

In the early Ch’ing Dynasty, clothing reforms were introduced to put pressure on the indigenous population and promote national consciousness. The reformation was based on Han traditional clothing. As a result, the Ch’ing Dynasty successfully inherited Ming Dynasty achievements in the field of technology used to make costumes and accessories.\(^\text{17}\)

In the late Ch’ing Dynasty, under pressure from the Americans and English, the Ch’ing Court adopted a policy “based on Chinese culture and applied with Western knowledge”.\(^\text{18}\) As a result elements of Western culture directly drove the reformation of Chinese clothing.


4.4.2 Defining characteristics of Ch’ing clothing

The shapes of Ch’ing clothing were some of the most complicated and over - elaborate in Chinese history, combining the characteristics of Han clothes with their own distinctive national features, customs and ceremonies. The Ch’ing Dynasty kept the most representative monograms of the “Twelve Patterns” as emblems of rank identification for officials and generals.

I. Male costume

Ch’ing clothing included ceremonial dresses, Chao costumes (see fig. 1), emperors’ robes, officials’ robes, gowns, mandarin jackets and bodysuits (fig. 2). Ceremonial dresses, Chao costumes and emperors’ robes are the emperors’ formal attire.19

II. Female costume

The highest level in Ch’ing female costume is dynasty clothes for noble ladies (the queen, the empress dowager, the wives of Manchu officials, the wives of lords and princes). Women often wore outer garments (fig. 3), vests, padded jackets, blouses, skirts and trousers.

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19 Due to the different emphasis and classification of Ch’ing furnishings by advanced scholars, this study consulted three books about the research of Ch’ing furnishings to meet the purpose of costume styles and patterns.

The three books are:
III. Ch’ing decoration and accessories

Ch’ing decoration and accessories included court necklaces, gold earrings, colorful handkerchiefs, scarves, hair clasps, hairpins, dangling ornaments, bracelets, and fingerstalls. In the Ch’ing Dynasty, males wore shoes while they were in leisure dress but boots in public, and females bound their feet. Han females mainly wore upturned shoes. Manchu females didn’t bind their feet and most of them wore embroidered shoes with a wooden base, which were called “high-base shoes”, (fig. 4).
4.5 Analysis of Ch’ing clothing

In real life, “costumes” are concrete and visible forms consisting of many elements. In considering costumes, we can refer to visible “appearance” and invisible “concealment”. Below I identify and analyze the visible “appearance”, invisible “concealment” and blending of “appearance” and “concealment” in more detail.

I. “Concealment” performance

China is a multiracial nation with different national costumes, and this is reflected in different aesthetic viewpoints. The “concealment” of Chinese costumes shows all-embracing characteristics in design. The costume of both Han people and minority groups possessed distinguished individual features. The monograms they used mainly represented their own spiritual symbols. These clothes were not only bright and colorful, but were also infused with a sense of indigenous morality. The clothes were sorted into two types of shirts with skirts and dresses. Bright color has been a feature of Han costume for a long time. Since the Jhou Dynasty, clothing monograms have always been based on the “Twelve Patterns”, which performed the element of “concealment”. The pattern embroidered on clothes implied the virtue of the dresser and thereby encouraged the individual to watch his or her own behavior.20

II. “Appearance” performance

Visible forms used in Chinese clothing create performed “appearance”. The main constituent elements are woven materials, weaving tools, colors, monograms, costume styles and decorations. Monograms especially reflected spiritual sym-

bols, moral standards and artistic performance.

4.6 Taxonomy and analysis of Ch’ing monograms

Ch’ing monograms were frequently displayed on clothes and indicated rank, customs and living environment. Relative to clothing customs of different dynasties, monograms were much more abundant in the Ch’ing Dynasty. This study classifies and analyzes the monograms of Ch’ing clothing into seven types:

I. Mythical beast patterns

These take the form of creatures like dragons and phoenixes. Dragon patterns were used particularly for the emperor, so were majestically embroidered. Except for the “twelve patterns” of the emperor’s crown and costumes, the most common one was the “upright dragon” (the right side of the dragon) (fig. 5). Other monograms included the “nine-dragon pattern” and “grouped dragons pattern”. Common people used phoenix patterns as the symbol of an auspicious bird. (fig. 6)
II. Animal patterns:

These were used on officials’ clothes as a differentiation of rank. During the Ch’ing Dynasty there were five distinct classifications of officials’ clothes and twelve traditional animal patterns were still used on gowns to differentiate official rank (fig. 7), shown as Table 6:

<table>
<thead>
<tr>
<th>Rank</th>
<th>Monogram</th>
<th>Images</th>
</tr>
</thead>
<tbody>
<tr>
<td>Officials – Class 1</td>
<td>Crane</td>
<td><img src="image1.png" alt="Image" /></td>
</tr>
<tr>
<td>Officials – Class 2</td>
<td>Golden pheasant</td>
<td><img src="image2.png" alt="Image" /></td>
</tr>
<tr>
<td>Officials – Class 3</td>
<td>Peacock</td>
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<tr>
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<td>Wild Goose</td>
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<tr>
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<tr>
<td>Officials – Class 6</td>
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<tr>
<td>Officials – Class 7</td>
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<tr>
<td>Officials – Class 8</td>
<td>Quail</td>
<td><img src="image8.png" alt="Image" /></td>
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<tr>
<td>Officials – Class 9</td>
<td>Taiwan Blue Magpie</td>
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<th>Rank</th>
<th>Monogram</th>
<th>Images</th>
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<td>Generals – Class 8</td>
<td>Rhinoceros</td>
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<tr>
<td>Generals – Class 9</td>
<td>Seahorse</td>
<td><img src="image18.png" alt="Image" /></td>
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Table 6 Animal patterns on gowns showing differentiation of rank
“Bathing fish pattern” as well as flower and bird patterns (fig. 8) were also popular in folk clothes. Butterfly patterns (fig. 9), grouped cranes patterns, plum and crane patterns, lotus, and mandarin duck patterns, were also very popular due to their value as auspicious symbols.

III. Nature patterns:
The most common are cloud, tide and morning sun patterns. The most familiar ones are good-luck clouds (fig. 10) and deformed clouds (fig. 11).

IV. Plant patterns:
Lotuses, water lilies, dahlias, peonies (fig. 12), and the “four Gentlemen” – plum blossoms, orchids, bamboo and chrysanthemums (fig. 13).

V. Geometric patterns:
Grid patterns (fig. 14), circle patterns (fig. 15), inclined grid pattern, diamond pattern, feather pattern and wave pattern

VI. Symbol and character patterns:
"Fortune", “Prosperity”, “Longevity”, “Happiness” and “Royalty” patterns were seen not only on various formal dresses, but also on numerous fabrics.

VII. Others:
Some popular monograms symbolizing good fortune were “eight Buddhist emblems” (fig. 16), and “eight treasures” (fig. 17); In addition, the “twelve patterns” (fig. 18) were also used individually on furnishings due to their status as good-luck symbols.
<table>
<thead>
<tr>
<th>Fig.</th>
<th>Pattern Description</th>
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</thead>
<tbody>
<tr>
<td>8</td>
<td>Flower and bird patterns</td>
</tr>
<tr>
<td>9</td>
<td>Butterfly pattern</td>
</tr>
<tr>
<td>10</td>
<td>Good-luck clouds</td>
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<tr>
<td>11</td>
<td>Deformed clouds</td>
</tr>
<tr>
<td>12</td>
<td>Peony pattern</td>
</tr>
<tr>
<td>13</td>
<td>Plum blossoms, orchids, bamboo and chrysanthemums</td>
</tr>
<tr>
<td>14</td>
<td>Grid pattern</td>
</tr>
<tr>
<td>15</td>
<td>Circle pattern</td>
</tr>
</tbody>
</table>
China Style Design

Made in China: An Alternative Design Strategy

Fig. 6 “Eight buddhist emblems”

Fig. 7 “Eight treasures”

Fig. 8 “Twelve patterns”

Fig. 16 “Eight buddhist emblems”

Fig. 17 “Eight treasures”

Fig. 18 “Twelve patterns”
In the taxonomy and analysis of monograms, this study identified the meaning and culture of individual symbols on Ch’ing clothing. Among them, animal patterns appear as metaphors for rank in the Ch’ing Dynasty and most monograms represent good luck. The patterns are related to animal shapes, traditional Chinese morality and customs. In China, animals have long since been marks of different ranks (for example, unicorns and dragons meant honour and wealth. Birds have also been divided into high-class and low-class according to their living environment and habitual behavior. The Ch’ing Court used animals to designate the different classes of their officials and generals). The Chinese concept of reunion and assembly are images alluding to the pursuit of good luck and safety, the spirit of which is hidden in Ch’ing Dynasty totems.

All of this understanding of Ch’ing clothing will enrich the design of my hi-fi stereo system.
4.7 Product design and application of Ch’ing elements:

After many months studying Ch’ing clothing, I designed a stereo-system, *Butterfly-E*, derived from the concept of “gowns”. As shown in the idea sketches in fig. 21, Ch’ing “gowns” suggest the potential image of the gentleman, with elegant and slender images, and long-sleeves implying the wearer’s profound cultivation and values. While swinging the hand, the slight raising of the sleeve expresses the behavior of the literati and the gentleman.

The images of “gowns”, corresponds to the design of the stereo-system, *Butterfly-E*, reflecting the fact that the user operates the system in a leisurely environment. The images of the length of the gowns and the arc line of the lower hem are applied to the stereo-system creating the visual extension of the product. As a designer, I emphasized points to my client:

I. The monitor in the middle of the product is transformed from the collar of the gowns, represented as exquisite and elegant.

II. The operating interface is transformed from the “dress” image of a gown into the control panel and buffer.

III. The image of long-sleeves is transformed into the large-area cambered acoustic box to echo the generosity and character of a gentleman.

IV. Simple modeling is used to conceal the function and thereby match the complete image of a traditional gowns.

VI. Ch’ing patterns are applied on the surface of the speakers to reflect the symbols of Ch’ing gowns.

(see fig. 20, Ch’ing grids and circle patterns are examples to be used)
Fig. 19 The application of grid and circle patterns on the stereo system speaker covers.
4.8 Product design in detailed application

The product designer goes through many stages conceiving the product, discussing issues with clients and marketing professionals before the object appears in the retail store.

The development of my hi-fi is represented in drawings, stories and, finally, retail publicity posters.
1. Exploring the prototype

In general design methodology, once a product’s functions have been determined, product style can then be formed on the basis of existing product models and norms. In contrast, this design project makes use of Ch’ing Dynasty “gowns” (official embroidered clothing) as the foundation of product type, as a way of ensuring that changes in type are not restricted by predetermined elements. As a result, this design depicts the basic prototype of a stereo system, that depiction being based on pure form or abstract form, combined with applied elements of Ch’ing Dynasty “gowns” for the overall planning of style. In Fig. 20 the progression of pure form indicates that the symmetrical nature of the speaker’s left and right side means that the style is developed left to right, utilizing elements of the “gown” collar and wide sleeve in the design of a flat-bottomed base for an upright and stable speaker style.

Fig. 20  The prototype
2. Ch’ing clothing applications

The image of traditional Chinese “gowns” suggests of the adult gentleman, its long wide sleeves alluding to the scholastic cultivation and lofty sentiments of the wearer. Thus, this design produces a style made up of curved vertical lines, ensuring that visually the product has a sense of expansiveness and fullness (see Fig. 21).
3. Determining and planning product functions and style

As Fig. 22 indicates, this design attempts to utilize curves and styles suitable for the product from a number of different perspectives that meet product structure and functions (speakers, CD player and working panels).
4. Considerations of product side angle and interface

The side view of the hi-fi echoes the Ch’ing Dynasty gowns’ flowing sleeves.
4.9 The Chinese story

One of my major inspirations has been the Chinese story of Liang Shan-Po and Chu Ying-Tai. In this traditional love epic, the lovers meet a tragic ending but are reincarnated as butterflies that live together forever.

The message of this fairy tale is familiar to all Chinese - seeking true love that never dies. This spirit flows in the overall organic and rhythmic shape of this stereo system. It is therefore titled the "Butterfly-E".

In the design process, all design methods are organized to support the new design. These include reviewing Sony company products to set up some design terms and finding the most suitable method to be used. The design combines new concepts to complete the appearance of the design and approximate design. Market trends have also been considered, with confidential consumer analysis provided by Sampo's marketing department.
China Style Design

Made in China: An Alternative Design Strategy

Idea Sketch
The Butterfly-E
CHAPTER 5: CONCLUSION

I have sought to build a product that has global appeal by incorporating distinctive Chinese culture-based characteristics. Through communication with Haier product users, the majority of respondents said if they could afford to, they would prefer to use higher quality and better performing products from companies such as Sony, Braun, Philips, Panasonic and Sharp. Haier already has a large market share in China and could positively change their market positioning, if Haier could promote their products as being well designed and well manufactured. It also offers Haier an opportunity to tune their marketing strategy towards global markets, to become an international company, and a brand that truly represents Chinese culture, in similar ways that Sony and Braun were found to represent their cultures. New product development for Haier, utilizing Chinese symbols, will provide a focus for the Chinese market; however, styling is also consistent with global trends and consumer expectations of quality and access to the latest technology. For this reason, I welcomed the opportunity to incorporate within my final concept Haier’s latest technology: an advanced speaker system.
This project aims to develop a product design strategy that provides a Chinese manufacturing company with innovative products for both the local and the global market. Whilst I focused upon designing a music system for the Haier company, it has not been an easy task to convince them of the merits of the new design strategy. While they supported my research, they decided not to secure the copyright to my design. So I approached other companies. A copyright agreement was signed with Sampo and the stereo system is on sale in retail stores in Taiwan.

Sampo will soon bring the product to a world market. In the beginning, I set out to assist a Chinese manufacturer by providing them with an opportunity to more effectively enter the global market place. Whilst I can’t predict the exact extent of success in terms of increased global markets, I can suggest that the project has been successful because a Chinese company purchased the copyright. They clearly believe it will sell to Chinese people and other nationalities too.
Culture-based design considerations and explanations for a hi-fi stereo system: Butterfly-E

5.1 In-depth discussion of product design concepts

In the design of the stereo system, my research took Ch’ing Dynasty clothing as an inspiration. As already mentioned, one of the defining characteristics of such clothing, was the uprightness of the words, deeds and bearing of whoever wore them, symbolizing dignity and steadfastness. Clearly the attempt by this design research to apply Ch’ing Dynasty clothing types to product design is a very bold experiment. Looked at simply from the style of the stereo system (Butterfly-E), when placed in a living room or study, its unique lines give people a sense of stability, because the broad spaciousness and sleeves of Ch’ing Dynasty clothing are highly refined and stable. (For a better sense of the points made here, please refer to the product model photographs, posters and idea sketches in this section).
When the stereo system *Butterfly-E* is used, the first thing the user notices is the product's similarity to Ch'ing Dynasty clothing. This design simultaneously draws upon the styling of traditional Chinese drums for its speakers.

At the same time as reviewing how current modern design sometimes stresses the refined beauty of product lines or comfort of use and functionality, the culture-based design discussed at length in this research provides a distinctive approach to design, which can be used as a reference point for future design research.
5.2 Developmental nature and limits of the concept

In order to clarify whether the Chinese culture-based elements (Ch’ing Dynasty clothing) can be applied to automobile design, this project considered the question of whether Ch’ing Dynasty clothing could be applied to the design of cars, domestic items such as brooms, or other objects?

The answer was negative, because the special nature of Ch’ing clothing symbolizes stability and dignity and a broom would be inappropriate for such symbolism.
5.3 Comparison of the advantages of culture-based design over other design methods

This research has presented a number of examples to highlight the fact that many developed countries have passed through the Industrial Revolution, various design reform movements and the development of successful design enterprises. This process has in turn given rise to design models and foundations that have ensured culture-based characteristics and meanings in different countries have become an integral part of their design cultures.

A view of China and Taiwan, and other countries in Asia, where design development has yet to mature, shows the lack of such crucial design elements. Instead, there is a prevailing tendency to blindly pursue or copy design methods from other countries, in the process losing one’s own potential for unique style and distinctiveness. This research seeks to provide a way of uncovering elements from my own culture that can be transformed into conditions suitable for product design. However, it must also be consistently emphasized that the application of culture-based elements must be combined with modern design considerations, such as ergonomics, so the products will also function well.

Project Three will further develop culture-based design ideas with a new industry partner — this time one from Taiwan my country.
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Visit to the academicians of Institute of Chinese Studies to discuss the animal elements and lucky meanings of patterns in Ching Dynasty. (October, 2004)
Final Product Posters
It is a Chinese dream – a Lian tragic love epic where the lovers meet a tragic ending but reincarnated as butterflies that live together forever. The essence of this fairy tale is familiar with the Chinese culture seeking true love that never dies. This essence flows in this stereo system, the "Butterfly-E".
Design concept

The design pursues a pure curve line – not one right angle in the product. It leads a new trend – bringing out emotions not felt before and interacting with the product in ways never before. Not cold, this product is sensitive and warm. It is a new product trend—.

Portable and robust – the Butterfly-E can be used in any environment, at any time – from the home to the work place. Enjoy the sounds while letting the latest in technology deliver it to you via CD and radio with the simplest of plug-and-play functionality. Invisible is the part of the system for the compact design hides an exceptional powerful and high-fidelity speakers, capable of producing dynamic sounds even beyond that of the modest cabinet counterparts.
The LCD display informs you of the track playing.

At the touch of a button, the CD holder opens to receive your disc.

Control different functionality with a button.

Inside is a set of six digital speakers for surround sound set-up. It will be an experience in sound like you have never heard before - crisp notes and deep bass. As good as being there yourself.

- DETAILED FUNCTIONS
The goal is to develop a conceptual design based on the product concept, providing correct styling. The product can utilize interesting materials to complete the original image such as wood and some, which would make the finished product look unique and appealing.
Technical drawing
Appendix one

Questionnaire Used by the National Palace Museum in Assisting the Work of the Design Culture Research Office May 2, 2002

This questionnaire is part of a survey into Chinese culture-based elements. The objective is to gain an understanding of your knowledge of such elements and to thereby compile a list of representative Chinese culture-based artifacts. Because of the sheer number of items involved we are asking you to assist in our research by taking the time to fill out this form. Thank you for your time.

1. As you visit exhibitions at the National Palace Museum please note the orange sticker and number (1-120) at the bottom right hand side of each item. Please list the 50 Chinese culture-based artifacts you believe to be most representative.

Your details:

Sex: □ Male □ Female

Age: □ 20~30 □ 31~40 □ 41~50 □ 51~

Occupation: _______________.

Level of education: □ ~Secondary school □ high school □ university □ graduate school-

a. Han Dynasty culture-based artifacts:


b. Tang Dynasty culture-based artifacts:

c. Ch’ing Dynasty culture - based artifacts:
21. Ch’ing Dynasty bamboo painting  22. Ch’ing Dynasty shoes  23. Ch’ing Dynasty furniture  24. Ch’ing Dynasty clothing  
25. Ch’ing Dynasty gun  26. Ch’ing Dynasty sword  27. Ch’ing Dynasty casement  28. Ch’ing Dynasty opium pipe  
29. Ch’ing Dynasty terracotta warriors  30. Ch’ing Dynasty hair pin.

d. Chun-Qiu period culture - based artifacts:
40. Chun-Qiu period coin carvings.

e. Mongolian culture - based artifacts:
41. Mongolian hot pot  42. Mongolian wineglass  43. Mongolian painting  44. Mongolian yurt  45. Mongolian stool  46. Mongolian bow and arrow  

f. Yuan Dynasty culture - based artifacts:
60. Yuan Dynasty strong white xuan paper.

g. Soong Dynasty culture - based artifacts:
61. Soong Dynasty boats  62. Soong Dynasty clothing  63. Soong Dynasty sword  64. Soong Dynasty literati painting  
70. Soong Dynasty four study treasures.
h. Northern Soong period culture-based artifacts:
71. □ Northern Soong period vase  72. □ Northern Soong period ferry boats  73. □ Northern Soong period vault  74. □ Northern Soong period arms
75. □ Northern Soong period clothing  76. □ Northern Soong period furniture  77. □ Northern Soong period dressing table

i. Ming Dynasty culture-based artifacts:
81. □ Ming Dynasty drum  82. □ Ming Dynasty jade pendant  83. □ Ming Dynasty painting  84. □ Ming Dynasty writing brush
85. □ Ming Dynasty clothing  86. □ Ming Dynasty furniture  87. □ Ming Dynasty weapon  88. □ Ming Dynasty vehicle
89. □ Ming Dynasty vase  90. □ Ming Dynasty architecture.

j. Eastern Chou culture-based artifacts:

k. Five-Dai dynasties culture-based artifacts:
101. □ Five-Dai dynasties clothing  102. □ Five-Dai dynasties vase  103. □ Five-Dai dynasties weapon  104. □ Five-Dai dynasties hat
105. □ Five-Dai dynasties chariot  106. □ Five-Dai dynasties mirror  107. □ Five-Dai dynasties sword  108. □ Warring states period sword

l. Early republican period culture-based artifacts:
111. □ Early republican period gun  112. □ Early republican period hat  113. □ Early republican period furniture  114. □ Early republican period mirror
115. □ Early republican period painting  116. □ Early Republican period clothing  117. □ Early republican period sculpture  118. □ Early republican period jade
119. □ Early republican period utensils  120. □ Early republican period architecture.

PS. Please leave the questionnaire with the Information Center near the exit and help yourself to a free gift. The National Palace Museum thanks you for your time and cooperation.