

Asian Product Design And Its Development

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Abstract: Although Asian products are plentiful, little is known about the Asian design philosophy that underlies them – specifically, why Asian products take on their various shapes and forms or the functions they serve. I see there is a need for more knowledge in understanding Asian product design; hence the intention of this paper is to explore how design development and adaptation found in Asia is related and intertwined with the larger social environment. I will present in my paper the summary findings during my fieldwork in Hong Kong, Taiwan, Korea, China and Japan. (Ho, 2001). One example I uncovered in my fieldwork is how the Chinese have adapted the humble domestic washing machine to fit their agricultural contextual needs. Another is how the Koreans have developed their own unique “Kimchee Refrigerator” which you cannot find selling at any other countries, to meet their cultural-related gastronomic needs. Technology and western influence may have led to the initial manufacture of products found in Asia, yet some of these products have been adapted and revolutionalized by Asian designers to meet the needs of Asian living. The standpoint I have adopted is that the study of design cannot, and should not be divorced from the time and space context it is located in. In fact, I would think there is much to learn from the evolution of design across cultures because through such study and exploration, it will enlighten us about the cultural and social perspective in Asian product design. Through my research, I hope to tap into the rich Asian design heritage and use it as a stepping-stone towards greater creativity for design students, designers as well as others.

Keywords: *Product Design, Asian lifestyle, Culture.*

1. Introduction

This paper is an exploration of Asian product design in countries such as Japan, Hong Kong, China, Taiwan and Korea. Specifically, this paper focuses on products that are integral to the daily lives of people residing in these countries. It will discuss how despite similarities in its "Asian-ness", each individual product design is unique in its reflection of the culture and socio-historical changes that have occurred in the environment it is located in. It is my hope that this discussion of the evolution of designs of commonplace household products in Asia will serve as a lens through which we can better appreciate the patterns and mechanisms that underlie the origin and evolution of Asian product design in general.

1.1 Historical Overview of the Development of Asian Product Design

Japan was the first country in Asia to experience the Industrial Revolution. The Japanese Design movement began during the Meiji Period in the 1870s and further expanded during the Arts & Crafts Movement after World War One where western food, furniture and dressing were introduced. However, it was not until after World War 2 in 1945 that Japan saw its industries flourish again under the influence of the Americans. The Americans brought into Japan what has

been affectionately termed the "3 products from God", that is the television, the washing machine and the refrigerator. The American demand for these products during the Korean War (1950-1953) coupled with Japanese domestic demand for such high status western products supported the expansion of the Japanese manufacturing and design industry. This Japanese development subsequently led to phases of OEM (Overseas Equipment Manufacture), ODM (Overseas Design Manufacture) and OBM (Overseas Brand Manufacture) in other Asian countries that have in turn support the growth of local design industries in the respective countries. (Refer to Appendix A). Due to the substantial American influence on Japan, and Japan's subsequent influence on her Asian counterparts, Asian design industries have been tied to American and Japanese Multi-National Companies (MNCs).

2. Research Methodology

The research methodology used for this paper was qualitative in nature. I carried out in-depth interviews and documented them through video and transcribed notes. I interviewed product designers, design educators and government officials representing design associations. I also visited manufacturers, design firms, and design schools and institutions. Besides getting current findings from the interviews, related books and magazines were also reviewed and studied. The variety of methods used was necessary as I was seeking to unearth knowledge that although pre-existing, have never been systematically compiled and had for the most part been localized in various individual countries. For example, the Koreans knew about their own kimchee refrigerators and the Chinese farmers knew of their adapted washing machines that could wash potatoes and produce but this knowledge was not shared cross-nationally. One of the main reasons for this is language. Although often viewed as an umbrella category - "Asian" by the West, the Chinese, Koreans, Japanese do not understand each other's language and thus communication and sharing of design insights may prove to be difficult. For this same reason, it has been difficult for western researchers to obtain in-depth information about history of product designs in non-English speaking countries. I am in a privileged position because even though I am an American educated designer, I am an ethnic Chinese who can speak Mandarin and Cantonese as well as Japanese. This ability to communicate in various Asian contexts not only gave me wider access to people and firms in the Asia but more importantly, it gave me the opportunity to compare and contrast what I saw and learnt.

3. Results and Discussions

3.1 Case Studies of Products

This section of the paper focuses on certain products and how culture has influenced design. We often think of washing machines as used solely for washing clothes. However, in rural China, this is not the case. In an effort to save time, some farmers in the agricultural southwest of China used their washing machines to wash their produce such as potatoes and vegetables, etc. This had the effect of clogging up the pipes with soil and led to machines breaking down. The frequent breakdowns complaints in that region baffled the manufacturer, Haier Corporation. After sending in a team of engineers to look into the problem, they realized the "resourcefulness" of the Chinese farmers. The result of their inquiry was a washing machine designed to wash potatoes, fruits, vegetables and clothes! By using an interchangeable washing barrel and widening the diameter of the pipe, Haier could maintain

the same technology and provide farmers with a low cost solution. Haier Corporation's **Dual Functional Washing machine** is a good example of innovating a product according to the needs of that particular niche farming society. (see Fig.1)



Fig.1 Haier Washing Machine



Fig.2 Korean Kimchee refrigerator

The link between consumer needs and design is evident in the **Kimchee refrigerator** in Korea. (See Fig.2) Kimchee or preserved vegetables served cold with a spicy and sour taste is a staple of the Korean diet. Kimchee is to Koreans what soy sauce is to the Chinese. In the past, in order to keep the kimchee at the optimum temperature during the fermentation process, large pots were buried underground during winter and retrieved as needed. However, as people began moving into apartments without plots of land, this method of storing kimchee became impractical. Refrigerator manufacturers caught onto this and LG Corporation introduced the concept of storing Kimchee in refrigerators in the 1970's. This was followed up with the sale of specialized Kimchee refrigerators in 1985. Today, this type of refrigerator is mass-produced and found only in Korea. It is a fine example of a culture-adapted product.

The Electric Rice Cooker designed by Toshiba in 1955 (Fig.3) is another good example of an Asian adapted product. Its shape was designed to be similar to a conventional Asian cooking pot, yet its simple and modern form with a white body and metallic top cover bore the streamline trademark of American industrial designer Raymond Loewry's. But what made the rice cooker revolutionary was not its form but its application of technology. Asian products have used technology innovatively to solve their daily problems and the electric rice cooker is a one example of this. Before its design, Japanese housewives used charcoal and it was a messy not to mention time-consuming affair to cook their daily staple of rice. As women started moving into the workforce, time became important and the electric rice cooker was developed to save time without compromising on tradition. The challenge for Toshiba Research Center was to produce delicious tasting rice using an electric rice cooker. Through their research, they ascertained that the ideal temperature needed to produce the necessary starch change was 58.1-61.5 degrees Celsius. However, this process would take 15-16 hours to achieve. Through tests, it was discovered that at 98 degrees Celsius, cooking time could be reduced to 20 minutes. They also calculated the amount of water that will be evaporated to steam at 100 degrees in 20 minutes so that the rice cooker could be switched off automatically. For this reason, rice pots have markings for the recommended amount of water to be used for equivalent cups of rice. It is this confluence of culture and technology in this innovation that is truly noteworthy. As long as rice remains the main staple for Asians, the electric rice cooker will remain a timeless icon of Asian household products.

Chopsticks are the most common eating implements in Asia. Culinary differences may exist in countries like Japan, China, Korea but the preferred eating utensils are the same - a pair of humble chopsticks. However, chopsticks in these three cultures have variations occurring in terms of form and materials. For example, Chinese chopsticks are usually square/round in cross-section and the width of the stick is even throughout. In other words, the tip that comes into contact with the food is blunt or flat. Japanese chopsticks are different in that they are round in width and the tip tapers off to a sharp end while Korean sticks are flat in section and ends are slightly tapered. Why is this so? The Japanese variation could be because this adaptation allows a sharp point which one can use to pick on fish, a major part of the Japanese diet. The answer to the Korean variation lies in the material used in its manufacture. They are usually made of metal and this tradition dates back to the era of the Warring States when chopsticks were strategically made of silver alloy to alert people if their enemies inserted poison in their food. Since silver changes color when in contact with poison, this material could be used in chopsticks to test food. As a result of the use of silver, Korean chopsticks took on a flat form because the technique used to form metal alloy involved hammering it in its molten state. Furthermore, given the weight of silver, a flat form made the chopstick lighter and easier to use.



Fig.3 Toshiba Electric Automatic Rice Cooker (1955)



Fig.4 Ceramic Iron (1945)

Irons are the final product category I would like to highlight in this paper. In the past, traditional irons such as the Japanese kote and their Chinese equivalents used heated coals. Their size and form varied depending on the folded portion of the costume that they were designed to iron. Irons are traditionally made of iron and steel but this is not always the case. Around World War Two, metals were scarce and as a result glass irons (U.S.A) and ceramic irons (Japan) were manufactured during this period (Fig 4). Irons manufactured for the Asian market tend to be smaller and lightweight than those in the West. This could be due to the smaller size of Asian users in general, especially its female population who are the primary users of this appliance. The world's smallest iron claimed the Taiwanese, was conceptualized, engineered and manufactured in Taiwan. The size of this iron is 11.5 cm by 6 cm by 6cm and uses a mere 35W of electricity. It is so small that it has no product function interface - no ON/OFF buttons nor heat regulator dial. There are ceramic coils inside the small iron that allows it to self regulate the heat emission such that it can iron both silk and cotton. The small surface of the iron also allows it to maneuver in between the spaces of the buttons and folds.

3.2 Asian Design Scene

Through the interactions with the local design professionals and educators I met during my fieldwork, I was able to appreciate the overall Asian design scene from their multi-cultural perspectives and backgrounds. Four main spheres apparently seem to govern the Asian design scene; Education, Government & Industry, Designers, and the Consumers Market that are overlapping and intertwined. Without strong governmental and industrial support, good design cannot flourish. Without good design educators, well-trained designers will not emerge. Without a mature and design conscious consumers market, design will be retarded in its growth as there will be no demand and appreciation of design. Such inter-relations are crucial if we want to develop and generate knowledge about Asian design within Asia. Central to this endeavor is the need to encourage research and new knowledge in the field of Asian Design, not just amongst design students but amongst the general public as well. In other words, there needs to be a critical mass of people who are design literate in order for Asian or Asian inspired design to flourish in all areas of social life. Given the traditional reliance on western design and limited exposure to Asian design in countries other than one's own, it would not be easy to be a truly Asian designer. There is also the issue of harnessing Asian design as a resource and making it accepted in the international competitive arena. Last but most importantly, the question remains as to how the four groups - educators, manufacturers, designers and related professions can work closely together to make an ideal growing Asian design scene.

4. Conclusions

The case studies of products demonstrate that Asian design has flourished in their unique environment and are in fact adapted to meet the needs of Asian living. Although Asian products are found across the different Asian countries, product forms do vary in the following aspects:

- Suitable technology needs to be adapted to local requirements
- Form, color and graphic change in accordance to cultural taste and preferences
- Product ergonomics are modified based on consumer needs
- Interaction between product and the user vary according to cultural perceptions

In today's increasingly interconnected and globalized environment, product design can no longer survive in isolation. Politics, economics, culture, education and historical background all increasingly influence the design process and the identity of the product. Consumers often use product design and technology from the west as the yardstick of design excellence and Asian designers at times subscribe to this as well. This has to change if Asian design is to advance beyond the shadow of Western design. Asians need to judge Asian Design for what it is. It will happen gradually as the Asian design scene matures in time. Cross-cultural exchanges by Asian designers are important as well as collaborations across areas of specialization. This is important for the future of Asian design. The multiple design perspectives brought to the same problem by designers from various sub-fields in design such as visual communication, industrial and architecture, etc will inevitably add to the richness of the solution. As an Asian design educator and practitioner, I firmly believe that one should adopt a more holistic approach towards Asian designs. If future generations of Asian product designers are to flourish, they need to glean from the wealth of knowledge and ideas from the whole array of Asian designers who have preceded them, not just those from their own country. In my opinion, this is the way into the 21st Century for Asian product design.

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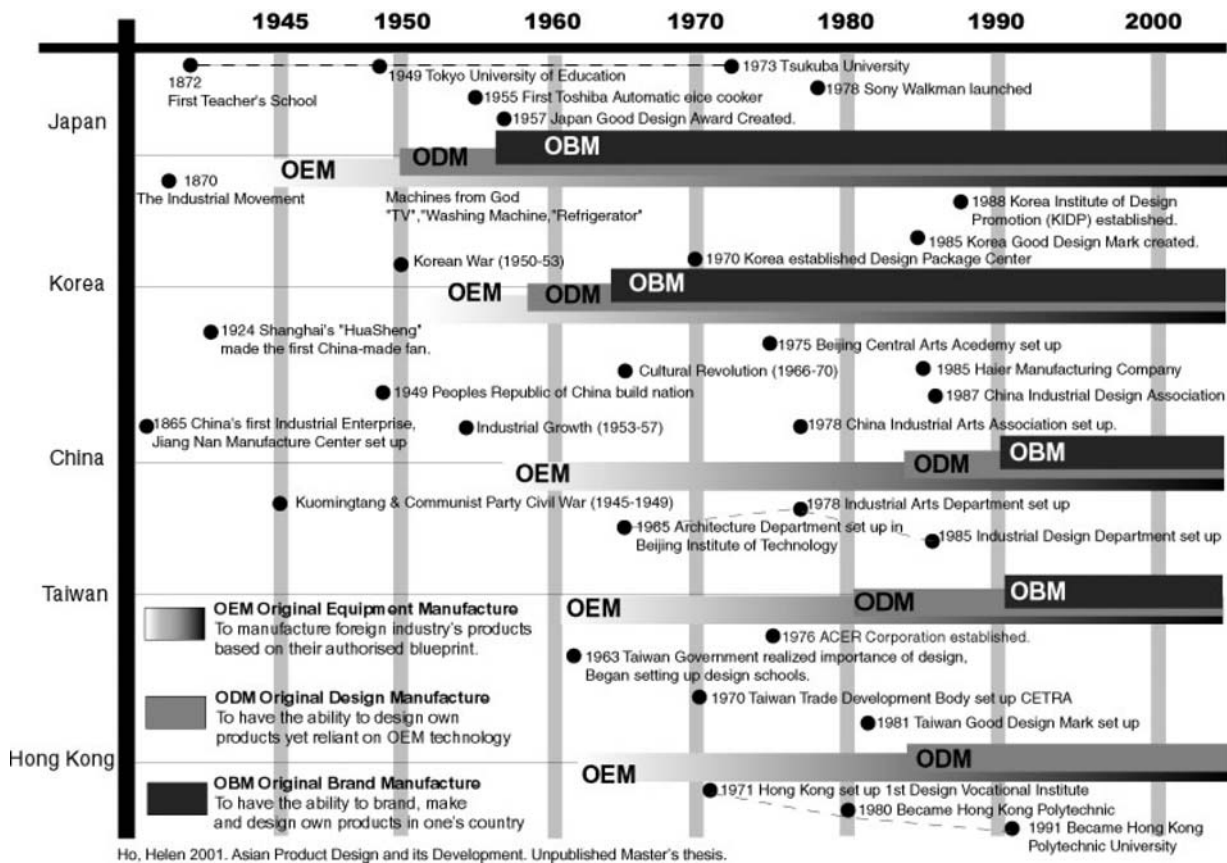
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Appendix A

Overall View of Development of Asian Product Design in selected countries.



Appendix B

Evolution of Asian Product Design

