A Road to Modernization and Unification

The Construction of the Gyeongbu Highway in South Korea

CHIHYUNG JEON

On the first day of 1970, a major South Korean newspaper drew an imaginary but impressive blueprint of “Korea in the Year 2000.” At first glance, one could not fail to notice that, in the forthcoming millennium, Korea would be an economically advanced and politically unified nation. The line of demarcation between South and North Korea disappeared and the entire peninsula was covered with the familiar icons of an industrial society such as high-rise buildings, factories, airplanes, and dams.¹ The image of “Korea in the Year 2000” obviously reflected the contemporary national agenda of South Korea in 1970. In his New Year’s press conference, President Park Chung Hee summarized the two big tasks of economic development and unification by asserting that “the widening gap in economic power between the two Koreas will make the North Korean puppet regime abandon its military provocation by the late 1970s.”² A second glance at the imaginary map reveals the centerpiece in the making of twenty-first-century Korea: highways. The “megalopolises” of high-rise buildings and factories were located along extensive highway networks that connected the major cities and

Chihyung Jeon is a Ph.D. candidate in the Doctoral Program in History, Anthropology, and Science, Technology, and Society (HASTS) at the Massachusetts Institute of Technology. He thanks Hyungsub Choi, Xaq Frohlich, Takehiko Hashimoto, Sungook Hong, David Kaiser, Dong-Won Kim, Sang-Hyun Kim, Stuart Leslie, David Mindell, Michael Rossi, Bruce Seely, Susan Silbey, Sung Soo Song, Thomas Zeller, John Staudenmaier, and the anonymous T&C referees for their valuable comments on different versions of this article.

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1. Dong-A Ilbo, 1 January 1970.
2. Dong-A Ilbo, 9 January 1970. Conventional Korean usage places one’s family name before one’s given name, as with Park Chung Hee here (Park being his family name). This article conforms to this practice at all times in the main body of the text; it also does so in its discursive footnotes. Please note, however, that this article follows the English-language convention of placing one’s given name before one’s family name when citing source material in its footnotes, as with the work of Lee Dong Hee in footnote 54 below.
stretched all the way up to the northern end of North Korea, where one could see the national flag of South Korea flying. Industrialization, modernization, and the unification of Korea seemed to depend upon the nation’s highway networks (fig. 1).

In expressing their strong optimism for Korea’s future, the newspaper’s editor and President Park both drew on one piece of physical evidence—the Gyeongbu Highway, a real highway that had been under construction for nearly two years. This highway, which would span the 430 kilometers between South Korea’s two largest cities, Seoul and Busan, was expected to open by the coming summer. As the first large-scale highway running diagonally across the entire country, it was believed by many in South Korea to be the key to achieving economic superiority over North Korea and thereby taking a step toward unification. If “economic construction” was, as Park declared, “nothing other than the strengthening of national defense,” there was little doubt that the Gyeongbu Highway would play its role in fulfilling these two highly important and intertwined tasks.3

3. Ibid.
Did the Gyeongbu Highway deliver what it promised? As of the thirtieth anniversary in 2000 of its full opening, the highway had not disappointed its believers, though it had not yet brought about the unification of the two Koreas. The opening of the highway in July 1970 was hailed as a crucial event for South Korea, symbolizing the nation rising from the ashes of the Korean War (1950–1953). It was almost a cliché that the Gyeongbu Highway had fostered economic growth by sharply reducing the cost of traffic and transportation, transforming the country into a one-day travel zone and raising the quality of life in South Korea. The Gyeongbu Highway became a symbol of the “Miracle on the Han River,” as South Korea’s post-war economic boom was called, both enabling and exemplifying South Korea’s rapid industrialization and modernization. As its fortieth anniversary approached, the National Archives of Korea launched a web exhibition devoted to the Gyeongbu Highway in July 2009. The website’s homepage mostly repeated what had been said about the highway a decade earlier: “efficient use of the country’s land,” “a one-day lifezone,” and “a stepping stone for economic growth.”

There are many analyses of the economic effects of highways and other large civil engineering projects such as railroads and canals. Instead of engaging directly with economic evaluations of the famous highway, this essay aims to examine the ways in which it has been made into a powerful symbol in the nation’s recent historical memory. How could a highway become a national symbol? If the Gyeongbu Highway did become one, what exactly did it symbolize? Following anthropologist Clifford Geertz, I regard symbols as “tangible formulations of notions, abstractions from experience fixed in perceptible forms, concrete embodiments of ideas, attitudes, judgments, longings, or beliefs.” The Gyeongbu Highway, during and after its construction, was a tangible artifact that embodied the beliefs and visions held by Park and many South Koreans: that of Korea as an industrialized, modernized, and unified nation. To build a highway was simultaneously to modernize a country and fight against North Korean communism. In other words, the Gyeongbu Highway was the most visible and persuasive articulation of the discourses of industrialization, modernization, and unification. This spectacular artifact helped generate, propagate, and give weight to those dominant discourses, which in turn strongly influenced the ways in which the artifact was constructed. One obvious critique points out how the

authoritarian regime reaped political benefits by appropriating the engineering project in domestic governance and its cold war rivalry against North Korea. But rather than simply claim that the highway’s political success brought about or eclipsed its engineering problems, I want to highlight the ways in which artifacts and discourses articulate each other, thereby producing a symbol and thus a program by which to build a nation and organize a society. The rhetoric and practice of hard work and speedy development that helped complete the Gyeongbu Highway proved to be effective resources for pushing South Korean society toward economic growth, though this growth was not necessarily accompanied by democratic processes.

I consider the Gyeongbu Highway project as a case of what Chandra Mukerji called “intelligent uses of engineering” to acquire and display the “legitimacy of state power.” In an essay written in the wake of the terrorist attacks of 11 September 2001, Mukerji asked historians of technology and STS scholars for a rethinking of what seemed to be taken for granted: “But why would the destruction of a single building threaten or even pose questions of legitimacy of a regime?” In other words, how can an engineering artifact stand for a political regime? The Gyeongbu Highway did not collapse as the World Trade Center did, but it bore the burden of embodying the hopes and frustrations of South Koreans under the authoritarian regime of Park Chung Hee and thereafter. What needs to be emphasized in both engineering artifacts is that the nature of their signification was more physical than metaphorical. Just as the 9/11 attacks refreshed our historical memory of how much “political orders have depended upon intelligent uses of the physical world,” the case of the Gyeongbu Highway can serve as evidence that, as Mukerji suggests, states and citizens are not just “illusory cultural constructs,” but rather “physically instantiated political forms” resulting from careful construction and maintenance of the built environment.

Despite the fact that the state initiated and dominated the entire project, it should be made clear that President Park and his government were not the only major players in making the highway a national symbol. It would not be sufficient to simply examine “the meanings attached to” or “the significance given to” the artifact by politicians, bureaucrats, or the

6. Here, I side with Gabrielle Hecht, who has shown the interpenetration of technology and politics and has argued that “the artifacts elaborated within each institution can be best understood as hybrids of technology and politics.” She also suggested that “instead of asking whether workplace experience is prior to culture or whether culture is prior to experience, we should look for ways in which experience is cultural and culture is experiential.” See Hecht, The Radiance of France: Nuclear Power and National Identity after World War II (Cambridge, Mass., 1998), 5, 11. David Mindell made a similar point when he wrote: “Making technologies is a symbolic activity, and making symbols is a technical activity”; see his War, Technology, and Experience aboard the USS Monitor (Baltimore, 2000), 16.

media. To better understand the highway, it is necessary to describe how engineers made sense of the national symbol they helped materialize. In other words, the so-called popular image of an artifact does not exist independently of its “technical design or function.” In the Gyeongbu Highway project, messy and minute engineering routines had as much relevance to the creation of a grand symbol as did the discursive, and sometimes coercive, measures taken by the president and the bureaucrats. To no less an extent than politicians and journalists, and in a more fundamental sense, engineers make things signify something else. Technical activities such as route planning, pavement design, and tunnel construction largely constituted this “labor of signification” to make the Gyeongbu Highway symbolize South Korea’s modernization and unification. This symbol-making activity by engineers, combined with the work of the government and the media, seemed most successful at the moment of the grand opening cere-

8. The quoted material is from Joshua Barker, “Engineers and Political Dreams: Indonesia in the Satellite Age,” *Current Anthropology* 46 (2005): 703–27 (emphasis added). In his comments on Barker’s article, published in the same issue of the journal, anthropologist Webb Keane pointed out Barker’s lack of attention to the materiality of the satellite system.


10. The recollections of engineers and supervisors who participated in the construction have been published by the Korea Highway Corporation (Hankook Doro Gongsa), which was established in 1969 for the maintenance of existing highways and the construction of new ones. See Hankook Doro Gongsa, ed., *Tam gua munmul ui daesulsashi: Gosokdoro gnsul bhwu* (Seongnam, 1980); Hankook Doro Gongsa, ed., *Teut i itsukkie: Gosokdoro gnsul imyuns* (Seongnam, 1996); Hankook Doro Gongsa, ed., *San i makhimyun tunnel eul talgo gang i hurumyun dari real nokko: Gunsulinal i damewn gyeongbu gosokdoro gnsul iyagi* (Seongnam, 2000). Most authors of these accounts take great pride in their own achievement of building a highway from scratch. A historian needs to read them with caution, but they nevertheless offer useful insights about what it was like to build a major highway under severe constraints. I also use the magazine *Gosokdoro* (hereafter *Korea Highway*, its official English title), published by the Korea Highway Corporation, as well as other civil engineering journals as my sources for engineers’ thoughts and practices on the Gyeongbu Highway. These sources contain some critical assessments of the highway’s design, construction, and maintenance.

11. I borrow the phrase “labor of signification” from Jean Baudrillard, though I use it with slightly different emphasis. Baudrillard regarded labor of signification as differentiated from “the process of real labor” and used it to explain Marx’s notion of commodity fetishism. In this article, I take his definition of the labor of signification to be “the production of differences and of sign values,” but I consider real labor and labor of signification as mutually inclusive and dependent, rather than as opposed to each other. In my analysis of the Gyeongbu Highway, labor of signification mainly refers, but is not limited, to engineers’ practice of making symbolic connections between things and meanings of their creation through their routine labor, both physical and rhetorical. See Jean Baudrillard, *For a Critique of the Political Economy of the Sign* (New York, 1981), 93.
mony. It soon became clear, however, that the symbol needed a lot of maintenance work, both technical and discursive. This long process of constructing and maintaining the highway was intertwined with the changing ways in which the president defined his regime and the engineers characterized their profession, and how users and nonusers of the highway adapted their attitudes and behaviors.

An Ambitious Undertaking

Major General Park Chung Hee seized power in a military coup in May 1961. An emphasis on fast economic growth and a strong military to compete against North Korean communism characterized his regime. Park believed that these two tasks went hand in hand. Lagging behind North Korea in economic performance, South Korea had to demonstrate its economic superiority in order to win the ideological war against the communists. In 1962, Park launched the first Five-Year Economic Development Plan (1962–1966), declaring that “[t]o protect the freedom from the communist threat we need absolute defensive capacity, and to enjoy the freedom economic reconstruction is necessary.” During his reign, economic construction and national defense were interwoven.

Political considerations played a role in Park’s promotion of the Gyeongbu Highway project. He first came to appreciate the need for a highway during a state visit to West Germany in December 1964, when he was deeply impressed by the experience of riding on the autobahn between Bonn and Köln and realized what highways could bring to his political and economic agenda. However, the Gyeongbu Highway project was not put to an open debate until the first year of the second Five-Year Plan began, although there was some internal discussion and planning within the government. Instead, Park chose to bring the highway project to the fore in a way that would reap the most political advantage. He announced his plan for the Gyeongbu Highway in his presidential reelection campaign, on 29 April 1967, just four days before the vote. The opposition party immediately attacked “the construction without democracy” that would “only result in corruption.” Park vigorously defended his plan by insisting that


there would be “no political autonomy without economic autarky.” For President Park, economic development through construction of the Gyeongbu Highway would be an effective strategy to legitimize his regime.\(^{15}\)

In spite of the president’s hope, however, few were willing to place a large-scale highway on the priority list of the Korean economy in the 1960s. The Korean government commissioned the International Bank for Reconstruction and Development (IBRD) to conduct a survey on traffic conditions in South Korea in 1965. The IBRD report (1966) stated that it was necessary to improve the roads in Korea by changing the railway-centered traffic system to a motorway-centered one. However, the IBRD examiners did not see the need for a large-scale highway. Nor was public opinion receptive to the plan for the Gyeongbu Highway. The plan’s critics claimed that the highway project was neither urgent nor fiscally wise given South Korea’s economic situation and its small number of cars. Indeed, there were only 60,000 motor vehicles in the entire country in 1967, and South Korea’s total state budget for that year was only five times greater than the expected construction cost for the Gyeongbu Highway, even though the cost had been seriously underestimated.\(^{16}\) In addition to these issues of financial conditions and car ownership, the question of the country’s technical capacity for the construction of a large-scale highway worried skeptics. As many Korean civil engineers often acknowledged, “trial and error” or “learning by doing” was the way in which Korean construction companies did their jobs, and many did not even have a clear understanding of specifications, tests, or equipment control. Only one construction company, Hyundai Construction, had any experience in highway building, having constructed a sixty-mile highway between Pattani and Narathiwat in Thailand during the period 1966–1968. And Hyundai was only one of the sixteen construction companies that would participate in the Gyeongbu Highway project.\(^{17}\)

15. Dong-A Ilbo, 29 April and 1 May 1967.

16. Gyotongbu, Gyotong tonggyeo yonbo 1979 (Seoul, 1979), 158–65; Hankook Doro Gongsa, Hankook gosokdoro shipnyunsan, 81–114, 123–25; “World Road Statistics,” Korea Highway 2 (May 1972): 143–53. As late as 1969, only 8 percent of Korea’s roads were paved, whereas the percentages were 43.6 percent in the United States, 76.6 percent in West Germany, and 12.7 percent in Japan. The initial construction cost estimate was 30 billion won (KRW), plus 3 billion KRW of reserve funds. It was later modified to 43 billion KRW, which was roughly equivalent to US$154 million. In 1968, the won to U.S. dollar ratio was between 274 and 282.

17. Hankook Doro Gongsa, Tam gua nummul ui daesuhashi (n. 10 above), 127–31; Hyundai Gunsul, Hyundai gunsul samship-oh-nyun-sa (Seoul, 1982), 604–10, 2028–47. It was the largest construction contract that a Korean company was ever awarded, and the first construction contract that a Korean company had won in a foreign country. Hyundai’s construction project in Thailand was such big news that the departure of engineers and workers to Thailand was broadcast live. However, with little technical expertise or experience in such a large undertaking, or in highway construction generally, Hyundai had a very hard time completing the project and finally went into debt to the
In the face of this skepticism, the South Korean government concentrated its efforts on persuading the IBRD of the need for the Gyeongbu Highway and acquiring financial support from the organization. Even before Park’s public announcement, the Korean government had been asking the IBRD to consider financing feasibility studies of the highway construction plan that, contrary to the IBRD survey’s initial recommendation, included the Gyeongbu line. By the end of 1967, the Korean government had become more impatient; Park was determined to proceed with the construction soon. On 15 December 1967, Minister of Finance Suh Bong Kyun wrote to George Woods, the president of the IBRD, asking the organization to support the feasibility study of the Gyeongbu Highway. As Suh emphasized, this “speedy link-up” between the country’s two major industrial regions was an “ambitious undertaking” that required “substantial amounts of financial and technical assistance from external sources.” The IBRD’s “sympathetic consideration” was desperately needed. Moreover, the Korean government wanted to proceed “as speedily as possible,” even suggesting that the IBRD send officials to Seoul “to expedite our cooperation.”

To the great disappointment of the Korean government, however, the IBRD refused to finance the feasibility study, emphasizing again the need to focus on routes with “higher priority” than Gyeongbu’s. From the IBRD’s perspective, it didn’t seem to be a good idea to have most of South Korea’s road-building resources “tied up in this one project over the next few years”—hence there was no need even to study its feasibility. In a meeting with Korean diplomatic officials in January 1968, I. P. N. Cargill, director of the IBRD’s Asia department, acknowledged the “political and military importance” of the project but did not see sufficient “economic importance” to justify it. As South Korea’s ambassador to the United States reported to Seoul, the IBRD seemed “embarrassed” by the Korean government’s actions regarding the Gyeongbu Highway, which went against the organization’s consistent recommendations. Worried about the situation, the ambassador noted that the IBRD should not be “discouraged” in its relationship with the Korean government. Although the prospects for foreign assistance for the feasibility study, let alone the actual construction, now seemed dim, the Korean government nevertheless scheduled its groundbreaking ceremony for the very next month.

extent of US$1 million. The companies and their sections of work are listed in Hankook Doro Gongsa, *Hankook gosokdoro shipnyunsu*, 792–93.


As Cargill noted, although the construction of the Gyeongbu Highway lacked a strong economic justification within Korea and seemed beyond the country’s technical capabilities, it did hold significant implications for the hostile relationship between South and North Korea. Increasing military tension lent timely support to the association of the Gyeongbu Highway with the competition against North Korea. January 1968 witnessed a peak of the anti-communist and anti-North mood in South Korea. One source of this sentiment was South Korea’s entry into the war in Vietnam. Reports of South Korea’s forces fighting against the communists in Vietnam were among the leading stories in the country’s newspapers. What made things worse was North Korea’s repeated military provocations. On 21 January, ten days before the highway’s groundbreaking ceremony, thirty-one armed guerrillas from North Korea slipped into Seoul and killed scores of soldiers and civilians in the course of an unsuccessful attempt to assassinate President Park. Two days later, the USS Pueblo, a U.S. Navy intelligence vessel with eighty-three Americans onboard, was intercepted by a North Korean patrol boat, which heightened military tension around the peninsula. The U.S. aircraft carrier Enterprise and several destroyers were moved toward North Korea. In South Korea, the duty period of enlisted soldiers was extended and a plan for mobilizing armed local reserves of more than two million was discussed and soon realized. Rallies were held one after another, day after day, to denounce the treacherous actions of the North Korean communists.

Park did not fail to capitalize on this situation while promoting the Gyeongbu Highway, linking its construction to the struggle against North Korean communists and the reunification of the nation. In his speech at the groundbreaking ceremony, Park argued that the Gyeongbu Highway was not merely a road-construction project for the nation’s modernization; he drew a clear connection between the recent military conflicts and the ambitious highway project:

It is Kim Il Sung [the North Korean leader] who is most nervous about our growing national might, economic construction, and improving military force. . . . Therefore, . . . they had armed guerrilla infiltrate into here . . . to interrupt economic construction. . . . Our people should be the people who construct as they fight, that is, we are to fight against communists on the one side, and to promote construction on the other.

The term “construction” was the keyword. When used alone, it literally

meant constructing roads, buildings, dams, or factories. But in Park’s speech, it was also used frequently to form the phrase “economic construction.” It was almost interchangeable with “economic development” semantically, but it carried a strong implication that the national economy could be best developed through construction. The groundbreaking ceremony for the Gyeongbu Highway was the ideal place to promote this convergence of economic construction and road construction, which in turn were inseparable from anticomunism. Thus the highway became a prime example of Park’s favorite slogan, “Let’s construct as we fight.” He had already declared the year 1968 to be “The Year of Construction.” The construction site of the Gyeongbu Highway would then be a virtual battlefield against North Korean communism, and President Park was said to be “the commander in chief in the battlefield of Gyeongbu Highway.”

Rush Construction

As the date of the groundbreaking approached, the government and the media began to emphasize that the highway would be built with Korea’s own resources rather than foreign assistance, although the exact means of financing the project were not finalized until the groundbreaking. At the same time, once it resolved to build the Gyeongbu Highway against the IBRD’s advice and others’ skepticism, Park and his government had no choice but to complete it as expeditiously and inexpensively as possible. As Park said in a meeting with executives of the participating construction companies, the haste with which the project was implemented was “not merely for the purpose of industrial development”; what was just as important was creating the “pride” for future generations that “we made the best road in the quickest way in the world with our own power, technology, and finance.” This pressure for cheap and quick construction would heavily influence the course of the engineering project. The Gyeongbu Highway was not intended to be an exemplar of solid engineering; rather, the motto for its construction was “make it first, fix it later.”

22. The slogan is from Park’s New Year’s address of 1969; “The Year of Construction” was declared in Park’s New Year’s address of 1968. See ibid., 1 January 1968 and 1 January 1969. For descriptions of Park as “the commander in chief” of the Gyeongbu Highway project, see Won Chul Oh, Hankook-hyang gyeongjae gunsul: Engineering approach, vol. 2 (Seoul, 1996); Yung Ho Yoon, “Gyeongbu Highway, the Glory of Our Youth,” in San i makhinyun tunnel eul tulko gang i hurumyun dari reul nokko (n. 10 above), 33–52; and In Soo Kim, “The General Director of Highway Construction Is the President,” in San i makhinyun tunnel eul tulko gang i hurumyun dari reul nokko, 184–89. Oh Won Chul worked for Park as his presidential secretary for the economy.


To ensure that the project proceeded as scheduled, the army-general-turned-president turned, as might be expected, to the military. The contribution of the military to the actual construction of the highway was twofold. First, three battalions of the army engineering corps were assigned the most arduous work, because using free military labor could considerably accelerate the construction pace and reduce costs. They began to “execute the operation” even before Congress approved the budget for the entire project. On the command of a captain who was “not sure about what a highway was and how to build one,” the soldiers rushed, shovels in hand, to the frozen hills that were dubbed their “enemy.” President Park visited the construction site and boosted the soldiers’ morale by ordering the installation of a field hot-water shower facility.25

Second, but more important, many field supervisors for each section of the project came from the military. As there were few Korean engineers who had a background in highway construction, Park ordered a score of young, unmarried officers, many of whom had just returned from Vietnam, to be selected as field supervisors. After a maximum of two months’ training, these highly motivated officers were assigned to their respective sections. As the project proceeded, ROTC officers and graduates of engineering colleges became the next groups to be trained and dispatched as field supervisors. These inexperienced though dedicated supervisors demanded “by-the-book” practices from contractors, who had their own ways of working. At the same time, the supervisors pressed workers to meet the president’s accelerated schedule. Tensions and conflicts erupted between these young supervisors and contracted workers, some supervisors even fearing being assaulted by enraged workers. For these supervisors, the construction site was none other than “the battlefield” where many participants were “killed in action.” The supervisors wore the same working clothes, fatigue caps, combat boots, and armbands, and they used military phones with rotating handsets. At the opening ceremony of the Gyeongbu Highway, President Park awarded these young field supervisors the Order of National Security Merit for their contribution to its completion. Overall, the government rewarded with official medals and orders 191 persons and groups, including forty-four army officers and three army engineering corps.26

Throughout the period of construction, the engineers and contracted workers scrambled to meet the president's timetable. It took only two-and-a-half months from the organization of the first task-force team to the groundbreaking ceremony. The construction was initially scheduled to last for three-and-a-half years. After being favorably impressed by the progress of the project, however, the planning committee curtailed the period of construction twice, each time by six months. For field workers, the tight schedule meant frequent overtime work, even overnight and on holidays as well. “Rush construction,” a term taken from the military, best described the actual practices at the construction sites and was common parlance among engineers and workers. It meant that the construction was done in the way the military rushed against the enemy. To help speed up construction, Park made thirty-three official inspections during the twenty-nine months of construction, in addition to many informal visits. His frequent inspections raised the level of tension at the sites, because each time he visited, the workers and supervisors were expected to show signs of progress.27

The pressure for quick and cheap construction directly influenced the actual design and construction of the Gyeongbu Highway. First, at least in principle, the route was designed to follow the shortest path between Seoul and Busan, keeping tunnels and bridges to a minimum for the sake of time and money. Dang Jae Tunnel, the longest on the highway, was representative of this approach. In hopes of keeping it as short as possible, the tunnel was cut through very rough valleys. Even though geological conditions required the creation of a longer tunnel, the construction was truncated because the shorter tunnel could be completed without purchasing a highly expensive ventilation system. Consequently, several workers lost their lives during its construction, causing serious delays in the schedule, and the Dang Jae Tunnel became the bottleneck of the entire project. To meet the construction deadline, the contracted company of the section, Hyundai, eventually had to use expensive fast-solidifying cement.28

27. The first curtailment of construction was announced by Park in September 1968; see Hankook Doro Gongsa, Hankook gosokdoro shipnyunsan, 120, 205–6. For “rush construction” practices, see Sang Do Park, “Gaetong jeonnal kaji balpa jakup han dolgun gongsa eh daehan hoisang,” in San i makhimyun tunnel eul tulko gang i hurumyun dari reul nokko, 88–93. Rush construction in the Gyeongbu Highway project bears a striking resemblance to the huge engineering projects in the former Soviet Union, which Loren Graham discusses in The Ghost of the Executed Engineer: Technology and the Fall of the Soviet Union (Cambridge, Mass., 1993).

28. Gunsulbu and Hankook doro gongsa, Seoul Busan gan gosokdora gunsulji, 127–
Second, due to budgetary constraints, engineers designed the Gyeongbu Highway with insufficient depth and width. The basic concept of the project was so-called stage construction, which aimed to build the highway with minimum initial investment and, when increased traffic flow began to cause problems, to perform repairs accordingly. Planners estimated the depth of pavement “empirically,” with much attention to cost reduction. Theoretical examination after the fact justified its predetermined depth. The depth of the asphalt surface layer deemed sufficient was 7.5 cm, which was very thin compared to foreign highways. This “economical method” to cut costs “by reducing the parts other than the lanes to a minimum” also made the width of the median strip and the shoulder narrower than any of the foreign cases that the planning committee had used as references.

One source of the problems in determining the depth of pavement was the absence of a national standard for Korean highways. An engineer who participated in the pavement design calculated the structural number of the pavement using the American Association of State Highway Officials (AASHO) standard. Then he adjusted the number from 3.86 to 4.66 on the grounds that soil materials for the Gyeongbu Highway were superior to those used in AASHO testing. Assuming that this modification was justified, the engineer predicted that the road would function for ten years. Other engineers disagreed, however. Without the adjustment of the calculated structural number, one engineer insisted that the highway would need overlay pavement within two years of its opening, if not sooner. When construction was still under way, he warned many civil engineers who “only trust their previous experience” and concluded that most failures of pavement were the results of “the neglected quality control with improper work schedule.”

There were yet other problems that would damage the structural integrity of the highway. Engineers debated the method of construction for the base course beneath the top layers, because it was an important factor in the structural stability of the road. They could not employ the cement- or asphalt-stabilization method, acknowledged to be a superior approach, because it cost more and the engineers lacked the necessary experience and equipment. Instead, the engineers adopted the faster, cheaper, and more fa-
miliar mechanical-stabilization method using crushed gravel. Another significant issue was poor drainage under the median strip; closer attention to drainage in this area would have helped prevent cracks in the pavement. These “planned deficiencies” would later pose serious problems for those who assumed responsibility for the repair and maintenance of the highway.  

As the project came to an end, politicians and engineers alike raised serious concerns about the possibility of shoddy construction caused by the accelerated pace of construction. In April 1970, three months before the highway’s completion, Wow Apartment, a five-story, four-month-old apartment building that had been constructed for Seoul’s poor, suddenly collapsed, taking the lives of thirty-three people. The disaster turned out to be a consequence of poor planning, illegal use of materials, and hasty construction, all of which were attributed to the building’s use as political propaganda. In light of this disaster, the Gyeongbu Highway became a target of criticism. A congressman from the opposition party extended his anger about Wow to the highway, which, had it been a building, “would have collapsed completely as well.” Some engineers expressed similar worries about the quality of construction. About the time when the project was completed, one army lieutenant colonel who worked as a supervisor wrote for the Journal of the Korean Society of Civil Engineers about the “side effects and lessons” of the Gyeongbu Highway’s construction. Although he regarded the construction as an overall success in which the engineers could gain “confidence about our potential,” he concluded with some lessons learned. For instance, he called for engineers to maintain a “habit of abiding by specifications,” as well as to select soil materials “without constraints of cost.” More crucially, he also suggested that the construction period be decided “based on the engineers’ opinion and judgment.” No one could deny that the construction had been rushed.  


34. Emphasis on reducing construction costs and accelerating schedules of completion is a common practice in construction projects around the world, and there is always room for debate about how much reduction is appropriate and how much excessive. My aim here is not simply to point out the surprisingly low cost and quick pace of rush construction, but rather to address the conditions and mechanisms that made such practices acceptable and even desirable and to help recognize the legacies of these conventions in the South Korean construction industry. For a case study of a similar logic of construction that experienced severe budget constraints and changing political contexts, see
A Road to Modernization and Unification

The construction of the Gyeongbu Highway was an effective showcase and laboratory of national economic growth and anticommunism. As a tangible example of South Korea’s economic and ideological superiority over North Korea, the highway generated participation by the general public as well as that of engineers and workers. In 1969, when construction was well under way, 259 students from thirty-seven colleges volunteered to spend their summer vacation “participating directly in the construction of a national artery.” One professor who supervised the students praised Hyundai Construction Company at the site for “its sacred devotion” to the national project. He also felt great pride in “our nation’s adroitness” to build “a high-quality highway within the shortest period with the least amount of money.” Even some residents in a village of leprous people, who were usually excluded from the public, were asked to work at a nearby site to compensate for the shortage of labor and were welcomed by the construction company. Leaders of Buddhist priests also wished to contribute their labor as a continuation of the historical role of the “Buddhist priests’ army” to save the country in “national emergencies.”

For the highway to be a symbol, the view from the road mattered. To give the most magnificent surroundings to the highway, the countryside through which the highway passed was carefully landscaped. Farming villages were compelled to replace their traditional grass roofs with new, modern-looking tiled roofs, at least on the side facing the highway. As the construction drew to an end, farmers were also encouraged to harvest their barley and to plant rice before the opening of the highway, so that the scenery would be green and verdant. The desire to create impressive scenery from the car window may have affected the design of the highway itself. After driving on the highway just before its formal opening, one journalist guessed that, despite the general principle that the highway should follow the shortest path, it had been designed to detour through an area that provided an access to Gyeongju, a historic capital of the Shilla Kingdom and a tourist destination, and a distant view of Ulsan, a rising industrial city.


The Gyeongbu Highway had its grand opening on 7 July 1970. Seoul’s public buildings and city buses put up celebratory placards. Thousands of balloons and doves were released for the parade to the site of the opening ceremony, and the government issued commemorative stamps. In this festive mood, Park boastfully reminded the audience that the “Gyeongbu Highway is the symbolic road of our nation’s modernization and is the road leading directly to the unification of South and North Korea.” Without mentioning his government’s failed attempt to acquire IBRD funding, he claimed that not a penny from foreign aid or loans had been used for the highway. He was also proud that the project had been accomplished without foreign guidance, at much lower cost than foreign highways, and within the shortest time period. The ruling party echoed Park’s words by praising the highway’s opening as “a vivid proof of the remarkable growth of our national strength.” The opposition party made a disparaging comment about “exhibitionistic government,” but there were few who could deny the political success of the Gyeongbu Highway.

There was a careful management of symbolism for the formal opening of the highway. The date of the ceremony, 7 July, was not a random choice. It was associated with the auspicious “lucky seven,” but it also paralleled the “seventy-seven martyrs to duty” who died during the road’s construction and were called “the industrial warriors in the national march to modernization and the sacred cornerstones for the everlasting welfare society.” The number seventy-seven also became a key to the design of the monument for the opening: a seventy-seven-story granite tower, which at the time was the country’s tallest stone pagoda. The stairs in front of the monument-tower square also consisted of seventy-seven steps. The tower was decorated with angels holding up a laurel leaf and a dove. The front side of the monument was inscribed with President Park’s remarks at the opening ceremony: “The Seoul-Busan Highway is the road of our country’s modernization and the road to the country’s unification.” On its back side, the minister of construction praised President Park’s “historic decision and direct command” in the construction of “our honorable pride.” The right side featured the “Song of Highway,” written by a poet who exclaimed: “Run, the road of victory. Run, the road of unification. The highway that creates history.”

37. In fact, this was the opening of the last section of the highway between Daejon and Daegu, the section that included the Dang Jae Tunnel. The other sections were already open and in use: Seoul-Suwon opened on 21 December 1968; Suwon-Osan on 30 December 1968; Osan-Chonan on 29 September 1969; Chonan-Daejon on 10 December 1969; and Daegu-Busan on 29 December 1969. See Hankook Doro Gongsa, Hankook gosokdoro shipnyunsa (n. 14 above), 823–27.

38. Dong-A Ilbo, 6–7 July 1970. In fact, there were foreign consulting engineers whose advice was not always carefully followed; see Joong Yeol Park, “Oekuk gisul yongyeokdan ui yeokhal,” in Hankook Doro Gongsa, Teut i itsukkie (n. 10 above), 215–23.

39. Gunsulbu and Hankook doro gongsa, Seoul Busan gan gosokdoro gunsulji (n. 26 above), 578–80, 612–20. The designer of the monument tower, whose progress was also
Once constructed, the Gyeongbu Highway became a favorite symbol of South Korea’s industrialization, modernization, and unification, as did the highways that followed. Postal stamps issued after the highway’s opening clearly illustrate the symbolic status of the highway for President Park and Korean society. On the inauguration stamp issued for Park as the sixth president in July 1967, when the Gyeongbu Highway did not yet exist, his face was decorated with a phoenix, the official emblem for the president. When he was inaugurated as the seventh president in 1971 and the eighth in 1972, however, a highway took a prominent position beside Park’s face as if it were his most triumphant achievement. Another stamp in 1975, celebrating the thirtieth anniversary of the liberation from Japanese occupation, showed Korea’s four major achievements over the past thirty years: a factory, a cargo container, a rice paddy, and a highway. Highways were regarded not only as Park’s great achievement, but also as a primary example of a modernized and industrialized Korea that had overcome Japanese colonialism. The glorious future of Korea as a unified nation also featured the Gyeongbu Highway and its successors. A stamp titled “Making the Garden of Unification” (1972) had a very simple illustration: a map of South and North Korea covered with highways and trees. Along with the highways, South Korea would march in triumph toward the north (fig. 2).

“Main artery” was the favorite description of the Gyeongbu Highway. The term had originally referred to the railway line between Seoul and Busan, which opened in 1905 under Japanese influence and was also called the Gyeongbu Line. After the opening of the Gyeongbu Highway, however, the metaphor of “main artery of the nation’s economy” seemed more suitable to this new symbol of modernization and industrialization. It was widely advertised that the highway was to bring enormous changes not only in industry and economy, but also in citizens’ daily lives and family relations. In Nae-il ui paldogangsan (Tomorrow’s scenery of Korea), a popular 1971 propaganda film with an all-star cast, an elderly doctor of oriental medicine and his wife used highways in their journey to visit their sons and daughters who had settled throughout the country and worked in diverse sectors of the economy. What they witnessed throughout the journey was the prosperous growth of South Korea, as well as the hope for an even brighter future. In another scene aptly capturing the benefits of the new highway, their daughter and her husband, who were living in Busan, arrived at their house in Seoul in time for lunch, bringing fresh fish they had bought at a fish market in Busan that very morning. Here was a striking illustration of the new patterns of family life in the age of the highway. The

accelerated by the hasty schedule, overworked himself to death—another example of the rush construction mantra of the entire project; see Hankook Doro Gongsa, Tam gua munmul ui daesuhsashi, 312–22.
A highway nation required highway-minded citizens. Highway engineers, politicians, and the media combined their efforts for this simultaneous construction of the artifact and its users. The proper use of the modern highway was something that had to be taught to both drivers and pedestrians. Even those Koreans who would seldom use the highway were nevertheless supposed to learn about it and understand its significance to their country’s modernization. In this vein, the high accident rate on the highway aroused much attention and discussion.41 One prominent concern


41. The accident rate—measured as the number of accidents occurring when 1 million cars traveled 1 km—was 2.77 in 1970, 2.11 in 1971, and 2.28 in 1972, which was
in its early days was that people often chose to walk on it rather than drive. Farmers whose houses and rice fields happened to be separated by the highway often took the risk of crossing it. Occasionally drunken people walked into the highway where guardrails were not installed. When an inebriated man sitting on the highway was struck and killed in 1970, the vehicle’s driver was not indicted on the grounds that the accident had been “beyond human control”—in sharp contrast with past cases in which locomotive engineers were found guilty of killing people on railroad tracks. “Modernization should include,” one journalist wrote, “the generalization of the perception that highways are not for pedestrians.” Moreover, “the waves of modernization” in transportation were accompanied by “a revolution in the concept of criminal liability.”

In most accidents, however, South Korean drivers were eventually held responsible for their failure to conform to the rules of new highways. Engineers of the Korea Highway Corporation attributed more than 80 percent of all accidents on the Gyeongbu Highway up till 1980 to drivers’ violation of traffic regulations, mostly by falling asleep at the wheel or driving while intoxicated. The classificatory table of highway accidents in the corporation’s magazine, Korea Highway, contained a heading that was not included in the table for accidents on non-highways: “fatigue.” Because fatigue was “the enemy of high-speed driving,” the authors of articles in the magazine repeatedly advised drivers not only to take enough rest stops while driving long distance, but also to “take heed of health care the day before driving.”

Worries about highway accidents led to the redefinition of “a proper driver” in the age of highways. What lay behind many highway accidents, according to an article in Korea Highway, was the “lack of law-abiding spirit.” To drive safely on a highway, therefore, a driver should have “such character and attitude that make him faithful to the duty.” The writer of the article believed that accidents might be caused by “defects in one’s character,” which should be corrected by education. Those who were “discontented, exclusive, imprudent, perverse, cowardly, and indecisive” were more than double the rates in Japan, Germany, and the United States; see Choong Geun Park, “Comprehensive Analysis of Highway Accidents,” Korea Highway, July 1981, 73–78.


potentially defective drivers. The same writer also demanded that drivers be of high intelligence, since “people with low intelligence tend to have a high accident rate and to be slow in coping with the situation when accidents occur.” With the advent of new highways, Korean drivers had to learn the new standards of who could be allowed to drive and how one should behave on highways. “For the citizens of a highway nation,” another writer in Korea Highway suggested, “the scientific turn in living should be given a priority as a pan-national campaign.”

The Gyeongbu Highway did not become a symbol simply by pronouncement; it was made a symbol through labor by Koreans in every walk of life. Students’ summer work, farmers’ landscaping work, the government’s ceremonial and commemorative practices, engineers’ activities in design and analysis, and journalists’ efforts at education and enlightenment all constituted the process of establishing a symbol. Here, the physical labor and the “labor of signification” were not distinguishable, but rather were mutually inclusive and dependent. As both a part and a consequence of this symbol-making labor, South Korean society was reorganized in a way that would best enhance the new highway age. Physical and economic landscapes were transformed simultaneously with sociocultural assumptions and behaviors. This reorganization, however, was neither conclusive nor permanent; as both the material road and political landscape around it changed, the symbol could be unmade or remade—the road gets worn out and so does its meaning.

A Record Not To Be Proud Of

For years after its opening, the Gyeongbu Highway was a main artery without much traffic flow. To one reporter, the road sign warning “one hundred meters between cars” seemed superfluous given the traffic volume of the day. In 1970, South Korea had only 130,000 motor vehicles, about four cars per every thousand people. According to the business records of the Korea Highway Corporation, until the end of 1972, fewer than 20,000 cars used the Gyeongbu Highway each day; the number did not exceed 30,000 until 1976. In addition, private cars outnumbered freight trucks on the highway until the end of 1971. According to the same reporter cited above, the Gyeongbu Highway might be called a “tourist road” rather than an “industrial thoroughfare”—its proclaimed raison d’être. This small
quantity of traffic partly explains the lack of rest areas along the highway, despite advice that drivers take enough breaks so as not to fall asleep. When the Gyeongbu Highway opened, and for six months thereafter, there were no permanent rest or service areas or gas stations along its 430 km route. These convenience facilities fell into the “fix it later” part of the construction equation. By the time of the highway’s first anniversary (7 July 1971), there were still only three service areas and two gas stations along both sides of the highway—that is, along its entire 860 km course.46

Whatever purpose the Gyeongbu Highway served, driving on it was not always a pleasant experience. What most troubled drivers and maintenance engineers was the road itself. While one television report boastfully showed that a glass of water did not spill when placed on the bonnet of a moving vehicle, another journalist on the highway felt like he was riding on a railroad bridge.47 Within nine days of the route’s full opening, accounts of new cracks in the road were reported in newspapers, not to mention the earlier cracks that had appeared long before the road opened. One month after its opening, a heavy summer rainfall caused the collapse of roadbeds and embankments, and landslides at more than a hundred sites brought traffic to a standstill. As ice on the road began to melt in the absence of sufficient drainage channels, cracking problems became very serious in the spring of 1970 and 1971, which left “miserable” memories like a “nightmare” to maintenance engineers.48

Overlay pavement, or the resurfacing of the road, became a chronic problem in the maintenance of the Gyeongbu Highway. Some engineers had predicted during and after its construction that the highway’s pavement could pass at most 400,000 vehicles with a single-wheel load of five tons.49 They were right. Within two years of its opening, the entire 430 km exceeding 10,000 for the first time in 1978; see Hankook gosokdoro shipnyunsa, 806. Chung Ju Yung, the founder of Hyundai Construction Company, established Hyundai Motor Company in 1967, which began producing the Cortina (a model by Ford of Britain) in 1968. From 1968, therefore, Hyundai built both highways and highway vehicles.


48. One of the first accounts of a pavement crack after the full opening is in Dong-A Ilbo, 16 July 1970. The summer landslides are reported in Dong-A Ilbo, 8 August 1970. The accounts of maintenance engineers are in Kim, “Thoughts” (n. 32 above), 105–6, and Ji (n. 32 above), 22–23.

49. Kim, “On the Failure” (n. 31 above), 27–28; Choon Ho Kim, “Highway and Overlay,” Korea Highway, January 1972, 100–107; Sang Ok Yoon, “Problems for Expressway Design and Construction,” Journal of the Korean Society of Civil Engineers 20 (1972): 2–8. The equivalent traffic capacities of the Meisin Highway and the Domei Highway in Japan were 2,000,000 and 6,070,000, respectively.
span was given overlay pavement. One maintenance engineer commented bitterly that the overlay cost was to be regarded not as a normal maintenance, but rather as the deferred cost of initial construction. What was more disappointing to the maintenance engineers was that, despite repeated overlays for nearly ten years, the road surface was still “not satisfactory” and it was “getting worse.” The overlay construction did not proceed in accordance with a schedule that engineers considered adequate. Therefore the overlay was not fully contributing to the reinforcement of road surfaces, but was “only bent on hasty repair of cracks and damage.”

By the time the Gyeongbu Highway celebrated its tenth anniversary in 1980, highway engineers began to address this deplorable situation and attempted a reappraisal of the historic road. They pointed to the initial underestimation of pavement depth due to the stage-construction policy, the limited budget for repair and maintenance, and the poor understanding of the importance of pavement. “Small negligence during construction,” one maintenance engineer complained, “resulted in enormous loss of lives and property.” The more fundamental cause, however, was quite clear to these engineers: construction of the highway at the lowest cost and fastest pace. Since the Gyeongbu Highway’s construction commenced “as a symbolic enterprise in the modernization of our country” and had to be “the quickest and cheapest in the world,” it seemed “fortunate enough” to engineers that it was “now maintaining its current status after ten years.” The crucial features that had made President Park so proud of the highway and helped make it a grand symbol now became “a record not to be proud of.” However, Park, who no doubt would have defended the highway, could not revive its symbolism because of his assassination in October 1979, bringing his eighteen-year regime to an end. Thus as the commander in chief was dethroned, so was his masterpiece. Despite engineers’ continuous work to maintain both the pavement and the symbolism, the linkage between glorious modernization and the actual rugged road now seemed precarious.

In the 1980s, the Gyeongbu Highway became a contested artifact upon which the public image of Korean civil engineering depended. Those who wanted to criticize the shoddy practices and incompetence of the engineers and constructors did so by pointing to the Gyeongbu Highway; repeated overlay paving had earned it the nickname “tattered highway,” the design of which “had not looked even ten years ahead.” The regrettable technical failure of the Gyeongbu Highway was blamed on the civil engineers and construction companies. Korean civil engineers strongly resented this accusation, although they acknowledged the highway’s technical deficiencies. The editorial board of the *Journal of the Korean Society of Civil Engineers* re-

revealed its embarrassment in an article titled “The Necessity of a New Public Perception about Civil Engineering”:

How can a highway, which was constructed in only three years . . . with insufficient funds, have the same strength and perfection as the “autobahn” that was constructed for decades with enormous expense? A construction engineer’s job is to build optimal facilities . . . under the given design conditions . . . the final decision is not up to the engineer . . . it is the responsibility of the policy authorities.

The engineers tried to defend themselves by claiming the failure to be one of policy, not of engineering. The blame, they said, should go to those who had set the project’s guidelines of schedule time and money. Through this defensive claim, the Gyeongbu Highway came to signify not the country’s bright future, but instead the incompetence of its past engineering culture. It seemed that the highway would not remain a symbol of unsullied pride but would become a legacy that all engineers would have to overcome eventually.

The Gyeongbu Highway was brought into public discussion again in 1994 when a middle segment of the Sung Soo Bridge, spanning the Han River in the center of Seoul, suddenly collapsed, shocking the inhabitants of the city. Questions were raised regarding potential underlying causes of disasters in the country’s infrastructure. What became obvious to everyone were the budgetary and time constraints that already were routine in Korean construction. Where and when did this unfortunate situation begin? The president of the Korean Society of Civil Engineers stated, referring to the Gyeongbu Highway, that “a desire for fame of a construction contractor, . . . combined with the president’s will for fast economic development, distorted the pre-modern methods of investigation and estimation, and it was established as a custom, which continued until now.” Forced curtailment of the construction schedule, unreasonable reduction of the budget, and an unusually short planning stage were, according to the leader of Korean civil engineers, “the shortcut to fraudulent construction.” Ironically enough, the Gyeongbu Highway was now deemed a symbol of modernization gone astray, though of course not everyone agreed with this re-signification; to most participants in its construction it was still a source of great pride. Nevertheless, it was undeniable that, after the many layers of overlay pavements, the highway was no longer what it had been at the time of its opening ceremony, either physically or symbolically.

The Symbolic Highway

Visionary discourses around the Gyeongbu Highway were not created without friction and frustration. Participants in the project always had to struggle with the tension between the highway’s grand symbolism and the tough realities of its construction sites, since the vitality of the symbol was crucially dependent on the materiality of the highway, for which the engineers were held responsible. Every delay in the project’s schedule or every crack in the pavement could compromise the symbol. Indeed, as the structural deficiencies of the highway became more obvious, its symbolic strength in Korean society began to change. The president’s speeches alone were not enough to sustain this symbolic linkage between the highway and the nation’s prosperity; also necessary was a great deal of maintenance work by engineers and the support of journalists, bureaucrats, and many others. The Gyeongbu Highway, and South Korean society as well, were constructed, supported, and maintained in multiple senses of the words.

What, then, did the Gyeongbu Highway symbolize? Many commentators, including critics of Park’s regime, have described the highway as representing one of two opposing dimensions of South Korean society during this tumultuous period. The opening of the highway in 1970 still tends to symbolize the economic “Miracle on the Han River,” to which the dictator contributed by building it, a seemingly neutral artifact. According to this perspective, the highway is separable from the so-called dark aspects of hasty modernization under the authoritarian regime, such as the suppression of labor movements and serious infringements of human rights under the banner of economic growth and anticommunism. However, once we understand how vigorously the president, the highway engineers, and many others supported and constructed the highway, which both constituted and was conditioned by political motivations, cold war discourses, and the paradigm of a fast-track economic development, the project would seem to represent both dimensions, and perhaps many more, of the era. The Gyeongbu Highway aptly reveals how the South Korean goal of modernization and unification was imagined, implemented, maintained, and challenged during the 1960s and thereafter. And for this reason it is truly an artifact with multivalent symbolism.

Viewed in this way, the Gyeongbu Highway is an intriguing artifact with which to think about the politics of engineering and the engineering of politics. In April 1980, ten years after the highway’s opening and six months after Park’s death, Lee Dong Hee, a professor of politics at the South Korea Military Academy, wrote an essay titled “Civil Engineering and Politics” for the Journal of the Korean Society of Civil Engineers. Having learned some civil engineering as a military cadet, Lee tried to delineate the relationship between civil engineering and politics. Drawing upon the examples of the Great Wall of China and the Roman Empire, he speculated
that people had “not made magnificent buildings in order to do politics,” but rather had “practiced politics in order to leave great structures.” According to his logic, civil engineering, or more simply “construction,” had always been an integral part of nation-building projects. Many Korean civil engineers, however, seemed “powerless” in their relationship with politics. Lee asked Korean civil engineers to “stand up to politicians with an aesthetic sense, culture, and insight.” He then concluded by emphasizing “the real politics of civil engineers participating in our nation’s modernization,” associating it with “courage” and “conscience,” among other virtues. 54

Lee’s call for the “real politics” of civil engineers was not unrelated to his ambivalent appraisal of the Gyeongbu Highway, which was much more sober than the celebratory tone of the highway’s thirtieth anniversary in 2000 and of the government website in 2009. While he praised it as “the first piece of work under the slogan of our nation’s modernization,” he believed that Korean engineers should now (he was writing in 1980) be able to do a better job as they proceeded to work abroad, especially in the Middle East, where there would be no “political anniversaries” or “political constructions.” For him, the real politics of civil engineering meant being neither entirely independent of nor uncritically subordinated to politics. Engineers who worked for the Gyeongbu Highway, it seemed to him, did not do a good job in maintaining the right balance. 55 Whether or not one agrees with Lee, his call for the real politics of engineers can be understood as a demand for self-awareness of their own “labor of signification”: What is it you are constructing? What do you make it signify? During and long after the construction of the Gyeongbu Highway, Korean civil engineers had to grapple with these questions. On the surface of the highway, gravel and asphalt were mixed with ideologies and discourses, and all were paved together.

55. Ibid., 28–30.