Handcrafted concrete hybrids, the production of tradition and modern in the South Korea developmental state

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ABSTRACT
In the 1960’s and 1970’s South Korean developmental state, traditionalist and post-colonialist architects converged upon nation building to create a unique cultural legacy in post-colonial South Korea. The employment of various architectural tectonic approaches using concrete positively re-established concepts like “Joseon” and “Craftsmanship”. Modern materials, like concrete, were pinpointed in government design guidelines as a technical medium to reconstruct tradition, while government appointed architect committee’s trips abroad established a pan-Asian framework of common challenges faced by postcolonial nations. This study investigates how handcrafted concrete architectural designs became symbols of technological innovation in the re-invention of heritage and tradition to establish a new postcolonial national identity. The hybrid approach of handcrafted technology evidences how concrete is a historical medium intrinsically tied to the existing industrial ecosystem, as a by-product of the construction of a huge industrial production and distribution network of modernist material.

1. Introduction
1.1. Approach: post-colonial nation building as developmental nationalism

This paper on Modern Korean architectural history focuses on spatio-political interpretations of architecture as a post-colonial research, yet, also aims to propose a fresh perspective on how architectural technology can be reframed as an issue of nationalist spatial development.

Hence, this study will pose several questions concerning the case study of the Jonghap Minjok Munhwa Center (JMMC) project. How can the government’s technical production of national heritage sites be traced to the South Korean developmental state’s economic and cultural nation-building agendas, situated within intra-regional, inter-state and domestic conditions of nation-state survival? How can the government’s design guidelines for these sites – “express tradition using concrete” – lead to architects’ conceptualization of handcrafted concrete as a coordination method for history and culture, rather than as a normative approach regarding modernization?

In the aftermath of the Second World War, nascent Asian states promulgated their newfound status surmising that “We are a Nation because we have a culture, and that specific regions, spatial territories, buildings, cities or the state can adopt a specific identity.” (Handler 1988). It was at this time that concrete-based national heritage was widely produced in China, Taiwan and North and South Korea. These Concrete monuments implied national growth confrontation to the power of the Cold War system for the new governments and simultaneously became a major medium as a challenge to overcome international style architecture for the creation of national identity. Chinese and North Korea, South Korean architects actively discussed together how concrete could be used to keep the “tradition” within the present situation.

Throughout the Korean peninsula, an unseen war waged between North and South over “the formation of national identity” projects under the veneer of liberation and independence from Japanese Colonial rule. Facing the divergent North, South Korea sought to define itself as the legitimate heir to the Korean legacy. National identity was the key theme for South Korean architects who were involved in post-colonial nation building in the 1960s and 1970s. Issues of national culture, technology and industry were reformulated into state agenda through a united developmental nationalism project, where concrete-based architectural heritage was established as a method to succeed tradition. Under the nation-building agenda of the post-colonial developmental state, Korean architects questioned how they could nurture historical sustainability in the face of sudden changes in technological materials, architectural style and form, and
political ideology. Existing research has defined handicraft technology as a viable cultural means (Buszek 2011, 24–42; Eggener 2002, 228–229) to create meaning in labor as the mirror image of progress (Nicholas 2015, 21–37). However, this study will provide a perspective on how handicraft concrete technology of national heritage projects became a means to meet Korea’s agenda for industrialization and modernization.

1.2. Literature review

Based on the idea that political power is involved in the reproduction of specific spaces as national (imperial, colonial) symbols (Lawrence 2018; Kusno 2000; Hobsbawm 1983), existing studies on national identity have been examined with several architectural or urbanistic approaches. Certain factions assert that architecture has not existed solely as an autonomous field of purely aesthetic representation, but rather that it reflects colonialism’s physical and social impact (King 1976). These approaches attempt to dismantle perceptions of Asia as the Other, developing the specificity of Asian urban space as countering universalism. These studies also read the nationalist subjectivity of Asian civilizations as an integral part of internal development. However, such a counter response to western centrism has mostly been undermined due to the nature of unequal knowledge-production systems. Moreover, the studies of these indigenous contributions remain within the framework of (post-) colonialism studies. Scholars studying urban politics at the contact points between urban history and architects have examined the ongoing “displacement process” of cities. They argue that urban space is represented by contested histories using the framework of “written” (erased), memory (oblivion), occupation (deportation) and hegemony (resistance) (Allen 2014). However, this approach tends to exploit the sustained geographical, historical, and cultural conditions of the city as a means to explain underlying issues of national identity.

Both streams of literature tend to depict architects as an actor external to the political realm by setting the government, bureaucracy, and regime as producers and consumers of national identity. It also neglects the postcolonial situation by solely focusing on its relationship with colonialism, rather than by creating new national identities of the postcolonial nation.

More recent studies from urban political and sociological perspectives have begun to approach the issue of production of post-colonial urban space as a development method. The studies focusing on urban development in South Korea have politically framed the colonial Joseon as a period of “modernization from above”, and have further explored the urban impact of state-led industrialization (governmental organization, financial system, and chaebol capital accumulation). This approach juxtaposes the Korean experience with administrative bureaucratic experience of European countries, by shedding light on the presence of a “national bourgeoisie” which contributed to the construction of an authoritarian corporatist state. This relationship highlights how technocratic ideologies created cooperative associations between architects and modes of production, which in turn impacted the production of urban space. Examining these specific constructed relationships can provide a fresh approach to discuss the post-colonial creation of a new national identity and its impact on the present-day architectural legacies in the context of the production of nationalistic urbanism.

1.3. Method

The scope of this research will cover the architectural discourse relating to the JMCC Plan (1965 – 1972) as part of the new charting of “royal tombs, shrines, palace districts” under the “Cultural Renaissance” policy, during the second 5-year Economic Development Plan (1967 – 1971). Through intense discussions about the arrangement of government facilities and cultural facilities under the new urban plans for the capital city, this period saw a shift in the government’s stance towards the Gyeongbokgung district and in particular its symbolic main gate Gwanghwamun. This period was marked by large-scale restructuring of palace gates and walls, city fortresses and the existing urban fabric surrounding the palace, as well as the extension or integration of the main boulevard leading to the palace to accommodate government facilities and to reinvent the historical city.

This study will analyze archived presidential speeches, newspaper articles, architectural discourse, memoirs, blueprints and summaries of committee meetings. This comprehensive body of research will expose first, national and municipal economic growth and urban plans related to industrial cement production, and second, the architectural discourse and designs to use handcrafted concrete as a design

2Myo-Shi-Dan-Gung ji-yeok (廟社塹宮) denotes royal tomb, shrine, palace districts, as a mapping of cultural heritage districts within the capital city Seoul first conceived and executed by the Park Junghwi regime in 1965.

3Gungbokgung palace is the central administrative palace of the Joseon Dynasty following the designation of Hanyang (now Seoul) as the nation’s capital in 1394. The recovery of the form, location and axes of its central gate Gwanghwamun continues to produce ongoing contestation today as it was relocated and partially destroyed with the construction of the Japanese Government General building (1926–1994) and the Korean War (1950–1953).
element for national heritage sites, especially the JMMC and the Gyeongbokgung Palace district.

2. Concrete as a medium for economic and cultural nation-building

This section will situate state-led nation-building discourse in the context of economic development related to survival of the nation-state. It will illustrate the multi-tiered nature of the issue of survival, including intra-regional pan-Asian movements to construct national identity, inter-state geopolitical conflict with North Korea. The adoption of novel technologies became a strategy for the developmental state to industrialize and reinvent the country.

Connections will be drawn between these multi-tiered situations with the adoption of concrete as a viable means to construct a new national identity and reinvent the historic city. This was then implemented through a series of concerted efforts, such as land development plans which converted private property into state property, the organization of administrative bodies and the delegation of cultural heritage assets to be managed under them, the construction of a historical narrative to relay a victorious past, and the mapping, planning and construction of heritage districts and sites.

2.1. Situating nation-building discourse

Armed with ambition for industrialization, the two newly independent Koreas (1953) needed basic modes of spatial production that could be distinguished from the prevalent architectural styles which had emerged from an era of construction funded by international aid. North Korea had inherited the industrial regions which were developed during Japanese colonization such as Wonsan, Cheongjin, Nampo and Heungnam. Most industrial facilities in these areas were destroyed during the war. Facing shortages in architectural materials, manufacturing facilities and technological knowledge, North Korea received support in the form of cement, machines and technology from the People’s Republic of China, the Soviet Union, Romania and Czechoslovakia, with the war-torn metropolis of Pyongyang at the center of urban reconstruction.

On the other hand, South Korea, whose sole means of survival was as an agrarian economy within the Cold War system, received international aid for industrial facilities in the form of machines, natural resources and energy through multinational enterprises from Japan and the United States. The South Korean government aspired to become an autonomous domestic producer of iron, glass and concrete, all representative materials of modern architecture. Modern South Korea’s third president and the authoritarian leader, Park Jung Hee, gave a speech in the Saemyong Donghae cement plant. In this speech, he revealed how the government saw itself as “a latecomer industrial state” and assigned “spatial production through material production” as an important national political agenda, as such, planning to directly control and quantify production to vitalize the construction industry.

This initiative to create quantified production of a novel cement industry was defined as “the most pressing national agenda” which would serve as “a yardstick to measure the industry and culture of a nation.” In the mid-1960s, Cement production became a part of the 5-Year Economic Development Plan, production rates kept increasing with the newly built six cement factories, and it surpassed North Korea in 1968. Concrete was made from a combination of standardized cement and regionally sourced labor, rebar, and aggregate. It was the most basic and indispensable material that could be used to “construct industrial facilities like factories, dams, roads and ports, and transform traditional straw-roofed houses into slate-roofed houses, cultural houses” (see Figure 1). As such, the government widely distributed concrete nationwide in a variety of ways to actively promote the use of concrete, ranging from agrarian housing projects and urban public construction projects. The government launched the Saemaeul Movement project nationwide, with subsidies of 500 sacks of cement and 1 ton of rebar subsidized to each village, especially in agrarian communities, to enlarge inner pathways, dig communal wells, and repair drainage systems. The government facilitated the donation of 20,000 sacks of cement from the Moonkyung cement plant for the construction of Hyeonchungsa shrine, dedicated to war heroes. The drive for such a government initiative was to the extent that the Public Procurement Office drew up contracts with state-owned companies for public works, to quantify cement production. Having defined rebar and cement as representative materials for government facilities, the Public Procurement Office enforced distribution and administration of materials. Through a central system, it was later re-established with distribution headquarters in each region from the 1970s onwards.

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4From the Saemyong Donghae Factory completion ceremony speech by President Park Junghee, 1968.10.31.
5The Kyunghyang Shinmun, 1972.10.25.
6National Archives of Korea, BA0119595.
7Maeil Business Newspaper, 1966.4.19. Maeil Business Newspaper, 1967.3. 6.
8Dor-ga Ilbo, 1977. 1. 19. Maeil Business Newspaper, 1974. 3. 12.
The article “Seoul Metropolitan Government’s announcement of urban development plan to the citizens” (5th anniversary of May 16 military coup d’etat) shows how Seoul’s urban policy was closely linked to the construction and development policies of the Korean government. Seoul Mayor Kim Hyun-ok introduced a representative construction company and a construction site for the bridges, roads, and apartments. Eighty percent of Seoul Metropolitan Government’s total budget was spent on construction projects. The expansion of the boulevard of Gyeongbokgung palace was one of the 14 outlined priority tasks (see Figure 2).

Concrete-based national heritage would become the bread and roses of the Korean developmental state. As a critical material for post-war industrial state building, both Koreas had adopted precast construction methods to realize the rapid construction of affordable urban housing with standardized plans and materials, learnt from international programs. Cement as a material was also used in the construction of national heritage sites and cultural facilities as a new experiment to build a national identity in the 1960s (Kim 1993, 53–73), which they hoped would culturally liberate the country from external economic aid. As the geopolitical situation drove both countries to compete as industrialized nations, both nations worked under the common agenda to use nation building to further economic development.

2.2. State-led strategies to construct a national identity

Discussions about how to fairly re-evaluate the architecture and arts of the nation’s forefathers, and how to operate concrete in a way that fitted the unique
qualities of the Korean people through a modern aesthetic were inevitably pertinent issues for North/South Korean architecture, as they questioned how and why tradition could be succeeded.

In the 1950s, the production of concrete members bolstered the standardization of design and the mechanization of construction, creating the more economical, faster and bigger “Pyongyang Speed” (Lee 1993a, 339–340). In the 1954 National Gathering of Architects and Construction Technicians, Kim Ilsung said that “an important issue in creating architecture and arts is to sustain the nation’s unique characteristics through a modern aesthetic”, adding that architects had a duty to create a new architecture and art in post-war reconstruction.

The North Korean city of Pyongyang had erected concrete structure architecture that directly adopted the characteristics of Joseon-style architecture, so that the city would resemble “Modern Joseon Architecture in the ancient historical city” (Hong 2011, 449–474). The Pyongyang Grand Theatre started a full-fledged discussion on Modern Joseon Architecture. According to Cabinet decision No.83 (10 July 1958), North Koreans discussed city planning and cultural facilities (the Pyongyang Grand Theatre, Okryu-gwan, etc.) as a national construction project for the 15th anniversary

Figure 2. A public announcement of Seoul Metropolitan Government’s urban development plan to citizens (Maeil Business Newspaper, 1966.5.16).
of liberation (1960). Since the 1970s, Modern Joseon Architecture has been formalized like the People’s Palace of Culture (1974) and has become prevalent not only in Pyongyang but also in the provinces (Lee 1993a, 385–386) (see Figure 3).

Pyongyang’s Modern Joseon Architecture was developed by combining modern spatial elements such as use, aesthetics, materials and construction methods with formal elements which symbolized Pyongyang’s shared lineage to and evolution from the Joseon era (Park 2018, 125). In particular, the use of reinforced concrete structures and precast members in roof elements can be interpreted as a token of hope towards eventual unification. The North Korean projects did not reference specific traditional architecture but designed a “National Style Architecture (min-chok-yang-sik-kön-ch’ük, 民族樣式建築)” using elements of traditional architecture in order to apply the modern aesthetics of the people.

Meanwhile, in South Korea, the government launched the restoration of national heritage projects in the hope of restoring and reproducing historical narratives that had been lost during colonialism and the war. Yet, these projects explicitly demanded the “use of concrete to express tradition”, a material perceived as cultural capital that could boost economic development. For example, upon completion of the Gwanghwamun Gate Restoration, the government declared how this combined approach furnished the needs of both the “domestic situation” – great political reform within an old state through autonomous economic development (guhbangyooshin, 旧邦維新) – and “international trends” – the rise of nation building through people’s consciousness and autonomy (national subjectivity, 民族主義意識).

South Korea also designated sites and constructed war-related national heritage projects (護國先賢遺蹟) to nurture representative construction industries. At first, under the pretext of these national projects, the government bought and dismantled private land and reclassified it as national land. Next, heritage regarding war heroes, war sites, training camps for the war and war artifacts were closely managed. Lastly, war-related heritages were privately reassigned, resulting in the erection of concrete structures for the shrines of historical figures built in traditional style architecture, exhibition halls for historical artifacts, memorial halls, and even heritage that had been destroyed, such as city fortresses and palaces. The Cultural Asset Related Plan which was based on the budget of the Cultural Asset Special Budget from the mid-1960’s was a nation-wide construction project targeting government land based on collaboration between the Cultural Asset Management Department, regional heritage institutions, architects and construction firms. Throughout eight newly divided regions, the first National Land Comprehensive Development Plan (1971), operated under a single financial budget, launched the construction of cultural assets and related facilities in cities and government land. The entire budget of the Cultural Asset Management Department was almost depleted on repair costs for tangible cultural assets.11

3. Negotiating tradition: Jonghap Minjok Munhwa center and architectural discourse

This section will chart the development of the JMMC project under the developmental state regime, and the subsequent cleavages and camps within architectural discourse which emerged among Korean architects regarding its construction. It will then cite how the architects Kang, Lee and Song produced different interpretations of the state’s design guidelines of “express concrete with tradition” to construct the JMMC. It will analyze the stylistically diverging technical reproduction methods of Joseon artisanal techniques, such as redesigning elements, imitating textures, and rescaling proportions.

3.1. An inaugural nation-building project: Jonghap Minjok Munhwa center

JMMC was launched in 1965 in the capital Seoul, as a seven plot cultural facilities plan (see Figure 4). It aimed to develop the historic legacies of palaces, royal tombs and national shrines under the guidelines of “using concrete as a material to express tradition”.

Figure 3. The Pyongyang grand theatre, people’s palace of culture, Okryu-gwan of North Korea.

9Pai (2013) writes that heritage industries not only reproduced the past communal identity of the nation but also stood at the forefront of tourism industries through image-making and marketing. Cultural heritage preservation organizations, museums, research institutes, and historical local societies also expanded in line with the increasing symbolic, education and commercial value of heritage artefacts.

10Framing completion ceremony of Gwanghwamun Restoration (1968.10.17.)

1175% (1.5 billion KRW) of the 1970 budget was used on repairs for tangible cultural assets. Don-ga Ilbo, 1970. 12. 8.
The seven facilities would be scattered across the city on different sites composed of publicly owned land (Jongmyo Shrine, Jangchungdan shrine, Gyungbokgung palace and Deoksugung palace districts). The Gyeongbokgung palace site was consistently the most popular, commonly referred to as the future site of the National Museum.

Only three plots out of these seven cultural facilities were realized during the 1970s. The project kicked off with Kang Bongjin’s design for the National Museum, followed by Lee Heetae’s National Theatre Complex, and Song Min-Gu’s King Sejong Memorial Hall (see Figure 5). The overall project was primarily launched through a public invited design competition adjudicated by a construction promotion committee (17 members), and then supervised by a practice committee (18 members), which included notable domestic architects from both traditionalist (Kang Bongjin, Song Mingoo, Lee Heetae and Jung Inkook) and post-traditionalist (Kim Swoogeun and Lee Kyu) camps.

### 3.2. A generation of architects torn between tradition and post-tradition

Architects, urban planners and artists opened up heated discussions on the nature of tradition regarding the government’s request to design traditional architectural forms using concrete – a “new, innovative and modern” material. The traditionalists, composed of Korean state authorities and architects, exploited the strictly controlled national construction system as a means to realize an ideal architectural tectonic with the conviction that “handcrafted architecture could become the driving force to regenerate a modern culture of industrialization” (Nicholas 2015, 1–20). The post-traditionalists criticized the re-appropriation of history as the political regime’s initiative. For example, they voiced harsh criticism on the government for setting the design guidelines and on architects for using architectural archaeological approaches. They started to define “architect” through the binary conventions of “invention/imitation”, “visionary/technical” (Kim and Kim 1967, 7–10) and criticized Kang as merely a technical imitator and non-architect.

To such accusations, the traditionalist architect and historian, Jung Inkook viewed Kang with a new aspect of the current generations of architects such as a scientist rather than an artist (Jung 1967b, 12–14). He saw that modern architects need time to practice architectural design using alternative materials and imitating technology to “treat iron like stone, and concrete like wood” under insufficient industrial conditions. For Jung, the architect’s performance would be able to inherit tradition from the Joseon era and could “resolve external conflict” from the international style architecture (Jung and Kim 1975, 520–530).

The traditionalists would eventually be selected by the government to design the three realized JMMC

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**Figure 4.** Map of proposed JMMC project sites in Seoul (1. the national theatre complex 2. the federation of artistic and cultural organizations and the central public information center 3. the national modern art museum 4. the king sejong memorial hall 5. the national library of Korea 6. the national academy of arts 7. the national museum) (Author drawing).

**Figure 5.** Diagrams of the proposed national museum, national theatre complex and king sejong memorial hall (National archive).
projects, including the National Museum, the King Sejong Memorial Hall and the National Theatre, using the three themes of Joseon artisanal techniques, architectural proportion and materials.

3.3. Technical reproduction of tradition using concrete

A representative architect of the traditionalist camp was Kang Bongjin of the National Treasure Construction Corps, whose work involved restoring and reproducing national architectural heritage. His design process involved compiling nationwide archival surveys of Joseon-era architecture, classifying them according to different traditional styles, and re-sizing these collated materials to create concrete structure architectural designs at a larger scale (Kang 2017, 193–214). He particularly hoped that this archeological architectural design method could create spatial and temporal continuity between the past (Joseon) and the present (post-colonial state).

Kang’s designs attempted to re-evaluate late Joseon era architecture. His designs were exemplified in Hyeonchungsa Shrine (1966 ~ 1967), Gwanghwamun (1967 ~ 1968) and the National Museum (1965 ~ 1972). For each of these projects, he referenced Confucian shrines and palatial architecture forms such as *dapo* and *uijungaku/paljak* (hip and gable roof) to re-evaluate the Joseon dynasty as “well-formed aesthetic monuments of the late Lee Dynasty” (see Figure 6). These works reveal how tradition was realized and produced as architectural space within the complex framework of post-colonialism and modernity.

Kang used the tools of interpretation used by colonial-era scholars as design tools to prove that “late Joseon era architecture was not, in fact, a ‘feeble’ style of architecture nor did it represent an era of incompleteness”. He converted timber designs into concrete structure to show that traditional and modern techniques were not much different. He exclusively employed the method of dividing up and individually manufacturing timber structure elements and realizing traditional carpentry techniques in concrete to replicate form. This method was a hybrid technological approach used to confront the common challenge for his contemporaries: an absence of standardized architectural elements and details. Kang fabricated its exact form by tracing the floorplans from his site survey (see Figure 7). His National Treasure Corps team carried out site surveys of Palsangjeon, Gakhwangjeon, Mireukjeon, from which he derived architectural elements and applied them to the design of the National Museum as concrete structures (see Figure 8).

![Figure 6. Gwanghwamun (1967 ~ 1968), Mireukjeon of the National Museum (1965 ~ 1972) and Hyeonchungsa Shrine (1966 ~ 1967).](image-url)

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12 National Archives of Korea, BA0120188.
The designer of the National Theatre, Lee Heetae expressed tradition by differentiating internal and external architectural elements. He also distanced his work from that of the National Museum, which he described as “as an external or enlarged imitation”. He believed that traditional architecture should be embedded with “the intrinsic principles which govern tradition” (as opposed to replicated external forms), which would be key to “indigenize modern architecture as that of our own”.

Hence, Lee attempted to “modernize tradition and realize it as an architectural style” using traditional elements and textures. He fabricated exquisitely detailed concrete columns (giju, 基柱) and colonnades (jurang, 柱廊). After depositing the concrete, he sculpted out the surface with fine marble sand to express a smooth granite texture. As such, concrete formwork permitted him to fabricate both the textures of the stone pillars and the wooden columns as single elements within a set budget.

The architect of the King Sejong Memorial Hall, Song Mingoo had selected a method of applying “the proportions of traditional architecture” to modern architectural design. He was highly invested in the task of analyzing architectural proportion, a trait he had seen in a book called “the former aesthetic form of Korea”. He hoped to find the golden ratio of Korean architecture from Korean Buddhist temples; a trait that Japanese architectural scholars had asserted as non-existent in the architecture of past Korean dynasties. However, this proportion did not adopt each fundamental roof element of traditional architecture, nor did it moderate the actual size of the traditional architecture like Kang. He challenged Kang’s method by saying “cover it up and make it bigger, put the roof on top … . It’s all insignificant,” and distanced his method from that of Kang’s. He chose to organize the proportions of traditional architecture in more abstract ways, adopting the original proportions in his interpretation of expressing traditional legacy.

4. Situating discourse: handcrafted concrete hybrids in “nation” and “beyond nation”

This section will outline how the traditionalists believed that intimately binding architectural theory and design with post-colonial national heritage and industry plans would establish a reputed architectural culture and style for the national agenda of the

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13Woo Dongseon, Records of Song Mingoo’s Oral Statements (2006.8.9.); http://www.daarts.or.kr/handle/11080/16433 (accessed January 30, 2018).
developmental state. Two architects will be used to demonstrate how the role of architectural technology at moments of historical transition was situated in different ways. For Kang Bongjin of the National Treasure Construction Corps, concrete architectural technologies were understood as a local tool to inherit the historical Joseon artisanal techniques using direct survey methods, while Jung Inko, a committee member who selected and evaluated the designs of JMMC, understood the use of concrete as a hybrid process of self-discovery that would combine tradition and modern by investigating the universal situation and styles of Asia.

Kang pursued an “authentic architecture” that would be led by the newly independent state and its process of industrialization. This was intended to be differentiated from architecture produced through funding from international aid. He used direct methods to adopt survey plans of traditional heritage from war-torn sites to design traditional architecture with concrete structures. He viewed that his role was to redefine concrete as a local material to recreate a legacy of the history erased by war.

Jung was determined to demonstrate the reproduction of national tradition as an issue that lay beyond national boundaries. As a theorist, he wished to locate architects as producers and consumers of culture rather than as figures who could reproduce modernity, a concept derived from the transnational situational conditions of a nation beyond nation. He defined the imitation of tradition and the unconditional pursuit of worldwide trends as a threat, attempting to answer how this could be overcome to create an ever-evolving new architecture.

4.1. Tectonic concrete: from industrial catalyst to artisanal legacy

The special feature “Cement and Beauty” (volume 32 of the Korean Cement Trade Magazine) not only deals with the aesthetic significance of these materials, as seen in the title, but is also composed of texts that approach the significance of technologies through architectural history. Kang’s article, “the present and future of the architectural formal aesthetic of Korea – based on Concrete architecture” chronicles the history of Korean architecture, along with the relatively hopeful sentiment that “concrete”, as a new industrial material representing the 1960s, can take on the role of changing perceptions about the binary structure of local/international, function/form, industry/culture. National territories were rapidly changing due to the development of a diverse range of ongoing industries pursuant to the economic development plans of the government, and he defined national land construction architectural projects that had been erected after the 16 May 1961 military coup d’etat as an agent of change. He particularly asserted that a variety of experiments had been made in 1960s architecture, compared with that of the former era, by categorizing Korean architectural history according to the period of restoration after the war (1954–1959), period of architectural stability (1960–1961), the rise of modern architecture (1962–1966), and the period of the maturing of modern architecture (1967–1971). Kang defined his style-based designs as a classical style belonging to the mature phase of modern architecture (1967–1971). The fact that the article was published as soon as he successfully created the preliminary model of the concrete structure in Gwanghwamun in 1968, even before the National Museum, shows that it is likely that he wished to incorporate his National Museum design methods into the literature of Korean modern architecture history (see Figure 9).

Kang quoted the texts of John Ruskin and asserted that “an architecture for the people was obliged” to establish “present day architecture into that which is historic”, and to preserve “the architecture of past generations as an important heritage” (Kang 1969, 18–23).

However, he believed that it was difficult “for architecture to represent a particular local culture” by simply adopting “local materials” and judged this as no longer valid. Kang compared the architectural ideology of the present day with that of John Ruskin. As an architectural theorist who had worked on conceiving

![Figure 9. Diagram of comparison work published during the concrete Gwanghwamun design process (Author Drawing; Kang 1969).](image-url)
the origins of modern architecture, Ruskin had formed an important stream of thought in which a building could only become architecture when using ornamentation as an intellectual art form. However, Kang added that present-day architecture was a more simple and honest style of ornamental architecture, departing from the former historical architectural styles, in which design followed function. Ornamentation was no longer a decisive factor in defining a project as architecture; it could now be integrated with other elements—such as materials, structure and function.

Kang wished to talk of the potential and limits of concrete as a tool for his contemporaries. Concrete differed from stone, brick and wood as it did not structurally limit the expression of form. Also, his understanding was based on the belief that the architecture industry was faced with an inevitable predicament, where concrete could not help but be defined as “a universally common style” as opposed to a “local material”. From this point of view, he categorized modern architecture projects based on external form (structure and ornamentation) rather than their function.

The issue of concrete ornamentation was intended to be used as a tool to express the local culture for industrial progress but did not treat handicraft architecture as an opposing element. Kang classified modern architecture under the sub-category, “classic style” and included the national facilities of Hwarangdae (September 1966), Hyeonchungsa Shrine (April 1967) and Yongsamun of the National Tombs (June 1969) along with the reconstructed concrete Gwanghwamun (December 1968). As such, designing a new Gwanghwamun was not only an issue of preserving tradition using classical construction methods. Kang was certain that concrete, as a new industrial material of the 1960s, would establish an absolute universal common language that could express the combining of historical architectural styles and culture. To him, “architectural style” was synonymous to the “productive type” that showed the architectural production methods of a certain epoch.

It seems that Kang wanted the article to be used to compare his designs with other contemporary architects and to estimate and assert his standing as an architect. The article was written, not only to indirectly explain his rationale for the design of Gwanghwamun, but also to actively express his thoughts on why cultural heritage design materials should be changed to concrete. Even during his initial post as designer of the timber structure design of Gwanhwamun, he had proposed that the gate should be restored with a “reinforced concrete structure, founded upon a long-term national policy [百年大計].”

Similar proposals by Kang can also be found in design projects to repair and restore other cultural assets. In the 1965 restoration design survey, in the Suwon fortress Janganmun Gate Survey Report (Kang 1970), Kang mentioned again that “it is a huge shame that restoration has not taken place for the past twenty years, and it would be desirable to create the internal structure with reinforced concrete structure to prevent the project from experiencing the same tragic fate of being burnt in a fire,” while carrying out surveys of the existing remains of the upper storey of the gate (mul) which had disappeared, the destroyed fortress wall, and the semi-circular protective wall (ongseong). From such a perspective, he repeatedly maintained that historical architecture destroyed in the war should be restored with concrete structures. Even after the reconstruction of a concrete Gwanghwamun, he used the theme of war trauma to push for designs with concrete structures in other cultural assets.

For the architect Kang Bongjin, the revival and reproduction of architectural styles and the application of concrete technologies enforced his patriotic vocation. However, Kang was not an architect who had acquired his architectural knowledge from foreign education or trips abroad. As such, his attempts to recreate architectural elements with concrete were criticized and compared to the projects of colonial government scholars. Kang did not differentiate the two domains of modern architecture and cultural heritage and instead focused on concrete as an experimental material that would allow him to manufacture a variety of surfaces, as well as a means of ornamentation that would allow him to express the inheritance of tradition. If Kang’s approach towards architecture and culture is symbolic of the domestic and local situation responding to the world, Jung approached this through the Asian regional situation framed beyond the nation.

### 4.2. Pan-Asian concrete hybrids: tracing other nation-building projects

The promotion committee of JMMC was sponsored by the government to travel through neighboring South East Asian countries during the design phase of the cultural facilities. After returning from the trips, they each revealed their position through debates regarding post-tradition against succeeding tradition (see Figure 10). The architectural historian Jung expressed the status of “economically autonomous states” that had emerged in the latter half of the 20th century in terms of “a generation in which two types of

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14National Archives of Korea, BA135950.  
15The first generation of Japanese architects and intellectuals viewed Japan’s colonial empire state national identity as that of a superior Japan, that was neither Asia nor the West, representing the issues of a holy, pure and fundamental Japan, and the cultural integration of the West and Japan as an “purity versus hybridity” (Wendelken 2000, 819–828).
authenticity existed” (Jung 1967a, 12–14). The virtue of the architect was to “love architecture while loving the motherland” and to “pursue novelty while reflecting on accumulated traditions.” (Jung In-Kook Memorial Association, 2016c). He also derived meaning from the fact that the National Museum served as an opportunity for Korean architecture to also take part in “an important transition in which universal themes of functionalism, automation, inhuman systems, homogeneity, are transitioning towards themes of humanism and individuality.” (Jung In-Kook Memorial Association, 2016b).

Many other Asian nations also inherited imagined community legacies through a variety of ways as they transformed or constructed national museums. National museums would incite personal reflection about the nation through space, history and the nation, through their own experiences. The promotion committee judged Thailand, Malaysia and Taiwan as relevant to South Korea, due to local similarities, political and economic conditions, as well as cultural affinity. Asian architectural precedents, compared to that of Europe or America, were considered as capable to guide Korean issues of architectural production regarding “expressing nationalism, tradition, locality and individuality as a counter response to international style architecture” (Jung In-Kook Memorial Association, 2016a). Asian nation building was a project that was continuously taking place through competition and production, through a process of establishing a nation through various cultural systems. National museums served as a tangible place that most effectively demonstrated how nation building was realized, above all, by objectively recording and conserving its culture, and by establishing its own international image for important tourism industries.

From this point of view, the National Museum was visually and symbolically constructed, provoking one to think of a world beyond the nation. The educational function of the National Museum was to teach citizens how to think about what was national, and to communicate messages about the relationship between that of the nation, its territories, and the world beyond the nation (Thompson 2012, 55).

Jung highly evaluated the Kuala Lumpur National Museum of Malaysia as “a masterpiece that has been refined through a modern aesthetic that has succeeded the architectural tradition”. He saw it as an “oriental design that also reflects the nation’s architectural characteristics” rather than that of Thailand, which exhibited cultural artefacts that used the existing palace as a museum. He categorized the museums of Taiwan (August 1965) and Malaysia (August 1963) as coexisting with those of Europe and the East, defining them as a method of expressing tradition unique to South East Asian countries.

To Jung Inkook, the National Palace Museum of Taiwan could be associated with the National Museum in South Korea in terms of “the means of transforming timber structure architecture with concrete structure architecture, despite the relatively ordinary internal spaces or exhibition methods.” He believed that realizing tradition through these modern alterations could be dangerous in terms of the domestic technological situation, and that simple reproduction could attain a problem-free universality. The trips to neighboring East Asian and South East Asian regions by the promotion committee of JMMC served as an opportunity to transform the issue of “modernity in the postcolonial state” towards that of an “Asian Cultural Model rather than a historically indigenous model”. These members read the museums of Thailand, Malaysia, and Taiwan, as a counter response to international style architecture, as an architecture that expressed minjok spirit, tradition and region. They also found it significant that the National Museum was leading them into the midst of an important worldwide transition. Hence, the term “tradition” was tied to the adoption of handcrafted concrete, unlike Chinese and North Korean architects who did not intentionally define concrete monuments as
“traditional architecture”. The joining of South Korean "handcrafted technologies by traditional carpenters with concrete technologies positively re-established concepts like “Joseon” and “craftsmanship” as cultural capital and formed a framework of common challenges faced by postcolonial nations, ultimately aiding the construction of national tourism destinations, that would, in turn, propagate this constructed identity nationwide. It is thus possible to see that the discussion on architectural tectonic was re-imagined, re-invented and re-appropriated according to the developmental nationalism by middle agent architects with technocratic tendencies, and the issue of “purity and hybridity” of South Korea within Asia.

5. Conclusion

The construction of the National Museum at Gyeongbokgung as an issue of architectural tectonic was a success story in terms of “rapidly, affordably and culturally” realizing a tangible medium of nationalism through the hands of the Korean people. Concrete was viewed as an indigenous material, and the Joseon Dynasty craftsmanship techniques were combined to reveal how architecture can form a concept of developmental association in collaboration with the industrial sector. The local production of national urban spaces was founded upon this technocratic idea.

Three phases mark the use of concrete as a design element for the construction of national heritage in the JMMC and the Gyeongbokgung Palace district projects. The first phase examines the nationwide production and dissemination of concrete, followed by its application to national heritage. The architects had followed to the South Korean developmental state’s economic and cultural nation-building agendas, which were in turn, governed by intra-regional (self-discovery through Asian tours), the inter-state (countering North Korea) and domestic conditions (5-year development plan and Seoul’s urban infrastructure construction plan). Second, architects’ discussions and technical designs surrounding the mapping of the JMMC through the lens of the guidelines “express tradition using concrete” demonstrate how architects negotiated, conceptualized, and contextually situated the concept of handcrafted concrete in relation to tradition. In conclusion, architectural work using handcrafted concrete embodied in technological innovation in the reinvention of heritage and tradition as the bedrock of the creation of a new postcolonial national identity. The hybrid approach of handcraft technology evidences how concrete is a historical medium intrinsically tied to the existing industrial ecosystem, as a byproduct of the construction of a huge industrial production and distribution network of modernist material.

5.1. Discussion

Today, concrete-based national heritage is widely thought of as having been constructed without any discussion or debate, and that both South Korea and North Korea carried out these projects under unilateral guidelines set out by the government (Lee 2004, 183–192). Such a perspective is widely prevalent within the literature which views cultural production of national heritage as an inherently state-governed affair, either through the authority of state-owned governments (Lawrence 2018; Hobsbawm 1983) or the influence of colonial powers (King 1976).

On the other hand, the case study of JMMC Project illustrates how architects mobilized to create diverging camps of discourse in the construction of a national identity. If existing post-colonial research has focused heavily on normative methods of narrating modernization or illustrating the confrontations or resistance between Western civilization and ethnic culture, recent studies have highlighted the non-binary nature and multiple players involved in nation-building (Yu 2013; Esherick 2002; Yi and Heath 2008). My perspective is that technology can be applied as an appropriate analytical tool to evade the binary notions of ethnic culture/devolved civilization, premodern/modern, scientific/aesthetic in the process of making a postcolonial state, resulting in hybrid notions of simultaneously “cultural and materialistic” and “global and national” cultural production.

5.2. Closing comments: imagining the architectural tectonic of a post developmental nationalism

Concrete monuments no longer carries the same weight in the present day when it comes to architectural tectonic portrayals of the industrialization process, as it once did during the authoritarian corporatist state. The reconstructed concrete Gwanghwamun – the material legacy of developmental nationalism – has also been dismantled, and its ruins have been placed in the outer grounds of the Seoul History Museum. Other concrete monuments, such as the bronze dome and stoneboard artifacts of the former Japanese Colonial Government have been moved in an officially planned park space, under the pretext of liquidizing all remains from the colonial era, and exhibiting them as a social moral. The dismantled concrete Gwanghwamun remains were in fact considered to be a white elephant and were for some time unable to find a permanent home. Deprived of national heritage status following government
evaluations, all public organizations had initially refused to accept the remains, until the director of the Seoul History Museum accommodated them after judging their potential as heritage of the modern city. Nevertheless, in the early 2000s, South Korea heritage experienced yet another wave of architectural tectonic under the name of the restoration of Gyeongbokgung palace to its original site, following the demolition of the former Japanese General Government Building in 1995. National heritage was once again employed to create national identity, only, this time, with advanced scientific technologies applied to more conservative architectural styles. Traditional techniques were reproduced with more refined “digital processing methods”16 using pixelated image data, by traditional carpenters using pine trees from Mount Geumgang. More recently, the Gwanghwamun forum that was comprised of experts from each field and Seoul Metropolitan Government assembly members in September 2016, following the revised draft for the 2015 Gyeongbokgung 2nd phase restoration project, is now in the midst of planning long-term restoration of the representative landscape of Seoul, under the theme “the Joseon era landscape from Gwanghwamun, crossing through Gyeongbokgung, to Baegak, Bohyunbong, that continues on towards the sky”.17 The current left-wing municipal government that is at the forefront of a struggle for a post-developmental nationalism is, in fact, pursuing their agenda today under another hybrid spectre of future-oriented technology and past artisanal culture.

The object of criticism is no longer “the perceived threat to national identity”, nor the disappearance of certain places, regions and traditional values. The production of an architectural tectonic that is “owned” by the state is still a contentious issue that is sustained as a re-used and re-industrialized legacy of developmental nationalism.

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Notes on contributor

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