THE IMPACT OF VISUAL MEDIA ON SOCIAL COGNITIVE CONCEPT: THE CASE OF CULTURAL OBJECT RU (KOREA)

EL IMPACTO DE LOS MEDIOS VISUALES EN EL CONCEPTO COGNITIVO SOCIAL: EL CASO DEL OBJETO CULTURAL DE RU (COREA)

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Highlights:

- This article provides the philosophical background of the importance of visible cultural heritage based on the phenomenological point of view.

- Significant impact on social members' cognition of the visible cultural heritage is discussed in the case of the traditional Korean building.

- In this respect, the important role of Virtual Reality technology is highlighted.

Abstract:

There have been very few studies explaining the theoretical basis on the importance of visible cultural heritage. This study provides the philosophical background of this topic based on a phenomenological point of view and explains the significant impact on social members' cognition. The case of Ru, one of the traditional Korean building types, is introduced as a representative example; how its concept has been defined, changed, and forgotten in Korean culture. The importance of having a correct understanding of how cognition is composed of different types of experiences of cultural heritage is further explained. In this context, the importance of semantic mode and pictorial mode classified by Husserl is argued as the most powerful medium in human cognition based on phenomenological analysis. In this respect, the important role of Virtual Reality (VR) was highlighted. Considering the pace of recent technology and researches, breaking the barrier between experiencing the physical object and the VR may be a matter of time. Phenomenological classification of cultural heritage, which was designed for explaining all the types of cultural heritage, is introduced. The importance of developing a valid VR model and its role in cultural studies is emphasized via the phenomenological classification of cultural heritage. Finally, the balance of the inductive and deductive approach in a cultural study is suggested for more prolific and balanced achievements.

Keywords: virtual archaeology; virtual reality; cultural heritage; 3D reconstruction, Phenomenology, Phenomenological classification of cultural heritage

Resumen:

Se han realizado muy pocos estudios que expliquen las bases teóricas sobre la importancia del patrimonio cultural visible. Este estudio proporciona los antecedentes filosóficos de este tema basado en el punto de vista fenomenológico y explica el impacto significativo en el conocimiento de los miembros sociales. El caso de Ru, uno de los tipos de construcción tradicional coreana, se presenta como un ejemplo representativo de cómo su concepto ha sido definido, cambiado y olvidado en la cultura coreana. La importancia de tener una comprensión correcta de cómo el conocimiento está compuesto de diferentes tipos de experiencias de patrimonio cultural se explica con más detalle. En este contexto, la importancia del modo semántico y el modo pictórico clasificados por Husserl se argumenta como el medio más poderoso en el conocimiento humano basado en el análisis fenomenológico. En este sentido, se destaca el papel fundamental de la realidad virtual (RV). Si tenemos en cuenta el ritmo de progreso reciente en tecnología e investigación, romper la barrera entre experimentar el objeto físico y la RV puede ser una cuestión de tiempo. Se introduce la clasificación fenomenológica del patrimonio cultural, que fue diseñada para explicar todos los tipos de patrimonio cultural. La importancia de desarrollar un modelo de RV válido y su papel en los estudios culturales se enfatiza a través de la clasificación fenomenológica del patrimonio cultural. Finalmente, se sugiere el equilibrio del enfoque inductivo y deductivo en el estudio cultural para lograr logros más prolíficos y equilibrados.

Palabras clave: arqueología virtual; realidad virtual; patrimonio cultural; reconstrucción 3D, fenomenología, clasificación fenomenológica del patrimonio cultural

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1. Introduction

In 1327, Goryeo dynasty era [1] in Korea, Kaekgwan (객관, 客館, guesthouse) was built in Sangju city located in the southern part of Korean peninsula. Then, Jungja (정자, 亭子), a traditional Asian architecture that functions as a gazebo or a pavilion in Western architecture (Fig. 1), was built and added to the guesthouse in 1370.

(a)   (b)

Figure 1: Joseon dynasty era style Jungja (정자):
a) Hexagonal type; b) Rectangular type.

The Jungja was destroyed in 1380. It was reconstructed as Ru '(루, 樓)', a traditional multistoried building, in 1487, early Joseon dynasty [2]. The following record was excerpted from the 15th-century document [3].

> Jungja was burned out (亭 亦 煨 燼　정(亭)이 불타버렸는데)
> soon after (未幾 얼마 안되서)
> at the same location (就其舊址 바로 그 옛터에)
> there was a person who reconstructed the Jungja to a Ru (易亭爲樓者 정(樓)을 바꿔서 루(樓)로 바꾼 자가 있었다)

Interestingly enough, this simple sentence is not correctly translated in modern Korean language because of the distorted cultural view. The reason behind this phenomenon is going to be explained by theoretical analysis based on a philosophical background. And this would provide the significance of visual images on social members' cognition regarding cultural objects.

2. Philosophical background

Seeing something with your eyes is different from taking a picture with a camera. Unlike cameras, unless you have the necessary knowledge of the object, you may not "see" the object correctly. Kim (2013) gives an example of a primitive man. If a primitive man sees the airplane for the first time, he may recognize it as a kind of a gigantic bird. However, does he see it incorrectly due to lack of careful observation? Fleck (1936) claimed such cognition process as a collective activity because there is always a "thought collective" when social members exchange ideas. He explained that when people begin to exchange ideas, a thought collective arises, bonded by a specific mood, and as a result of a series of understanding and misunderstanding a peculiar

thought style is developed. People perceive and think differently, but those differences concern groups rather than individuals (Sady, 2012). Therefore, a thought style of the society significantly influences the individual member seeing a cognitive object. Kim (2013) argued that because our seeing something depends on what we already know, the thought style often becomes our cognitive limitation. This thought style not only acts as a serious bias in understanding what we see, but it also hinders our correct understanding of new phenomena (Kim, 2013, p. 33).

The history of stating the importance of seeing goes back to ancient Greek. Aristotle chose the sense of vision as the most important sense among our five senses. He emphasized the importance of vision and prioritized it over any other senses. The father of Phenomenology, Husserl (2003), also emphasized the importance of visual images. He argued that consciousness always has a relation with something, which gives some kind of meaning. In other words, when we think of something, that object must be reached forward by our consciousness in order to come into existence cognitively. And Husserl named this process as "Intentionalitat". Husserl also explained that such a relation with meaning is not always linguistic. For example, an English word, table, does not give any meaning to a non-English speaker. Husserl explained that a perceived material is formed by a perceptible object and not by a word. He realized that a perceived material that is not yet verbalized needs some kind of process of making a relevant meaning.

He further explained that there are two aspects combined tightly in this process; one is the object that appears in human cognition, which is the perceived material (or cognitive material), and the other is the action vitalizing and imparting some meaning to the object. The first aspect is called, "Noema", and the second is called, "Noesis". Simply, the process that activates the hylomorphism (cognitive materials) and constitutes the meaning of the object is 'Noesis', and its outcome is 'Noema'. Thus, Noema is the content itself that appears in the operation of awareness. Noema belongs to the perceived object and Noesis appears in our cognitive area, where it may even produce objects such as imaginary objects that do not exist in the physical world. According to Gallagher and Zahavi (2008), Husserl distinguished "semantic", "pictorial (imaginative)", and "perceptual" modes toward objects. These modes can be graded hierarchically according to their levels of ability conveying the perceived objects to human cognition. Therefore, the most powerful medium comprising the thought collective about a specific object would be the semantic mode, followed by the pictorial mode.

3. Phenomenological classification of cultural heritage

Three modes explained by Husserl are used in the novel cognitive classification of cultural heritage introduced by Lee (2017). He introduced the four types of cultural heritage within the human cognition through phenomenological classification (Fig. 2).

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[1] Goryeo dynasty is from 918 to 1392 AD.
[2] Joseon dynasty lasted from 1392 to 1897 AD.
[3] From the book, Jumpiljaejib (점필재집 (米畢齋集)) written by Jong-Jik Kim in 1497.

	Real existence	Non-real existence
Positive self-identity	**Real object**	**Object with Intentionality**
Negative self-identity	**Unrecognized object**	**Object without Intentionality**

Figure 2: Phenomenological classification of cultural heritage in four types.

The vertical axis comprises Positive and Negative self-identity; Positive self-identity describes something that a person recognizes as an existing thing, and vice versa. Thus, this axis is based on 'human cognition'. The horizontal axis comprises Real existence that indicates something that physically exists in the real world, and Non real-existence that does not physically exist anymore (Lee, 2017, p. 71). As a result, four types of heritage were classified and introduced. First, 'Real object' describes something that exists in the physical world, which people do recognize. Second, 'Unrecognized object' is something that exists in the physical world which people do not recognize. 'Object with Intentionality' is defined as something that does not exist in the physical world, but which people recognize. Finally, 'Object without Intentionality' indicates something that does not exist in the physical world nor does people recognize it.

In this study, a few names of categories are updated. First, 'Real existence' and 'Non-real existence' have been modified to 'Empirical existence' and 'Non-empirical existence'. 'Object' in the cells that belong to 'Non-empirical existence' is modified to 'mental model' as the latter conveys a more accurate meaning. The following newly updated classification table is introduced in this study (Fig. 3). The hierarchical level of ability and the categories for imaginary cultural objects were added to the original classification.

	Empirical existence	Physical object, Visual media, Text	Non-empirical existence
Positive self-identity	**Real object**		**Mental model with Intentionality**
	Real imaginary object		**Imaginary mental model with Intentionality**
	• Visual media • Text		• Visual media • Text
Negative self-identity	**Unrecognized object**		**Unrecognized mental model without Intentionality**
	Unrecognized imaginary object		**Unrecognized imaginary mental model without Intentionality**

Figure 3: Phenomenological classification of cultural heritage (8 types).

Thus, the four cells called 'Imaginary object/mental model' were newly added to Figure 2. Imaginary object/mental model describes something that exists only in the imaginary world. Rest of the definitions of newly added cells are identical to the ones of the original four cells. For example, 'Real imaginary object' is something people imagine that exists in the physical world, which people recognize, such as the Sleeping Beauty Castle in Disneyland. 'Unrecognized imaginary mental model without Intentionality' indicates something

imagined in the past but does not exist in the physical world, which people do recognize anymore. For example, it could be a monster in ancient literature, which people do not pay attention to anymore. What we need to be aware of in the 'Imaginary' category is that it is different from the other two in 'Non-empirical existence' ('Mental model with Intentionality' and 'Unrecognized mental model without Intentionality'). The object in the 'Imaginary' category never existed in the real world but the ones in 'Mental model with Intentionality' and 'Unrecognized mental model without Intentionality' are something that had existed as an 'Empirical existence' but disappeared at some point in history.

Then, there is the hierarchical level of cognitive medium between the two columns in the table, 'Empirical existence' and 'Non-empirical existence'. They are classified as 'physical object', 'visual media', and 'Text' in order. Physical object indicates an object that exists physically in the real world. Visual media is defined as all the types of images including still image, photo, movie, animation, and Virtual Reality (VR). Text is the object that is described in the textual information. These levels match with three different hierarchical modes introduced by Husserl (2003) according to their impact on human cognition; semantic (physical object), pictorial (visual media), and perceptual (text) modes. For example, Husserl argued that you can: 1) talk about an oak tree that you heard but did not see at all (perceptual mode), 2) see the painting or photo of an oak tree (pictorial mode), or 3) see an actual oak tree with your own eyes (semantic mode). The lowest level is the perceptual mode via the textual information; although this verbal/textual interaction shows the significatum, the perceived object is not given as 'fleshed out'. Next, the pictorial mode possesses some intuitive experiential contents of the perceived object; however, the process of cognition is still indirect like the perceptual mode. It is only the semantic mode, which gives us the actual direct perception of the object (significatum) as it is the only mode showing the bodily presence of the perceptible object without any distortion. Thus, the higher the level we experience, the more chance that we recognize the object as the one with 'Positive self-identity' in Figure 3, and vice versa.

Then, there is the hierarchical level of cognitive medium between the two rows in the table, 'Positive self-identity' and 'Negative self-identity'. They are classified as same as the ones between the two columns but only 'Visual media' and 'Text' without 'Physical object' because Positive self- identity does not require the physical substantiality unlike 'Real existence'.

In a recent study, Park (2010) explained that there are two types of experiences in recognizing an object by a human. '*Intuition*' (Intuitive process) involves the '*materie*' (material) when people experience an object but '*Signifikation*' (Signification process) does not. People experience an object in both cases but there is a difference. The intuitive process with the material gives them the senses that are 'full (*fülle*), rich and authentic'; on the other hand, the significance process only gives the coreless relationship with the perceptual object as it is only a 'supposed' (*vermeint*) relationship without the sensuous contact. Therefore, when there is an existing cultural heritage in reality that you can experience with your own senses, your experience would be more intuitive and fulfilled.

4. Historical changes of Ru concept in Korean architecture

In the case of Korean traditional architecture, Ru[4] may be one of the practical examples of how the thought collective influences the collective cognition in a specific society. It also demonstrates the important role of the semantic or pictorial (visual) object in cultural studies. Ru is traditionally defined as a multistoried building in most Asian countries such as Korea, China, Japan, Thailand, and Vietnam. Fig. 4 shows some typical images of traditional Ru in East Asia.

(a)   (b)

(c)   (d)
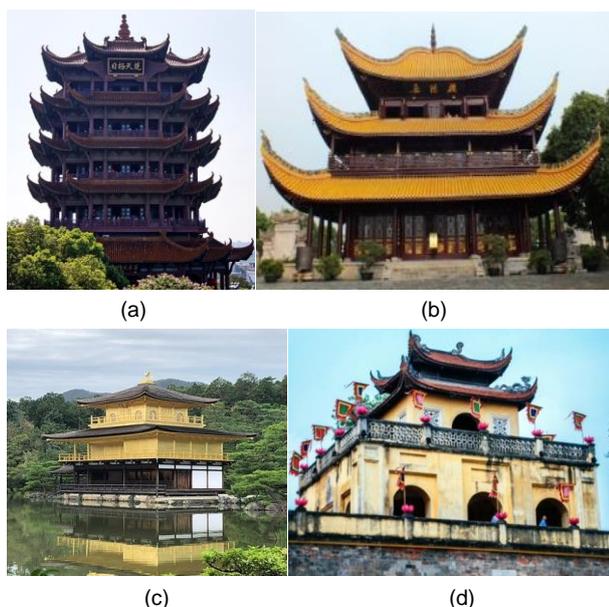
Figure 4: Images of Ru in East Asia: a) Huanghelou (China); b) Yueyanglou (China); c) Kinkaku-ji (Japan); d) Thang Long imperial city gate Ru (Vietnam).

Thus, it is usually distinguished from other types of resting places such as the aforementioned Jungja (정자, Fig. 1), which is also called as Jung (정, 亭) in short. One of the most famous writers in Goryeo dynasty, Kyu-bo Lee (1168-1241) clearly differentiated the two types of architecture as follows.

> The house built on top of a house (構屋於屋 집 위에 집을 지은 것을)
> is called Ru (謂之樓 루라 하고)
> The house which is open without any window (作豁 然虛敞者 툭 트여서 텅 비고 허창한 것을)
> is called Jung (謂之亭 정이라 하였으니)

However, these two types of architecture seem to have blended during the late Joseon dynasty era[5]. Thus, when someone describes 'Ru' in Korean society, very few may recall the multistoried building with the walls and the windows like the ones in Fig. 4. Instead, the typical Ru that enters most Koreans' mind is the Figure 5.

Youngnam-Ru was originally built in 1365 and rebuilt several times including the last rebuilding in 1842.

Figure 5: Youngnam-Ru (Miryang City, South Korea).

As shown above, it is a two-storied building without any walls or windows. This type of Ru is built for mostly viewing sceneries; however, not for accommodation, which is distinguished from the common image of neighboring countries' Ru in Fig. 4. Then, the next question would be why such a phenomenon occurs. Two major reasons are explained as follows.

4.1. Loss of the architectures before the middle ages of Korea

The current Korean cultural heritage study is intensively focused on the late Joseon dynasty era (1592 to 1897) mainly because of the extreme imbalance of remaining cultural heritage compared to the former eras. Lee (2017) explained that compared to its regional neighbors in East Asia, Korea has suffered the enormous loss of historical materials including cultural heritage, particularly the ones from the eras prior to the late 16th century. There were many major wars with its neighboring countries such as the invasion from Genghis Khan in the 13th century and Japanese invasion in the 16th century. And this led to the current situation of the lack of the diachronic Epistemological frame. As a result, the current discourse on Korean tradition mainly focuses on its relatively recent era, late Joseon dynasty, and the discourse on the traditional architecture is no exception. Thus, this lack of diachronic and substantial cultural heritage from the eras before late Joseon dynasty resulted in the shortage of visible tangibility inbuilt heritages, clothing, and art paintings. Therefore, in current Korean society, there seems to be a strong filter, based on the thought collective, projecting an image of late Joseon era to the former eras such as Goryeo or United Silla dynasties[6]. Discourse on Ru is no exception from this situation.

4.2. Impact of the development of Ondol

Another factor that influenced on the imbalance of the architecture between late Joseon dynasty and its previous era would be the development of Ondol system. Ondol is a representative traditional underfloor heating system that uses direct heat transfer from wood smoke to heat the underside of a thick masonry floor in Korean traditional architecture (Fig. 6). If you visit a typical traditional Korean house, it would be hard for you to not meet this type of heating system.

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[4] From now on, Ru is going to be used without Korean and/or Chinese character in this paper.
[5] From Japanese Invasion of Korea in 1592 to 1897.

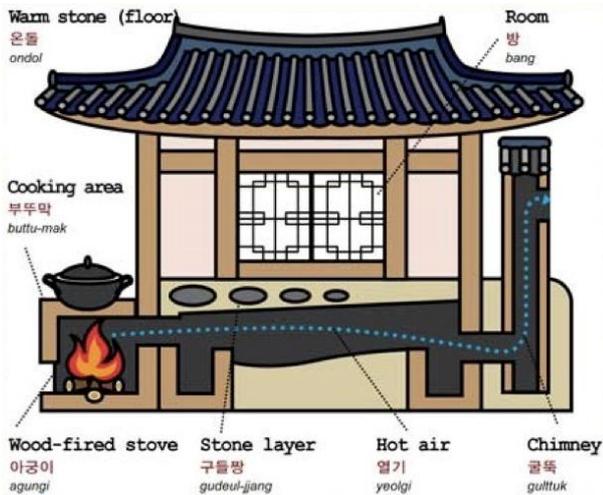[6] United Silla dynasty is from AD 668 to AD 935.

Figure 6: Ondol system in Korean traditional architecture.

The origin of the standardized Ondol system runs back to the 12th or 13th century but the era when it spread to most of the housings is estimated to be mid-17th century. There is recent theory assuming the popularity of Ondol heating system in this era due to Little Ice Age in the Korean peninsula, which explains the warm era from 8th to 14th century and the cold era from late 14th to 19th century (Park, 2013). This Ondol system became the major reason for the majority of the late Joseon dynasty's architecture becoming a one-story building because of its cost and the difficulty of architectural structure for installing it to the multi-storied buildings. There are plenty of document records showing how Ondol had influenced the change of traditional Korean housing. The following is one example.

> There is the old house owned by Isang Ho (person's name)…The old housing system used to have the Ondol room only for the old man and the young people used to sleep in the room with a wooden floor.

This record is found in the 18th century document, Hangyungjiryak (漢京識略). Isang Ho, an owner of the house in this record, was born in 1549 and died in 1615. Thus, the old house in this record was built at least before the 16th century. In this record, we can understand that the traditional Korean houses had more wooden floor rooms than Ondol rooms at least during the early days of the Joseon Dynasty.

4.3. Records on Ru for accommodations, Chim-Ru

However, there are numerous historical documents indicating that there had been types of Ru where people could sleep overnight, which was called 'Chim-Ru (침루, 寢樓)'. Chim (寢) means 'to sleep', and it is combined with Ru(樓), and thus, Chim-Ru describes a Ru for sleeping overnight. Here are some examples we can find in the ancient documents. The record below was written in 1123 by the envoy from Chinese Song dynasty named Seo-Geung[7].

> There is one Ru at the right corner of the street. That Ru does not have a window on the east side of the building (右有一樓。東面。不施窗牖。 오른쪽에 루 하나가 있는데 동쪽면에는 창문을 내지 않았고)

As we can see, this sentence implies that the Ru in those days usually had windows and walls. Next example is written in the 14th century by Saek Lee (이색, 1328~1396)[8]. Following is an excerpt from his book:

> There was a small Ru near to the river, and he decided to stay there (近水樓二間。貯書邀客。 물가에 두간짜리 루가 있어, 거처로 삼았다)

In this document, a monk named, Sung Chong, decided to live in the small Ru near a river. This record implies that there was the type of Ru where people can stay for the long term unlike the type for only seeing sceneries.

Next example is found in the later era's book written in the early 16th century by Chun-Ro Cha (차천로, 1556~1615)[9].

> King ordered to check the house and they found that the sleeping room was located in the higher floor of the Ru (見寢室傍有高樓。살펴보니 침실방이 높은 루에 있었다)

> The sleeping room was located in the higher floor Ru (高樓連寢室。높은 루에 침실이 맞닿아 있다)

As we can see, this record clearly shows that there had been the type of Ru where the sleeping room was located above the second floor of Korean architecture at least by the 16th century.

In summary, there existed the Ru for staying called Chim-Ru having the walls and windows until the 16th century unlike the Rus in Fig. 7.
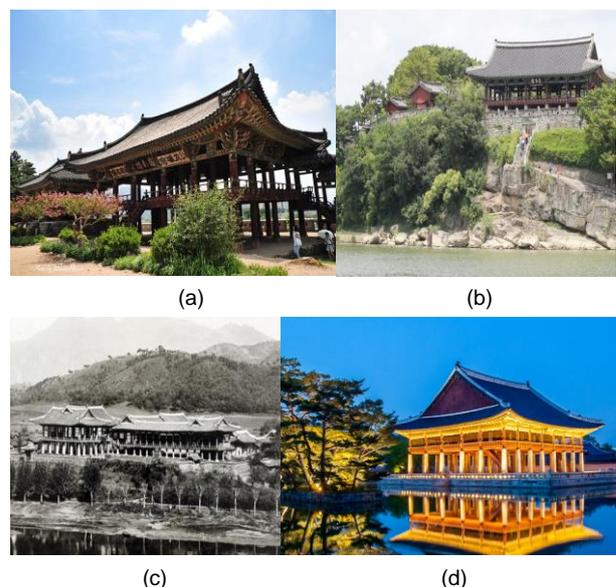

Figure 7: Common images of Korean Ru: a) Youngnam-Ru (Miryang City); b) Chokseok-Ru (Jinju City); c) Gangsun-Ru (Sunggcheon, North Korea); d) Gyeonghoe-Ru (Seoul).

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[7] From the book, Sunwhabongsa-Goryeodokyung (선화봉사고려도경(宣和奉使高麗圖經)).

[8] From the book, Mokenmungo (목은문고(牧隱文藁)전(傳)).

[9] From the book, Osansulimchogo (오산설림초고(五山說林草藁)).

However, the existence of this type of Ru is almost unknown not only to the majority of Korean public, but also to the academia comprising the expert groups. Consequently, it produces many ill effects in cultural aspects, which are introduced in the following.

5. Distorted view on cultural heritage

5.1. Awkward translation of Ru-Chim

As the majority of Korean historical documents were written in Chinese characters, it is necessary to translate them into modern Korean for the public. It is needless to emphasize the importance of accurate translations. However, there are quite a few cases that seem to be analyzed and translated based on the prejudice from the current cultural thought collective. Translations on Ru records are good examples. Ru-Chim (루침, 樓寢) is the opposite ordered combination of Chim-Ru. As we covered, Chim (寢) is 'sleeping'. The following record is written in the annals of the Joseon dynasty[10], which are the official royal document.

> AD 1406. An owl cried above **the Ru and the place for sleeping** at Gyeongbokgung Palace (1406년태종실록 12권, 태종 6년 8월 5일 鵂鶹鳴于 景福宮 **樓寢殿** 上　부엉이가　경복궁 **누각과 침전**위에서 울었다)

This sentence is translated in modern Korean as follows: "In 1406, an owl cried above the Ru and the place for sleeping." As seen, Ru-Chim is translated into two separate words instead of a compound word. The word, Ru-Chim, appears a total of five times in the entire annals. Interestingly, all of these records are focused in Taejong, the third king, and Sejong, the fourth king era from AD 1400 to 1450[11]. If this word, Ru-Chim, was the commonly used expression of two separate words, 'Ru' and 'The palace for sleeping', this combination must have appeared after this era as well because both types of buildings, Ru and a sleeping room, have been built continuously through the entire history of Joseon dynasty, not just until 15th century. However, this word never appears after this era. Thus, the meaning of this word should be translated as identical as Ru-Chim, the compound word of 'Ru for sleeping'[12]. In this context, this sentence should be translated as follows:

> An owl cried above **the Ru for sleeping** in Gyeongbokgung Palace (부엉이가 경복궁 **루침전(樓寢殿)** 위에서 울었다)

This case would be a good example of the incorrect view on the cultural object through the thought collective in a particular society. All of the similar cases are currently translated and introduced as 'Ru' and 'the place for sleeping' for modern Korean public. The following is the translated record written in 1411 from the annals of the

Joseon dynasty.

> AD 1411. We built **Ru and Sleeping Room** at Changduk Palace (1411년 태종실록 21권, 태종 11년 3월 18일 搆樓寢室于昌德宮 **누각(樓閣)과 침실(寢室)**을 창덕궁에 짓고)

As you can see, the current Korean translation is separating the word "樓寢室" (Ru-Chim-Shil) as 'Ru (樓)' and 'Sleeping Room (寢室)'[13]. However, in the context explained previously, it is apparently 'the sleeping room at Ru'.

The words of 'Chim-Ru' and 'Ru-Chim' only appear during the early 14th to late 15th centuries in Korean ancient books or records. The following is the list of the records of two words, Chim-Ru and Ru-Chim, from the database of the Institute for the Translation of Korean Classics[14].

Records of Chim-Ru:

- AD 1327~1387- Dunchonjabyeong [둔촌잡영, 遁村雜詠] by Jip Lee (이집)
- AD 1478- Sungjong chronicles from the annals of the Joseon dynasty [성종실록]
- AD 1482- Sungjong chronicles from the annals of the Joseon dynasty [성종실록]
- AD 1493~1583- Myeonangjib [면앙집, 俛仰集] by Soon Song (송순)
- AD 1515~1590- Sojejib [소재집, 穌齋集] by Su-Shin No (노수신)

Records of Ru-Chim:

- AD 1408-Taejong chronicles from the annals of the Joseon dynasty [태종실록]
- AD 1411- Taejong chronicles from the annals of the Joseon dynasty [태종실록]
- AD 1419- Sejong chronicles from the annals of the Joseon dynasty [세종실록]
- AD 1445- Sejong chronicles from the annals of the Joseon dynasty [세종실록, 1445]
- AD 1576~1636- Manunjib [만운집, 晚雲集] by Chung-Shin Jung (정충신)

Therefore, we may hypothesize that the type of Ru where people can sleep with walls and windows existed up to the 14th and 15th century era and disappeared in the late 15th century.

The following section shows how the absence of the actual existing style of Ru with walls and windows significantly influenced not only on the textual translations but also on the actual restoration of the cultural heritage. Even though most of the Chim-Rus were destroyed, there were still a few Rus maintaining the style of walls and windows by the early 20th century. However, it seems that Koreans have developed a preconceived idea of viewing the cultural heritage via the dominance of the styles of the late Joseon dynasty era. Two examples are introduced as follows.

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[10] The Joseon wangjo sillok (朝鮮王朝實錄, Veritable Records of the Joseon Dynasty) includes 28 different sets of chronological records (from 1392 to 1897), and each set covers one ruler's reign.

[11] Ru-Chim (樓寢) appeared total 5 times only in Tae-jong (태종 太宗, 1367~ 1422) and Se-jong(세종世宗, 1397~ 1450)

[12] And it is common that the two compound words with the same meaning comprise two Chinese characters in the opposite orders.

[13] 寢室 (침실) means 'Sleeping Room'.

[14] Institute for the Translation of Korean Classics (http://www.itkc.or.kr/main.do) is the public institution under the Education Department of Republic of Korea.

5.2. Periodical changes of shape and structure in Seungwha-Ru & Jingwang-Ru

Seungwha-Ru is the Ru that exists in Changduck-Gung (Changduck palace). Fig. 8a depicts Seungwha-Ru painted in 1824. It is a two-storied building with windows and walls. Fig. 8b is Seungwha-Ru in the late 19th or early 20th century. Finally, Fig.8c shows the current Seungwha-Ru that was restored in 1990.

(a)   (b)   (c)
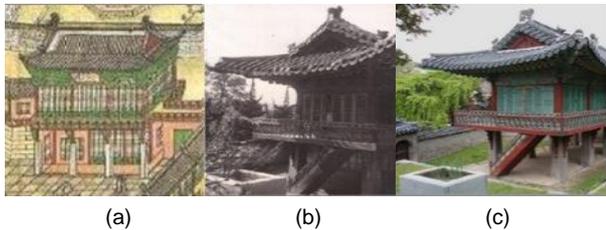
Figure 8: Change of Seungwha-Ru: a) AD 1824; b) Late 19th Century; c) AD 1990.

As you can see, the first floor of the current Ru shows a lower height compared to the other two previous types. Furthermore, it is open without walls and windows (Fig. 9). Neither academic nor architectural explanations have been clearly provided on such restoration.


Figure 9: The first floor of Seungwha-Ru.

On the other hand, Jingwang-Ru, originally built in 1461, was comprised of the 1st and the 2nd floor according to the annals of the Joseon dynasty[15]. The original building was burned in 1623 and was restored in 1647 as depicted in the painting (Fig. 10a). Again, this building was again burned down in 1833 and was rebuilt in 1834 (Fig. 10b). This photo taken in the early 1910s shows that even though the detailed decoration was different from the original model, their basic styles were identical.

Jingwang-Ru was burned again in 1917. However, the new Jingwang-Ru restored in 1920 is quite different from the previous two models (Fig. 10c). The second floor with walls and windows was removed and only the first floor was rebuilt, which had neither an academic nor historical rationale. Thus, we may argue that the trend of late Joseon dynasty era (single-story building without

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[15] The first floor was called 'Gwangse-Jeon'' and the second floor was called as 'Jingwang-Ru'.

window and walls) was applied to these traditional buildings without sufficient credible or academic rationales.[16]

(a)   (b)   (c)
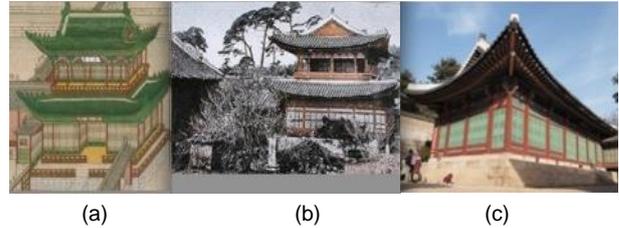
Figure 10: Change of Jingwang-Ru: a) AD 1647; b) AD 1834; c) 1920s.

6. Need for a balanced approach for cultural objects and the role of VR

6.1. Deductive approach vs inductive approach for cultural heritage

Han (2004) argued that "There are often deductive interpretations based on the existing architectures in late Joseon dynasty period on the entire Korean historical buildings, and there is quite a possibility of distorted perspective on the actual Korean architectures" (p. 7–8). The agenda of current Korean society in the cultural study would be, therefore, the establishment of a more diachronic view on cultural objects. And this 'diachronic view' can be achieved by the balance of the deductive and inductive approaches on individual cultural objects. However, as we have seen, there seems a strong tendency of deductive interpretation on both existing and newly found cultural objects in Korean society filtered via the aesthetics from the late Joseon dynasty era. Such a tendency exists not only for the traditional architectures including Ru, but also for various types of Korean cultural heritage such as pottery, painting, clothes, folk tales, and more.

According to Chae (2010), it is highly difficult for you to expect new findings via a deductive method. The deductive method explains the reality based on undeniable truths, and because of this precondition, this method intrinsically does not provide nor acknowledge a new finding. Instead, it lays out a logical basis of the symptom. As a consequence, the deductive method could be often peremptory. Almost all the philosophies from the deductive method including Plato's idea explain the real world based on the belief that their prerequisite principles are the absolute truths. There is a significant trap of logic in this approach because, in order to accept philosophy depending on the deductive method, we should agree its absolute axiom without any substantial process of proving its veridicality (Chae, p. 266). And this may be the main reason why we also need the inductive method for cultural study because this method rejects such a prerequisite axiom. Instead, the inductive method requires the process of proving the truth for individual events. In modern science, we do not clearly distinguish between deduction and induction and choose

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[16] There is not a single study on the history of changes for Seungwha-Ru or Jingwang-Ru. Only very brief explanation saying "The original Jingwang-Ru was the two storied building. but was restored as a single story building." is written in the bulletin board for the tourists.

only one method. That is because science is built based on the repetitively operating mechanism between deduction and induction (Chae, p. 267). Whichever one we choose to use first, the other should be followed in order to approach truth. And this applies to the case of VR of Ru as well, which is explained in the following.

6.2. The role of valid VR model

As previously mentioned, the diachronic view can be achieved by the balance of the deductive and inductive approaches on individual cultural objects, and there is a need for more inductive interpretations in the cultural study in current Korean society. Then, how are we going to approach the individual cultural heritage, especially the ones destroyed or disappeared? Such cultural heritage are included in 'Non-empirical existence' in the Phenomenological classification of cultural heritage (eigth types, see Figure 3). There are three types of the medium we may apply; physical object, visual media, and text. As previously explained, the most effective medium would be the 'physical object' and the next would be the 'visual media'. Considering such a theoretical background, it may be argued that the best option would be building the actual physical object. In addition, as Husserl explained, the pictorial mode (the painting or photo of an oak tree in his example, the visual media) possesses only the partial intuitive experiential contents of the perceived object, which gives only the indirect process of cognition of the user. And that is why Husserl regarded the semantic mode (physical object) as the only mode showing the bodily presence of the perceptible object without any distortion.

However, it is not an easy task to rebuild or restore the lost built heritages due to various considerations such as the technology levels, theoretical rationales, or financial problems (Lee, 2017). However, thanks to the emergence of the new technology in the 21st century, the range of classic pictorial mode can be extended and more specifically divided. In addition to the traditional photo or the painting, we have Virtual Reality (VR), which is still a pictorial mode but it may surpass the boundary of the traditional pictorial mode. For example, Çizel and Ajanovic (2018) explained that the use of VR as a protection tool is based on the potential to create virtual experiences that tourists can accept as a substitute for a genuine visit to the areas of threatened cultural heritage (p.133). In 2018, Google and CyArk launched the Open Heritage project, and have posted online realistic 3D models of 26 heritage locations in 18 countries, including the 1000 year old temple of Kukulcan in the Mayan city of Chichén Itzá in Mexico and the parts of the Roman city of Pompeii, buried by an eruption of Mount Vesuvius in 79 AD (Metcalfe, 2018).

Before explaining the role of VR, let us define the importance of developing a valid model of VR first as a prerequisite. Otherwise, the VR product may be regarded as mere rides in the amusement park and it would be difficult to expect its effect. To create a valid VR model, the first step is to collect reliable evidence from the relics such as text records or physical relics. In this step, we need a fair and truthful observation on the individual relics based on rigorous inductive attitude minimizing the influence of current main theories or perspectives. Next step is to acquire a mature technology level sufficient enough to bridge between the

real physical object and the VR, which will be explained later by introducing recent achievements. Finally, the contents and the quality of the VR product should be validated by an expert group. Gilbert (2016) emphasized the importance of 'authenticity' in order to construct users' perception of a virtual environment, which comes from art historians and archaeologists who often seek to establish whether artifacts found in the present are authentic. Once these steps are operated successfully, then we may expect that such a valid VR model becomes the level of 'simularcre' (simulation) by Baudrillard. According to Baudrillard, in a digital era, reality has been killed by virtualization, as the human species prepares itself for a virtual existence (Kellner, 2005). If the VR model reaches such a level in a specific society, then it means the model acquires enough validity, which also means such reconstructed VR model may play a role as the deductive model. And this entire procedure may be repeated if more new findings are collected in the future.

Recent studies show that VR does not only bridge the physical object and visual media but also may transform the pictorial mode to the semantic one[17]. For example, Ch'ng, Cai, & Thwaites (2017) argued, "What are needed are accessibility and a means to contextualize and communicate digital information in a way which can bring to life past cultures, and enhance the learning of it (Ch'ng, 2012). We believe that virtual reality exists for this reason and more. The ability to simulate complete interactive virtual environments can provide a more concrete means to the experience of past cultures." (p. 3). Recent VR technology does not only show the digitally rebuilt buildings but also offers its users the vivid experience almost equal to the actual physical building. There are quite a few researches aiming for more live experiences for VR users. The study by Bailey, Bailenson, & Casasanto (2016), for example, explains that the avatar's appearance in VR is not a prerequisite to creating an embodiment illusion or body transfer (e.g., feeling of ownership of an avatar with a functional tail), but this sensorimotor correspondences can elicit a strong sense of body transfer (p. 229). Riva, Wiederhold, and Mantovani (2019) argued that VR shares with the brain the same basic mechanism, embodied simulations, because VR experience tries to predict the sensory consequences of human movements, providing him/her the same scene he/she will see in the real world (p. 82). Considering the pace of recent technology and researches, breaking the barrier between experiencing the physical object and the VR may be a matter of time.

The question would be whether VR may replace or be treated as equal as the 'Real object'. We do not know the answer yet; however, we may set a future research agenda related to this question. First, we may want to investigate whether the users who experience the cultural heritage VR want to actually see the Real object. In other words, people may want to rebuild or restore the Real object, which was either in 'Non-empirical existence' or 'Negative self-identity'. It may be also interesting to further investigate if Balance theory developed by Hedier (1958) could be applied to this

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[17] We may have to consider VR as the independent media separate from the current visual media.

topic. According to Meyerson (1991), it postulates that if an element *a* is connected to *b* with strong ties and *a* interacts with *c* intensively, then *b* and *c* also interact with each other. *a* would be the VR of cultural heritage, *b* would be Real object one, and *c* would be the text information. That is if the cultural heritage VR is strongly connected with the Real object cultural heritage, and so does between the VR version and the one in the text information, then, the Real object cultural heritage and the one only in the textual information would be strongly connected as well. According to Chung, Lee, Kim, & Koo (2018), balance theory postulates that individuals tend to change their attitude toward a product or service to maintain balance and avoid cognitive dissonance. And they expect the usefulness of this theory in explaining how Augmented Reality (AR) affects travelers' attitudes toward the destination because if a traveler likes the experience from the AR and is satisfied, this satisfaction will lead to revisiting intentions toward the destination. This may be applied for several relationships in our phenomenological classification table. The possible individual relationships that occur in Figure 11 are listed in Figure 12.

	Empirical existence	Physical object VR (Visual media) Still image (Visual media) Text	Non-empirical existence
Positive self-identity	Real object		Mental model with Intentionality
	Real imaginary object		Imaginary mental model with Intentionality
VR (Visual media) Still image (Visual media) Text			VR (Visual media) Still image (Visual media) Text
Negative self-identity	Unrecognized object		Unrecognized mental model without Intentionality
	Unrecognized imaginary object		Unrecognized imaginary mental model without Intentionality

Figure 11: The position of VR in the phenomenological classification of cultural heritage.

Possible change from Non-empirical to Empirical existence

- Mental model with Intentionality → Real object
- Imaginary mental model with Intentionality → Real imaginary object

Possible change from Negative to Positive self-identity

- Unrecognized object → Real object
- Unrecognized imaginary object → Real imaginary object
- Unrecognized mental model without Intentionality → Mental model with Intentionality
- Unrecognized imaginary mental model without Intentionality → Imaginary mental model with Intentionality

Figure 12: Possible change among the cells of the phenomenological classification table.

We may investigate whether there is any significant influence of experiencing the cultural heritage VR on the relationships. Although it is still premature for us to predict any results regarding the relationships, at least we may expect the active usage of the cultural heritage VR to minimize the current distorted view on the disappeared or unrecognized cultural objects. That is because it is believed that the current phenomena covered in the previous chapter occur due to the absence of any visual image medium except existing for

text information. We found that it affects not just the translations of the existing ancient documents but also the actual restoration of cultural heritage both existing and disappeared. For example, if the VR experience of the original Jingwang-Ru or Seungwha-Ru (Fig. 13) is offered in addition to the current existing physical buildings, it would not be difficult for us to accept the possibility of the different types of Ru from the existing ones in Korea.
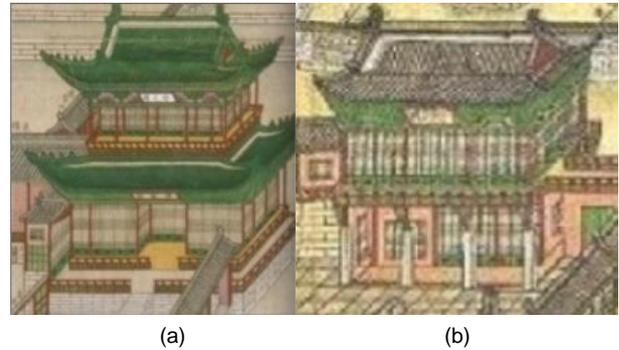

(a)   (b)

Figure 13: Original models of a) Jingwang-Ru and b) Seungwha-Ru.

7. Conclusions

It would be difficult to grasp the nature of culture when we approach it with the deductive method. That is because such an approach easily makes our purpose of understanding a cultural object as to searching for a certain meaning that pertains to the main discourse of culture. Therefore, there often exists dogmatic filtering on a new cultural phenomenon, which ends up severing or exaggerating specific cultural objects or discussions accordingly.

This study introduced the case of traditional Korean architecture as an example. It is necessary for us to minimize cultural bias that is often closely related to a thought collective and cultural doctrinarism. Such a view may become a hindrance to an objective view not only on the diachronic cultural properties of history but also to the social members' experiencing more varied cultural heritage. We need to face the individual cultural objects squarely and faithfully. For this purpose, the importance of a 'Physical object' and 'Visual media' should be emphasized because such a cultural bias may arise from the absence of 'Real object' and 'Mental model with Intentionality' in the phenomenological classification of cultural heritage. Noe (2004) explained that phenomenologists argue that perceptive experience has a presentational nature instead of a representational nature. As perceptive experience is 'the involvement or entanglement with the cognitive object', the experience cannot exist without the perceptive object (Noe, 2004, p. 3). That is when there does not exist an actual object that a person can actually sense, there is no perceptive experience. Such a cultural object belongs to the area of 'Negative self-identity' in the phenomenological classification of cultural heritage, which does not exist in human cognition. In the same context, the role of VR technology in the cultural study would play a more integral role because of its potential of replacing or at least supporting the Real object. There are quite a few ongoing studies related to this topic reconciling theory and practice. In conclusion, when we apply the inductive approach of pursuing concrete

cultural objects belonging to the Positive self-identity in the phenomenological classification of cultural heritage, the results would give us a more fruitful and balanced cultural heritage discourse. There is a saying, "Long absent, soon forgotten." This proverb may apply not only to human relationship but also to our perception of cultural heritage as well.

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