

# Development of Fashion Cultural Products using Traditional Korean Culture to Enhance Global Competition

– Study on Face/Human Images for Digital Textile Printing –

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## ABSTRACT

*The purpose of this study is to develop highly valued fashion cultural items using Korean face and human images to enhance global competition. The methods of this study include: historical study on the face/human images which appear on the dress; design by stage according to Lamb & Kallal's apparel design process; development of products using digital textile printing technology; and case study by objective evaluation through Grant's alpha-beta model. The procedure and the results of this study are as follows: First, in the problem identification stage, the need to develop fashion cultural products of Korean face/human images which are symbolic, aesthetic, and functional was recognized in order to enhance global competition. Second, in the preliminary idea stage, the fashion cultural products and the components that meet the above 3 standards for design were determined and first design was drawn up. The source of the design was extrapolated from face/human images, which appeared on the murals of the ancient Korea, the portraits and custom paintings from the Chosun Dynasty. From these images, a total of 7 design series of T-shirts with an "ULGUL" logo, scarves, and artwalls were developed using "obangsaek" which are five Korean traditional colors including red, blue, black, white, and yellow on cottons and silks. Third, in the design refinement stage, based on the preference survey, more varying design methods were used to develop 25 new designs. Fourth, in prototype development stage, based on the preference survey conducted on fashion professionals and general public from the previous stage, which showed preference for T-shirts and scarves, 3 designs on T-shirts and 2 designs on scarves were printed and produced using the DTP (Digital Textile Printing). Fifth, in the evaluation stage, Grant's alpha-beta model was used to perform comparative evaluation on the symbolic, aesthetic, and functional criteria of the new designs over the existing ones. The new designs received excellent results in all three criteria and a special recognition was given to symbolism of the new designs.*

**Key Words :** Korean face and human image, Fashion Cultural Products, Digital Textile Printing.

## I. Introduction

If the 20<sup>th</sup> Century pursued globalism centralized on the West, the 21<sup>st</sup> Century is an era of Glocalism<sup>1)</sup>, which values the traditions of each country. Jacques Attali<sup>2)</sup> has epitomized the 19<sup>th</sup> Century as “The Era of Freedom,” the 20<sup>th</sup> Century as “The Era of Equality,” and the 21<sup>st</sup> Century as “The Era of Philanthropy” as he recounts newly emerging nomadism, nomads, Lego civilization, philanthropy, and surrealism among other reasons. Lego civilization refers to prefabricated civilization, coexistence of various civilizations and diversity and encourages varying fusion styles while broadening one’s perspectives and conceptions. In the fashion world, this signifies showing respect for the culture of costume of Asia, Africa, South America as well as breaking away from the Western centralized fashion styles to a newly created fashion trends from the refreshing dress culture of other countries.

Recently, Asian, African, and South American cultures have provided unique ethnic looks as refreshing sources of inspiration to the fashion trend of the West. From these, the face/human images, which vividly express cultural identities, have been overtly utilized. Human body and faces have been incessantly expressed through paintings and sculptures starting from the ancient Greeks. Furthermore, since the late 20th century, postmodernism, which dominated the capitalistic culture, has been influential in elevating the interest level of human body and the images of various parts in the realm of academics, arts, and literature<sup>3)</sup>. In particular, human face, which entails strong visual effect that expresses internal and external phenomena as well as effectiveness in transferring messages, is receiving much attention by modern fashion trends. Fashion recapitulates the human body and expresses it via

clothing. In the past, plants and animals like flowers, butterflies, and birds were used to decorate clothing instead of explicit human face and images. However, surrealists like Elsa Schiaparelli used parts of human bodies like eyes and lips to express “justice” and ‘erotism” and used them in fashion in the 1930s. In 1960s, facial images of Marilyn Monroe and Elvis Presley and other famous stars as used by Andy Warhol began to be accepted by the general as images of pop art and consumer culture. As humanism, which appeared since postmodernism due to the abuse of the industrial society, amplified illumination on human beings and with the improved digital textile printing technology of the 20th century, face/human images in fashion have been expressed more easily, various face/human images began to be produced and consumed as product. In the modern world, with costume as nonverbal expressive function<sup>4)</sup>, it is meaningful to do a historical study and to develop cultural fashion items with face/human images using the digital printing technology.

This study attempts to use historical studies and case studies to grasp face/human images on costume. This study will: first define “face” and “human”; secondly consider how face/human images were expressed in the history of Western costume and the history of Korean costume; thirdly develop fashion cultural products based on the above findings using Korean face and human images.

Through literature reviews, the study examines the face/human images on Korean and Western costume from the Egyptian era to the 20<sup>th</sup> century, attempts to provide founding informative materials for Korean fashion design trends by presenting case studies of fashion cultural products with Korean images.

## II. Concepts on Face and Human Images

Recently human bodies have become the main topic in the cultural discourse. Here, human body and face have surpassed the simple biological limitation and have come to encompass psychological, ideological, and historical ramification. Costume for human body and face has also gone beyond the simple visual and physical composition and has come to deliver myriads of significance. As human body and face have become the discourse stages for self, identity, society, history, and reformation and reconstruction of civilization, fashion has also become a place to exert ambition, practice consumerism where capitalism and products ridicule as shown on commercials, and express varying stages of ideology. Since 1960s, the spread of pop culture, vigorous feminism, and the surging apathy have provided a new concept of human body and fashion has begun to express such perceptions<sup>5</sup>).

A dictionary definition of human face encompasses a frontal body part from forehead to chin and the structure in between the two ears on the right and left. Human face refers to an area from the two eyebrows to zygomatic arch and auricle to the area surrounding the lower jawbones<sup>6</sup>). Facial images have self-expressive nature and are chosen according to the images imprinted on their hearts and are even influential in the artistic senses that react to the images. Therefore, the various actions or facial expressions of these images can extrapolate the inner emotions of the character to express the essence of human beings<sup>7</sup>). Furthermore, the visual images of strong yet familiar facial images offers strong image effect and expresses symbolic and implicit contexts, which swiftly delivers the topic. The implicit visual image plays the role

of offering new images and creations<sup>8</sup>).

In this way, face/human images are non-alienated source for the consumers, which can maintain long-term effects on the products and images. Furthermore, face/human images are frequently used because they allow unlimited expression with no limitation to changes in the images due to age or gender as they also assist sensual and visual approach for modernists to acquire information<sup>9</sup>). In addition, because formation and comprehension process of social and historical concepts have close ties to life events and issues of humanity, expressing human images will reveal the unique social characteristics and serve as a mirror of the society<sup>10</sup>). For example, we can consider the usage of famous stars on dress, which allows consumers to form unique mania groups especially for famous athletes or actors and actresses thus showing active characteristics to imitate the actions and fashions of the stars. Therefore, the visuals of face/human images in fashion have strong and familiar visual effects and play the role of symbolizing implicit visual images.

## III. Historical Study on Face and Human Images on Costume

### 1. Western

The motifs found on the woven materials of the Egyptians have been lost in many regions but with an arid climate of Egypt, many are found in the Egyptians tombs. "St. Theodor" <Fig 1>, a woven fabric in the Rockefeller's Collection is a good example. The motif found on this textile is quite similar to a portrait of an Egyptian mummy that just by looking at the motif, one can conjecture that it is a relic from the same Egyptian culture. Furthermore, one can also speculate the attempts of

the ancestors to carry on the influence of “St. Theodore” to the next generation by keeping a record of this mythical personhood. Although the textile woven in the 6<sup>th</sup>-7<sup>th</sup> century in Egypt for the Christian supporters is neither monumental nor abundant, it certainly carries artistic excellence<sup>11</sup>).

“Lion Hunt” textile in the Vatican <Fig 2> depicts animals, birds, and the hunter stand facing each other with a tree in between them. Even in the famous textile ‘Two Matching Riders’ by Lyon shows the lion in the circle as it faces the hunter. In Coptic Textile<sup>12</sup>), the formation of bi-directional symmetry represents the symbolic meaning of good and evil as well as religious context and the motif of a man fighting a lion depicts battle grounds. In addition, with active communication between Byzantine and Arab, one can say that many textiles woven in Constantinople were heavily influenced by the East. The rose ornament, filling in the space between the main ornament of the textile, or various laces decorating the edges of this work also expresses Eastern characteristics.

Ancient Greece is the basis of the European civilization and still has heavy influence on the Western thoughts, cultural arts, and other realms. They prioritized re-enactment of the complete formation of the beauty of human beings and emphasized the beauty of body movements. The expressions they used to articulate such beauties include “*symmetria*” which is used for the visual beauty of architecture and sculptures to refer to their alignment and proportions. For audible beauty of music, an expression “*harmonia*” was used to refer to their harmony. Another expression, “*taxis*” or order, also carried similar meanings. All of these expressions, *symmetria*, *harmonia*, and *taxis* refer to the unifying and cohesive relationship amongst the ancient Greeks regarding the alignment of the parts.

The alignment here was exact, beautiful, and harmonious that was used synonymously with *symmetria*, *harmonia*, and *taxis*<sup>13</sup>). Furthermore, the Pythagoras of the ancient Greece believed that *taxis* and proportion express beauty and that no art can be created without proportion<sup>14</sup>). In other words, ancient Greeks had exact proportion and balance for the measurement of beauty and for Greeks who valued the beauty of human body, the basis of such art came from the proportions of human body. Therefore, human images were frequently utilized for art and it is not difficult to see harmonious sense of balance of human images in artworks. “Venus de Milo” is famous for its perfect beauty as well as other artworks by the famous artists such as Rubens, Raffaello, and Boticelli including “The Three Graces” as well as other pieces that express the beautiful lines of woman’s body along with the natural and organic lines.

Until the Roman Emperor Justinian was able to extract the Chinese secrets of silk making, most of the material came to China via Persia or came from Mesopotamia. Therefore, we see that Eastern characteristics are reflected on their textiles and much of the textiles were actually woven in Persia. Amongst these, there are textiles that use Christianity as its themes which are part of the Hellenistic tradition. “Annunciation” and “Birth of Christ” in Vatican are such examples. Besides religious themes, there are many textiles with secular scenes. For example, there is the famous “Four-Horse Coach” silk textile that was found in Charlemagne’s tomb in Aachen. The main design of the four horses pulling the coach and a supporting design below that of a boy pouring money into a big pouch are reflective of the altar painting of the consul between the years 500 and 525. If those designs had not been similar to the vegetable designs

that were prevalent in the textiles of the 8th century, the silk textile might have been considered as a piece from the early of the 6th century. Moreover, it is hard to believe that such an out of fashion textile was used for Emperor Charlemagne's (771-814)'s tomb. Therefore, one can conclude that when this textile was woven, extremely conservative designs were popular for a while. Other textiles of the same era showed a combination of orientalization of rose ornaments and the looks of the classical era. However, such characteristic became Christianized as time passes. The famous example of this is "Man Fighting Lion" which is divided into different pieces in various collections. In the beginning of the ancient times, the man was probably Heracles. However, the character on the plate is definitely Samson and this is one of the silk textiles that is typically known as Samson's silk<sup>15</sup>).

Embroideries that consistently developed from the 14<sup>th</sup> century to the 17<sup>th</sup> century are kept safely in various treasuries of the monasteries in the East and are also included in some Western collections. The most famous embroidery is in the Vatican and it is frequently referred to as the coronation ceremonial dress for Emperor Charlemagne <Fig 3>. Christian narratives are embroidered on this piece. Studying the personal ornaments of the Renaissance, we find a pendant with a portrait of Queen Elizabeth I <Fig 4>. By imprinting the face of a queen who has become symbolic of honor and glory, the English population was expressing their utmost respect for a Queen who is often referred to as the "Excellent Queen Beth" who has built the basis of this island country to emerge as the strongest naval country in the world at the time.

A cotton dress that had rural scenery print of the Rococo Era<Fig 5> is actually parts of the illustrations of the 1699 novel entitled, "The Adventures

of Telemachus, the Son of Ulysses." This Era rejected formalism and created a new mode that went beyond the typical palace lives of the nobilities. Rococo style which is full of sentiments and sophistication, expresses boredom to the previous Baroque Era which valued fancy formalities to parade their aristocracy, expressed with excessive ornaments and splendor. Rococo Era showed uniqueness in that they left behind the glamour of aristocracy to open the internal human eyes and express fantasy and familiarity.

During the 18<sup>th</sup>-19<sup>th</sup> century, Chinoiserie and Japonism became prevalent in Europe with the inflow of the Eastern civilization. This had a general influence over the society and the culture from China and Japan. They have highly accepted this flow even in dressing and textiles, fans, buttons, and other personal ornaments that displayed the lives of China and Japan and they became quite popular. Japonism refers to the influence of the Japanese art in Europe and America in the latter part of the 19<sup>th</sup> century. The effects of Japonism touched painting, sculpting, woodblock prints, sketching, arts and crafts, architecture, dressing, and pictures. The Japanese image created by Europeans was based on their wishes for Japan "to be this way" and this is what is called Japonism. This is best supported by the fact that although Ukiyo-e<sup>16</sup>) received overwhelming popularity in the West and provided much inspiration in various genres, the highly artistic forms of art including landscape painting in India ink and Buddhist Art were almost never mentioned and never found in Europe<sup>17</sup>).

The organic lines as found in the order of art nouveau in the 1900s are based on women's beautiful body lines. Art nouveau artists tend to use the swirling or intersecting lines in attempts to express active forms of living things, essence of matters,

and the active process of creation in nature. To express symbolic lines that are defining and awakening with implicit wavy ripples and musical movements, motifs of plant stems, insects, image of a woman with animals, particularly the organic lines of hair were employed<sup>18)</sup>. All of these can be witnessed from Alfons Macha's posters and the order of art nouveau from craft works. Art nouveau artworks, which use special characteristics of a woman's body as their major source of expression, have embedded the concept of eroticism in their line images. Such examples of using images of women as a source of art can also be seen from art deco artists. Art deco, which began to emerge during the switch over from art nouveau has fans <Fig 6> and vases which used an image of a woman wearing art deco style clothing.

The current of thoughts and the advancement of technology in the 20<sup>th</sup> century have allowed more direct expression compared to faces and human motifs found in costume. A representative designer, Elsa Schiaparelli, who mainly used human face on costume, worked with artists like Jean Cocteau to apply face and human motifs to give implicit meanings. She has designed Medusa image from Greek mythology in hot pink and golden sequin and used this intense image on the entire back of an upper garment, providing an erotic image by expressing the profile with ornaments in shoulder areas and expressing the water-flowing hair in sequin<Fig 7>. Besides these intense images, she also expresses humanistic love through images of two people facing each other on a vase by filling the inside with entangled golden stitches and pink rose ornaments .

Such encounters with fashion designers and artist can also be witnessed in Issey Miyake's collections. This piece, which printed photographs of eminent

Japanese photographer, Arakaki Nobuyoshi on Pleats Please<Fig 8> is obviously advocating eroticism by using photographs of a man who is controversial even beyond Japan for his lasciviousness.

## 2. Korea

In the images of Koreans, there are unifying mentalities that are characteristic of Koreans. As mentalities are formed by culture, body and facial images of ethnic group reveal the culture of that nation. Face and human motifs that appear in Korean culture accurately reveal the identity of Korean culture. The most familiar faces of Korea are *jangseung* and masks. A traditional faith that takes the biggest relative importance in the secular faith of Korea is azimuth faith. Azimuth is also a traditional mentality of Korea that has long rooted itself in public consciousness. Giving symbolic meaning to the azimuth, there are azimuth gods that are objects of azimuth faith. Koreans created *Jangseung* to embrace secular faith such as azimuth faith<sup>19)</sup> and besides being the guardian god of the town, *Jangseung* also served as a border as well as a landmark. Although *jangseungs* differed in their color, form, and sizes, they are identical in their grotesque and stern looks. Despite this look, *Jangseung* is not a fearful image for townspeople; instead it is a guardian god, which protects the town and is quite familiar to the minds of Koreans. Chosun Dynasty's "tal" or "masks" are best examples of facial expressions reflective of the social situations and the unique characteristics of the given era. As "Yangban-tal" has clear facial structures, "Chorang-i-tal" has seriously unbalanced facial structures; this shows the master-servant relationship between the two groups. "Bune-tal" and "gaksi-tal," which are discriminated because of their female

gender, have crooked nose with uniquely flashing eyes and multiple faces to stand against the gentleness of the educated aristocrats. The masks of butchers, elderly woman, and monks have deep and numerous wrinkles to express being worn out by life.

As the mentality and state of heart are realistically expressed on the facial artworks, they also reflect ideal type of faces that are desired by Koreans. Using the statue of Buddha as an example, during the period of Three States, Buddha was always took happy and childish face with a smile. On the other hand, during the latter part of the Unified Silla era to pre-Corea, Buddha's face became flattened and small in size with narrow and long eyes with accented cheekbones. This is representative of the characteristics of the Korean faces. There are other ways to explain this phenomenon. The first statue of Buddha that came in from China originally had an ideal type of face, which the Koreans longed for. However this became indigenous and began to resemble the realistic facial structures of Koreans. Expression on Buddha experiences further changes during the post-Corea era.

As one of the most familiar faces in Korea, "giwasang", which is well known as "the face of Silla," was used as advertising motifs to the foreigners during the 2002 World Cup. The bright face of the "Giwasang" seems gentle with deeply embedded female image, which resembles prevalent faces on the streets of Korea<sup>20</sup>).

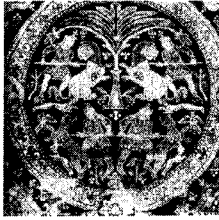
Taking a closer look at the edges of the Korean traditional skirts for women, it is easy to see repetitive prints of grapes and priestlings. Grapes, along with pomegranates, have been known to symbolize proliferation with its many fruits. Therefore, to see grapes with priestlings repetitively printed on a woman's skirt symbolizes their desire to bear sons. Priestlings are also found in the Cheonghwa white

porcelain of the Chosun Dynasty <Fig 9>. A priestling who doesn't even have a queue yet fishing with his tiny hands and cute expression is reflective of the popular paintings of artist Hong-do Kim and well depicts Koreans' humor, spacious heart, and broad-mindedness. The prints of the priestlings on the pigtail ribbon of the Chosun Dynasty <Fig 10> depict specific character of the Zenistic expression. Although Chosun Dynasty is centralized with varying classes and Confucianism, it gave birth to various symbolic patterns that represent Buddhism, Taoism, and shamanism. Furthermore, these symbolic patterns are reflective of traditional naturalism through the influence of asceticism and thoughts of moderation from Confucianism and also reflect the inherent beauty of complete platitude<sup>21</sup>). Furthermore, bodies and facial images of Koreans are also prevalent on small pouches used to keep incense box and medication as well as personal ornaments like a shaman's fans. The *Seongsu* fan that is frequently used for exorcism contains pictures of many *Seongsu*<sup>22</sup>). This fan is used for solicitation bow, dancing, and to express the coming of the spirit. There are many other fans that have different usages and therefore with different images on the fans.

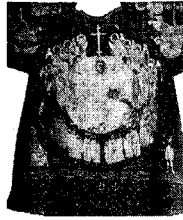
In summary, the characteristics of the facial images of Korea thus far show that Koreans preferred to use natural materials rather than artificial ones for their models and refrained from artifice. Submitting to the nature by rejecting artificiality and pursuing what is natural, they express the most humanistic facial patterns. Furthermore, one can easily see the prevalent religiousness of the Korean culture. If Western culture has its base on Greek mythology and Christianity, Korean culture has a unique base with "Tan-gun" mythology, or nature worship, and a deliquescence of Buddhism, Taoism, and others. Because Korean religion is basically na-



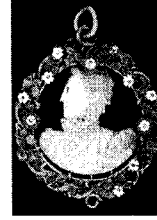
<Fig 1> "St.Theodor"



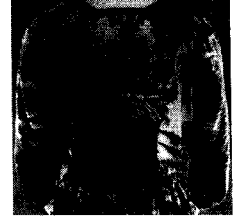
<Fig 2> "Lion Hunt"



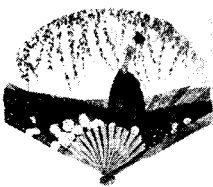
<Fig 3> The coronation ceremonial dress for Emperor Charlemagne



<Fig 4> A pendant with a portrait of Queen Elizabeth I



<Fig 5> A cotton dress of the Rococo Era



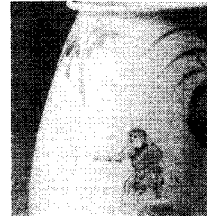
<Fig 6> A fan during the switch over from art nouveau



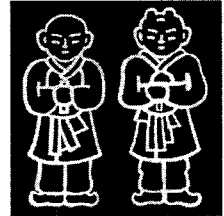
<Fig 7> Medusa image from Greek mythology



<Fig 8> Arakaki Nobuyoshi on Pleats Please



<Fig 9> Priestlings in the Cheonghwa white porcelain



<Fig 10> Priestlings on the pigtail ribbon of Chosun Dynasty

ture worship with mixture of various faiths, most of the patterns and facial patterns contain religious meaning or sorcery in them. With the above consideration, one can see that most expressions on Korea's facial patterns contain cultural uniqueness with simple and implicated symbolic ramification. The simplicity of Korean face/human images graphics are prominent in current fashion trend and therefore is appropriate design inspiration for modernization and globalization. The following presents a case study of developing cultural fashion items applying these uniquenesses.

#### IV. Development of Fashion Cultural Clothing Products using Face and Human Images of Korea

##### 1. Design Method

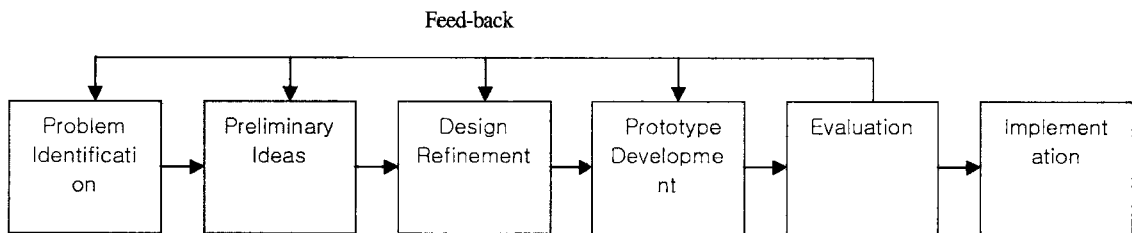
As a link to developing fashion cultural products

using traditional Korean culture to enhance global competition, this study utilized Apparel Design Framework from Lamb & Kallal (1992)<sup>23</sup> to develop objectively verified fashion cultural products using Korean face/human images. This approach is applicable not only in fashion design but also functional clothing design, which is composed of six stages: Problem Identification, Preliminary Ideas, Design Refinement, Prototype Development, Evaluation, and Implementation. When necessary, each stage can be used as a feedback for the previous stage (Table 1).

During the stage of Problem Identification, the consumer demands and needs were analyzed from the consumer's point of view to decide on the evaluation criteria. At the Preliminary Ideas stage, various designs were made based on the sketches, brainstorming, and researches. Design Refinement stage was where changes were made to the original ideas and criteria of design priorities as well as



&lt;Table 1&gt; Lamb &amp; Kallal's Apparel Design Framework



solutions. This resulted in minimizing the number of ideas. During the Prototype Development stage, first items were produced and before sending it to the Evaluation stage, items were given subjective evaluations to check if they met all the standards. Because the purpose of this study is design development, we did not execute the process of producing the designed items. At the Evaluation stage, Grant's alpha-beta model was applied to do a comparative evaluation between the newly developed cultural fashion design and the existing designs. This model is used by industrial designers as one of the objective evaluative methods, which assess the items using relative correlation.

In addition, this study attempts to express Korean face/human images using the digital textile printing technology for the cultural fashion items using traditional Korean culture. Digital textile printing technology has gotten rid of the complicated manual printing process to condense human energy and time. Furthermore, it is a nature friendly technology that also reduced the amount of starting supplies as well as industrial wastes. The entire printing process is computerized which allows databasing on the designs and it is also the most appropriate method to produce defined expressions and advantageous for small production of multi-products.

## 2. Development and Evaluation of Fashion Cultural Products Using Face and Human Images of Korea Using the Design Process.

### 1) Problem Identification

With current globalization and internationalization, national identity has been rising as one of the important cultural issues. In addition, with influence from postmodernism, the interests in human body images have been elevated. This study aims to study cultural fashion items using highly valued Korean face/human images. During this stage, survey was conducted with fashion professionals (graduates who studies fashion design) and people from the general public with interests in the beauty of Korea. From this survey, unifying ideas on cultural fashion item with Korean images were drawn up. Specifically, the following three standards were decided: the developed items must (1) be symbolic which promotes Korean identity in the global market; (2) be aesthetically pleasing which reflects current fashion trends as well as consumer's artistic tastes; (3) be functional to be suitable not only for ornamental purposes but also applicable in daily lives.

### 2) Preliminary Ideas: A primary design development

Based on the three criteria of functionality, aes-

thetics, and symbolism, much information was gathered and sample designs were produced from the following design items and factors.

First, T-shirts, scarves, and art walls were chosen as developmental items. These items are comparatively easy and symbolically effective items to express messages on national identity. Furthermore, T-shirts and scarves were chosen because they are affordable, easily approached by consumers on a daily basis, and attractive to the masses.

Second, patterns are important in symbolizing Korean image for this study so designs were resourced from Korean ancient murals, representative portraits from Chosun Dynasty, and face/human images of popular artists including Yoon Bok Shin, Hong Do Kim, and other anonymous artists. Design motifs used either their original or altered form.

Third, the five Korean traditional colors, "Obang-seak" were used for basic colors, which included red, blue, black, white, and yellow. Mixture of varying colors was produced from these basic colors. Reflecting on the results of the survey, T-shirts were generally made in achromatic colors of black and white with others made in single color tones. Bright colors were used for scarves and art walls. In addition, the original colors of the resource designs were also used as supplementary colors.

Fourth, materials for sample production were decided in consideration to the uniqueness of the item and the limitation of the digital textile printing. As a result, T-shirts were 100% cotton, scarves were 100% silk, and art walls were on cotton canvass.

Fifth, "ULGUL" logo was used to maximize the symbolism of item development based on face/human images. For T-shirts, part of "Giordano" logo from Giordano, Inc., a participating company for this study, is utilized.

As tools for design development, a textile CAD

program Texpro v.8.2, Adobe Photoshop CS, and Adobe Illustrator CS were used. The designs were developed in series using the resource designs and during the first design process, 2 designs of T-shirts, 2 designs of scarves, and 1 design of art wall were developed. In all, five serial designs were developed <Fig 11-13>.

### 3) Design Refinement: A secondary design development

Based on the preference survey of the first designs from the preparatory stage, during the stage of development supplement, second sets of designs were drawn up. Using the varying selected skills, the color way of the same designs was changed, the size of the patterns and the placement style of the patterns were readjusted. As a result, final products from the first and second designs were 6 T-shirts, 7 scarves, and 3 art walls. In all, 16 new designs were developed <Fig 11-13>.

The detailed development method of the first and second designs for each item is as follows: First of all, "Design 1" for T-shirts (Fig 11) used facial image from Chosun Dynasty's artwork "Mi-in-do" by Yoon-bok Shin. The facial image was made modern by simplifying it and placed as one point on T-shirts. "Giordano" logo was also inserted. "Design 2" also emphasized a facial image from an anonymous artist's work of "Mi-in-do." The original image was changed by giving it a mosaic look and logo was later inserted. In addition, the original image was attenuated and duplicated over each other for a more modern look.

For designs on scarves, the source of "Design 3" <Fig 12> was from "Su-ryeop-do" on the mural paintings on the tumulus located in Deokheung-ri. A woman's image from the Koryo Era on the mural paintings and an image of Japanese apricot tree

flower were attenuated and duplicated over each other. "Design 4" used grapes and priestling images which frequently appeared on women's long skirts during Chosun Dynasty. The original images of grapes and priestlings were attenuated and placed on the top and bottom of this vertically long scarf.




Finally, art wall design <Fig 13> displays a woman's image from the popular arts of Chosun Dynasty. "Design 5" found its source from "Mi-in-hwajang" by artist Hong-do Kim and "Wolhajeong-

in" by Yoon-bok Shin. The woman images from these paintings were placed and designed on Korean-type of material.





As can be seen, the development of designs for cultural fashion items using Korean images were generally from beauties of traditional Korean women which were given more modern looks by attenuation in the attempt to modernize traditional images.

(1) T-shirt

<Design 1>

Source	Preliminary Design	Secondary Design
 <p>S.1. "Mi-in-do" by Yoon-bok Shin</p> <p>S.1-1</p>	 <p>F</p> <p>D.1</p>	 <p>D.1-a</p> <p>D.1-b</p> <p>D.1-c</p>

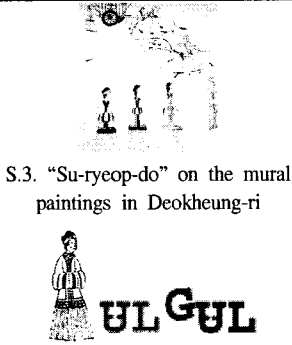
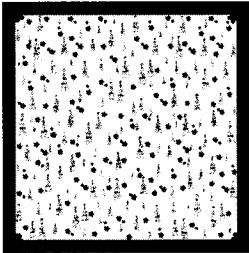
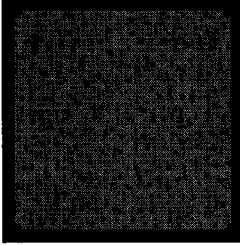
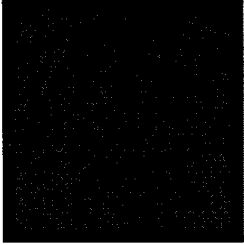
<Design 2>

Source	Preliminary Design	Secondary Design
 <p>S.2. "Mi-in-do" by an anonymous artist's work</p>  <p>S.2-2 'Giodano' logo</p>	 <p>F</p> <p>B</p> <p>D.2</p>	 <p>F</p> <p>B</p> <p>D.2-a</p>




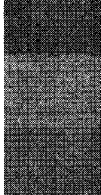

<Fig 11> T-shirt design series

(2) Scarf

<Design 3>

Source	Preliminary Design	Secondary Design	
 <p>S.3. "Su-ryeop-do" on the mural paintings in Deokheung-ri</p> <p>S.3-1. S.3-2. 'ULGUL' logo</p>	 <p>D.3</p>	 <p>D.3-a</p>	 <p>D.3-b</p>




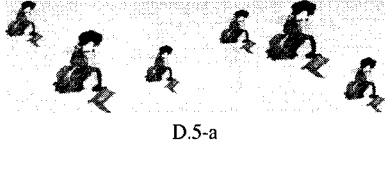

<Design 4>

Source	Preliminary Design	Secondary Design		
 <p>S.4. Grapes and priestling image</p> <p>S.4-1</p>	 <p>D.4</p>	 <p>D.4-a</p>	 <p>D.4-b</p>	 <p>D.4-c</p>

<Fig 12> Scarf design series

(3) Art wall

<Design 5>

Source		Preliminary Design	Secondary Design	
 <p>S.5. "Mi-in-hwajang" by Hong-do Kim</p>	 <p>S.5-1. "Wolhajeong-in" by Yoon-bok Shin</p>	 <p>D.5</p>	 <p>D.5-a</p>	 <p>D.5-b</p>

<Fig 13> Artwall design series

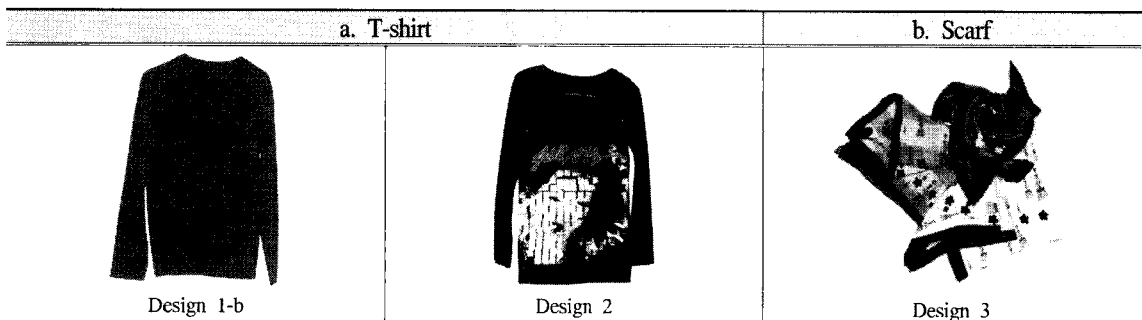
#### 4) Prototype Development

During the prototype development stage, the finalized designs from the previous stage were produced as samples. The samples that were produced were to be comparatively evaluated with existing products but there were difficulties in attaining existing art walls using traditional Korean images so only samples for T-shirts and scarves were produced in this stage. The final preference survey of the samples by fashion professionals and the general public showed higher preference for T-shirts "Design 1" "Design 2" and scarf "Design 3." Therefore, during this sample development stage,

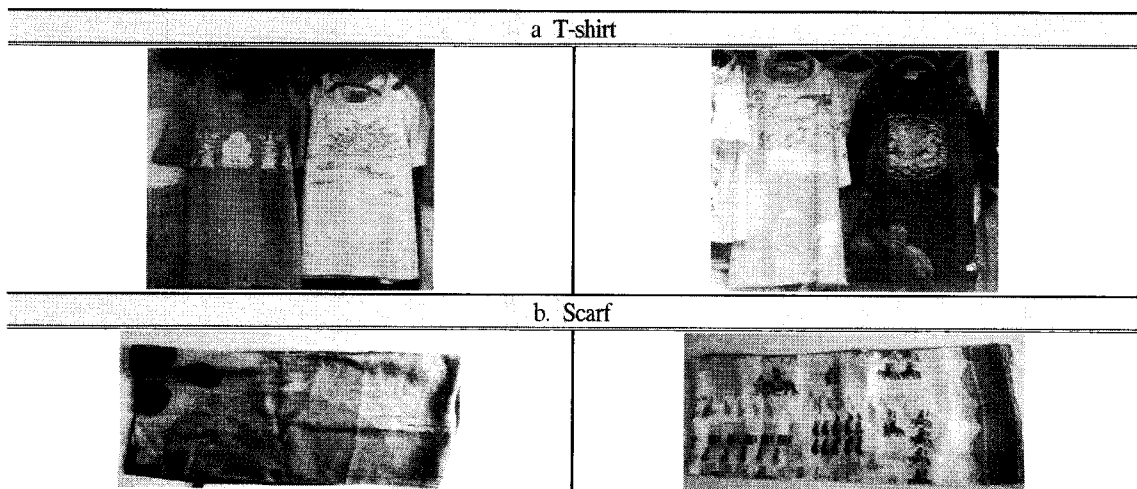
two designs of T-shirts and one design of scarves along with 3 other designs that were given color way changes were printed and produced with DTP. However, due to the material limitations of the DTP technology as well as high cost, portions of the scarves were produced by silk screen. Sample pictures of the products are shown in <Fig 14>.

#### 5) Evaluation Stage

Completed designed items were evaluated and measured for design improvement using evaluation charts on their symbolism, aesthetics, and functionality. Surveys were conducted by a total of 41



<Fig 14> New design samples



<Fig 15> Existing design samples

people including 21 fashion professionals (graduate students in fashion studies at Seoul National University) and 20 people from the general public (average age 28.7). They were given selected pictures of the new designs and existing designs, which particularly emphasized Korean images to provided comparative answers <Fig 15>. The existing fashion cultural products used for the evaluation process were provided by *Insa-dong* street shops or by specific artists and brands, which use Korean images for their products.

A scale of 1 to 5 was given in the survey for the standards of the designs' symbolic, aesthetic, and functional satisfaction with "1" being the lowest satisfaction and "5" being the highest satisfaction. The results were measured by Grant's alpha-beta model. This model's evaluation sets the fixed rate as alpha rate and the degree of satisfaction (1-Not at all; 2-Not really; 3-Somewhat; 4-Almost; 5-Absolutely) of design as beta rate. With the results of the survey or the beta rate, numbers were put in for both alpha and beta and they were multiplied to receive an evaluation. A fixed rate of 0.5 was set for symbolism, which evaluates the expression of Korean identity; a fixed rate of 0.4 was set for aesthetics which evaluated artistic beauty; a fixed rate of 0.1 was set for functionality because

this was an area that was difficult to judge by visibility. <Table 2> illustrates the comparative evaluation of the alpha rate of the standard (aesthetics, symbolism, and functionality), the beta rate, and the average rate.

As a result of the comparative evaluation by fashion professionals and the general public, new designs received an overall high rate of 3.597 over existing designs, which received 3.008. In particular, the criteria of symbolism, which had the highest fixed rate as it measured the expression of Korean image, received an exceptionally high rate of 1.789 for new designs compared to 1.231 of the existing designs. Besides symbolism, both aesthetics and functionality received higher rate compared to the existing designs. This result expounds on the affirmative evaluation in regards to the purpose of this study, which was to develop and offer direction for cultural fashion items using Korean face/human images as they meet the criteria of symbolism, aesthetics, and functionality.

## V. Conclusion

With the rising issue of national identity influenced by postmodernism that flourished since the latter part of the 20<sup>th</sup> century and the growing in-

<Table 2> Evaluation results by Grant's  $\alpha$ - $\beta$  model

Criteria	Importance( $\alpha$ )		Existing designs			New Designs		
			A	B	Average of A, B	A	B	Average of A, B
Aesthetics	0.4		1.455	1.374	1.415	1.484	1.371	1.428
Symbolism	0.5	0.25	0.633	0.596	0.615	0.908	0.865	0.887
		0.25	0.621	0.611	0.616	0.919	0.884	0.902
Functionality	0.1		0.397	0.326	0.362	0.377	0.383	0.380
종합	1.0		3.106	2.907	3.008	3.688	3.413	3.597

A = Fashion professional group (n=21), B = General public group (n=20)

terests in the body images, the purpose of this study was to develop cultural fashion items using highly valued traditional Korean face/human images to enhance global competition. The methods were historical and case studies on face/human images that appeared on costume. Through literature review, terms of "face" and "human" were defined and the difference between the West and Korea in terms of how face/human images appeared on dress was studied. For practical study, using the consumer preference survey on the traditional cultural fashion items as a starting point, new designs were produced using Lamb & Kallal's apparel design process. Furthermore, we attempted to provide founding materials for fashion designing with Korean images through a more objective evaluation process by using Grant's alpha-beta model. In addition, item production used digital textile printing technology which has the benefits of reduction in time and human energy as well as databasing of the design, ability to express high details, and small production of multi-products, which provided optimal method for fashion cultural product development.

The specific process and results are as follows.

First, during problem identification stage, it was recognized that there was a need to develop cultural fashion items that encompassed "symbolism" which promoted Korean identity in the global market, "aesthetics" that reflected the current fashion trends as well as consumer's artistic tastes, and "functionality" that was applicable to the consumer's daily lives. The three standards of symbolism, aesthetics, and functionality were selected for this study.

Second, in the preliminary idea stage, based on the three standards of symbolism, aesthetics, and functionality, first sample designs were produced from the selected design items and factors. T-shirts,

scarves, and art walls were chosen as development items. Furthermore, T-shirts and scarves were chosen because they were symbolically effective items to express national identity and not only were they affordable but also easily approached by consumers on a daily basis. The patterns were resourced from the Korean ancient murals, representative portraits from Chosun Dynasty, and face/human images of popular artists including Yoon-bok Shin, Hong-do Kim, and other anonymous artists. Design motifs used either the original or altered form. The 5 Korean traditional colors, "*Obangseak*" were used as basic colors and mixture of varying colors was produced from them. Considering the limitation of the digital textile printing, T-shirts were 100% cotton, scarves were 100% silk, and art walls were on cotton canvass. "ULGUL" logo was used to maximize the symbolism of item development based on face/human images and a part of "Giordano" logo from Giordano, Inc., a participating company for this study, is utilized. During the first design process, 2 designs of T-shirts, 2 designs of scarves, and 1 design of art wall were developed. In all, five serial designs were developed

Third, in the design refinement stage, based on the preference survey of the first designs from the preliminary idea stage, second sets of designs were drawn up. As a result, final products from the first and second designs were 6 T-shirts, 7 scarves, and 3 art walls. In all, 16 new designs were developed. The preference survey by fashion professionals and people from the general public showed that they preferred "Design 1" and "Design 2" from T-shirts and "Design 3" for scarves.

In the prototype development stage, the finalized designs from the previous stage, 2 designs of T-shirts and 1 design of scarves along with other designs that were given color way changes were

printed and produced with DTP. However, due to the material limitations of the DTP technology as well as the high cost, portions of the scarves were produced using silk screen. Sample figures of the products are shown in Figure 14.

Fifth, at the evaluation stage, symbolism, aesthetics, and functionality of the new designs were comparatively evaluated with existing ones using Grant's alpha-beta model to measure the need for improvement. The results of the survey, by fashion professionals and people of general public, showed high rates for all three of the new designs. In particular, affirmative results showed for the standard of symbolism of the new designs.

As can be seen, development of fashion cultural products with Korean face/human images will modernize, functionalize, and industrialize the origin and uniqueness of the spirit of the Korean culture and elevate the value of such products. In addition, it can be used to distinguish Korean competitiveness and to uplift the national image as well as contribute to economic benefits. Therefore, this is not only the union of the tradition and modernity but also generality of the world and the uniqueness of Korea, which should lead to further design and item development.

The limitation of this study was the usage of silk screens to produce some of the samples due to the limited type of material and high cost of digital textile printing. However, DTP is currently advancing its technology to print on more varying materials and also to reduce the cost while having the ability to have small production of multi-products. Therefore, this limitation can be easily overcome in the future studies.

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- 5) Min-ja Kim (2004b). *Aesthetics of Costume-Discourse II*. Seoul, Gyomunsa, pp.80-81.
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- 13) Tatarikiewicz, Wladyslaw (1998). translated by Yong-dae Lee, *History of Six Concepts*. Seoul, Theory and Practice, pp. 254-261
- 14) Min-ja Kim (2004a). *op. cit.*, p. 187.
- 15) Rice, David Talbot (1989). Ji-eui Kim and Hwa-ja Kim, *op. cit.*, pp. 94-97.
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called the popular paintings of this time “ukiyo-e” (Ko-eun Yang, 2003). *Complete Historical Study on Design Using Silhouette Images-Focusing on Unique Skills on Ukiyo-e*. Master’s Thesis, Graduate School of Industrial Art, Hong-Ik University, p.2.

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- 20) *Ibid.*, p. 85.
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- 22) Seongsu=divine spirits
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