

Korean Workers and the Japanese Nitrogen Fertilizer Company

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This paper aims to examine how Korean workers in the colonized Korea earned skills in response to the Japan-led industrialization in the 1930s. The previous studies of others envisioned the employment structure in the industrialization process as the stratification of the Japanese skilled workers including engineers and managers, vs. the Korean unskilled workers. However, as school education and on-the-job training spread out in the process of industrialization, we can clearly witness the tendency of Korean workers becoming skilled workers and then engineers, even though the portion of Korean workers who became highly-skilled workers and managers was small, mainly due to the favoritism given to the Japanese students, and partly due to the inexperience of Korean workers who faced a sudden industrialization. The observation that the Korean workers were competent enough to become skilled workers even under the Japanese rule may shed some light on the study of initial conditions of the Korean development after the 1960s.

I. Introduction

It has long been acknowledged that Korea experienced rapid industrialization during the 1930s, one which undertaken primarily by the Japanese capital. The industrial development of the 1930s, though colonial in its nature, was crucial in transforming the traditional agrarian society into a modern industrial one.

It should come as no surprise then that many historians of contemporary Korea have been attracted to the issues surrounding the colonial industrialization in the 1930s. In retrospect, the Japanese Nitrogen Fertilizer Company, among others, has received most attention.¹ The interest in Japanese Nitrogen is quite understand-

¹Recent studies of the issue include: Kobayashi (1973), Kasuya (1975), Matsuoka (1979), Kang (1985) and Osio (1989).

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able in view of its significance in the Korean industrialization as a whole.² In addition, the life of Japanese Nitrogen in the colony, beginning from 1926 as the Korean Hydroelectric Company to the end of the Second World War, corresponds well to the industrial development of the thirties and the early forties. The present study attempts to understand the colonial industrialization and its implications from a new perspective, focusing on the Korean workers at Japanese Nitrogen.

Established studies on Japanese Nitrogen and related questions of the industrialization of the thirties have largely focused on the issues concerning capital, such as the historical circumstances of initial investments, corporate organization and management of the company. Yet, these works, as critiques of the Japanese imperialism, placed secondary importance on Korean workers themselves and regarded them merely as the objects of exploitation by the Japanese capital. Although such an approach was valuable as the history of the Japanese imperialism, these studies gave only a limited understanding of the Korean working class under the Japanese colonialism. The following is a typical characterization of the Korean workers, *vis-à-vis* Japanese, in the writings of the Japanese imperialistic history:

Except for a few critical areas, most of the subsidiary processes were seldom mechanized. Many Korean workers, as the so-called "free labor," were employed in non-mechanized processes in which the application of machine was not suitable. Or Korean workers, generally underpaid, were utilized merely to reduce costs or to take care of hazardous works. ... In the case of the Chosen Nitrogen Fertilizer Company, a hierarchy was visible in its labor arrangements: 1) a small number of Japanese skilled workers were employed in most critical and mechanized processes — the production of fertilizer; 2) unskilled Korean workers were hired in non-mechanized, labor-intensive, and hazardous areas.³

The above remarks thus show that there existed a clear division in the organization of industrial labor in the colony: skilled Japanese *vis-à-vis* unskilled Koreans.

Such a duality was an aspect distinct in the colony's labor problem, one which the Japanese capital intended to maintain and streng-

²It is estimated that in 1942 Japanese Nitrogen occupied around 26.6 percent of the total fixed capital in Korean industries. See Toyo Keizai Shinposha (1942, p. 26).

³Kobayashi (1973, pp. 182-3).

then further in order to heighten the exploitation of Korean workers. Nevertheless, it should not be overlooked that there emerged a growing number of skilled workers among Koreans, though not numerous enough to replace the established labor arrangements. A comprehensive understanding of the labor question in the colony, thus, should concern not only with the racial division in its employment structure but also the changing characteristics of Korean workers.

An inquiry of the inner structure of the Korean working class is undoubtedly a study on the "making" of the Korean working class. It requires that the workers be put at the center of historical investigation, and thus, needs to be written from the perspective of contemporary Korean history, as opposed to that of the history of Japanese imperialism.⁴ I hope that the present study of the Japanese Nitrogen's labor structure will be regarded as a modest attempt in this direction.

II. Quantitative Growth and Racial Composition of Workers

Little has been known about the quantitative growth of workers during the colonial period. The lack of data, in particular, is quite noticeable.⁵ Before examining the case of Japanese Nitrogen, I first present the information on the number of workers and their composition by industries in colonial Korea.

Table 1, the aggregate statistics of the number of workers in 1933 and 1943, gives us a sense of the growth experienced during the ten-year period: a four-fold increase in factory workers and miners; and nearly a nine-fold rise in construction workers. Second, it also indicates that a large number of "transitional" workers coexisted, such as those in mining, transportation, and construction. The high percentage of workers in those sectors vis-à-vis factory workers suggests a pattern commonly observed in colonial economies—the development of social overhead capital prior to that of industrial capital. Third, the table shows that the number of factory workers had also grown significantly, while their absolute number as well as their relative importance was not substantial yet.

Bearing in mind such an employment structure, we next examine

⁴It was Hiroshi Miyajima who first recognized that these two perspectives were both needed in the studies of contemporary Korean history. See Miyajima (1978, p. 41).

⁵Relevant studies included: Lee (1963); Kwon (1965).

TABLE 1
INCREASE IN THE NUMBER OF WORKERS IN COLONIAL KOREA

	1933 (in 1,000)	1943 (in 10,000)
Manufacturing	99.4	39 (22.3)
Mining	70.7	28 (16.0)
Transportation	—	17 (9.7)
Construction	43.6	38 (21.7)
Others	—	53 (30.3)
All		175(100.0)

Source : The 1933 figures are obtained from the Chosen Shokusanginko (1933, pp. 3-4); the 1943 figures are from Yuhokyokai (1959, p. 70).

TABLE 2
NUMBER AND RACIAL COMPOSITION OF EMPLOYEES: THE CHOSEN NITROGEN
FERTILIZER COMPANY

	Sawon	Yongwon			Others	All
		Japanese	Korea	All		
1928. 5.14	182	788(60.6)	513(39.4)	1,301(100.0)	—	1,483
1930. 8.18	292	—	—	3,074	—	3,366
1931. 3.20	411	—	—	4,142	—	4,553
1932. 3.20	364	—	—	4,320	—	4,680
1934. 4.20	338	3,184(73.5)	1,146(26.5)	4,330(100.0)		4,668
	[412]	[3,614]	[1,229]	[4,843]	1,051	[6,306]
1934.10.20	377	3,498(72.9)	1,302(27.1)	4,800(100.0)		5,177
	[466]	[4,009]	[1,403]	[5,412]	1,741	[7,619]
1935. 5.20	385	3,724(73.0)	1,380(27.0)	5,104(100.0)	—	5,489
1938. 7.20	—	5,593(62.3)	3,380(37.7)	8,973(100.0)	—	—

Source : 1. Chosen Nitrogen Fertilizer Co., for the years indicated.

2. The 1938 data are obtained from Lee (1960, p. 130).

Note : "Sawon" refers to the white-collar employees, such as engineers, supervisors, etc. "Yongwon" refers to manual laborers. "Others" includes day-laborers, miners, etc. The figures in [] include employees of the Mining Department.

the case of Japanese Nitrogen. The data displayed in Tables 2 and 3 show the growth in the number of workers and the composition of workers by each industry and race. Table 2 is constructed from the "List of Employees" report of the Chosen Nitrogen Fertilizer Company, a subsidiary of Japanese Nitrogen. Meanwhile, Table 3, compiled from the "Employees of the Japanese Nitrogen Fertilizer Company," shows aggregate employment data for all of the sub-

TABLE 3
NUMBER OF JAPANESE NITROGEN'S EMPLOYEES IN KOREA AND
THEIR COMPOSITION BY INDUSTRIES

	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944
Chemical	7,012	9,089	12,149	14,604	17,496	22,305	28,735	25,114	27,431	29,190
Electric	664	657	1,046	1,732	1,964	3,235	2,853	4,198	4,552	7,251
Mining	—	—	—	1,469	1,429	11,777	11,826	11,062	9,164	15,229
Transportation	497	648	684	1,041	1,432	2,442	2,720	2,526	2,320	2,290
Lumbering	—	—	—	—	1,010	1,217	1,372	278	1,226	1,341
Real Estate	—	—	—	24	21	24	25	25	25	18
All	8,173	10,394	13,879	18,870	23,343	41,000	48,531	43,201	44,718	55,319

Source: Japanese Nitrogen Fertilizer Co., *Company Report*, for the years indicated.

subsidiaries located in Korea. In light of the fact that before 1934 Chosen Nitrogen occupied a great majority of workers compared with the rest of the subsidiary firms in Korea, the discrepancy between the two series is not considered substantial.⁶

Looking at the number of workers, the subsidiaries of Japanese Nitrogen in Korea recorded roughly a sixteen-fold increase from 1930 to 1944. In the ten-year period of 1935-44, the number grew from 8,173 to 55,319, nearly a seven-fold increase, which implies that the employment at Japanese Nitrogen's subsidiaries in Korea grew at least as fast as the aggregate number of workers in Korea. These data suggest that Japanese Nitrogen was one of those concerns that led the colonial industrialization in Korea. When the period is further divided, 1930-34 show a relatively modest rise in the number of workers, whereas the four years from 1935 to 1939 recorded a rapid increase. The jump in the latter years coincides with the profit growth of the Company, which began from the second half of 1934.⁷ The growth in the number of workers shows a peak (78 percent) between 1939 and 1940, followed by a slowdown since 1940, one which accounted for by the beginning of the Second World War. The War hindered the importation of raw materials as well as machinery.⁸ Moreover, the parent company redirected its operation to the Southeast Asia as the War expanded to that region.⁹

The investments by Japanese Nitrogen in Korea showed a wide variety of interests, covering from electro-chemical industry — the main operation of the Company — to mining, transportation, lumbering, and real estate (See Table 3). Such diversified interests were closely matched by the availability of raw materials in the colony in addition to the consideration that the investments in the related fields helped manage its main business. The proportion of the workers in each industry suggests that the investments expanded from electro-chemical and transportation to the areas of mining and lumbering. By 1940, when the growth of the firms reached their peak, chemical sector occupied 54.4 percent of the total number of

⁶Other subsidiary companies of Japanese Nitrogen established by 1934 are the Shinhung Railroad Co. (established in 1930), the Jangjin-River Hydroelectric Co. (1933), and the Chosen Electric Transmission Co. (1934). The number of employees of these firms were 497, 521 and 62 respectively.

⁷Kim (1985, pp. 122-3).

⁸The trade with the United States ceased by July 1941, which resulted in the shortage of the high-quality raw materials and machinery.

⁹The Company's businesses expanded into Vietnam, Malaya, and Sumatra. See Kubota (1979).

TABLE 4
 RACIAL COMPOSITION OF "SAWON":
 THE JAPANESE NITROGEN'S SUBSIDIARIES IN KOREA

	1935	1936	1937	1938	1939	1940
Chosen Nitrogen Fertilizer	447 (9)	557 (11)	758 (8)	1,053 (12)	1,222 (17)	1,424 (17)
Chosen Coal	106 (1)	151 (0)	276 (2)	195 (1)	240 (2)	272 (3)
Japanese Magnesium	11 (0)	18 (1)	22 (1)	16 (1)	20 (1)	23 (1)
Jangjin River Hydroelectric	147 (12)	127 (9)	215 (8)	235 (12)	318 (16)	406 (22)
Apruk River Hydroelectric	—	—	—	216 (11)	299 (16)	367 (18)
Chosen Trans-Electric	17 (1)	22 (1)	37 (3)	43 (3)	62 (7)	85 (7)
Chosen Mining Development	—	—	—	309 (42)	367 (52)	411 (62)
Shinhung Railroad	163 (61)	184 (74)	224 (84)	316 (159)	334 (203)	384 (217)

Source: Japanese Nitrogen Fertilizer Co., *Company Report*, for the years indicated.

Note: The number in parentheses indicates Koreans.

workers. Next, 7.9 percent were employed in electricity (power plants and power transmission), and 28.7 percent in mining. Rest of the employment were shared by transportation (6.0 percent) and lumbering (3.0 percent). While these proportions indeed suggest that electro-chemical sector was the major interests of Japanese Nitrogen in Korea, they hide an important factor in the Company's businesses in the colony: the exploitation of as many construction workers as regular employees was indispensable in the expansion of Japanese Nitrogen in Korea.

The employees at Japanese Nitrogen consisted of "Sawon" and "Yongwon." Though each is in turn composed of a complicated hierarchical structure, the former corresponds roughly to white-collar employees (engineers, supervisors, etc.) and the latter refers to manual workers. With regard to the racial mix of the "Sawon" class, Table 4 shows that the proportion of Koreans was in general very small. Koreans represented less than 10 percent in high-technology fields, such as chemical and metal manufacturing and power plants. In mining, their share increased slightly, reaching a little over 10

percent. In contrast, Japanese Nitrogen's Shinhung Railroad employed a large number of Koreans, over 50 percent since 1938, for its "Sawon" positions. Again this high percentage is comprehensible by the fact that the operations of railroads did not require high technical skills.¹⁰

The fact that Koreans lacked their own "Sawon" class of workers had a damaging effect on the long-term development of their economy. Immediately after the emancipation, Korean factories, those in Hungnam for example, had to rely on technical assistance of Russians and the Japanese who were unable to leave the country.¹¹

As opposed to "Sawon" class, little information on the racial composition of manual workers is available at the individual firm level. However, the data on the Chosen Nitrogen Fertilizer Co. (see Table 2), though incomplete, points to an important aspect of the industrialization in the 1930s: the rising proportion of Korean workers over time. In 1934, only a quarter of the total manual jobs in Chosen Nitrogen were taken by the natives; the percentage jumped to 38 percent by 1938.¹² Moreover, by 1944 a great majority of manual jobs in Hungnam district were performed by Koreans, ranging between 88 percent and 63 percent for the six factories owned by Japanese Nitrogen.¹³ The increasing proportion of Koreans in those factories is particularly noteworthy since they manufactured chemical and metal products that demanded high technology and skills. Thus, it is not an overstatement to say that Korean workers had made significant progress in their technical capacity by the end of the colonial years. Based on the above evidence, we may be able to infer that the Koreans were the major sources of labor supply for traditional industries or others with low technological development, such as rice milling, textile, mining, construction, and so forth.

What explains the growing importance of Korean workers in the Japanese Nitrogen's subsidiaries, in chemical and metal works in particular? It is surely related in part by the Sino-Japanese War and the Second World War. The conscription of young Japanese

¹⁰Banking may have been another sector that employed relatively a high percentage of Koreans. According to Moskowitz (1979, p. 92), Koreans reached 32-8 percent of the total employees of Chosen Shokusanbank between 1918 and 1940.

¹¹Gary Saxonhouse, however, argues that a healthy growth of Korean 'Sawon' class took place during the colonial years. See Saxonhouse (1981).

¹²Due to miscalculation, Kuksoo Lee once presented the percentage of Koreans in 1938 as 35.9. See Lee (1960, p. 129).

¹³Japanese Nitrogen Fertilizer Company (October 1944).

workers resulted in labor shortage, thus providing more opportunity for Koreans. It is also important to note that the formal education in schools as well as technical training on the jobs helped Koreans to acquire skills for factory works. Furthermore, the relatively cheap wage rates for natives, vis-à-vis Japanese, allowed the Company to replace Japanese workers by Koreans. In any event, the rising proportion of Korean workers in Japanese Nitrogen indicates the fact that the Korean workers were growing into a modern working class in the 1930s.

III. Employment Structure of Korean Workers

A. Construction Workers

The profitability of the nitrogen fertilizer industry was determined primarily by the costs of power, which in turn constituted the most vital component in manufacturing nitrogen fertilizer. Therefore, the incentive behind the Japanese Nitrogen's investments in Korea was to utilize, among others, the abundant sites for hydroelectric power plants.¹⁴ The first power plant built by the Company was the Chosen Hydroelectric Company in 1926 whose capacity reached 0.2 million kw. In 1933, the construction of Jangjin River Hydroelectric Company was started with 0.32 million kw capacity, followed by Huhchun River Hydroelectric in 1937 with 0.34 million kw and Aproj River Hydroelectric with 0.7 million kw capacity in the same year. Furthermore, two additional grand scale plants were being built although they were not completed by the end of the War: Ganggye Hydroelectric of 0.22 million kw and Mt. Sudu Hydroelectric with 0.31 million kw. Building power plants was just one of many projects dependent upon the Korean laborers. In addition to the power plants, for example, Japanese Nitrogen constructed several railroad lines and chemical plants in Hungnam, which also relied on a great amount of native labor.

It is not difficult to imagine that an enormous number of Koreans were mobilized for the projects mentioned above. Unfortunately, no systematic information is available on the construction workers dur-

¹⁴The following statement in Kayashima (1979, p. 5), testifies the importance of power plants in the businesses of Japanese Nitrogen: "By the end of the War, the investments in the railroads in Korea were estimated 1 billion yen. The purchases of factory equipments by Japanese Nitrogen also amounted to about 1 billion yen. Yet, the Company is known to have invested around 1.3 billion yen in building power plants alone."

TABLE 5
GEOGRAPHICAL ORIGINS OF NON-RESIDENT KOREAN WORKERS IN
SOUTH HAMGYUNG PROVINCE

Kyunggi	983 (4.3)	Whanghae	1,521 (6.6)
North Chungcheng	693 (3.0)	South Pyungan	2,742 (11.9)
South Chungcheng	693 (3.0)	North Pyungan	1,896 (8.2)
North Chonra	548 (2.4)	Kangwon	2,719 (11.8)
South Chonra	767 (3.3)	South Hamgyung	6,117 (26.5)
North Kyungsang	1,106 (4.8)	North Hamgyung	1,724 (7.5)
South Kyungsang	1,557 (6.8)	Total	23,066 (100.0)

Source : Nagata (1929, p. 16).

ing the colonial years. Here I will only briefly sketch overall characteristics of the construction workers based on the data of Shinhung County in South Hamgyung Province. According to *Workers in Korea and Their Geographic Distribution*, Shinhung County where the Bujun River Hydroelectric Power Plant was being built had 14,284 wage workers as of August, 1928. Of these workers, 2,506 were residents of the county (17.5%), while 11,778 (82.5%) came from out of the county or other provinces. If we look at their racial mix, Koreans consisted of 79.3 percent of the total wage workers; Japanese occupied 6.1 percent; and 14.6 percent were Chinese. Of the Korean wage laborers in Shinhung County, nearly three quarters turned out to be non-residents who migrated alone for the construction works.¹⁵ Furthermore, the information in Table 5 shows that most of the migrant workers in South Hamgyung Province came originally from the northern provinces, including South Hamgyung. Thus, it modifies the established view that migrant laborers from the South were indispensable in the construction of the Bujun Power Plant.¹⁶ Rather than those from the Southern provinces, workers from South Hamgyung and nearby provinces appear to have made more important contribution to the project.

Korean construction workers at the Bujun Power Plant consisted primarily of migrants from farms. Some of them left their farms permanently, while others returned to their homes after construction works ended. Regardless of this difference, however, they were distinct from those farmers who were only seasonally engaged in non-agricultural wage works. In this sense, the construction workers in the colonial years belonged undeniably to working class. And

¹⁵Chosen Railroad Association (1929, p. 38).

¹⁶Matsuoka (1979, pp. 197-201).

yet, it is difficult to consider them as a fully developed working class; they still reveal some of the transitional characters. Rather than hired as regular employees, they were usually employed on a piecemeal basis. More importantly, they were far from completely free, though they indeed showed high geographical mobility across works. Once committed to a particular work, they were physically tied until its completion.

Korean construction workers, without systematic training, seldom obtained supervising positions nor the jobs that required skills. They usually took most menial works at construction sites whereas most of the foremen or overseers were either Japanese or, in some cases, Chinese. The allocation of jobs between Koreans and Japanese, however, did not seem to follow individual skills or experience. The racial discrimination may have been far more severe at construction sites than factory lines: "Japanese with no skills at all easily became overseers. Of the [Japanese] skilled workers, only a half were actually doing physical works and the rest were supervisors."¹⁷ This kind of racial discrimination again led to a dual structure among construction workers: Japanese supervisors and Korean menial workers.

Did the Korean construction workers remain unchanged under the tight Japanese control and discrimination? The qualitative changes of the construction workers during the colonial years is an important issue in the studies of the Korean working class. The significance of this particular question is well expressed in the following statement: "At the end of the War, the construction workers [hired by Japanese Nitrogen] numbered 110 thousands." However, the information on the qualitative changes is yet to be uncovered and studies on this issue are urgently called for.

B. Factory Workers

As was mentioned above, the number of Korean factory workers increased substantially during the 1930s while the majority of them were employed in large scale firms, such as Japanese Nitrogen. Did such an increase also lead to any visible shift in the works performed by Korean workers? Was there any considerable addition in the number of skilled workers? The present section examines these important questions with reference to the Korean workers in Hungnam district which contained major concerns in chemical and metal

¹⁷Nishimatsu Construction Company (1970, p. 30).

manufacturing.

What were the ordinary courses for Koreans to be employed at the chemical factories in Hungnam? As early as 1928, for example, Chosen Nitrogen had 513 Korean workers (see Table 2), of which 427 were factory workers and the rest were hired for security, transportation, etc. Meanwhile, Japanese altogether numbered only 650 in factory works and other supporting jobs, which indicates that a considerable proportion of Koreans were engaged in actual production lines. Obviously, many Koreans were utilized in non-mechanized processes or in hazardous areas. Still others were assistants or handymen of the Japanese skilled workers. But it is very unlikely that the upward mobility of Koreans was completely checked, notwithstanding racial discrimination. Factory workers, unlike those in construction, passed relatively high standards of recruitment. On the educational background of Korean workers, it was once stated: "As to Korean workers, we used to employ high-school graduates. Since Russian communism spreaded into Hamgyung Provinces, my factory have been searched for dozens of times. Whenever it happened, quite a few workers, high-school graduates in every case, have been arrested. Since then, I do not employ high-school graduates."¹⁸ Although it is not certain if most workers at Chosen Nitrogen were high-school graduates, the observation confirms the superior qualifications of Korean factory workers in comparison to those of the ordinary construction laborers.

In contrast to construction workers who came from farms without any education or industrial experience, employees at Chosen Nitrogen had to go through tough competition: "According to comrade Changwhan Kim, a seasoned worker [in Chosen Nitrogen], he was one of the 170 selected in the early 1930 among 1,400 applicants."¹⁹ Through such tough competition, Chosen Nitrogen was able to choose well-qualified who had potentials to grow into skilled workers. Evidence, though not thorough, confirms that those employees more often than not came from the province in which the Company was located.²⁰ Furthermore, they were known to have at least some years of formal education, which means that they belonged to a higher tier than ordinary laborers from farms. So, a Japanese employee once remarked that "There are a large number of well-experienced Korean workers in this factory. Many of the Koreans

¹⁸Chosen Sotokufu (Governor's Office)(1936, p. 613).

¹⁹Lee (1960, p. 143).

²⁰Lee (1960, p. 141).

TABLE 6
DISTRIBUTION OF "YONGWON" BY DEPARTMENT AND RACES:
THE CHOSEN NITROGEN FERTILIZER CO.

	1934			1935		
	Japanese	Korean	All	Japanese	Korean	All
General Affairs	258 (84.9)	46 (15.1)	304 (100.0)	191 (83.4)	38 (16.6)	229 (100.0)
Accounting	89 (71.8)	35 (28.2)	124 (100.0)	195 (81.6)	44 (18.4)	239 (100.0)
Marketing	282 (59.2)	194 (40.8)	476 (100.0)	314 (59.7)	212 (40.3)	526 (100.0)
Electric	316 (79.0)	84 (21.0)	400 (100.0)	352 (76.7)	107 (23.3)	459 (100.0)
Manufacturing	1,828 (77.6)	527 (22.4)	2,355 (100.0)	1,880 (79.1)	496 (20.9)	2,376 (100.0)
Machine	288 (54.7)	238 (45.2)	526 (100.0)	357 (53.2)	314 (46.8)	671 (100.0)

Source: Chosen Nitrogen Fertilizer Co. (April 20th, 1934; May 20th, 1935).

came from the relatively well-to-do families in nearby areas."²¹

Does evidence support the presumption that Koreans were allocated primarily in non-mechanized processes?²² Table 6 leads us to question the argument's validity: the distribution of workers in each department provides little evidence for a disproportionate allotment of natives, vis-à-vis Japanese, in any particular department. Certainly, two departments — marketing and machinery — reveal higher percentages of natives than the average. While the former may have had numerous unskilled workers, it is unlikely that the same held true for the machinery department. Supporting evidence for the progress of the native workers' skills can be gained from the racial configuration of the technology-intensive departments. Table 7 shows the racial mix of the "gas department" and "ammonium sulfate department" which excelled others in their technological sophistication. The two, to be sure, display relatively lower percentages of Koreans than that of the company as a whole, and yet it is also true that the natives held a significant portion of technically sophisticated jobs. More importantly, the data point to the fact that Korean workers' role became increasingly vital in these departments so that they occupied nearly a third of jobs by the late thirties.

²¹Suzuki (1979, p. 33).

²²Kobayashi (1973, p. 182).

TABLE 7
 RACIAL COMPOSITION OF "YONGWON" AT THE CHOSEN NITROGEN FERTILIZER CO.

	1934			1935			1938		
	Japanese	Korean	All	Japanese	Korean	All	Japanese	Korean	All
Gas	581	155	736	638	163	801	511	190	701
Ammonium Sulfate	631	211	842	751	227	978	617	317	934
Total	1,212	366	1,578	1,389	390	1,779	1,128	507	1,635
%	76.8	23.2	100.0	78.1	21.9	100.0	69.0	31.0	100.0

Source: 1. For 1934 and 1935, see Chosen Nitrogen Fertilizer Co. (April 20th, 1934; May 20th, 1935).

2. For 1938, Lee (1960, p. 139).

It is important not to overlook the fact that the increasing proportion of the native workers in Chosen Nitrogen was, to some extent, a result of lower wages accepted by Koreans — about one half of what was paid to the Japanese with similar qualifications. Also, the discrimination in pay-raise and promotion as well as wage levels was quite notorious. As remarked by a former employee at Chosen Nitrogen: “Raise was usually first given to Japanese; the difference of one or two Sen (worth two or three cigarettes) was deemed seriously. The bond between supervisor and workers was often damaged because of a small difference in pay-raise. ... If a Korean were promoted or given a raise for his performance, his colleagues would turn away from him, and eventually make it hard for him to survive.”²³ As one Japanese once observed from his experience, the racial prejudice was indeed deeply rooted: “When I visited Korean families at their family events, I was very welcomed. It helped me understand their customs. As such, I used to be sympathetic to Koreans. But my view of Koreans have changed since.”²⁴

Racial discrimination was also evident in the education of workers. According to the “List of Employees” of May 20, 1935, which includes the information of Training Plan for the New Plant, only one Korean, compared with 26 Japanese, was enrolled as the trainee. Moreover, it also shows 6 Koreans and 61 Japanese for the prospective trainees. The explanation, as offered in the List, was that few Koreans met the qualifications required for the training program. The portrayal given by Kuksoon Lee also supports the racial discrimination in technical training: “Noguchi never instructed Korean workers in skills. They were seldom promoted to the management even for its lowest level. Only 4 or 5 Koreans, for the openings of 40, were able to be admitted to the technical school in Hungnam.”²⁵ (While Chosen Nitrogen had its own training programs for workers and engineers, I have yet to obtain the information on these programs.)

We now turn to more comprehensive information on the factory workers’ racial mix in Hungnam area. According to Table 8, constructed from the *Monthly Report of Factory Employees* of October 1944, the proportions of handymen turn out to be less than 10 percent of the total employees for the six factories in Hungnam. We also find comparable percentages of handymen among Korean em-

²³Suzuki (1979, p. 33).

²⁴Suzuki (1979, p. 33).

²⁵Lee (1960, p. 140).

TABLE 8
FACTORY WORKERS BY RACES AND POSITIONS: SIX FACTORIES IN HUNGNAM

	Hungnam Fertilizer			Bongung			Chosun Nitrogen Explosive		
	Japanese	Korean	All	Japanese	Korean	All	Japanese	Korean	All
Regular Workers	1,073	4,489	5,562	858	4,290	5,148	597	932	1,529
Senior									
First	21	—	21	16	—	16	3	—	3
Second	205	17	222	148	9	157	82	2	84
Third	314	137	451	200	80	280	115	7	122
Ordinary									
First	313	607	920	294	724	1,018	215	108	323
Second	125	601	726	74	578	652	165	243	408
Third	37	1,620	1,657	33	839	872	9	387	396
Apprentices									
First	51	524	575	81	363	444	8	75	83
Second	7	983	990	12	1,697	1,709	—	110	110
Handymen	55	368	423	48	550	598	8	103	111
Total	1,128	4,857	5,985	906	4,840	5,746	605	1,035	1,640

KOREAN WORKERS

TABLE 8
(CONTINUED)

	Yonghung			Hungnam Refinery			Hungnam Metal		
	Japanese	Korean	All	Japanese	Korean	All	Japanese	Korean	All
Regular Workers	682	1,633	2,315	114	790	904	1,138	3,726	4,864
Senior									
First	14	—	14	1	—	1	29	1	30
Second	83	1	84	21	2	23	174	13	187
Third	117	21	138	36	46	82	244	155	399
Ordinary									
First	247	129	376	38	320	358	391	678	1,069
Second	132	247	379	14	98	112	107	353	460
Third	55	764	819	3	147	150	39	548	587
Apprentices									
First	31	201	232	1	143	144	119	304	423
Second	3	270	273	—	34	34	35	1,674	1,709
Handymen	16	146	162	3	58	61	53	483	536
Total	698	1,779	2,477	117	848	965	1,191	4,209	5,400

Source : Japanese Nitrogen Fertilizer Co.(October, 1944).

Note : Females are not included.

ployees alone. On the other hand, the racial composition at the highest level displays marked difference; all 85 positions, except one, were taken by Japanese. If we look at skilled workers, here defined as the four uppermost levels of positions, Koreans occupied between 10 and 20 percent in most cases (See Table 9). Notable exceptions are the Yonghung Factory and the Hungnam Metal Works. The former hired only 9.2 percent of Koreans for its skilled jobs whereas the latter had 46.6 percent of Koreans. These variations seem to be explained, among others, by technological sophistication adopted by each factory. Yonghung, for example, which manufactured airplane and rocket fuels, led the whole of Japan and its colonies in the use of the latest technology. In contrast, the Hungnam Metal Works — a refinery for gold, silver, and bronze — was a simple extension of mining businesses, without its technological preeminence.

The progress made by Korean workers is evidenced most clearly at the lower half of the factory hierarchy. As Tables 8 and 9 show, a majority of the less skilled positions were filled by the natives, thus suggesting that Koreans, by the end of the colonial years, were able to compete successfully with Japanese workers. This is a notable development compared with the earlier years when most of the factory jobs, unskilled as well as skilled, were filled by the Japanese.

One final point of unskilled workers is worth noting. The factories in Hungnam show an unusually high proportion of unskilled workers, reaching nearly 80 percent. The share of apprentices who joined the companies within a year is also very large, ranging from 20 to over 40 percent. The extraordinary percentages of apprentices, in particular, points to the high turnover of workers in Hungnam area. The monthly turnover rates, as computed from the information in the *Turnover of the Factory Employees*, turn out to be between 3.5 percent (Bongung) and 12.2 percent (Yonghung). Granting that these are not greater than the rates in other areas, they still indicate the instability of factory employment in colonial Korea.²⁶ It is undeniable that the war-time situation explains the high turnover rate and the large percentage of apprentices. However, we should also understand an underlying reason of the frequent turnover among the unskilled. The adjustment to the factory

²⁶Masahisa (1942, pp. 16–20) estimated that the annual turnover rate of workers in factories and mines surpassed 100 percent. It is translated into about one year of employment for an average worker.

TABLE 9
CLASSIFICATION OF FACTORY WORKERS BY SKILLS: SIX FACTORIES IN HUNGNAM

	Hungnam Fertilizer		Bongung			Chosun Nitrogen Explosive			
	Japanese	Korean	Japanese	Korean	All	Japanese	Korean	All	
	Senior	50.3	3.4	12.5	42.4	2.1	8.8	33.5	1.0
1st Ordinary	29.2	13.5	16.5	34.3	16.9	19.8	36.0	11.6	21.1
2nd and 3rd Ordinary	15.1	49.5	42.8	12.5	33.0	29.6	29.1	67.6	52.6
Apprentices	5.4	33.6	28.1	10.8	48.0	41.8	1.3	19.8	12.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

	Yonghung		Hungnam Refinery			Hungnam Metal			
	Japanese	Korean	Japanese	Korean	All	Japanese	Korean	All	
	Senior	31.4	1.3	10.2	50.9	6.1	11.7	39.3	4.5
1st Ordinary	36.2	7.9	16.2	33.3	40.5	39.6	34.4	18.2	22.0
2nd and 3rd Ordinary	27.4	61.9	51.7	14.9	31.0	29.0	12.8	24.2	21.5
Apprentices	5.0	28.2	21.8	0.9	22.4	19.7	13.5	53.1	43.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source : See Table 8.

life was not always easy for the young Koreans who just came from their farms. While substantial number of Koreans were able to adapt to the factory disciplines and grew into skilled workers, still many others could not adjust to the rigorous industrial life and returned to farming.

IV. Concluding Remarks

This paper has examined the colonial industrialization in the thirties with a particular reference to the Korean workers in the Japanese Nitrogen Fertilizer Company. While admitting that the industrial development was essentially an exploitation process of the Korean people, I have placed the growth of the Korean working class at the center of the discussion. Thus, it may be considered a study of the formation of Korean people from the perspective of the contemporary Korean history, as contrasted to that of the history of Japanese imperialism. Nevertheless, I do not intend to disregard the interpretation made by the latter. An objective understanding of contemporary Korean history must, without any doubt, be supplemented by the imperialist history's viewpoint.

The history of Japanese imperialism understands the Korean labor structure as a duality: skilled Japanese versus unskilled Koreans. In order to heighten the exploitation of Korean workers, Japanese Nitrogen, among others, allowed Japanese the monopoly of skills and the domination over the unskilled native workers as was evidenced by the discrimination in wages, promotion and education. On the other hand, the Company had never ignored the class interests for the interests of Japanese empire. For a comparable quality of labor, it employed Koreans with only one half of the wages paid to Japanese. The racial discrimination, as a check of the quality of Korean labor, was thus incompatible with the interests of the Company, and led ultimately to the growth of the Korean working class.

There is no doubt about the fact that the number of Korean workers at Japanese Nitrogen recorded a huge increase. In addition, I have shown that the increase in the number of workers was accompanied by a qualitative improvement in workers' skills and status. Such a progress owes little to the Company's goodwill. Rather, it was obtained through the strenuous efforts of Korean workers. More importantly, the growth of the Korean working class, in contrast to the established view on colonial labor structure, worked for

breaking up the colonial economic system from the below.

I do not intend to presume that Korean workers faced little difficulty. As was mentioned, the Korean working class in the thirties was composed of relatively few skilled workers and engineers as compared with the growing number of the unskilled. What was responsible for such a distorted growth—the colonial system itself or the underdeveloped economy of the colony? While no definite answer may be given, it surely points to the transitional character of the Korean working class. The Korean working class was not mature enough to make decisive contribution to the downfall of the colonial system.

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