A Proposal of ‘Culture Product Template’ Based on Cultural Heritage for Developing Design of Cultural Products

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Abstract: These days, many countries are more concerned about culture where traditions and thought exist and are putting spurs to the promotion of more value-added cultural industries, the development of individual cultural contents and products, and the growth of national images and profits. Likewise, Korea is making efforts to develop cultural products and contents based on traditions and cultural heritage through traditional culture reconstruction works such as the restoration of cultural prototypes. Consequently, every provincial government in Korea is making efforts to develop their own differentiating cultural products utilizing geopolitical characteristics, advanced industries, and historical/cultural resources. In particular, the former capitals of Korea’s ancient sovereignties are trying to develop cultural products based on ancient traditional culture and heritage in order to have their strengths and values approved by and spread to the world. This study will propose a ‘cultural product template’ which enables the systematic development of individual cultural products differing from those found in other cultures by discovering our cultural prototypes in more scientific ways, and recommending ways these could be used as materials for cultural products and developing them with subjects of tangible and/or intangible cultural heritage from our domestic traditions.

Keywords: Cultural Product Template, Origin of Meme, Cultural Heritage, Culture DNA

1. Introduction

The ultimate purpose of this study is to extract and systematize the Culture DNA latent in our tangible and intangible cultural heritage (archetypes) and to produce Cultural Design Products materializing creative substances from the Culture DNA formation system. It has its meaning in the mass production of design products and their universal use in our everyday lives, which would contain cultural archetypes (or where domestic culture DNA is inherent) derived from cultural heritage through Integrated Technologies in various fields.

Consequently, the author suggests the following efforts before realizing such objects:

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1 Culture DNA: A high molecular compound forming the gene of an organism, DNA is a genetic information unit as a factor producing a character. Culture DNA referred to in this study means information units forming culture such as memes that can be extracted from cultural archetypes, factors, and contexts. (March 2008, Dong-Yeon Lee).

2 Cultural Design Product: Products derived in any field and having culture DNA, it includes all tangible and intangible substances with cultural individuality, market competitiveness, and industrial productive efficacy such as ordinary provisions, global sightseeing items, public design articles, and cultural festivals and events.

3 Integrated Technology: A new technology where human society, arts, design, and emotions and the advanced technologies of science and engineering are fused together.
The development of technologies to extract and systematize the Culture DNA latent in tangible and intangible cultural heritage through the academic study of traditional cultural heritage.

The establishment of a Culture DNA archive by developing and managing the standard concepts, standard values, and standard system for formative work regarding Culture DNA.

The provision of developed technologies to the industrial world thereby ensuring companies that want to use cultural content to develop new products are encouraged to develop cultural design products with global competitiveness.

The foundation and continuous management of a Culture DNA digital archive, the contents of which would be used widely in the planning or production stage by other cultural industry fields such as gaming, broadcasting, publishing, movies and animation.

2. Systematic Development of Cultural Product

The transfer and sharing of objective information and technologies generated through such studies and technological development might enhance the planning and creative power of the cultural industry, contribute to the qualitative growth of cultural content and, ultimately, enable the globalization of our own culture (derived products), which is currently rooted solely in our country, on the basis of the practically integrated technologies of cultural design and Culture DNA extraction.

Of course, many examples where the sources of planning and creation from forms, colors, symbols, and patterns in cultural prototypes are used have been reported, but it is also true that most employ only their superficial aspects and fail to use them effectively as a source of planning and creation, lacking human scientific and formative art oriented understanding of the cultural prototype. Consequently, this study is different from others in that it extracts conceptual elements and Memes from cultural prototypes forming the culture DNA (originality) and generates their standards and systems to produce basic contents and creative conditions for content planning to which cultural prototypes are applied.

2.1 Research system for developing design of cultural products

Table 1. Research system for industrialization of cultural products with materials from cultural archetypes

<table>
<thead>
<tr>
<th>Research Stage</th>
<th>1st Stage</th>
<th>2nd Stage</th>
<th>3rd Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Object for Research</td>
<td>CONCEPT: Original concept as cultural heritage</td>
<td>VALUE: Superior competitiveness in market</td>
<td>GESTALT: Formative art that can be industrialized and practicalized</td>
</tr>
<tr>
<td>Targeted Content</td>
<td>Work value: Cultural originality</td>
<td>Marketability: Effective market competition</td>
<td>Productivity: Efficient industrial production</td>
</tr>
<tr>
<td>Spatial context</td>
<td>at Culture Yesterday POTENTIAL</td>
<td>at Market Tomorrow POSSIBILITY</td>
<td>at Industry Today REALITY</td>
</tr>
</tbody>
</table>

4 Meme: An element consisting of culture like a gene - social customs or culture that is successfully reproduced or imitated.
<table>
<thead>
<tr>
<th>Process</th>
<th>Details of research and development by field</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ruler</strong> (Measuring with a ruler)</td>
<td><strong>1st Stage</strong> Formative art oriented _gestalt oriented approach to evaluate formative originality <strong>2nd Stage</strong> Business administration oriented _relation oriented approach in terms of market <strong>3rd Stage</strong> Technical engineering oriented _relation oriented approach</td>
</tr>
<tr>
<td><strong>Interpretation and evaluation of content of cultural heritage</strong></td>
<td><strong>Development of scale to measure cultural work value (originality) of cultural archetypes through cultural and formative art oriented approach</strong> <strong>Development of scale to measure cultural marketability (value to exchange with money) through business administrative oriented formative interpretation of cultural archetypes</strong> <strong>Development of scale to measure cultural productivity through technical engineering oriented formative interpretation of cultural archetypes</strong></td>
</tr>
<tr>
<td><strong>Sieve</strong> (Separating with a sieve)</td>
<td><strong>Extraction of aesthetic elements (&amp; memes) to make valuable work from cultural content, which have aesthetics and cultural originality.</strong> <strong>Extraction of marketable elements (&amp; memes) from cultural content, which have effectiveness in marketability or competitiveness.</strong> <strong>Extraction of product elements (&amp; memes) from cultural content, which have efficiency in product value or industrial productivity efficiency.</strong></td>
</tr>
<tr>
<td><strong>Extraction and contextual interpretation of memes consisting of cultural content</strong></td>
<td><strong>Development of ways to derive aesthetic elements (&amp; memes) and contexts through cultural and formative art oriented approach</strong> <strong>Development of ways to derive marketable memes for cultural business</strong> <strong>Development of ways to derive productive memes for cultural experiences</strong></td>
</tr>
<tr>
<td><strong>Culture DNA</strong> <strong>Mold</strong> (Molding)</td>
<td><strong>Development of templates for generating standard culture DNA concept systems and interpreting works</strong> <strong>Development of technology for generating standard marketing values of products using culture DNA and of templates for developing products (cultural design planning)</strong> <strong>Development of technology for generating standard industrial formative systems where culture DNA is applied and of templates for designing process plan (cultural design production)</strong></td>
</tr>
<tr>
<td><strong>Formalization of relation between evaluated content and extracted memes to generate culture DNA</strong></td>
<td><strong>Development of ways to generate standard concepts and systems for cultural aesthetics for work and originality that can be defined as culture DNA</strong> <strong>Development of technologies to generate standard values and systems for marketable and competitive effectiveness that can be defined as culture DNA</strong> <strong>Development of technologies to generate standard plasticity and systems for productivity that can be defined as culture DNA</strong></td>
</tr>
<tr>
<td><strong>Culture technology</strong></td>
<td><strong>The development and management of standard systems for culture DNA to establish culture DNA archive:</strong> <strong>- Development of classification system, standard terms, and management system</strong> <strong>- Development and management of related CT reports</strong> <strong>- Establishment of information transfer and share system</strong> <strong>- Development of certification standards and system</strong></td>
</tr>
</tbody>
</table>

* Table above is the research promotion system operated by Moonrigak® since 2008, co-developed by Dong-Yeon Lee and Moo-kyung Munn.

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5 **Moonrigak** is the East Asian Culture Restoration Institute founded by Korea University of Technology and Education in 2008 and has professors and researchers in human and social science, business administration, design, and science/engineering departments. The Institute finds various materials contributing to the planning and creation based on cultural prototypes through smooth cooperation between school systems, even checks competitiveness in markets and efficiencies during production, and has good research conditions to make use of advanced facilities and engineers to easily produce prototypes of research findings.
As mentioned above, in order to utilize a cultural prototype for modern application, it is necessary to perform the following in advance: extracting cultural elements from the cultural prototype; developing guidelines defining the relationship between the elements and their arrangement; evaluating the arrangement of the elements; developing an evaluation model for user demand; and establishing a model for the overall process for the utilization of the prototype in a modern way. In addition, in order to attempt the activation and development of cultural content based on the cultural prototype, it is necessary that objective planning and creation be performed based on logical grounds that can increase the value of the cultural content as commercial products, apart from the individual taste of the planner or designer. Next, I would like to introduce cultural product templates devised for actual systematic cultural product development based on the meme of origin with the aforementioned activities performed in advance as premises.

2.2 What is the ‘Cultural Product Templates’ for Developing Design of Cultural products?
The ‘cultural product templates’, which allow a variety of cultural products to be viewed at a glance, were developed for the systematic and integrated development of various cultural products based on the tangible and intangible cultural heritage of traditional Korean culture. Using these templates, it is possible to develop products by classifying selected relics into 4 types of cultural product clusters and 9 types of development items.

Figure 1. Templates for Cultural Product Development

- 1st Stage: Position the relics and cultural materials in memes located at the center of the cultural product templates and classify 4 types of cultural product clusters.
  * Four cultural product clusters: Revival, Re-creation, Reconstruction, and Valuing
2nd Stage: Cultural product clusters further classified into 9 types of commercialization methods according to the classified clusters.


3rd Stage: Cultural product commercialization methods Set items to be developed according to 9 types of commercialization methods.

Concrete description of 4 types of product development clusters and 9 types of item development clusters is as follows:

1) Revival: Cultural products that make the archetype and meaning of traditional culture revive.

① Meaning Revival: Covers metaphysical revival of intangible thoughts and concepts such as consciousness, norm, way of thinking, etc. as well as the revival of ceremonies through thorough historical research.

![Figure 2 Examples of Meaning Revival: Revival of parade for national foundation ceremony (left) and Enthronement of King Munyeong (right)](image)

② Physical Revival: Covers metaphysical revival of proportional revival of tangible prototype of traditional culture in shape, material and size as well as process restoration including fabrication of the actual object.

![Figure 3 Examples of Physical Revival: Miniatures of Gilt-bronze Incense Burner and patterns of Baekje (left)
Examples of Visual Re-creation: Bag and note with lotus flower pattern of Baekje (right)](image)

2) Re-creation: Cultural products re-created based on cultural heritage.

③ Visible Re-creation: Covers the design products that apply the entire or some element of the visual characteristics of tangible cultural assets (Fig. 3).

![Figure 4 Examples of Functional Re-creation: Interior or exterior material for buildings and wall papers](image)
④ Functional Re-creation: Covers design products that reflect the original functions of tangible cultural assets or assigning their functionality of modern meaning (Fig. 4).

3) Re-construction: Cultural products which include the intricacies and stories inherent in traditional culture.

⑤ Story Reconstruction: Covers cultural products that reconstruct the origin of cultural assets and related stories, and reflect tangible and intangible content including created fairy tales, CFs, dramas and documentaries.

![Figure 5 Examples of Story Reconstruction: Stories reconstructed from the gold crown from the tomb of King Munyeong and Gilt-bronze Incense Burner](image)

⑥ Surrealistic Reconstruction: Covers formative or artistic reconstruction through visual re-creation, surrealistic expansion or exaggeration, and utilization of other media.

![Figure 6 Examples of Surrealistic Reconstruction: Large sculpture of Gilt-bronze Incense Burner (left) Examples of Integrated Value: Insignia of ‘three-legged bird’, symbol of Goguryeo Dynasty and a character from Seodong of Baekje Dynasty Examples of Experience Value: Experience based learning of a cultural festival Examples of Global Value: Matryoshka in Russia and Dala horse in Sweden](image)

4) Valuing: Cultural products where general meaning, shape or image of cultural heritage is sublimated into cultural value

⑦ Integrated Value: Covers brands, symbols and characters designed based on integrated image.

⑧ Experience Value: Covers experience on cultural values through the reappearance of experience or process.

⑨ Global Value: Covers global products with values for which people around the world can feel sympathy, over the representative cultural product of an original culture.

2.3 How to Develop Cultural Products through Cultural Product Templates

Table.2 shows the summary of 4 product clusters and 9 item clusters that can be developed based on the templates for cultural product development as shown in Fig. 1.

Here, 2 relics from the Baekje Kingdom and 1 from the three kingdoms were substituted for the ‘Origin of Meme’.
Next, in order to show the cases for cultural product design by item, this study took the ‘Lotus flower pattern Roofing tile’ of a cluster for cultural product development.

As shown in Table.2, it is possible to clearly identify various items of cultural products that can be derived from the meme of origin of cultural heritage by listing product items that can be developed from each relic in the form of a ‘cluster for cultural product development’.

Next, in order to show the cases for cultural product design by item, this study took the ‘Lotus flower pattern Roofing tile’ as an example as shown in Table.3.

Table.3 Derivative Product Items according to the ‘Lotus flower pattern Roofing tile’ of Cultural Product Cluster

<table>
<thead>
<tr>
<th>Lotus flower pattern Roofing tile</th>
<th>Code</th>
<th>Type of Cultural Product</th>
<th>Cases for Design Development</th>
</tr>
</thead>
</table>
| Ruler -> Sieve -> Mold           | MR   | Events related to lotus flowers | • Revival of the meaning and recognition of the lotus pattern through historical research by performing design for events applying a lotus pattern and exploiting its meaning.  
• Design of an events pavilion for the representative Buyeo festival using a lotus pattern.  
Commercialization of a lotus flower charm assigning a meaning relating to the 8 fortunes to its 8 leaves. |
|                                 | PR   | Model products            | • Development of object products by manufacturing models reviving the actual size and shape, miniatures, etc. |
|                                 | VR   | Stationery products       | • Products including stationery, bags, clothing, etc. through the visual re-creation of a Lotus flower pattern Roofing tile.  
• 2D and 3D practical stationery using a lotus pattern character.. |
|                                 | FR   | Building materials and household goods | • Subsidiary materials for building such as wall paper, tiles and walkway blocks. Interior items such as lighting fixtures, flat interior materials, flower basins, etc.  
• Favorite foods | • Sabi lotus flower bread, print package, box design |
and goods and package design.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIR</td>
<td>Lotus flower stories • Fairy tales of the 8 leafed lotus flower. Stories using tales of the lotus flower.</td>
</tr>
<tr>
<td>SrR</td>
<td>Lotus pattern sculptures • Large decorative sculptures for walls and floors.</td>
</tr>
<tr>
<td>IV</td>
<td>Sabi lotus brand • Sabi lotus flower brand and character development.</td>
</tr>
<tr>
<td>EV</td>
<td>Experience of making lotus pattern • Experience of making pottery with the Sabi lotus pattern.</td>
</tr>
<tr>
<td>GV</td>
<td>Representative cultural tourism products for Baekje culture • Global commercialization of Sabi lotus flower bread.</td>
</tr>
</tbody>
</table>

3. Conclusions

Despite various supports and efforts at the national level with the recognition that the cultural industry is a high value added growth industry that will lead the growth of the Korean economy in the 21st Century, our national competitive power index for the cultural industry is rated low compared to advanced countries. In

Fig.7 Examples of Proposed Designs for Derivative Product Items according to the ‘Lotus flower pattern Roofing tile’ of Cultural Product Cluster
particular, it is true that in Korea the ‘business environment and competitive power of enterprises’ and the
‘creation based supporting environment’ appear to be relatively weaker than other factors.

- It is thought that for the success and failure of the cultural content industry, the exploitation of materials for
interesting and creative content has a more important value than the technical level and that when this is
achieved for our indigenous cultural heritage, it will lead to more valuable and competitive results. Our nation’s
cultural depth and richness, accumulated through our long history, is recognized worldwide. However, currently
these values are not being positively utilized for the cultural content business.

- Due to an increased living quality and a higher level of consciousness, customers desire a spiritual exchange
with cultural products involving cultural and social values dwelling in the products rather than simply their
stationary aspects, such as their external shapes and colors.

- Without ceasing to simply preserve the cultural prototypes inherited from our ancestors, we also have a
responsibility to apply this cultural prototype in order to ensure its success. For this to happen, it is important to
establish cultural elements which must be considered simultaneously in the three dimensional aspect of time,
space and objects. In order to simultaneous approach this three dimensional space for the cultural prototype, it is
necessary to perform an inter-disciplinary study in the fields of social and human science, business
administration, design, science and engineering, etc.

- The significance of this study on the value and practicalization of cultural products through a multi-
disciplinary approach is to establish an overall system to develop cultural design products by considering their
commercial value in the market. In addition, it will investigate the aspect of industry that produces products
through restoration and digitalization of cultural prototypes, as well as taking a management science approach,
so that related enterprises can utilize this system in the entire process, from planning and creation to production
and sales.

- The significance of cultural DNA derivation and standardization through objective and systematic historical
research lies in the creation of a standard and system that can exploit cultural originality and uniqueness as
cultural DNA. It must then effectively utilize them for our cultural industry by performing systematic and
objective historical research on the historical background, thoughts, values and formative principles, etc.,
inherent in this cultural prototype in order to exploit the cultural originality and uniqueness inherent in our
cultural prototype.

4. References and Citations


http://www.buyeotour.net/index/index.asp
http://buyeo.museum.go.kr
http://gongju.museum.go.kr/index_kr.html
http://info.cha.go.kr
http://baekjehyangno.culturecontent.com
http://www2.kongju.ac.kr/pcri/index.htm
http://www.paekche.or.kr
http://www.paekche.org
http://www.bhm.or.kr/index.jsp