Sustainable Use of Cultural Heritage in the Formation of Healing Environments: A Case Study of a Healthcare Facility on a Historic Urban Site

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Abstract: Seoul National University (SNU) Medical Campus and Hospital has undergone constant changes throughout its history, from its beginnings as the site of Kyungmo Palace, to its later development as Seoul Daehan Hospital. In the process of this change, the campus has become layered with sites of historical and cultural heritage and various architectural styles. This study examines the spatial location of medical/education facilities and their connectivity to heritage sites, and the formation of a “healing environment” that utilizes the historical/cultural heritage of SNU Medical Campus and Hospital, as well as the resulting sustainability of these heritage sites. This is accomplished by analyzing the layout of facilities, the spatial composition of the campus, and historical/cultural factors. The formation of healing environments for healthcare facilities traditionally employs the natural environment, and healing environments in urban areas commonly utilize landscapes. SNU Medical Campus and Hospital is an excellent case study for the future potential of utilizing cultural heritage sites as healing environments. The formation of a healing environment for medical spaces that utilizes the historical and cultural environment gives new meaning to cultural heritage through their sustainable use.

Keywords: spatial location of healthcare facilities; healing and historical environment; sustainment of heritage sites

1. Introduction

Sites of cultural heritage within city centers form continuous relationships with new buildings as a city expands and transforms. As cities form and expand, public architecture—places in which diverse social activities arise—reacts and interacts accordingly with the changing environment, becoming layered with diverse histories and their resulting products. Despite this diversity, healthcare facilities have typically developed with a focus on functionality as well as a rational composition and utilization of space [1]. Recently; however, as attention has been drawn to the importance of healing environments, medical spaces have undergone both internal and external spatial transformations. In other words, healthcare facilities require functional and efficient spatial compositions, yet at the same time must provide healing environments for patients; two needs which are often contrary to each other [2]. The current research used a heritage-in-health intervention that aimed to provide a therapeutic activity to improve the wellbeing of individuals receiving healthcare as inpatients, outpatients, and home care residents [3]. The heritage organizations have been contributing to adult health and general well-being, as well as children and young people’s health [4]. Healthcare facilities are one of the most time-sensitive facilities; the various changes and developmental patterns of healthcare facilities over time result from, and are related to, the processes of urban spatial transformation. Healing environment refers to buildings that optimize and improve the quality of care, outcomes, and experiences of patients and staff [5,6].
Healing hospital understanding handled as patient-centered not care-centered defines innovative environmental designs and aims at patient friendly and non-scary hospital environments [7]. As a result of this change, some healthcare facilities were erected near cultural heritage sites, forming environments in which modern medical spaces coexist with historical sites. A well-known example of this phenomenon is the Hospital de la Santa Creu i Sant Pau in Barcelona, Spain. (Figure 1).

**Figure 1.** Hospital de la Santa Creu Sant Pau, Barcelona, Spain: (a) Site plan of Hospital de la Santa Creu Sant Pau; (b) view of Recinte Modernista; (c) view of Hospital de la Santa Creu Sant Pau (source: Hospital de la Santa Creu Sant Pau).

Hospital de la Santa Creu Sant Pau is a highly complex facility that dates back six centuries, making it the oldest hospital in Spain. From Medieval times to the current healthcare model, the hospital has relocated on various occasions and has transformed to adapt to the times,
always upholding its vocation to people and health. The origins of Hospital de la Santa Creu i Sant Pau date back to 1401, with the unification of six hospitals. At the end of the 19th Century, Spain underwent widespread economic and social transformation, while healthcare shifted towards scientific medicine and embraced principles of good hygiene. Due to the growth of the city and advances in medicine, the Hospital outgrew its premises and the construction of a new building was proposed. The architectural complex of Hospital de la Santa Creu i Sant Pau is an extremely important treasure reflecting the heritage and culture of Catalonia and, in particular, the city of Barcelona. In 2009 Hospital de la Santa Creu i Sant Pau inaugurated its new premises, a healthcare compound located in the far north-east of an Art Nouveau complex. Relocating the hospital functions enabled the initiation of a refurbishment project on the Art Nouveau buildings so that they could be repurposed for a new project. The new hospital is composed of five buildings that are nearly separate yet are joined together by a large lobby, which redistributes the circulation flow of users and acts as a connecting hub for the entire hospital complex [8].

The most well-known healthcare facility in South Korea, Seoul National University Medical Campus, hereafter SNU Medical Campus, is a facility complex which has presided over the practice, research, and education of Western medicine since the early 1900s. The healthcare facilities are comprised of spaces for diagnosis and treatment, while the research facilities are composed of comprehensive clinical and basic research spaces, including those for prevention and rehabilitation, and the education facilities are composed of educational and practical training spaces. The architecture of SNU’s hospital buildings has been influenced firstly by the transformation of the medical field and changes in the healthcare method of supply and demand over time, and secondly by changes in the organizational and management structure of hospitals. Changes in the structure of the hospital’s main building consist of wing extensions, interior remodeling, and spatial transformations to provide external independence. With the development of medical technology and the incorporation of information technology, a network of support centered around the main building has been established, overcoming the limitations of space and time [9]. The modern architecture within and around the medical campus—vestiges of Korea’s modern architecture—are the main elements which constitute the historic character of the area. Because the establishment of a modern cultural heritage involves complicated issues, such as its present future and present and historic value, the fundamental direction for the preservation and utilization of buildings and structures requires a long-term perspective with detailed guidance through multifaceted policies and case studies [10]. In addition, along with the broad aim of enhancing the role of hospitals and universities through spatial rearrangement, via increased accessibility of the site and neighboring area, the fundamental concept of the SNU Medical Campus master plan was the construction of a hospital campus within a forest oriented towards pedestrian-friendly spaces [11].

This study examines the changing functions and form of SNU Medical Campus and Hospital and the resulting character, value, and utilization of the historical and cultural environment. Furthermore, this study analyzes the development of SNU Medical Campus with respect to its spatial configuration and historical/cultural quality, with the aim of evaluating medical healing environments which leverage historical and cultural heritage along with healthcare facilities, as well as assessing the sustainability of urban heritage value.

2. Materials and Methods

This study examines the internal and external transformations of healthcare facilities in conjunction with the urban expansion of the city through a review of literature and records—spanning from the time when western medicine was first introduced to Korea to the present—as well as architectural drawings and site visits of SNU Medical Campus and SNU Hospital. Furthermore, this study examines how the location of medical educational facilities and their connection with sites of cultural heritage is achieved through an analysis of the layout and spatial composition of SNU Medical Campus’ major buildings and other historical/cultural data. Lastly, this study reviews the
relationship between the development of healing environments within healthcare facilities and the sustainability of historical/cultural environments.

1. An examination of the current state and historic development of SNU Medical Campus and Hospital with respect to its spatial transformations.
2. An examination of the typologies and values of the cultural heritage and artifacts within and around SNU Medical Campus, SNU Hospital, and the surrounding area, as well as a synchronic and diachronic analysis of their relationships.
3. An examination of the developmental limits of SNU Medical Campus and SNU Hospital due to its historical/cultural environment, as well as a consideration of methods and an appropriate direction for leveraging this historical/cultural environment in the formation of a healthcare facility healing environment.

3. A Historical Review of Seoul National University’s Yeongeon Campus and Hospital

3.1. The Current State of Seoul National University’s Yeongeon Campus and Hospital

SNU Medical Campus (Yeongeon Campus) and SNU Hospital is located in the historic city center between Changgyeong Palace and Daehak-ro. SNU Hospital is centered around the main building, with the Medical Museum (formerly, Seoul Daehan Hospital) positioned in the front and the site of Kyungmo Palace in the rear. The roads within the campus form a network of loops around the Medical Museum (Figure 2) [12].

![Figure 2. Seoul National University Hospital and Medical Campus: Aerial view.](image)

The layout of SNU Medical Campus consists of a central axis formed by the centrally located SNU Hospital main building and the Medical Museum, which are surrounded by an Emergency Medical Center, the Children’s Hospital, the Cancer Hospital, and a Funeral Hall. Around these medical facilities are research facilities, such as the Liver Research Institute and the Clinical Medicine Research Institute, and educational facilities, such as the College of Medicine, the School of Dentistry, the School of Nursing, and dormitories. The main entrances of the campus and the hospital are located in the west, towards Changgyeong Palace, and in the east, towards Daehak-ro. Two separate entrances are also located in the northwest for the Funeral Hall and in the east for the Medical School. Parking areas consist of an underground parking facility located by the Medical Museum, as well as an above ground faculty parking lot and parking areas for the Cancer Hospital and Funeral Hall. The spatial composition and map of SNU Medical Campus are shown in Figure 3.
Figure 3. Seoul National University Hospital and Medical Campus: Map of SNU Medical Campus (source: SNU Medical Campus [13]).

SNU Medical Campus consists of a wide range of architectural styles from different eras, from the site of Kyungmo Palace dating back to the Chosun Dynasty, to the recently completed Outpatient Clinic Center, an example of contemporary architecture. The main buildings of SNU Medical Campus and SNU Hospital are shown in Figure 4.

Figure 4. Cont.
Figure 4. Major buildings within SNU Medical Campus: (a) Site of Kyungmo Palace; (b) Medical Museum (Daehan Hospital); (c) Seoul National University, College of Medicine; (d) School of Dentistry; (e) Seoul National University Hospital (main building); (f) Center for Medical Innovation (The Korean Overseas Development Corporation); (g) Dental Hospital; (h) Cancer Hospital; (i) Clinical Trials Center; (j) Children’s Hospital; (k) Center for Medical Innovation; (l) Outpatient Clinic Center (source: Seoul National University Hospital with author’s edits).

3.2. The Development of SNU Medical Campus and SNU Hospital

Seoul National University Hospital, the most well-known medical education facility in South Korea, first started as the Widespread Relief House in 1885, later becoming Seoul Daehan Hospital in 1907 and then Seoul National University Medical School in 1927. The medical campus expanded with the construction of the School of Dentistry in 1969 and the main hospital building in 1979. With the addition of the Children’s Hospital (1985), Dental Hospital (1993), Cancer Hospital (2011), and Outpatient Clinic Center (2018), the range of medical treatment expanded. The facility complex became more research-centric with the inclusion of the Clinical Medicine Research Institute (1998) and the Center for Medical Innovation (2015; Figure 5).

Figure 5. Development process in SNU Hospital (source: Author).

SNU Hospital expanded from its initial size at the founding of Seoul Daehan Hospital with the addition of the Medical School and afterwards, expanded towards Daehak-ro due to its boundary with Changgyeong Palace. The spatial layout and expansion of SNU Hospital continued mainly around the treatment areas of Seoul Daehan Hospital following the modernization of healthcare facilities.
The School of Dentistry and its affiliated dental clinic relocated to the site and a new main building of SNU Hospital was erected. Afterwards, following the specialization and diversification of the medical field, the hospital facilities expanded around the Main Building with the addition of the Children’s Hospital, Dental Hospital, Clinical Medicine Research Institute, Cancer Hospital, and Outpatient Clinic Center. The medical campus reached a state of saturation as the number of educational and research facilities to support the College of Medicine, School of Dentistry, and School of Nursing increased. Due to the continuous expansion and development, an annex building of the College of Medicine is located separately towards Daehak-ro near the Elementary/Middle School affiliated with the SNU College of Education. The campus and hospital buildings undergo constant remodeling and even conversions to add underground levels. As SNU Hospital became separated from the SNU College of Medicine through the founding of a special corporation in 1978, it was divided into several different areas: the hospital area consisting of hospital buildings and medical research institutes; Campus 1 consisting of the College of Medicine and the School of Nursing; and Campus 2 consisting of the College of Dentistry. In 2004, the SNU School of Dentistry was independently established (Figure 6) [14].

Figure 6. Cont.
3.3. Cultural Heritage Sites within SNU Medical Campus and SNU Hospital

Within SNU Medical Campus, there are cultural heritage sites spanning diverse periods, from the Chosun Dynasty to the early modern era and contemporary times. The main cultural heritage sites consist of the site of Kyungmo Palace from the Chosun Dynasty, Seoul Daehan Hospital from the Daehan Empire era, the College of Medicine main building, as well as relics of Korea’s modern architecture, such as the main building of SNU Hospital, the College of Dentistry, and the Center for Medical Innovation. Among these, the site of Kyungmo Palace and Seoul Daehan Hospital are listed as Cultural Heritage sites (Table 1).

Figure 6. Changes in the spatial configuration of SNU Hospital from 1926 to 2003: (a) 1908; (b) 1911–1913; (c) 1920–1924; (d) 1935–1940; (e) 1956–1966; (f) 1968–1978; (g) 1981–1989; (h) 1993–2003 (source: Author’s edits based on Han, J.K.).
Table 1. Cultural heritage sites within SNU Medical Campus (source: Author).

<table>
<thead>
<tr>
<th>Heritage</th>
<th>Former Site of Kyungmo Palace, 1484</th>
<th>Seoul Daehan Hospital, 1907</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classification</td>
<td>Historical Site 237</td>
<td>Historical Site 248</td>
</tr>
<tr>
<td>Category</td>
<td>Built Site/Living/Landscape/Garden</td>
<td>Built Site</td>
</tr>
<tr>
<td>Size</td>
<td>4144 m²</td>
<td>5091 m²</td>
</tr>
<tr>
<td>Dynasty/Era</td>
<td>Chosun Dynasty</td>
<td>Daehan Empire</td>
</tr>
<tr>
<td>Ownership/Management</td>
<td>Jongno District (Management)</td>
<td>Seoul National University Hospital (Ownership)</td>
</tr>
</tbody>
</table>

Behind the main building of SNU Hospital is the site of Kyungmo Palace, also known as Hamchun Garden. According to the Cultural Heritage Administration, Hamchun Garden was formed when Changkyeong Palace was constructed in 1484—following the Chinese geomantic principles of Feng-Shui, trees were planted and a surrounding wall was built to prohibit people from entering; the site formally became a garden in 1493. The garden was expanded during the reign of Prince Yonsan and a front gate was erected. Afterwards, the site gradually became neglected and for over 140 years was utilized as breeding grounds for horses. After the shrine of Prince Sado was relocated there in 1764 it was called Kyungmo Palace, and in 1785 the surrounding area was reorganized. Later, when the ancestral tablet of Prince Sado, which was originally in Kyungmo Palace, moved to Jongmyo in 1899, Kyungmo palace lost its function and was renamed Kyungmo Hall. In 1900, Yeonghee Hall, a place where the portraits of the Six Wise Ancestors were enshrined, was relocated to the site of Kyungmo Palace. With the founding of Kyeongseong Imperial University during the Japanese colonial occupation, the original form of the site was lost, and after the Korean War, was completely destroyed. Hamchun Garden was one of the most sophisticated structures of the Late Chosun Dynasty; today the sole remnant of the garden is Hamchun Gate [15].

Seoul Daehan Hospital, used today as a medical museum, was built during the Daehan Empire. According to the Cultural Heritage Administration, construction of Seoul Daehan Hospital began in 1907 by the government of the Daehan Empire just outside of Changkyeong Palace on a hill in Hamchun Garden, and was completed in 1908. At first, the facility consisted of a hospital ward, autopsy ward, and a medical school. Today, only the main building remains. In 1908 Seoul Daehan Hospital became the Hospital of the Japanese Government General of Korea and in 1911 the medical school associated with Daehan Hospital became a medical training school of the Government General of Korea. In 1926 the hospital was incorporated into Kyeongseong Imperial University and became a university hospital. After Korea’s independence, the hospital building became the main building of SNU College of Medicine’s Hospital and in the late 1970s an annex was constructed on the rear of the building; today, the building is used as a Hospital Research Institute and Medical Museum affiliated with SNU Hospital. The two-story building is characterized by a symmetrical form centered on the entrance vestibule, which emphasizes the building’s entrance. The building consists of a brick structure cladded in redbrick and granite with a copper roof. The roof of the main building is a trapezoidal hip roof and the towering clock tower in the center of the building was designed in a baroque style. All of these aspects highlight the western character of the building.
In addition to the above Designated Cultural Heritage sites, SNU Medical Campus also consists of preliminary cultural properties—in other words, those that do not meet the 50-year requirement to be listed as a Designated Cultural Heritage site—as well as exemplary cases of modern architecture (Figure 7).

The main building of the School of Medicine was built in 1927 in the former SNU campus, while the University Administration Building, College of Liberal Arts and Sciences, and College of Law were built in the adjacent Dongseung-dong; together these two campuses formed Kyeongseong Imperial University. The SNU School of Medicine main building was built in the same architectural style as the former SNU Main Building. The former SNU Main Building—designated as Historical Site No. 278—was designed by Park, Kil-Yong, and the first Korean architect. The building’s structure is composed of brick and reinforced concrete, while the exterior is cladded with tiles. The building is three-stories tall and is an asymmetrical building influenced by the Rationalism of the 1930s [16]. In 1945, the main building of SNU Hospital, which began as Seoul Daehan Hospital, was re-established as a hospital affiliated with Kyeongseong Imperial University following restructuring by the US Military Government. In 1946, Kyeongseong Imperial University’s School of Medicine and Kyeongseong Medical College were merged together to form Seoul National University School of Medicine, which contained two affiliated hospitals.

The main building of SNU Hospital—constructed from 1967 to 1979—was built as a 45,000 pyeong, 13-story, well-lit double-Y structure, which is typical of late-industrial era Structuralist Architecture. The main building—the birthplace of Korea’s medical modernization and a symbol of the country’s medical history—has been selected as a future heritage site of Seoul being worthy of preservation, considering its history as a place which, for many years, has accumulated medical technology and continued to develop in response to the health needs of the future generation [17]. From 1963 to 1966, the SNU School of Dentistry main building was planned as the SNU Dental College and affiliated hospital; completed in 1969, the building was designed in the International Style [18]. The Center for Medical Innovation, an office building designed by Kim Swoo Geun in 1977 for the Korean Overseas Development Corporation, is a quintessential example of Korean modern architecture. The building was extended to connect with a new building erected behind the structure and was reopened in 2015 [19].

Examining the diverse types and placement of the historical and cultural heritage within SNU Medical Campus, one can see that the area is an assemblage of the remains of an ancestral shrine and landscape architecture, the center of modern western medicine in Korea, and educational facilities of SNU. Within the SNU Medical Campus, there are Designated Cultural Heritage sites, architecture from the 1930s during the Japanese Colonial Occupation of Korea, late-industrial era Structuralist Architecture of the 1970s, as well as a building by Kim Swoo-geun, Korea’s most well-known modern architect (Figure 8, Table 2).
3.4. Historical and Cultural Heritage Sites around Seoul National University Medical Campus

The vicinity of SNU Medical Campus has been designated as the “Yeongeon Residential Environment Improvement District” and SNU Hospital is expanding towards Daehak-ro; as such, this area exhibits potential for an urban renewal project that leverages the participation of the community to improve the neighboring environment, as well as harmonizes the medical contents of SNU Hospital and the cultural heritage and artifacts (Figure 9, Table 3).
community to improve the neighboring environment, as well as harmonizes the medical contents of
SNU Hospital and the cultural heritage and artifacts (Figure 9, Table 3).

Figure 9. Neighboring cultural heritage sites (source: Author drawing based on map).

Table 3. Relationship between Seoul National University Hospital and neighboring area (source: Author).

<table>
<thead>
<tr>
<th>Period</th>
<th>Heritage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chosun Dynasty</td>
<td>1. Former Site of Kyungmo Palace, 1484</td>
</tr>
<tr>
<td></td>
<td>1-1. Changgyeong Palace, 1418</td>
</tr>
<tr>
<td>1900's Modernization</td>
<td>2. Seoul Daehan Hospital, 1907</td>
</tr>
<tr>
<td></td>
<td>2-1. Korea National Open University (Industrial Training Center Main Building), 1906</td>
</tr>
<tr>
<td>1930's Japanese Colonial Occupation</td>
<td>3. Seoul National University College of Medicine, 1927</td>
</tr>
<tr>
<td></td>
<td>3-1. House of Artist (Seoul National University Main Building), 1931</td>
</tr>
<tr>
<td>Kim Swoo-geun</td>
<td>4-1. Arco Gallery, 1977</td>
</tr>
<tr>
<td></td>
<td>4-2. Arco Art Center, 1977</td>
</tr>
<tr>
<td></td>
<td>4-3. Saemter (001 Stage) Building, 1977</td>
</tr>
</tbody>
</table>

Surrounding SNU Medical Campus are various cultural artifacts that maintain deep relationships with the historical and cultural heritage of SNU Hospital, such as Changgyeong Palace (1 in Table 3), House of Artist (3-1, formerly, Seoul National University Main Building), Korea National Open University (2-1, formerly, Industrial Training Center Main Building), Arco Art Center(4-2),
Arco Gallery (4-1), and Saemter (4-3, 001 Stage) Building. Changgyeong Palace (1-1), the former main building of the Industrial Training Center, and the former SNU main building were constructed in the same architectural styles of the site of Kyungmo Palace (1), Seoul Daehan Hospital (2), and SNU College of Medicine (3), respectively. Furthermore, the Center for Medical Innovation (4, formerly, Korean Overseas Development Corporation), Arco Art Center, Arco Gallery, and Saemter (001 Stage) Building, are all representative works of Kim Swoo-geun, the founder of Korea’s modern architecture.

3.5. The Urban Planning of Seoul National University Medical Campus

Due to the cultural assets located within and around SNU Medical Campus and Hospital, these areas have been designated as a Historical/Cultural Environment Conservation District and Archeological Heritage Preservation District. According to Article 13 of the Cultural Heritage Protection Act and cultural protection regulations of the Seoul City Government, cultural heritage sites as well, as the buffer zone that lies within 100 m at an elevation above 27 degrees from these sites, are protected [20]. Because SNU Medical Campus contains the site of Kyungmo Palace, Seoul Daehan Hospital, the former Seoul National University Main Building, and the former Industrial Training Center Main Building, Areas 1 and 2 are set as buffer zones [21]. The site of Kyungmo Palace is currently undergoing restoration, while the College of Dentistry, Cancer Hospital, and the Funeral Hall that lie in the vicinity of Changgyeong Palace are located in the first restricted zone (Area 1) of Changgyeong Palace, and; therefore, extension is prohibited. Most areas of SNU Hospital and Medical Campus are included in the second restricted zone (Area 2) of the site of Kyungmo Palace, Seoul Daehan Hospital, or the former Seoul National University Main Building—as “deliberative zones”, further development is limited in these areas (Figure 10, Table 4).

Figure 10. Cultural Heritage and Buffer Zone (source: Author drawing based on map).
The SNU Medical Campus has undergone continuous changes over time. In the case of most buildings, remodeling of existing facilities has been permitted, but those which are located in the vicinity of Changgyeong Palace are restricted from further development. Furthermore, during the development process, delays due to the archeological excavation of buried cultural assets and the subsequent investigation process, not to mention the additional expenses accompanied by such delays, occur. Based on these cultural protection regulations, SNU Dental Hospital was newly constructed on the premises of Changgyeong Elementary School towards Daehak-ro, and the SNU College of Medicine Annex is located across Daehak-ro by the Elementary/Middle School affiliated with the SNU College of Education—as it expanded towards Daehak-ro, Seoul National University Hospital and the Yeongeon Campus have developed into a dispersed urban campus model. As SNU Hospital expanded its boundaries, its borders became more porous and its walking environment improved through the implementation of various projects, such as the establishment of a pedestrian entrance and public transportation link by the Cancer Hospital leading towards Changgyeong Palace, and the removal of a fence wall around the College of Medicine (Figure 11).

![Figure 11](image_url)

**Figure 11.** Expansion direction of Seoul National University Hospital: (a) 1908; (b) 1911; (c) 1981; (d) 2015 (source: Author).

4. Discussion—The Construction of a Healing Environment within SNU Medical Campus and the Sustainable Utilization of Cultural Heritage

The Formation of a Healing Environment Utilizing the Cultural Heritage of Seoul National University

Of the various ways to connect with and utilize cultural heritage, one of the most common methods is to gain cultural awareness through first-hand experience. In addition, cultural heritage also possesses the added effect of treating psychological conflicts [22]. Along with the fundamental “push” and “pull” factors of tourism—in other words, those that drive people away from one and draw them towards another location—cultural heritage and artifacts induce migration and tourism by offering a cultural impetus for travel [23,24].

The scope of sustainability in healthcare is expanding a more widespread and holistic perspective as to ensure service excellence [25]. Healthcare is known to practice environmental sustainability and this approach undertakes not only to improve the environment but to create sustainable design
and building techniques for a true healing environment [26]. Healthcare managers can implement strategies for multidisciplinary teams to respond to the change and to integrate knowledge, skills, and abilities [27]. The Green Guide for Health Care (CMPBS, 2007) integrates environmental and health practices in the areas of health facilities design, construction operations, and maintenance components, and emphasizes the importance of the user perspective along with social support as well as financial and political sustainability areas [28].

The formation of SNU Medical Campus’ healing environment can be categorized by two methods; (1) the use of buffer zones around sites of historical and cultural heritage to form healing environments; and (2) the use of historical and cultural environments to create layered landscapes. Examining the spatial composition of SNU Medical Campus in relation to its use of historical and cultural heritage to create healing environments, one can see that the main building of SNU Hospital with the Medical Museum (formerly, Seoul Daehan Hospital). This building, surrounded by large, purely functional hospital buildings, serves as a cultural heritage site and at the same time functions as a museum; the building is an open and exposed space which provides a relaxing and healing environment for the users of SNU Hospital. In addition, the site of Kyungmo Palace, a traditional landscape architecture structure of the Chosun Dynasty, is located behind the main building of SNU Hospital. Unlike the open space formed around the Medical Museum, this space is an enclosed area bounded by the surrounding buildings, such as SNU College of Medicine, School of Nursing, and medical research institutes. This space functions as both a site of historical and cultural heritage and also as a space that can be used by patients and hospital staff for relaxation and strolling. Along with the use of the natural environment around sites of cultural heritage, the formation of a landscape that harmonizes the built environment of the SNU Medical Campus, such as the Medical Museum and SNU Hospital building, also plays an important role in the formation of a healing environment (Figure 12).

**Figure 12.** Map of buildings by period classification (source: Author drawing based on map).
The main building of SNU Hospital does not harmonize well with its surroundings due to its comparatively large size and its geometric form influenced by International style Architecture. However, Seoul Daehan Hospital alleviates the overwhelmingness of the hospital’s size, creating a harmonious landscape which balances tradition and modernity. Kim Hyun writes that, “There is a structure that was used as the main building of Daehan Hospital in Yeongeon-dong, Seoul. Although not very large in size, its historic significance cannot be easily overlooked as it was designed and constructed by the Architectural Bureau of the Daehan Empire in 1908. The architect who designed SNU Hospital, which sits next to this building, exhibited great respect for this historic site. University hospital buildings in general cannot be compared to other buildings in terms of their size and complexity. Despite its large size, the SNU Hospital building stands in the background with its two wings spread wide open, as if embracing the old Daehan Hospital building. Thus, the two buildings highlight each other.” [29] (Figure 13).

SNU Medical Campus and Hospital use the landscape spaces of Kyungmo Palace and the cultural programs of the Medical Museum to form a healing environment that utilizes Korea’s traditional natural and cultural environment. Cultural heritage sites which employ such healing environments reveal the sustainability of historical and cultural sites by emphasizing the value of preservation itself, as well as connecting the healing environments of healthcare facilities with historical and cultural environments. In other words, even if the original function of a historical or cultural heritage is lost or changed, there is historic and appreciative value in preserving their existing form. In addition to their historic value, cultural heritage sites create new value through the formation of important healing environments for healthcare facilities, and as a result, a new aspect of sustainability emerges.

In general, the spatial composition of healthcare facilities is oriented on functionality, which leads to an even greater need for creating healing environments for patients; however, this is not easy due to the large amount of funds and space required. The most common method for constructing a healing environment within a healthcare facility is to use the natural environment; however, healthcare facilities in urban areas tend to lack sufficient natural resources, leading many to utilize architectural design and related landscaped spaces [30,31]. Therefore, it is necessary to shift this approach by employing the concept of utilizing cultural heritage spaces as healing environments. SNU Medical Campus and Hospital contains diverse historical and cultural heritage sites both within and around its borders; these sites not only exhibit the history of SNU Hospital but also offer a good healing environment for patients, doctors, and hospital staff. Externally, these cultural heritage sites exhibit the valuable cultural legacy of a historic city and, internally, suppress the development of function-oriented, large-scale healthcare facilities due to establishment of buffer zones and Historical/Cultural Environment Conservation Districts, making their continuous expansion possible through the utilization of cultural heritage spaces.
as healing environments. The formation of healing environments for healthcare facilities traditionally employs the natural environment like plants, water, and light, and healing environments in urban areas commonly utilize landscapes like rooftop gardens. SNU Medical Campus and Hospital is an excellent case study for the future potential of utilizing cultural heritage sites as healing environments. The formation of a healing environment for medical spaces which utilizes the historical and cultural environment gives new meaning to cultural heritage through their sustainable use.

5. Conclusions

SNU Medical Campus and Hospital have undergone many changes throughout history from Kyungmo Palace to Seoul Daehan Hospital, SNU Yeongeon Campus, and SNU Hospital. With the development of healthcare, the internal and external spaces have continuously expanded and transformed. Throughout the process of this change, the site has become layered with various architectural structures and styles that have accumulated along with the development of the city. The site of Kyungmo Palace represents the traditional architecture of the Chosun Dynasty; the Medical Museum exhibits the architectural style of Korea’s Enlightenment Era of the 1900s; the main building of SNU College of Medicine illustrates the architectural style of the Japanese Colonization period, while the main building of SNU Hospital and Center for Medical Innovation display the modern architecture of the 1970’s. The main hospital building is positioned in the center with Daehan Hospital in the front, the site of Kyungmo Palace in the rear, and various medical, research, and education facilities surrounding them. In terms of program and scale, the main hospital building forms the center with historical and cultural spaces positioned towards the front and the rear and buildings of modern architecture encircling them. SNU Hospital has long been considered a functional and efficient healthcare facility, while the historic and cultural values of the hospital and Yeongeon Campus have been overlooked. However, the site of Kyungmo Palace can be used not only as the traditional landscape architecture of the Chosun Dynasty, but as the hospital’s landscape, while Seoul Daehan Hospital can assume the role of a scenic backdrop. While the value of SNU College of Medicine’s main building is important in itself, it also symbolizes the place where SNU once stood; most of the university’s buildings having disappeared since its relocation. Daehak-ro is a place where the works of Kim Swoo-geun, Korea’s most well-known architect, from the late-1970 are gathered. Thus, SNU Medical Campus and Hospital—a space which harmonizes various historic and cultural heritage sites with state-of-the-art healthcare facilities—is a unique case of an urban medical campus that uses culture and history, the landscape planning of Kyungmo and Changgyeong Palace, a pedestrian-oriented plan, medical and clinical specialization plans, and connection with the neighboring historic and cultural environment in the formation of a healthcare facility healing environment.

This study examines the value and sustainability of providing a healing space within SNU Medical Campus and Hospital from the perspective of historic and cultural environments. Solutions to the problems that may arise in this process, such as the inefficiency of medical, educational, and research facilities, and the conflicting spaces of landscape and heritage conservation, should be considered. Furthermore, it is necessary to break away from the independent and fragmentary value of heritage by analyzing the historic and cultural heritage of the surrounding area and discovering their relationship with the heritage of SNU Hospital, as well pursue further research on the utilization of history’s multi-layered and diverse values.

Healing environments for healthcare facilities employ the natural environment, and healing environments in urban areas utilize landscapes. SNU Medical Campus and Hospital is an excellent case study for the future potential of utilizing cultural heritage sites as healing environments. The formation of a healing environment for medical spaces that utilizes the historical and cultural environment gives new meaning to cultural heritage through their sustainable use.
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**References**


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