

PHENOMENOLOGICAL CLASSIFICATION OF CULTURAL HERITAGE: ROLE OF VIRTUAL REALITY

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Abstract:

Human consciousness is always the consciousness toward something and our perception of cultural heritage is no exception. Thus, understanding human cognition is closely related to understanding how the perceptible objects are classified in human mind. The perceptible objects include both physical and virtual experiences and thoughts, and it is important and necessary to analyze the types and the effective levels of those objects. With the emergence of Virtual Reality (VR) technologies in cultural heritage field, it is necessary to understand how and why different cognitive media such as real or virtual reality including VR, are differently recognized by people. This study suggests the philosophical and theoretical frame for the usage of phenomenological classification and analysis. By using this new classification with the case of Korean built heritage, the role of VR is explained in cultural discourse of the community.

Key words: phenomenology, virtual architecture, digital archaeology, virtual reality, cultural heritage, 3D reconstruction

1. Introduction

The loss of cultural heritage leads to the loss of cultural identity for the community. Avrami, Mason, & Torre (2000) explained that the built heritage in particular covers aesthetic, historic, social, spiritual and symbolic merits which are decided by people and communities. Built heritage is also believed to be one of the most influential and fundamental objects among several tangible cultural heritage, such as clothing or food. It is because a built heritage becomes either the stage or the space where the social activities could be realized with both tangible and intangible heritage (Lee, 2013). The governments of major countries appropriate the budgets to preserve and manage carefully the built heritage. The important reasons for government engagement are that the symbolic built heritage gives the foundation of social and concrete development (Stephens & Tiwaria, 2015), and the built heritage is a vehicle through which national and other identities can be expressed on domestic and international stages in pursuit of political ends (Munasinghe, 2005).

Thanks to its long and rich history¹, Korea has numerous built heritages such as Gyeongbokgung Palace (Fig. 1).

However, Korea has suffered enormous loss of historical materials including cultural heritage as well, which led to the current situation lacking the diachronic Epistemological frame. And there are mainly two reasons: first, the major wars with its neighbouring countries such as the invasion from Genghis Khan in the 13th century, and the Japanese invasion in the 16th century; and second, its rapid modernization and



Figure 1: Gyeongbokgung Palace

industrialization in the 20th century (Namgung, 1996, p. 40). There also existed a rather scornful attitude about the artists from mid to late Joseon dynasty, 17th to 19th century, based on strict Neo-Confucianism. According to Park (2011, p. 119), the status of the royal affiliated institute called "Dowhawon", where all the court artists belonged to, has been degraded from Goryeo dynasty to Joseon dynasty². Furthermore, this attitude was even harsher on the professional artist group compared to the ones belong to the royal court.

As a result, current discourse on the tradition of Korea mainly focuses on its relatively recent era, late Joseon dynasty³, and the discourse on the traditional architecture is no exception. Thus, this lack of diachronic and substantial cultural heritage leads the

¹ According to Samguk Yusa (Memorabilia of the Three Kingdoms) published in the 13th century, the Gojoseon kingdom was founded in northern Korea and Manchuria in 2333 BC.

² Goryeo dynasty is from 918 to 1392 AD, and Joseon dynasty is from 1392 to 1897 AD.

³ There are several discussions but generally speaking, late Joseon era is from 1598 to 1897 AD.

shortage of visible tangibility in built heritages, clothing, and art paintings. Ancient Greek philosopher Aristotle valued the importance of the sense of sight above any other senses; a human being desires 'eidenai' (that is, knowing by cause). We enjoy the senses and among them we prefer the sense from two eyes to any other ones. That is because we can feel the most via the sense of sight compared to the others, and also can recognize the difference of the objects most apparently via this sense. In this regard, there lies the gist of the identity issue in Korean society, that is, absence of entities and sense of reality. The current discourse for Korean national cultural identity seems to be confined in idealism (Lee, 2016, p. 218). That is, as Lee said, there have been many studies in Korean study dealing with the idea, concept, or notion without the entity or reality by asking the metaphysical questions such as "What is the definition of something Korean?" or "What is the identity of beauty of Korean?" (2013, p. 3).

And this tendency also leads to the neglect of more active usage of the existing visible resources. For example, the work such as 'Haesangmyungbu-do' (Fig. 2) in Joseon dynasty, which has the potential as a cultural content in several media thanks to its rich traditional monster contents, is neither known nor used in the society at all. Instead, the discourse about Korean traditional monster is mainly about the story's moral theme or its invisible characteristics instead of its concrete figure or shape.

Besides, it seems that there often exists a strong tendency to view or judge a new excavation from the latter part of Joseon's cultural esthetic point of view even when the excavated heritage is from previous eras of Joseon dynasty. This may be due to this period's higher proportion in the number of relics or heritage. I believe that via the inductive process, the individual entities with the concrete shapes develop the identity of the cultural community and also create the discourse on how to utilize them. Afterwards, those visible entities become the perceptible objects of Korean culture.



Figure 2: Haesangmyungbu-do (part).

2. Phenomenological classification of cultural heritage

Hence, it is argued that we need to apply a strict view for the cultural discourse as it seems a necessary work to have the cultural discourse with minimizing any possible biases from the knowledge gained from the society or existing education on the cultural entities. It is suggested applying the philosophical methodology from phenomenology in order to analyze the human cognition on the cultural heritage. Before introducing the detailed methodology, the basic theoretical background of Phenomenology is briefly reviewed. Edmund Husserl, the father of phenomenology, explained that the actual meaning of the sentence, "I think", is in fact "I think (something)". That is because human consciousness is always the consciousness of (toward) something. This is called 'Intentionalität (Intentionality)'. Park (2007) explained that the object in your mind might not exist without intentionality. He added that "this does not mean that it is not existing in the real physical world but means that it just can not be the perceptible object for us"⁴. Husserl named such a process that activates the hylomorphism (cognitive materials) and constitutes the meaning of the object 'Noesis', and its outcome 'Noema'. Thus, Noema is the content itself that appears in the operation of awareness.

In order to understand Noema, which is beyond the scope of expressions from the language, Husserl suggested the methodology called 'Epoche', in other words, suspension of judgment (Park, 2010, p. 180). Park (2010) argued that this is the right process for Epoche as the language contains the biases or ideology of the specific speech community. If we apply this process to the perception on cultural heritage, we may find that there are different perceptions or impressions on the same heritage between the community who are familiar with this heritage based on plentiful information, and the foreign community without such information. For example, there must be quite different impressions or perceptions on the empty Hwangnyong-Temple site between Korean and foreign communities when the members of each community visit the site for the first time⁵. In this study, we redefine the scope of Epoch, which allows the basic cultural backgrounds of the community members because it is practically almost impossible for them to exclude those basic backgrounds completely. Besides, it is believed that the outcomes from this kind of artificial manipulation of human cognition would be not meaningful for cultural studies in humanities. Thus, we would like to define this study's scope of Epoch as the perspectives of the member of the society (community) on cultural objects with minimized bias from any metaphysical impression or the education effect, but instead, only from their sheer experiences on the objects. This methodology of Epoch is meaningful not just for the public but also for the experts. For example, one of the famous professors of

⁴ In other words, unless my consciousness reaches that building, there is no way that the building becomes the perceptible object to me (Park, 2007, p. 76).

⁵ That is because this temple site is famous in Korea and thus, Koreans have much chance to learn about the historical and cultural meaning of the site. Meanwhile, foreigners would rarely or never hear about the importance of this site.

architecture in South Korea, Dong-Soo Han argued, “I can not avoid thinking that the current description of the history of Korean architecture (in academia) is often backdating the contents of Joseon dynasty era to the entire period of Korean architecture. Particularly, I doubt how much similarities of architectural characteristics are actually sharable between the architecture in Joseon and the ones in its previous periods such as Goryeo dynasty or Three Kingdom eras⁶. There are often deductive interpretations (based on the existing architectures in Joseon dynasty period) on the entire Korean historical buildings, and there is quite a possibility of twisted perspective on the actual Korean architectures” (Han, 2004, p. 7-8). Thus, in current Korean society there is an urgent need to secure more diachronic and objective view on Korean culture that has the history over 2000 years. Therefore, this methodology of phenomenological Epoch is believed to be the relevant and important process in analyzing the Korean culture including the field of architecture.

After this process, the object in human cognition is finally ready to be analyzed. Yoon (2010) explained the human experience in recognizing the object is a passive process because a person cannot avoid seeing it when it is offered to his or her senses even though the object is just hallucination that does not exist in the physical world. As Yoon (2010, p. 390) argued, the important work in understanding the senses is the correct understanding of how the cognition is composed by (different types of) experiences rather than the discussions focusing on the object itself. For this purpose, through phenomenological classification, four types of cultural heritage (excluding imaginary heritage) within the human brain (cognition) are illustrated (Table 1).

Table 1: Phenomenological classification of cultural heritage.

	<i>Real existence</i>	<i>Real non-existence</i>
<i>Positive self-identity</i>	Real object	Object with intentionality
<i>Negative self-identity</i>	Unrecognized object	Object without intentionality

In this classification, ‘positive self-identity’ means something that a person recognizes as an existing thing; vice versa for ‘negative self-identity’. So this axe is based on ‘human cognition’. ‘Real existence’ means something that physically exists in the real world; vice versa for ‘real non-existence’. However, ‘real non-existence’ is something that had existed until some point in history but disappeared for several reasons.

Thus, there are four types of heritage as outcomes:

- Real object (something existing in the physical world and people are recognizing it).
- Unrecognized object (something existing in the physical world and people are NOT recognizing it).
- Object with intentionality (something NOT existing in the physical world but people are recognizing it).
- Object without intentionality (something NOT existing in the physical world and people are NOT recognizing it).

⁶ Goryeo dynasty is from 918 AD to 1392 AD, and Three Kingdom including United Silla era is from 108 BC to 935 AD.

According to Park (2010), when human recognize an object, there are two types of experiences: ‘intuition’ (intuitive process) and ‘signifikation’ (signification process). The former involves the ‘materie’ (material) when he or she experiences it, while the latter does not. For example, the intuitive process occurs when the person cognizes how the medieval cannon fires by watching and experiencing the actual cannon firing. And the signification process occurs when he or she understands how the medieval cannon works by reading the textual explanations on the scene of the medieval cannon fire. Park (2010) pointed out there is an important distinction between the two processes; that is, whether the *materie* (material) is involved or not. The experience occurs in both cases but the former is ‘the establishing process (of the perceptual object)’ and the latter is ‘the non-establishing process’. The intuitive process with the material gives the person the senses that are ‘full’ (*fülle*, rich and authentic), however, the significance process only gives the coreless relationship with the perceptual object and this object is only ‘supposed’ (*vermeint*) without the sensuous contact. Husserl articulated the sensuous contents through such an intuitive process as “full (rich and authentic)”. Thus, when there becomes the ‘full’ unification between the cognition on the object and the intuition, then only the verification on the object becomes possible (Park, 2010, p. 186-187).

Furthermore, this ‘full verification’ establishes the basis of the ‘non-full verification’ (Park, 2010, p. 195). In short, when there is the existing cultural heritage in reality that you can experience something with your own senses, your experience is more intuitive and fulfilled. And such an experience supports the basis of the objects that cannot be experienced in reality, and also invigorates the experience on this kind of perceptual object as well. In this respect, we examined the possible impacts from the landmark built heritage on other types of heritage considering the phenomenological dynamics in the classified Table 1.

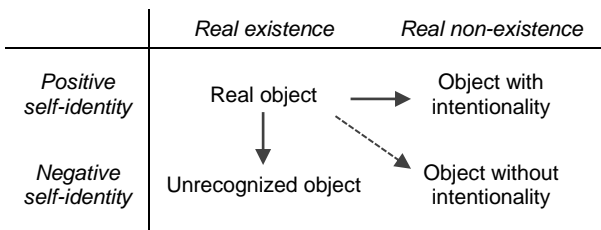
As explained, the current status in Korea requiring the diachronic cultural Epistemological frame is due to the shortage of substantial cultural heritage, especially built heritage before Joseon dynasty. Therefore, Korean society needs more individual cultural entities that may develop more completed national and community identity via the inductive process. Among the candidates that belong to “Object with Intentionality” in Table 1, let us take the gigantic Temple of Hwangnyongsa (Fig. 3) for



Figure 3: Hwangnyongsa Temple Site.

example, which was built in 569 AD (or 645) and destroyed by Genghis Khan's Mongolian invasion in 1238. Hwangnyongsa Temple (Fig. 3) is one of the most well known lost built heritages in Korea, which could be the symbol of ancient Korean culture not just in architecture but also in early Buddhism representing ancient Korean religion. If the temple were rebuilt, the influence of its existence would be significant in various other types of cultural heritage. Now the rebuilt Hwangnyongsa Temple is transformed from 'Objective with intentionality' to 'Real object' in Table 1. The possible impact from this existence is briefly explained in Table 2.

Table 2: Phenomenological dynamics from the occurrence of real object.



First, it is expected that the experience of the rebuilt temple may arise a high profile on different types of cultural heritage in the same region such as another cultural heritage in the category of 'Object with intentionality', which does not exist any more or the ones in 'Unrecognized object' category, which is existing but not recognized enough. Hence, it is expected that 'Object with intentionality' such as the other destroyed built heritages, which may represent a specific era of Korean history, can be rebuilt and become 'Real objects'. And particularly for 'Unrecognized objects', it is expected that there would be a long-term and constant interest thanks to the existence of such a landmark built heritage around them. As a result, we may expect the cultural heritage in 'Negative self-identity' including 'Object without intentionality' to become the one in 'Positive self-identity'. Finally, the existence of the landmark built heritage, 'Real object', may provoke the imaginary cultural objects such as a traditional monster or fairies in the region compared to when there was only the empty site without any existing architecture.

3. Role of virtual reality

It is, however, not an easy task to rebuild a landmark built heritage due to several complicated issues such as the technology levels, theoretical rationales, or financial problems. As an alternative or a preconstruction phase, there is an emerging technology, namely Virtual Reality (VR). VR, a rapidly advancing field in computer science, will soon allow users to access experiences that have never before been possible (Hill & Meister, 2013). The fields impacted are varied, but the institutions including museums, libraries, and sightseeing sites will undoubtedly utilize VR for historical, scientific, artistic, and educational learning and enjoyment (Gantt & Woodland, 2013; Hill & Lee, 2009; Lewis, 2015; Moorefield-Lang, 2015; Pierdicca et al., 2016).

However, there have been very few studies analyzing the effectiveness of VR replacing the real object. One of the recent studies by Yan, Ming, & Jin (2013, p. 95) explained that their VR technology in built heritage

reconstruction has the following advantages: 1) the international principle of least intervention to the archaeological site is duly respected; 2) a virtual reconstruction is capable of showing all the detailed information enough, with multiple hypotheses for discussion which demonstrates the scholarly rigor; and 3) the output can be disseminated in many possible ways, thus providing maximum public participation.

Understanding how the experiences of VR differ requires specific inquiry through phenomenological exploration and analysis, and considering its importance there has been few studies approaching this topic based on solid theoretical backgrounds. Thus, the further research experiment exemplifies the potential for VR to enhance cultural heritage through a comparison of physical and virtual experiences. Among the four types of cultural heritage in Table 1 in human brain (cognition), the VR is located as it is presented below in Table 3.

Table 3: Phenomenological classification of cultural heritage and VR.

	<i>Real existence</i>	<i>Real non-existence</i>
<i>Positive self-identity</i>	Real object (Sense + Visual)	Object with intentionality (e.g. Text)
	Visual media • VR • Still image	
	Visual media • Virtual Reality • Still image	
<i>Negative self-identity</i>	Unrecognized object	Object without intentionality

In Table 3, there are three cognitive levels from different types of medium for human cognition. According to the degree of self-identity (to human), it is listed as follows:

- Real object (Sense + Visual).
- Visual multimedia (VR and Still image) (Visual).
- Text (Imaginary).

Human cognition includes both physical and virtual experiences and thoughts. Through experiencing both physical and virtual cultural heritage objects, this further research may seek to identify differences between the experiences of participants exploring those forms. We may find how and why a person feels or recognizes the different levels of medium (Real, Visual, and Text) of cultural heritage. Next study may analyze the rationales of how the different levels of medium influence on the transformation from two Negative self-identity types (Unrecognized object & Object without intentionality) to each type of Positive self-identity types (Real objects & Object with intentionality) in the phenomenological heritage classified table. By this study, we may find some productive outcomes; for example, the most effective media type. Besides, the research on the motivation to transform the two types of Positive self-identity may be studied. In other words, if a person is satisfied with the experience of three types of medium for 'Object with intentionality (not existing physically)', is he or she wanting to see that heritage in 'Real object' form (by actual restoration or rebuilding)? Or is he or she satisfied with that specific condition? In that case, what

kind of medium among three is most influential on that kind of desire? These are all interesting research topics that could be investigated based on the phenomenological classified table (see Tables 2 and 3).

For example, there are many destroyed landmark built heritages in Korea, and we may compare the outcomes from the different types of media except the real object type. There have been several attempts to build virtual Hwanggyongsa temple since 1990s but there were no representative cases, which were successful enough to be known to the general public. However, recently there are a few promising movements producing high quality 3D images and VR such as the products from Technology Research Institute for Cultural Heritage (TRICH, <http://jikio.com>) built in 2016 (Fig. 4). Assuming we have the representative virtual Hwangnyongsa Temple, we may assign its existence in the phenomenological classification table (see Table 4).



Figure 4: Virtual Hwangnyongsa Temple.

Furthermore, if the virtual Hwangnyongsa Temple turned out the most significant type of media, we may investigate the level of importance of the role of VR for such lost buildings. We can also investigate whether it has effects on other cultural heritage in other categories such as Object with intentionality or Unrecognized object compared with other types of media. We can also investigate whether people want to see the real object, physically rebuilt Hwangnyongsa Temple, or are just satisfied with the virtual model of the temple. The findings from such studies would explain whether there are any obvious public needs for us to rebuild the physical heritage or VR of built heritage would perfectly be enough to meet the needs on the lost built heritage. In addition, even if it turned out that there are needs for the physically rebuilt heritage, clearer understanding on the exact role of VR would be revealed from the studies.

When artifacts of cultural significance are lost due to either wars or natural disasters, a generation of youth has no access to the history of their people. This kind of study can also investigate the use of VR to archive cultural artifacts and compares different modes of experiencing those artifacts. By studying this, we may

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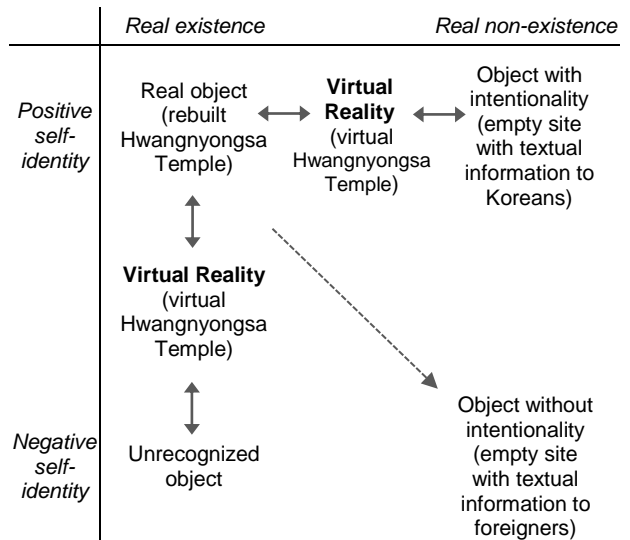
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understand what kinds of media including the VR architecture would be most influential in recognizing the cultural heritage that does not physically exist, and how it could influence on the social recognition on heritage.

Table 4: Possible role of virtual Hwangnyongsa in the phenomenological classification.



4. Conclusion

It is argued that the diachronic cultural identity of the cultural community or nation may be established via the inductive approach only when the individual perceptible objects came into existence and known to the members of the community. In other words, when the macro discourse dominates the cultural discourses deductively in a society, we cannot expect fruitful outcomes. Thus, it is also important and necessary to analyze the types and the effective levels of the perceptible objects.

This study suggests the theoretical background for further exploring the role of VR including the architecture in cultural heritage study through phenomenological classification. There have been several studies indicating the possibility of applying the VR technology for the lost built heritage. Most studies pointed out the economic benefits from the VR compared to physically rebuilding of the heritage (Stanley-Price, 2006). However, there are very few attempts based on the solid theoretical explanations. This study may contribute to a more clear understanding of the best practices for education and appreciation of virtual cultural heritage. And the results of further related researches may be applicable for many interdisciplinary fields such as architecture, tourism, library and archival study, and cognitive science. More in-depth studies on the effects of each field could be realized based on the theoretical framework suggested in this study.

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