

THE DEVELOPMENT OF A MASTER PLAN
FOR THE SEOUL NATIONAL UNIVERSITY, SEOUL, KOREA

by 4589

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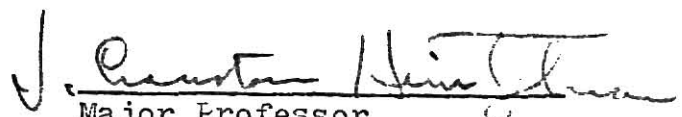
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FORWARD

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It has been a remarkable trend that the society has become more and more committed to education regionally, nationally, and universally. The issue varies according to circumstances, but one thing common is that every country is concerned more than ever before with the quality and quantity of its schools and colleges.

The education of youths determines the future of a nation. If a city should reflect the aspiration of its citizens, and if a house should decide the pattern of life for a family and consequently help form the personality of its residents, the physical plants of colleges and universities help form the quality and pattern of higher education. ✓

University planning has become one of the major problems of architects and planners. The final outcome of physical layout seems to be very simple, but the procedures involved are exceedingly complicated. It is no more complicated, but definitely not less complicated than urban planning. Every project of university planning, whether it is large or small, must be approached and solved by a group of experienced professionals with deliberation, money resources, time and experience.

Campus planning differs according to various factors. It involves the type of institution itself, the society where it belongs, the geographical location where it is constructed, and so forth. There is no absolute way of solving the problem with a general rule, as is the case with urban planning. ✓

The Seoul National University is located in Seoul, Korea. It has a short history of twenty years, but inherited the long tradition of higher education in Korea which goes back to the fourth century.

In this thesis project, it is intended to have the general problem of campus planning discussed with the whole picture in mind, and then to produce a master development plan for a specific case; the main campus of the Seoul National University. The main theme of this thesis, accordingly, is campus planning, or university planning. The secondary subjects contemplated in this thesis are education, design procedure, and Korea.

References have been used from Korea, the United States, and England.

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KOREA

For those who know little about Korea, the first part of introduction will be devoted to introductory notes about Korea. Those who know much about Korea may skip this part and proceed directly to project explanations.

Land and People

The Korean Peninsula juts southward from the northeastern part of the Asian continent. Korea's geographic position in the heart of the Far East had a profound effect on its history. Korea has served as a bridge between the continent and Japan; along this bridge numerous invading forces have spent themselves. Despite these invasions, the Korean people have been able to develop and maintain a national consciousness and a distinctive Korean culture.

The entire peninsula, which stretches some 600 miles from 43°N to 34°N , covers an area of 85,328 square miles. It is bounded on the north by the Yalu (Amnok in Korean) and Tumen (Tuman in Korean) rivers, on the south by the Straits of Korea, on the west by the Yellow Sea, and on the east by the Sea of Japan. The peninsula itself is dominated by mountains and spectacular views. Currently, it is divided into two parts: the north and the south.

Anthropological studies show that the earliest known inhabitants of the Korean peninsula were a proto-caucasoid similar to the Ainu of northern Japan, who migrated to Japan

from Central Asia in prehistoric times through the peninsula. The Koreans believe that they are an ancient and homogeneous race, distinct from both the Chinese and the Japanese.

Language

Modern written Korean makes use of an indigenous phonetic syllabary, Han-gul, devised by a group of scholars in 1446, and some Chinese characters. It is said that the Korean language belongs to the Atlantic segment of the Ural-Altaic linguistic group. Throughout most of Korean history learning was a monopoly of a very few. Chinese characters dominated the language and Chinese culture dominated intellectual and literary pursuits. Consequently, Han-gul has had little opportunity to develop into a capably language. However, it began to show its capability since the government emphasized the education of Korean. Some Chinese characters are still in use to express meanings difficult to render into Han-gul, but the number of these is fast decreasing.

Population

According to the 1944 census, the population of Korea, including the northern part, was approximately 25,120,000. Based on the 1966 census, the Republic of Korea occupying southern half of the peninsula has a population of about 29,208,000: male, 14,701,000 and female, 14,507,000.

History

The emergence of Korean civilization and culture, as is

the case with other old nations, is shrouded in myth. The legendary founder of the nation, Tan-gun, is said to have descended from the heaven to establish a tribal state in 2333 B.C. However, the main current of Korean history began with the appearance in the first century B.C. of the Three Kingdoms - Koguryo, Paekche, and Silla, when Koguryo overthrew Lo-lang, a Chinese colony in the northern peninsula.

The Three Kingdoms: The kingdom of Koguryo was founded in 37 B.C. in northern Korea in the area formerly under Chinese control. Koguryo occupied a large territory covering southern Manchuria and northern Korea, followed by Paekche in the Han River valley and Silla in the southeastern area of the peninsula. In 669 A.D., Silla, with the aid from T'ang(China), was successful in unifying Korean peninsula and absorbed the territories, peoples and cultures of Koguryo and Paekche. But the Manchurian territory of Koguryo was occupied by T'ang never to return to Korea again. During the reign of Silla Buddhism reached its flowering stage in Korea.

As time marched on, the glory of unified Silla gradually began to wane and, in the year 935, was finally replaced by a new dynasty called Koryo (it was from this word that the English name for the nation, Korea, originated).

Koryo: Koryo established a feudal social structure and, in the history of Korea, served as the bridge linking the preceding Silla with the succeeding Yi dynasty.

Buddhism, without being disrupted by the fall of Silla,

continued to flourish under Koryo. During the Mongol invasion which started in 1213 and ended 1270, the complete Buddhist scriptures, laboriously carved on 81,258 wooden blocks, were printed to invoke divine intercession. Known as the Tripitaka Koreana, this monumental work is still extant as a major national treasure. In the latter days of Koryo, however, the state-supported Buddhism became overly powerful and corrupt so as to undermine the state itself.

Koryo made a notable contribution to world culture by inventing movable metal types in 1234, some two hundred years ahead of its European counterpart. It was also during the days of Koryo that now the world-famous Korean celadon ceramics reached their peak of development.

Chosun: Mindful of the harms done by Buddhism to her predecessor in declining years, the Yi dynasty rejected Buddhism and elevated Confucianism to the position of a state religion. In order to encourage Confucian studies, the Yi dynasty established various academic institutions throughout the country, together with a government printing office which printed and distributed the Confucian classics. Consequently, the tenets of Confucianism started penetrating into almost every aspect of Korean life, exerting many of its influences down to the present day. A great number of cultural works with great historical import were produced during the first seventy years of the dynasty. The man most responsible for the brilliant age of culture, known as Korea's "Golden Age", was King Sejong(1419-

1450) who, among other things, invented the Korean alphabet, Han-gul, in 1446.

In the meantime, there was a series of Japanese invasions which, extending for six years from 1592 to 1597, devastated the country to a miserable extent. The Japanese invaders burned and looted whatever valuable things they encountered. Apparently, the resulting political confusion and financial exhaustion led to the eventual collapse of the Yi dynasty.

Japanese Colonial Rule: The situation continued to deteriorate, and towards the end of the nineteenth century Japan renewed its attempt to occupy Korea. After winning two successive wars with Ching China and Tzarist Russia, and with Anglo-American backing, Japan finally colonized Korea in 1910.

A nationwide uprising against the Japanese rule flared up on March 1, 1919, to be ruthlessly put down by Japanese guns and bayonets. The Korean people's resistance to the colonial rule of Japan, however, had never been smothered. Patriotic fights for independence went on. In 1943, the heads of the United States, Great Britain and China, in the meeting at Cairo, declared that Korea would be free and independent in due course after Japan was defeated. With the unconditional surrender of Japan to the Allied Powers on August 15, 1945, Korea was finally liberated from 36 years of Japanese occupation.

Territorial Division: However, liberated Korea was divided into two parts at the 38th parallel, with the northern land under the control of a communist group installed by Soviet

Russia. In 1948, the government of the Republic of Korea was established, in accordance with a United Nations resolution, as the only lawful government for the whole of Korea, but due to the refusal of the north Korean communist party to accept the U.N. resolution, its de facto jurisdiction was confined to the area south of the 38th parallel.

The Korean War: The young Republic of Korea was growing rapidly when, on June 25, 1950, the north Korean communist forces launched their surprise attacks. During the initial stage of Korean War, they almost overran the entire territory of the Republic but were eventually beaten back by the allied forces of the United Nations and Republic of Korea. In July, 1953, the active hostility was ended with conclusion of a cease-fire agreement. Tragic as it is, Korea still remains divided.

The First Republic: Meanwhile, Syngman Rhee, long revered as a great patriot and as the founder of the Republic, grew more and more despotic in running the administration. In protest against the fraudulent elections masterminded by his Liberal Party regime, the Korean students, strongly supported by the general public, staged nationwide demonstrations in April, 1960. Bowing to the wish of the people, Syngman Rhee resigned from the presidency.

The Second Republic: Po-sun Yun was elected to the presidency of the Second Republic to head a cabinet-responsible government which emerged for the first time in the nation's history of parliamentary government, while Myon Chang became

the first premier. But the new government, split politically within itself, was too incompetent and inefficient to lead the nation on toward steady improvement. In May, 1961, the short-lived government of the Second Republic was replaced by the Supreme Council for National Reconstruction, established by a military coup d'etat.

The Third Republic: The Third Republic was born in late 1963. General Chung-hee Park, who led the military revolution, ran for the presidency as a candidate of his Democratic Republican Party which was organized during the period of military government. He was elected to the presidency, and his Democratic Republican Party won enough seats in the National Assembly to achieve political stability, or possibly political autocracy. At any rate, the people of Korea incessantly keep up their efforts to build a truly democratic nation with material affluence. Chung-hee Park was re-elected in the general election held in May, 1967.

Economy

The Korean economy today is characterized by a rapid industrialization and a sharp increase in exports. The end of World War II in 1945 saw Korea regain her independence, but it brought about a territorial division of the country. The few industrial plants that existed south of the 38th parallel were thoroughly devastated during the Korean War. Following the armistice of 1953, a vigorous reconstruction program was launched with the assistance from the United States and other friendly allies.

The scars of war began to heal gradually and at the same time new essential factories were built. Since 1959, the Korean economy has continued to grow steadily.

The Korean government formulated in 1962 the First Five-Year Economic Development Plan with a view to laying a solid foundation for eventual economic self-support. With several exceptions, the plan as a whole was successful. Manufacturing has increased by 92.6 percent, mining by 73.3 percent, and electric power by 119.6 percent. During the period, G.N.P. increased at an average annual rate of 8.5 percent, and per capita G.N.P. increased 49.9 percent.

On the basis of the achievement of the First Five-Year Plan, the government launched the Second Five-Year Economic Development Plan in 1967 in order to further promote the modernization of the industrial structure and to consolidate the foundation of a self-supporting economy.

However, there seems to be many pessimistic aspects in Korean economy. Basically, the Korean economy is crippled because the nation is divided into two parts. Ecologically, the northern part of the peninsula is suitable for industries with its immense hydraulic power and mineral resources, while the southern part is suitable for agriculture with its comparatively vast valley areas woven by a net of rivers and streams. The distribution of wealth is so ill-balanced that the rich get ever more rich and the poor get ever more poor. Too rapid an investment in industrialization causes too heavy a taxation on the

people. Farmers who compose most of the population have been neglected and they are emigrating in tens of thousands each year to larger cities.

Education

As the last hermit country in the Far East which opened her door to the world, formal education in Korea was largely in the hands of the Confucianists from the Three Kingdoms period until the twentieth century. Until the twentieth century, little education was given to the lower classes.

The Confucianists equated knowledge with the philosophy of Confucius; therefore, their schools stressed thorough instruction in the Chinese classics and a reverence for all that the Master had said. Originality and criticism were discouraged; thoroughness and conformity were the qualities expected of a student, which contributed to the stalemate of Korean society until the twentieth century.

The first western school in Korea was an English-language school for interpreters opened by the crown in 1883. In 1886, Methodist missionaries founded Ihwa Institute (now Ewha Women's University), the first Korean college for women. Westernized education was encouraged by the Japanese, who built the Keijō Imperial University, the former body of Seoul National University, but the Japanese used education as a device for making Koreans loyal subjects of the Japanese Imperialism. They refused Koreans equal education opportunities and prohibited the use of Korean.

Marked progress has been achieved in various aspects of Korean education since 1945, the most striking feature being a tremendous quantitative growth. According to Ministry of Education statistics, there are, as of 1967, a total of 5,418 elementary schools throughout the country with a total enrollments of more than 5,380,000 students. This comprises 96 percent of the entire population of school-age children throughout the country. At the time of the liberation in 1945, the country had only 2,834 elementary schools with a total enrollments of less than 1.4 million.

The expansion was more pronounced in secondary education. Whereas there were 165 secondary schools with about 84,000 students throughout the country in 1945, the Republic now has 1,314 middle schools and 782 high schools, with a combined enrollment of over 1,353,000 students. A rapid increase is also manifested in higher education. While there were nineteen institutions of higher education with about 7,800 students throughout the country in 1945, the Republic now has 211 institutions of higher education, with a total enrollment of 170,544 students and 7,836 professors.

Such a rapid expansion of education is attributed, first of all, to the Korean people's enthusiasm for education. Deprived of proper educational opportunities under the Japanese colonial rule, the Korean people had developed an extraordinary interest in modern education. This inherent interest was, so to speak, ignited into explosive education activities in the wake of inde-

pendence and the ensuing all-out effort for democratic development.

However, enormous quantitative expansion of higher education lacks the vital exuberance of its quality. Most of the universities and colleges privately supported are far below the standard requirements. These institutions are almost entirely dependent on students' tuitions and fees. Consequently, they recruit more students than they can afford in order to maintain the institution. They produce every year more graduates than the society demands. This is becoming a very serious social problem that has to be ameliorated immediately by all means.

SEOUL NATIONAL UNIVERSITY

More has to be discussed about the educational system in Korea, past and present, in order to understand the project better. The history of education in Korea with emphasis on higher education will be introduced first, and the history of Seoul National University will be the second part.

History of Formal Education in Korea

Formal education in Korea was largely in the hands of the Confucianists from the Three Kingdoms period until the twentieth century. The Buddhists played a secondary role in the history of Korean education.

The first so-called university was established by royal command in Koguryo in 372 to instruct sons of noblemen. It was called Tae-hak, or Great Academy, and very little is known about this academy. Similar schools were founded in Paekche and Silla. That of Silla was founded in 682 and was called Kuk-hak, or National Academy. During this period many Confucian students and Buddhists went to China to study.

In 992 during the Koryo period, Kukjah-gam, or National Institute of Education, was established to succeed the National Academy of Silla. Educational system was well organized by that time and instruction as well as research reached a very advanced level in Chinese and local classics. Six departments of this institute taught students of aristocratic birth not only Chinese classics but also law, calligraphy, and accounting. The name of

this institute was changed later to Songgyun-gwan, or Confucian College, and was succeeded by the Yi dynasty which replaced the Koryo dynasty in 1392.

Until the twentieth century, little education was given to the lower classes. Social and economic conditions prevented the lower class from participating in education, and furthermore Korea had no letters of their own until the fifteenth century. Han-gul, the Korean alphabet, was devised by King Sejong in 1446. From that time on, Han-gul was used among the lower class very energetically and conveniently, but was despised by the upper class accustomed to the complexity of Chinese characters.

The sodang were small, private elementary schools established by the Confucianists during the Koryo period and became numerous during the Yi period. Boys entered the sodang at seven or eight years, were taught Chinese characters, and memorized selected passages from the works of Confucius. The secondary level of Confucian education consisted of the hyanggyo, or local school, and sowon, or academy. The hyanggyo were provincial colleges intended to prepare students for final degrees. The sowon, the first of which was established in 1541, gradually displaced the hyanggyo and became locally narrow and adamant. The sowon were used often as the meeting-places of factional groups, which undermined the politics, economies, and societies of Korea during the Yi period.

The highest school in Korea during the Yi period was the Songgyun-gwan in Seoul. It was a sort of scholastic honorary

society and a gathering place of Korean intellectuals. This is divided into the Four Institutes, each of them staffed by two instructors and two professors, supervised by a director appointed by the crown, and limited to one hundred students.

The Songgyun-gwan famous for its study of Confucianism. Confucianism, philosophic and profound as it was, did not benefit the Korean society but in fact did much harm to it. The Confucianists in Korea studied Confucianism without originality and criticism. They studied for the sake of study and for the sake of intellectual pleasure. Furthermore, they attacked all other knowledges as heresy and suppressed original inquiry and critical attitude. Confucian schooling was closely connected with politics and inevitably developed many corruptions and abuses in the latter half of the Yi period.

The beginning of the twentieth century introduced the advanced civilization of the West to Korea. Many new western schools were established and many new curricula were introduced such as ethics, history, geography, algebra, geometry, physics, painting, law, economics, western music, physical education, etc.

In 1910 Japan occupied Korea and the Songgyun-gwan was disorganized. For thirty-six years from 1910 to 1945, a thorough colonial education by the Japanese was carried out in Korea. They attempted to convert all Korean to Japanese; tried to abolish the use of Korean language, ordered to change Korean names into Japanese, and planted their imperialism and militarism in Korea.

As one of their educational policies in Korea, the Japanese

established Keijō Imperial University in May 1924 and started with two departments; Department of Law and Literature and Medical Department. In August 1938, Department of Physical Sciences and Engineering was added. Admission of Korean students to this university was allowed but very limited. It is true, though, that this college introduced new sciences of western civilization into Korea as well as modern structure of higher education.

Seoul National University

On August 15, 1945 Korea was liberated and recovered her independence at the end of World War II. A military government of the United States Army began to operate in the southern territory of Korea from September 1945. The military government, realizing the desperate necessity of a new educational system in Korea other than that of a colony, organized the Korean Educational Committee which worked as an advisory for the military government in the field of education in Korea. The Educational Bureau of the military government announced the law concerning the establishment of Seoul National University on August 22, 1946.

The Seoul National University was officially founded on this date as the first national university with a western educational system in Korea. The university succeeded the Keijō Imperial University and absorbed nine other government institutions. This measure met with strong objections from the absorbed institutions because the military government did not ask them to accept this measure but forced them to accept it without due

communication with them. This argument started as a mere struggle within the educational society, but became a political and ideological conflict between the nationalists and the communists since the latter agitated the people in every possible way to destroy the society. It lasted a year, but the university began to recover its academic order by 1947. Government of Korea was established on August 15, 1948 and took over the nation from the military government. The communist party became illegal within the territory of the Republic of Korea.

On June 25, 1950 the red army of North Korea invaded South Korea and occupied Seoul in three days. The United Nations dispatched an expeditionary force immediately to counter-attack the invaders. The United Nations Forces advanced up to the Yalu River, the borderline between Korea and Manchuria, but the Chinese Red Army crossed the border and joined the war in October 1950. Seoul was occupied again by the red from January through May 1951. However, the United Nations Forces regained the initiative and drove out the invaders from South Korea. For two years the war was a stalemate and finally a cease-fire agreement was concluded during July 1953.

The government and many important organizations took refuge in Pusan, a port city in the southern coast of the peninsula, during the war. Due to the war, politics, economics and all the cultural activities of the country were in the worst condition and everything had to be sacrificed to the war. All the higher educational institutions were paralyzed when the war broke out

and a joint lecture system was operated from October 1950 as a provisional means for the continuation of higher education during the war. The university suffered terribly like every other organization during the war, but managed to survive while in the refugee period. In March 1952, the joint lecture system was disbanded and the university established a provisional campus in Pusan. The College of Agriculture, however, returned to its own home campus in Suwon one year earlier in 1951.

Even though the war was going on, the university, with the support of the government, not only managed to continue the lectures but also expanded its organizations. In April 1952, the department of fine arts separated from the college of arts and was elevated to the status of college. The department of music became the college of music at the same time. In September 1950, the college of pharmacy which had been controlled privately was absorbed by the university. With three new colleges the university had grown to twelve colleges.

The main campus of the university had been used by the United States Eighth Army during the war. As the war was over the campus was returned to the university on September 15, 1953. The university set about the rehabilitation work and the colleges of the university participated in this task with remarkable enthusiasm. The university drew up a reconstruction project and succeeded in acquiring enough funds for this, mostly by means of foreign aid, especially the aid from the United States. Such organizations of the United States as Foreign Operations Agency,

University of Minnesota, and International Cooperation Administration expressed deep sympathy and relieved the university from demolition. The amount of aid from these organizations added up to 10.4 million U.S. dollars during the fiscal years from 1955 to 1960.

The university, within a short period of time, had not only recovered from the damages by the war but continued to advance fast both academically and financially. On April 4, 1955 the university set up university council, which was similar to the board of regents in the American universities. This was considered one more step toward the unification of the colleges. By this time the university began to participate in the international academic activities and began to absorb the advanced sciences of the advanced nations. These activities outside the campus, both international and domestic, were very efficient to form a sense of a single university among colleges.

In April 1960, the students of Korea, supported by the public, staged nationwide demonstrations against the fraudulent elections held on March 15, 1960 by the Liberal Party regime. This student revolution in April overturned the Liberal Party regime and opened a way to true democracy. However, the Democratic Party, which took over the government through an election, was considered too weak and too disorganized to run the nation. On May 16, 1961, a group of young officers overturned the Democratic Party regime through a bloodless military revolution and proclaimed a military government. After two and half years of

military government a general election was held and the retired General Chung-hee Park was elected to the presidency.

During this period, the university had gone through some changes of its organizations. On January 13, 1959 the university established the Graduate School of Public Administration and the Graduate School of Public Health. On December 9, 1961 the Veterinary College was absorbed by the College of Agriculture and became a department. Three more graduate schools were established following the establishment of the above two graduate schools; Graduate School of Law on February 17, 1962, Graduate School of Education on April 12, 1963, and Graduate School of Business Administration on November 24, 1965. These graduate schools served as tying media between the colleges of the university.

It must be noted that a campus unification planning committee was organized on February 1, 1965 and the long pursued idea of campus unification began to be materialized. Several projects were proposed, but failed to be executed every time because of financial shortage and lack of ability in the university administration. On February 25, 1966 Planning Bureau was established in the university as a permanent working department for the research and management of the campus unification problems.

With all its history of twenty years Seoul National University has dominated the higher educational institutions in Korea physically, administratively, and academically. The graduates of the university are working as a drawing force in the society

and as a nucleus of the academic circles in Korea. The history of the university for the past twenty years could be considered a history of painstaking effort to unify the university. But it must be remembered that this effort has been no more than a foundation work for the genuine tasks to be accomplished by the university.

UNIVERSITY

Education has too broad a meaning to define simply with a few words. It is a process involving the whole of an individual and his society. Education is not a thing to be confined to any single period of life, or to any specific place like school.

Due to the historical development of specialization of human activities, and due to the differentiation of our social structures, a complicated system of professional educating organization has been devised. Everyone is supposed to go through a period of formal education from early childhood until he reaches adulthood. The society trusts with its future on this system of formal education. University occupies the highest, and probably the most important position in the chain of professional educating system.

Generally, university would have three categories of functional activities; teaching, research and service for those outside the campus community. Each of these functions varies widely in each university according to the type of institution, its location, and the character and size of the community for which it serves. This variety determines the character of the university together with other minor functions the university emphasizes.

Teaching

Teaching is the most important function of university,

although some universities now consider research as well important. What to teach and how to teach directly influence to form the character of an institution, and consequently the character of its campus.

Schneider said, "The western universities have now articulated themselves to press upon far-out scientific frontiers and are but slowly recognizing the disruptive cultural whirlwind generated by growing technological capacities A new specie of university would therefore seem to be called for the less developed countries Stress will have to be put on the transfer of technical knowledge (rather than on creating it, which was necessary in the West) and upon the creation of operative social knowledge to assist in the social metamorphosis (which was neither recognized nor so crucial in the West)." ¹ He also warns that, although the above statement is true, blind passive acceptance of the western knowledge without adjusting to local tradition must be checked.

It is dangerous to assume that the universities in technically emerging countries should remain in the present state of knowledge-transferring institution forever, or for a long time. The function of creating new knowledge and profound research must be maintained in any university, even if on a small primitive scale.

1, Kenneth R. Schneider, Redevelopment Universities: Institutions for the New Nations, International Development Review, Volume X, Number 1, March 1968, pp. 17-22

The big issue on what to teach in the past two decades in Asia has been which of liberal studies and engineering should be emphasized. About two decades ago, the universities in Asia focused upon liberal studies, law and medicine and produced excessive graduates in these fields. Since then, as a reaction to this tradition, engineering, physical sciences and related fields have been overly emphasized. While the departments of natural sciences have been enthusiastically supported, humanities and social sciences departments have been neglected very much.

It must be remembered that to absorb and digest subjectively the technical knowledge of advanced countries, and to create new knowledge usable for the nation, universities in emerging nations should put emphasis on the education of humanities and social sciences as much as on the education of practical(natural) sciences. Neither may be neglected in favor of the other. Both need the support of the other and should progress hand in hand.

Based on Koreanology, to achieve the standard of world universities as soon as possible is the goal of Seoul National University.

Research

Research is relatively new in university as compared with teaching, especially research in advanced technical sciences. Research flourishes in institutions of higher learning because colleges and universities provide the opportunities for the continuance of the scientific movement: money, leisure, free-

dom of pursuit, coupled with ideal conditions for scholars to come together to exchange ideas and techniques.¹

Research in humanities and social sciences is as important as research in technical sciences. In universities of technically emerging countries, research in technical sciences is very important, but at the same time research in the methodology of adjusting knowledge to its own culture is as much important.

The Seoul National University endeavors to expand the organization and activities of graduate schools. As research is being carried out mostly by graduate schools and special research institutions, expanding the activities of graduate schools as well as strengthening the contents is very important to establish the tradition of research in university.

One fatal handicap in research activities of universities in less developed countries is lack of adequate financial support. Most of the research institutes at the Seoul National University are sponsored by the government, but fund allowances are very limited. It is not simply an academic problem but has to do with political, economic, and social pattern of the nation. For the time being, there seems to be no way out and the university has to do its best with the small allowances. The kind of research and scale must be based on the size of fund allowances.

1, Richard P. Dober, Campus Planning, Reinhold Publishing Corporation, 1963, p. 95

Services for Those Outside the Campus Community

Historically, town and gown have become more and more close and dependent on each other. They have become inseparable now. Colleges and universities were called ivory towers before, a secluded, pure monastery-like place where none of worldly affairs may intervene. Now they are called watch towers instead of ivory towers. While the universities are supported by the community where it belongs, they serve as a symbol of conscience for the community and as a place where actions are taking place vigorously in connection with the community. This is strongly reflected in the physical design of university. The university is not a place for the people to visit from time to time on special occasions, but has become a place where the people, together with the students and faculties, participate in various programs enthusiastically.

The Seoul National University is a university with national character. Students from all provinces of the nation come here to study and live. The institution itself is supported with tax paid by people. Often times, students of universities in an emerging country feel that they are selected privileged group of people aloof from the people. To abolish this kind of inexcusable emotion, the university has to prepare every occasion available to serve the people. For instance, in an agricultural country like Korea, a program of exterminating noxious insects for farmers on a large scale, and propagating the method among farmers would be an excellent way of serving the nation academi-

cally, scientifically, economically, and socially.

CAMPUS PLANNING

University planning, or campus planning is, if not more, as much complicated as urban planning. Some say, "Most of the general architectural concepts which spilled over into university design came from work being done on urban planning. These had to do with notions of compactness being equally as beneficial to social mixing and intercourse as to visual coherence and interest; with the need for segregation between different forms of traffic and the creation of pedestrian precincts by variations of the Radburn plan - feeding traffic laterally from a main route into cul-de-sacs with a traffic-free zone beyond - or by differentiation of traffic on the section; and, most vitally, with evolving a general system of organization which could allow increase and change and yet maintain coherence.¹

Simply laying out some classrooms, a library and some dormitory buildings is not the end of university planning. Campus is a place where a group of people with a common cause work, play, think and live together. Education is a natural precipitating product of these full activities. First of all, the complicatedness of the problem in university planning must be kept in mind.

General Discussions

Any campus planning should be contemplated in terms of

1, Michael Brawne, Introduction, University Planning and Design, A symposium Edited by Michael Brawne, Architectural Association Paper Number 3, Published by Lund Humphries for the Architectural Association, London, 1967, p. 9.

the combination of the following four factors: ¹

1. The time span reflected in the plan
2. The physical area encompassed by the plan
3. The precision of the program
4. The characteristics of the design

Typical labels for planning periods are short-range, middle-range and long-range. Generally they reflect five, ten and twenty year target dates, respectively. The project of this thesis is a middle-range planning. The middle-range time period can be readily expressed in a three-dimensional design. When handled reasonably as bulk commodities, designs which express this planning period begin to give scale and dimension to the over-all campus form. Middle-range plans set conditions and limits which immediate construction must meet, as well as being idealized goals which in all probability can be implemented more fully than a long-range projection. ¹

In Korea, types of plans can be labeled by the area which they encompass as follows: ²

1. National plans
2. Regional plans
3. Metropolitan-city plans
4. Area plans
5. Campus plans

1, Richard P. Dober, op.cit., p. 46.

2, Ibid., p. 52 (classification adjusted by the author).

6. Sector plans (area within campus)
7. Building or site plans (area smaller than sector)
8. Floor or room plans

In theory, the wider the area in which a campus is planned, the more reasonable and reliable the plan is to be. The campus of Seoul National University is within the planning area of Seoul. It has to be understood in relation to Seoul, the capital, and the whole nation. Consideration is given to the relationship between the capital and the campus, but the project will focus on Nos. 5, 6, and 7.

By the precision of the program is meant to what extent the plan is based on policy and criteria. The more precise and detailed the policy and criteria are, the more real and efficient the plan is to be. The author has attempted to collect all possible information he could obtain, but it seems inevitable that he should have missed much important information, which could have been gathered with a team of planners and with sufficient funds for research. To cover up this weakness, the author has used several assumptions in programming which are imaginations of the author but quite probable in reality.

This project is a middle-range plan and covers mainly the area of the campus and the immediate neighbors. Information for programming has been collected but some assumptions have been used. "Planning is a complicated process, a reponse of design 1

1, Richard P. Dober, op. cit., p. 54.

to program, and program in response to design." The author has attempted to go through this procedure. However, due to lack of enough information and time, there have not been much response as it should have in case of actual planning.

Module

All the ideas and policies have to be, in the end, expressed in the form of physical design of campus. Building are the most important planning module as well as development master plan.

Instructional Facilities

Instructional spaces are divided into three; engineering and natural sciences, humanities and social sciences, and arts. Educational policy, environmental technology, and availability of finance determine the character of these facilities.

Educational policy should be ever flexible. It should be the universities policy to prepare itself for changes and diversifications. "It is a truism that a university is a society founded for the advancement of learning and the dissemination of knowledge. This means that it is constantly changing, always on its way, its work never completed. Departments expand, contract, quadruple in size, or virtually disappear within a few years, often in defiance of the most knowledgeable and expert forecasts. Every building and each layout, so optimistically and thoroughly¹

1, Richard P. Dober, The New Campus in Britain, Educational Facilities Laboratories, New York, 1966, Quotation from Casson and Conder, University of Birmingham Development Plan(1958), p. 34. ✓

designed, seems to become within a decade not only out of date but physically hampering to the future. Any attempt therefore to constrict its movement artificially, either academically or physically, seems doomed, and rightly doomed, to failure."

A fixed module of classroom with permanent fixtures is not recommendable. A variety of classroom with provisions for unforeseen necessities is desirable.

Some ideas by Casson and Conder at Birmingham in 1958 are worth repeating here:¹ ✓

- Do not spread unnecessarily; a university should express itself as an entity by means of a compact and coherent layout.

- Keep open the access to possible long-term sites.

- Allow undifferentiated space within areas set aside for specialized activities, this for sudden and previously unknown expansion.

- Use the principle of courtyard planning; completion of space by space; contrasting space to space.

- Use the natural given personality of the site, demand that each building contribute to the special quality of the whole and not be something apart.

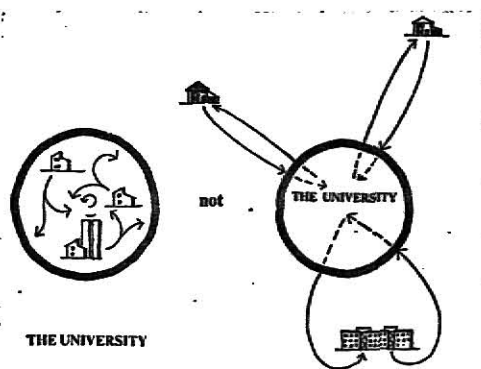
Environmental technology together with environmental esthetics should dominate the mind of planners from the beginning to the end of the planning stage. Building orientations, air conditioning, lighting, acoustics, and use of building materials must be devised with consideration to site location.

1, Richard P. Dober, op. cit., p. 35.

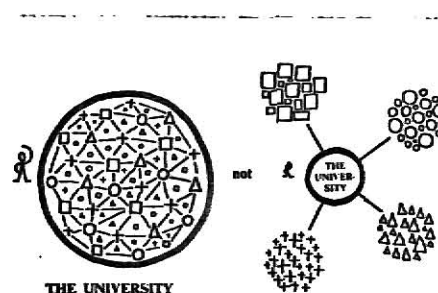
Some discussions have been made in the previous chapter about the availability of funds. Since the university is supported by the government, the problem of fund raising is almost entirely dependent on the government. No further discussion about this problem could be made by the author.

All three complexes, engineering and physical sciences, humanities and social sciences, and arts must be given due identity, but have to be an organic part of the whole campus. Communications between these different elements must be provided in design.

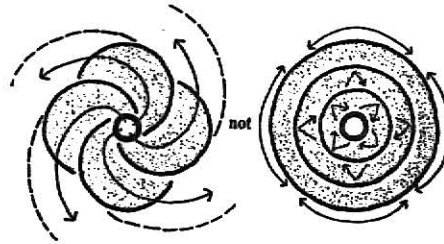
New technology of teaching with sophisticated technical equipment is enthusiastically recommended and is beginning to be given serious consideration. This new technology has to go through close scrutiny and be adopted if desirable. Blind adoption simply because it is novel may result in excessive waste of energy, time and space.



The University—"a society of individuals living and working together for the advancement of learning and the dissemination of knowledge"



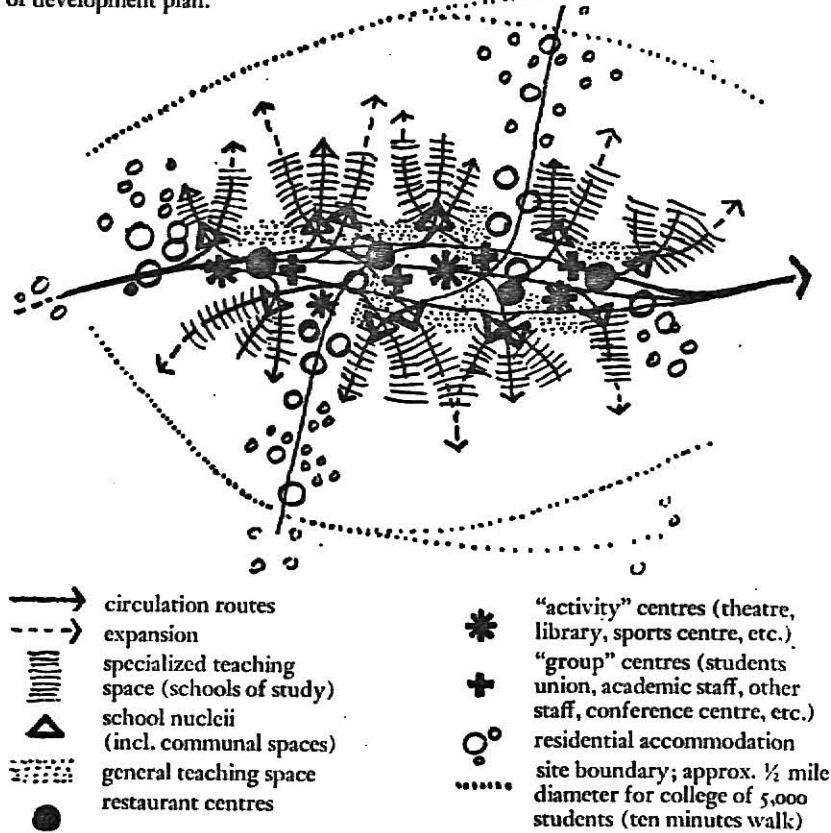
The University—"a meeting place of different aptitudes, skills and specialisations"



"Provision for easy growth and flexibility of use is vital"

An example of schematic diagram shows basic principles of development plan.

Schematic diagram shows basic principles of development plan.



Library

In many instances in the past, library had served as the visual symbol of a campus. A French architect named Henri Labrouste built a great library in Paris, the Bibliotheque Nationale, in 1858. He created a tradition that lasted about a century. The Bibliotheque Nationale was a monumental structure with vast, high-ceilinged reading rooms, elaborately decorated and covered with a huge dome. People, influenced by hundreds of Bibliotheque Nationale's which sprang up after the original all over the world, still imagine a library something monumental, solemn, and often uncomfortable.

Around the mid-thirties a modular library system was initiated in the United States, which allowed an easy intermixture of reading spaces and stack spaces and also remarkable efficiency in space use. The modular library gave librarians great, wide-open spaces and introduced air-conditioning.

Today in the United States, the revolutionary period of the modular library system is over. The modular library is undergoing humanization. Individuals are given more consideration by means of carrels. Adequate lighting, acoustics, and air-conditioning is not a luxury any more. Some say that architects are now seeking to combine the beauties of the classical library with the efficiency of the modular.¹

For the purpose of campus planning, three considerations should be given to library; size, location, and method of access

1, Bricks and Mortarboards, A Report on College Planning and Building, Educational Facilities Laboratories, New York, N.Y. pp. 73-82

to books and materials. Standard space requirements will be discussed in space requirements section, but the basic design idea is to provide ample space and utilize it in various ways as much as possible.

The library is still acceptable as a symbol of the campus as long as it actually is the center of student activities both academic and extra-curricular.

Regrettably, the Seoul National University library still maintains closed stack system. Students have no direct access to books and materials. There are circumstances to be considered but open stack system, or modular system allowing students a direct access to books and materials must be adopted at once at any cost. Audio-visual section must be increased and given proper importance in the library.

Museum

Erroneously, museum is often considered in Korea a place where nothing but the old is kept. Museum must breath with the time and must be a place which envisions the future for the society. It can be used as a bridging tie between the campus and the community. Collections with great appeal to the region and the nation will draw many non-campus visitors.

Space requirements and location of museum vary according to the type of museum. Service access must be provided.

Facilities for Extra-Curricular Activities

The type of student union in the United States is not yet known in Korea. Student activities are scattered and lack vital

communications.

Campus unions in the United States today serve the following functions: ¹

1. The sale of goods and services, either as a convenience to the campus community or as a necessity (when the campus is too remote from local shopping centers).

2. Provision of facilities for supervised social activities and indoor recreation.

3. Provision of facilities for extra curricular student activities and organizations, such as student publications, hobby groups, and political clubs.

4. On some campuses the student union may serve as the central dining hall, achieving economies by combining several kinds of food operations under one roof, particularly when there is insufficient volume to support or warrant such functions individually.

5. On the denominational campuses, because they are centrally located facilities, student unions are also convenient places for chapels, which are sometimes constructed as a wing to the student union.

A student union at a campus with many commuter students has to give consideration to them. In this project, half of the student body is supposed to commute between the campus and the central part of Seoul. The campus would have the characteristics of commuter college to a certain degree. Students have to have

1, Richard P. Dober, Campus Planning, Reinhold Publishing Corporation, 1963, p. 101.

something that makes them wish to stay at campus besides classes. Union should provide such activity areas for commuter students.

Housing

It is important to encourage a sense of belonging to the larger institution, while at the same time securing attachment to a smaller and more comprehensible segment in the design of housing patterns. Collegiate life, for those who reside on campus, centers upon classrooms, activity areas and housing complexes. Housing is no longer regarded as a place only to sleep in. It is a place where the students live and experience the important process of learning through communications.

It is recommended to disperse housing facilities around the campus rather than to concentrate them on any single limited area. This will ease not only the circulation of campus but communication between students.

Programming housing facilities is as complicated as that of instructional facilities. Dober recommended the following steps to be taken:¹

1. Review existing housing and housing policies.
2. Estimate quantities and types of campus housing needed for long-range planning.
3. Site arrangements.

Some important suggestions made by him in site arrangements are:

- a. Rather than concentrated housing in a single area, units

1, Ibid, pp. 136-137.

are being dispersed throughout the campus. This, too, has the advantage of flexibility as it can create a mosaic pattern of intensive uses and green spaces, the green spaces being land reserves for unknown expansion needs, but meanwhile serving as recreation areas.

b. Single student housing, graduate student housing and married student housing are usually separated from one another, the general opinion being that social and living patterns of each group might be in conflict.

c. Generally housing is being kept out of the central campus areas and placed on the periphery. This segregation of land uses assures long-range land reserves for expansion of academic buildings and core facilities such as libraries, unions, and other central structures.

Sports, Recreation, and Physical Education

These facilities, which demand a heavy commitment of space, house at least four distinct functions: 1) physical education and hygienic, 2) intramural sports, 3) intercollegiate athletics, and 4) informal recreation and sports. They take the form of swimming pools and related facilities, gymnasiums, stadiums, and field spaces.

PROJECT

Evolution of the Project

On August 22, 1946 the military government of the United States in Korea announced the law concerning the establishment of the Seoul National University. The university brought together the Keijō imperial University and nine other technical institutes. The university started with one graduate school and nine individual colleges.¹

As soon as this establishment was announced, strong objections were raised against this measure. Some debated that this could mean the curtailment of higher educational institutions and that the government intended to take autonomy away from the university administration. Each institute which was absorbed into the university opposed this law on the contention that this measure would destroy the characteristics of each institute. From the beginning the university faced two problems: solid establishment of academic order in the university and unification of the universities nine colleges.

The reason why the government established a big national university in spite of strong oppositions from the absorbed colleges was to utilize the insufficient educational facilities of each college to the maximum availability by sharing one another; to exchange the teaching staffs that were very short at that time both in quantity and quality; and to avoid unnecessary duplication of administration and financial management,

1, See the diagram on p. 39.

Colleges of the University	Institutions Absorbed by the University
Agriculture	Suwon Professional Institute of Agriculture and Forestry
Commerce	Keijō Institute of Commerce
Dentistry	Keijō Institute of Dentistry
Education	Keijō Teacher's College
	Keijō Women Teacher's College
Engineering	Department of <u>Physics and Engineering</u> , Keijō Imperial University
	Keijō Institute of Technology
	Keijō Institute of Mining Industry
Law	Department of <u>Law</u> and <u>Literature</u> , Keijō Imperial University
	Keijō Institute of Law
Liberal Arts and Sciences	Department of <u>Law</u> and <u>Literature</u> , Keijō Imperial University
	Department of <u>Physics</u> and <u>Engineering</u> , Keijō Imperial University
Medicine	Medical Department, Keijō Imperial University
	Keijō Institute of Medicine
Arts	Newly organized

so that the university could reach the world university standard within the shortest time possible

But each college thought itself a separate institution of different tradition and history even ten years after the foundation of the university. One of the basic reasons for this trend was due to the scattering of the university campuses. The university had eight campuses and could not avoid the duplication. The planned exchange of teaching staff was impossible.

Realizing the urgency of the situation, the university set up Campus Unification Planning Committee in 1958. Since then, several campus unification plans have been proposed but none of them was realized. Some of the important proposals are as follows;

1. O. E. C. Proposal in 1958

The first plan was submitted by a team led by Dr. Stowdad, advisor from the U. S. Office of Economic Cooperation in Korea. He proposed to concentrate all university facilities into four campus sites as follows;

- a. Main campus
- b. Agricultural campus
- c. Engineering campus
- d. Educational campus

2. Minnesota Proposal in 1960

A survey team of the University of Minnesota with Dr. R. H. Lindemann as its head submitted a report on national education in Korea. It emphasized the importance of the campus unification

project of Seoul National University. Minnesota Plan was based on a five-year project and advised the university to concentrate the nine campuses into six as follows;

- a. Main campus - Liberal arts & social sciences center
- b. Fine arts campus
- c. Medical campus
- d. Educational campus
- e. Industrial campus
- f. Agricultural campus

The Minnesota Plan limited itself to maintaining the already existing campuses. It neither tried to unify the university campuses nor did it answer the problems of organizational, administrative, and financial aspects of the unification plan.

In 1966, the university set up an office of planning as a permanent university organization for the research and execution of the unification project. The planning office drafted a six-year project and submitted it to the government. The university proposed to concentrate the present eight campuses of the university into three as follows;

- a. Main campus
- b. Engineering campus
- c. Agricultural campus

The government reviewed the proposal and proposed an alternative. The government plan suggested to concentrate all the university facilities in the College of Engineering campus except those of the College of Agriculture and the College of

Medicine. This was opposed by the university and several other proposals have been made.

Facilities and Organizations to Compose the Main Campus
(suggested in the main campus project prepared by the university planning office)

University headquarters

Graduate School(118 majors)

Graduate School of Business Administration

Graduate School of Education

Graduate School of Journalism

Graduate School of Law

Graduate School of Planning

Graduate School of Public Administration

College of Commerce(3 departments)

College of Education(7 departments)

College of Engineering(18 departments)

College of Fine Arts(3 departments)

College of Law(2 departments)

College of Home Economics(3 departments)

College of Liberal Arts and Sciences(33 departments)

School of Liberal Arts(21 departments)

School of Sciences(10 departments)

Faculty Club

Student Union

University Library

University Museum
Dormitories
Audio-Visual Center
University Publishing Center
IBM Center
Research Institutes
Auditorium
Gymnasium
Stadium

Site

The project site has an area of 172 acres and is located on the northern outskirts of Seoul. It has been used as the College of Engineering campus since the foundation of the university and was selected by the university as university main campus site in 1968. To the north of the site is a mountain named "Bull-Ahm," which is 1,521 feet high and to the west runs a tributary stream of the Han River. The site itself is reasonably flat and has interesting natural features such as creek, pond and slope. The natural characteristics have to be acknowledged and incorporated in campus design.

Although there are a number of buildings on the project site, it is assumed that there is no existing structures on the site from the beginning of this campus design project. Most of the structures on the site were built by Japanese during World War II. They were built for the Keijō Institute of Technology,

a vocational training school of small size, and are much dilapidated by now. Since the founcation of the university several structures have been added, but have been constructed without a proper master plan. If the existing buildings have to be considered in this project, they may complicate the problem to a degree that the author cannot handle the problem any more.

The primaty qualities of a campus site to be considered would be: an adequate space, a wholesome enfironment, adequate accessibility, and reasonable cost of land.

The project site of 172 acres is not big enough for a university of 18,000 students, as compared with the standard of American campus. It is acceptable, however, as compared with the other campuses in Korea and Japan. Since the site is located in a suburban green area, it is probable for the university to purchase more land in the future and expand horizontally. The cost of land around the site is very low as compared with that in the center of Seoul. The land owned by the universit in the center of Seoul is almost ten times as expensive as that outside the center of Seoul. It is strongly recommended that the university should purchase more land, at least double the size of the project site, at the early stage of campus development.

To the east of the site are some academic facilities such as the Seoul Women's College, the Atomic Energy Research Institute, the Korea Military Academy and the Samyook College of Teologh. To the south are some industrial facilities. Around the campus site are several local communities of small size. These are the

immediate neighbors of the university and can form a small regional entity within the larger influence area of Seoul City. The site is connected with the center of Seoul by a regional highway and a railroad. At present most of the students are commuting between Seoul and the college by public buses and by railroad commuter. The university is under direct influence of Seoul, a megalopolis of 4.5 million. It has an immediate environment of suburban character and at the same time is under strong direct influence of conurbation.

Considering various factors stated above, the project site cannot be called ideal for a university campus, but is reasonably adequate. All the site characteristics must be considered from the programming to the final design so that they can be used as an advantage for the creation of a viable environment.

CAMPUS POPULATION AND SPACE REQUIREMENTS

Campus Population

To determine space requirements for each building on the campus, campus population has to be projected first. In Korea, the ministry of Education determines the maximum limit of student enrollments at each college and university according to the Educational Enforcement Law. The ministry of Education holds a qualification examination each year for those who want to go to college and permits the students who pass the examination to take the entrance examination of each college. In 1969, 61,000 high school graduates passed the qualification examination but the number of students admitted in colleges and universities was only 39,000.

Admission to the Seoul National University is based on competitive examination. Table 1 shows the competitive rates to enter the university since 1955. In Korea, admission to high school is also based on competitive examination. Traditionally, only the best qualified students from best high schools apply to the Seoul National University for admission. Most of the applicants are well qualified for higher education. It is clear that the university will accept more students if it can accommodate more and if the society needs more university graduates in the future.

Table 2 shows the status of employment of the Seoul National University graduates in 1966. The percentage of employment of

law school graduates is very low because most of the graduates study further after graduation by themselves to pass the law examination held by the government once a year.

Table 1. Competitive rates of entrance examination

Year	Number of Students to be Admitted	Number of Applicants	Compet. Rate	Number of Students Admitted
1955	2,720	14,804	5.4:1	2,968
1957	2,675	12,863	4.8:1	2,683
1959	2,955	12,463	4.3:1	2,939
1961	2,955	14,689	4.9:1	2,993
1963	2,180	9,100	4.1:1	2,175
1965	2,305	14,449	5.8:1	2,287
1967	2,305	11,678	5.1:1	2,286
1969	3,030	11,053	3.7:1	

Table 2. Status of employment in 1966

College	Number of Graduates	Number of Employed	Percentage (%)
Commerce	168	161	95
Education	171	119	69
Engineering	315	315	100
Fine Arts	72	49	68
Law	253	24	16
Arts and Sciences	331	234	70
Music	61	54	87
Agriculture	222	205	92
Pharmacy	66	61	95
Medicine	157	157	100
Dentistry	93	93	100

Table 3. shows anticipated undergraduate student enrollments in 1977 by each college and its departments at the main campus. Factors detailed above have been considered in determining the numbers. Basically, the curve-fitting method¹ was used because no detailed information has been available enough to adopt other complicated methods. Student enrollments are expressed by F.T.E. (Full Time Equivalent) rather than by head count.²

1, Richard P. Dober, "Campus Planning," Reinhold Pub. Co., 1963, p. 204

2, op. cit., p. 58

Table 3. Studnet enrollments in 1969 and 1977

College of Engineering

	1969	1977
Architectural	160	320
Mining	120	160
Metallurgical	240	360
Mechanical	200	400
Textile	240	280
Nuclear	120	160
Electrical	320	440
Electronic	200	360
Naval Architecture	80	160
Aeronautical	80	120
Civil	160	240
Chemical	240	400
Vocational Education	480	720
Applied Physics	80	160
Applied Mathematics	120	200
Applied Chemistry	120	200
Production Mechanics	120	200
Material	120	200
Difference		+220
	3,200	4,740

College of Commerce

Foreign Trade	160	200
Economic	220	280
Business Administration	400	560
Difference		0
	780	1,040

College of Education

Education	80	100
Korean Language Educ.	160	240
Foreign Language Educ.	320	400
Social Studies Educ.	280	320

Table 3 Continued

Mathematics Educ.	160	240
Science Educ.	440	560
Physical Educ.	160	180
Difference		0

1,600

2,040

College of Fine Arts

196

1977

Painting	100	200
Sculpture	60	120
Applied Arts	120	240
Difference		0

280

560

College of Law

Law	400	440
Public Administration	240	320
Difference		0

640

760

College of Music

Voice	120	160
Composition	60	100
Applied Music	240	320
Korean Traditional Music	60	100
Difference		0

480

680

Table 3 Continued

College of Arts and Sciences

	1969	1977
Korean Language	80	80
Chinese Language	40	40
English Language	80	80
German Language	80	80
French Language	80	80
Linguistics	40	40
Asian History	40	40
Western History	40	40
Korean History	60	60
Sociology	80	100
Social Work	40	40
Political Science	80	120
International Relations	80	100
Philosophy	80	80
Religion	20	20
psychology	40	40
Aesthetics	20	20
Geography	80	80
Archeology & Anthropology	40	40
Mathematics	80	120
Physics	120	160
Chemistry	120	160
Biology	60	80
Zoology	60	80
Astronomy & Meteorology	80	100
Oceanology	120	120
Geology	60	80
Pre-Medical Department	320	480
Pre-Dental Department	200	300
Difference		+ 30
	2,340	2,830

College of Home Economics (Newly Established in 1969)

Home Management	120	120
Food Nutrition	120	120
Clothing	120	120
	360	360

The total anticipated undergraduate student enrollments are 12,880.

The number of graduate students has been between one-twentieth and one-fifteenth of the number of undergraduate students. However the university emphasizes the importance of the graduate school and is about to increase the number of graduate students drastically. Furthermore, in addition to the existing graduate schools which are specialized in many fields, two more specialized graduate schools in journalism and planning are planned to be established very soon. Table 4 shows the number of graduate students in 1977 by each subject field.

Table 4. Number of graduate students in 1977

Graduate School	Number of Students	Remarks ¹
Graduate School		
College of Engineering	890	18.8 %
Arts & Science	1,195	58.2 %
Education	113	6.5 %
Law	315	41.4 %
Commerce	375	36.0 %
Music	73	10.7 %
Fine Arts	78	13.9 %
Home Economics	86	23.7 %
Sub-Total	3,059	Average 23.7 %

Percentage of graduate students as compared with undergraduate students.

Graduate School of Business Administration	580
Graduate School of Education	680
Graduate School of Law	200
Graduate School of Public Administration	400
Graduate School of Journalism	200
Graduate School of Planning	200
Sub-Total	2,260
Total	5,319

Total anticipated student enrollments of the university at the main campus in 1977 are 18,217. This includes all the undergraduate students at the main campus and the graduate students of the graduate school and the specialized graduate schools.

Institutions with student enrollments over 10,000 should establish stages of growth in multiples of 2,000 students.¹ The difference of student enrollments between 1968 and 1977 is approximately 8,000. This has to be divided in to four 2,000's.

1968 - 1970	2,000
1970 - 1972	2,000
1972 - 1974	2,000
1974 - 1977	2,000

The students of colleges which will not be included in the main campus are excluded from this project.

1, Richard P. Dover, Campus Planning, Reinhold Publishing Corporation, 1963, p.

Space Requirements

Factors regulating space needs have been obtained from the university. They are adjusted to the project site by the author. "Campus Planning" by Richard P. Dober and publications by the Educational Facilities Laboratories are used as references.

1. Institutional Spaces

Calculating method:

Classroom space = Number of students x Number of student station
hours in classroom x Factor

Teaching laboratory space = Number of students x Number of student
station hours in lab x Factor

Research space associated with teaching = Number of students x
Number of student station
hours in lab x Factor

Faculty office space = Number of students x Number of total
student station hours x Factor

Student service space = Number of students x Number of total
student station hours x Factors

College of Engineering

Factors: Classroom	0.57 sq. ft.
Teaching Laboratory	6.88 sq. ft.
Research Space Associated with Teaching	2.46 sq. ft.
Faculty Office	0.61 sq. ft.
Student Service Space	0.038 sq. ft.

Table 5. Space requirements for institution, College of Engg.

Department	SSH ¹	CR ²	TL ³	RS ⁴	FO ⁵	SS ⁶	SN ⁷
Architecture	19: 9	2,425	13,900	4,970	3,810	238	224
Mining	21: 8	1,225	6,167	2,205	1,981	123	112
Metallurgic	20: 9	2,860	15,500	5,580	4,455	278	252
Mechanical	17:10	2,710	19,300	6,890	4,600	288	280
Nuclear	18: 6	1,150	4,640	1,660	1,640	105	112
Textile	17:10	1,900	13,600	4,820	3,230	203	196
Electric	18:10	3,170	21,200	7,590	5,250	328	308
Electronic	20: 5	2,860	8,690	3,200	3,830	240	252
Nav. Arch.	19: 6	1,210	4,610	1,640	1,710	107	112
Aeronautic	19: 7	908	4,030	1,440	1,340	83	84
Civil	21: 4	2,020	4,620	1,660	2,560	159	168
Chemical	16:12	2,555	23,100	8,260	4,790	298	280
Vocat. Educ.	19:13	5,490	45,050	16,100	10,143	632	504
App.Physics	18: 8	1,150	6,167	2,205	1,775	111	112
App.Chemist.	11:17	879	16,400	5,870	2,390	149	140
App. Math.	19: 0	1,510	0	0	1,610	102	140
Prod. Mech.	17:10	1,360	9,640	3,450	2,300	143	140
Material	20:10	1,760	9,450	3,450	2,730	170	140
TOTAL		37,142	123,247	80,810	60,114	3,757	3,556

SSH(1): Student Station Hours(Class: Lab) CR(2): Classroom
 TL(3): Teaching Laboratory RS(4): Research Space Associated with
 Teaching FO(5): Faculty Office SS(6): Student Service Space
 SN(7): Number of Students (Sophomore, Junior, and Senior)

Total instructional space: 305,170 sq.ft.

Factor: Graduate research space 451.44 sq.ft.

Total graduate research space: $451.44 \times 890 = 401,781.6$ sq.ft.

Total instructional space needs for College of Engineering:

706,951 sq.ft.

College of Commerce

Factors: Classroom 0.57 sq.ft.

Faculty Office 0.38 sq.ft.

Student Service Space 0.045 sq.ft.

Table 6: Space requirements for instruction, College of Commerce

Department	SSH	CR	TL	RS	FO	SS	SN
Foreign Trade	22:0	1,750			1,170	138	140
Economics	22:0	2,460			1,640	194	196
Busi.Admin.	22:0	4,910			3,290	389	392
TOTAL		9,120			6,100	721	728

Total instructional space: 15,941 sq. ft.

Factor: Graduate research space 40.1 sq. ft.

Total graduate research space: $40.1 \times 375 = 15,037.5$ sq. ft.

Total instructional space needs for college of Commerce

30,978.5 sq. ft.

College of Education

Factors:	Classroom	0.57 sq.ft.
	Laboratory	6.88 sq.ft.
	Attached Laboratory	2.46 sq.ft.
	Faculty Office	0.45 sq.ft.
	Student Service Space	0.083 sq.ft.

Table 7: Space requirements for instruction, College of Education

Department	SSH	CR	TL	RS	FO	SS	SN
Education	21:0	840			665	122	70
Korean Lang.	21:0	2,010			1,585	292	168
Foreign Lang.	21:0	3,350			2,650	488	280
Social Stud.	21:0	2,680			2,120	391	224
Mathematics	21:0	2,010			1,585	292	168
Science	21:8	4,690	21,600	7,760	5,140	945	392
Physical Edu.	9:	645			510	94	126
TOTAL		16,225	21,600	7,760	14,255	2,624	1,428

Total instructional space: 62,494 sq.ft.

Factor: Graduate research space 15.12 sq.ft.

Total graduate research space: $15.12 \times 133 = 2,010.96$ sq.ft.

Total instructional space needs for College of Education

64,504.96 sq.ft.

College of Fine Arts

Factors:	Classroom	0.57 sq. ft.
	Laboratory	3.14 sq. ft.
	Attached Laboratory	1.37 sq. ft.
	Faculty Office	0.38 sq. ft.
	Student Service Space	0.09 sq. ft.

Tabale 8: Space requirements for instruction, College of Fine Arts

Department	SSH	CR	TL	RS	FO	SS	SN
Painting	12:22	959	9,650	4,410	1,915	452	140
Sculpture	9:27	460	7,120	3,150	1,155	273	84
App. Arts	8:30	768	15,800	6,910	2,420	574	168
TOTAL		2,187	32,750	14,470	5,490	2,290	392

Total instruction space: 57,007 sq. ft.

Factor: Graduate research space 35.1 sq. ft.

Total graduate research space: $35.1 \times 78 = 2,737.8$ sq. ft.

Total instruction space needs for College of Fine Arts

59,744.8 sq. ft.

College of Law

Factors:	Classroom	0.57 sq. ft.
	Faculty Office	0.3 sq. ft.
	Student Service Space	0.13 sq. ft.

Table 9: Space requirements for instruction, College of Law

Department	SSH	CR	TL	RS	FO	SS	SN
Law	22:0	3,850			2,030	880	308
Pub. Admin.	22:0	2,810			1,480	641	224
TOTAL		6,660			3,510	1,521	532
Total instructional space:					11,691 sq.ft.		
Factor: Graduate research space					37.4 sq.ft.		
Total graduate research space					37.4 x 315 = 11,781 sq.ft.		
Total instructional space needs for College of Law							
<u>23,472 sq.ft.</u>							

College of Music

Factor: Classroom	0.57 sq.ft.
Laboratory	3.10 sq.ft.
Attach Laboratory	1.38 sq.ft.
Faculty Office	0.38 sq.ft.
Student Service Space	0.09 sq.ft.

Table 10: Space requirements for instruction, College of Music

Department	SSH	CR	TL	RS	FO	SS	SN
Voice	25:14	1,595	4,890	2,180	1,665	394	112
Composition	25:14	1,000	3,040	1,350	1,035	246	70
App. Music	25:14	3,195	27,100	12,100	3,320	785	224
Korean Music	25:14	1,000	3,040	1,350	1,035	246	70

Table 10: Continued

Total	6,790	38,070	16,980	7,055	1,671	476
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Total instructional space: 70,566 sq.ft.

Factor: Graduate research space 35.1 sq.ft.

Total graduate research space: $35.1 \times 73 = 2,562.3$ sq.ft.

Total instructional space needs for College of Music

73,128.3 sq.ft.

College of Arts and Sciences

School of Liberal Arts

Factor: Classroom	0.57 sq.ft.
Faculty Office	0.45 sq.ft.
Student Service Space	0.068 sq.ft.

School of Sciences

Classroom	0.57 sq.ft.
Laboratory	6.45 sq.ft.
Attach Laboratory	2.45 sq.ft.
Faculty Office	0.45 sq.ft.
Student Service Space	0.068 sq.ft.

Table 11: Space requirements for instruction, College of Arts and Sciences, School of Liberal Arts

Department	SSH	CR	TL	RS	FO	SS	SN
Korean	22:0	701			554	83.7	56

Table 14 Continued

Chinese	22:0	350	276	41.9	28
English	"	701	554	83.7	56
German	"	701	554	83.7	56
French	"	701	554	83.7	56
Linguistics	"	350	276	41.9	28
Asia History	"	350	276	41.9	28
West History	"	350	276	41.9	28
Korea History	"	527	416	62.9	42
Sociology	"	880	695	100.6	70
Soc. Work	"	350	276	41.9	28
Plitical Sci.	"	1,055	843	126	84
Inter. Relat.	"	880	695	100.6	70
Philosophy	"	701	554	83.7	56
Religion	"	177	139	21.2	14
Psychology	"	350	276	41.9	28
Aesthetics	"	177	139	21.2	14
Geography	"	701	554	83.7	56
Archeology & Anthro.	"	350	276	41.9	28
TOTAL		10,352	8,183	1,328	826

Table 15: Space Requirements for Instruction, School of Sciences,
College of Arts and Sciences

Department	SSH	CR	TL	RS	FO	SS	SN
Mathematics	22: 0	1,055			843	136	84
Physics	19: 6	1,215	4,690	1,650	1,265	192	112
Chemistry	16:10	1,115	7,800	2,750	1,315	199	112
Biology	13: 9	414	3,510	1,230	554	84	56
Zoology	19: 9	608	3,510	1,230	633	96	56
Astronomy	17: 9	679	4,390	1,540	819	124	70
Geology	16:14	558	5,480	1,920	759	114	56
Oceanology	16:10	765	5,850	2,060	985	149	84
TOTAL		6,409	35,230	12,380	7,173	1,084	630

Total instructional space requirements for the School of Liberal Arts: 19,863 sq.ft.

Total instructional space requirements for the School of Sciences: 25,046 sq.ft.

Graduate research space for the College of Arts and Sciences: $70.2 \times 1,195 = 83,889$ sq.ft.

Factor used: 70.2 sq.ft.

Total instructional space needs for the College of Arts and Sciences:

128,798 sq.ft.

College of Home Economics

Factor: Classroom	0.57 sq.ft.
Laboratory	6.88 sq.ft.
Attached Laboratory	2.46 sq.ft.
Faculty Office	0.45 sq.ft.
Student Service Space	0.083 sq.ft.

Table 13: Space requirements for instruction, College of Home Economics

Department	SSH	CR	TL	RS	FO	SS	SN
Home Mgt.	14:8	670	4,610	1,660	843	153	84
Food Nutri- tion	14:8	670	4,610	1,660	843	153	84
Clothing	14:8	670	4,610	1,660	843	153	84
TOTAL		2,010	13,830	4,980	2,529	459	252

Total instructional space: 23,808 sq.ft.

Factor; Graduate research space 40.1 sq.ft.

Total graduate research space $40.1 \times 86 = 3,448.6$ sq.ft.

Total instructional space needs for College of Home Economics
27,256.6 sq.ft.

Special Graduate Schools

The calculation method of instructional space requirements for the special graduate schools follows that of the college's. Factors are common to all the special graduate schools.

Factors:	SSH	12 hours
	Classroom	0.75 sq.ft.
	Research Laboratory	3.6 sq.ft.
	Faculty Office	0.45 sq.ft.

Table 14: Space requirements for instruction, Special graduate schools

Schools	SSH	CR	RL	FO	SN
Business Administration	12	5,280	22,800	2,820	580
Education	12	6,210	26,600	3,290	680
Law	12	1,815	7,850	976	200
Pub. Admin.	12	3,630	15,700	1,950	400
Planning	12	1,815	7,850	976	200
Journalism	12	1,815	7,850	976	200
Total		20,565	88,650	10,988	2,260

Total instructional space needs for the special graduate schools
120,203 sq.ft.

School of Basic Cultures

There will be some 3,800 freshmen in 1977 at the university all of whom the School of Basic Cultures will accomodate. They will be grouped into three; 1,860 for natural sciences and engineering, 1,510 for social sciences, and 430 for fine arts and music.

More specific information was obtained concerning space requirements for the School of Basic Cultures. Some facilities are duplicated with the facilities for the upper graduate students but this will be discarded.

Classrooms

	Capacity	Quantity	Unit Floor Square Foot	Total Area
Ordinary	45 student stations	79 rooms	729 sq.ft.	57,600 sq.ft.
Medium-size	90	9 rooms	1,458 sq.ft.	13,122 sq.ft.
Large	300	3 rooms	4,860 sq.ft.	14,580 sq.ft.
Grand Total				85,302 sq.ft.

Laboratory

Linguistics	50	4	1,080	4,320
"	100	1	2,160	2,160
Audio-Visual	50	2	1,080	2,160
"	100	2	2,160	4,320
Chemistry	50	8	2,160	17,280
Physics	50	6	2,160	12,960
Biology	50	4	2,160	8,640
Geology	50	2	1,080	2,160
Geometric Drawing	50	2	1,080	2,160
Math Practice	50	2	1,080	2,160
Music Room	50	1	918	918
Piano Practice	1	18	108	1,944

Ensemble Room	20	1	1,080	1,080
Band Room		1	756	756
Voice		1	432	432
Korean Music		1	756	756
Sketch Room	50	2	1,620	3,240
Sculpture Studio	50	1	3,240	3,240
Design Room	50	1	3,240	3,240
Calligraphy	50	1	3,240	3,240

Total				75,546
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Faculty Office

Lecture	141 rooms	183.6 sq.ft.	25,887.6 sq.ft.
Practice	38	324	12,312

Total instructional space needs for the School of Basic Cultures
199,047 sq.ft.

Library

Total anticipated student enrollments in 1977 are 18,217 at the main campus. The university main library will accomodate 30 percents of the total enrollments, some 5,500 students.

That is, the main library will accomodate 5,500 reader stations. This will be grouped into three; general reading, special reading, and study carrels.

General reading space:	2,200(40%)	18 ft ² /student	39,600 sq. ft.
Special reading space:	1,300(24%)	22.5 ft ² /student	
			29,250 sq. ft.
Barrels:	2,000(36%)	30 ft ² /student	60,000 sq. ft.
Total			<u>128,850 sq. ft.</u>

The main library will have a collection of one million volumes in 1977. The stack space for this will be 46,800 sq. ft.

The amount of space needed for service varies with the type of activities the library supports. However, approximately 20 percents of reading space and book space will be reasonable for the university library.¹

$$(46,800 + 128,850) \times \frac{20}{100} = 35,130 \text{ sq. ft.}$$

Total space needs for the main library: 210,780 sq. ft.

Others

Housing

The university will accomodate about 25 percent of the student body, some 4,500 students.

270 sq. ft./student 270 x 4,500 = 1,215,000 sq. ft.

Museum	36,000 sq. ft.
Faculty Club	10,145 sq. ft. (factor 4.12 sq. ft.)
Student Union	79,790.5 sq. ft. (factor 4.12 sq. ft.)
Press Center	9,900 sq. ft.

1, Richard P. Dober, Campus Planning, Reinhold Pub. Co., 1963, p. 91

Auditorium	33,000 sq.ft. (1,200 seats, 27.5 sq.ft./pers)
Gymnasium	90,000 sq.ft.
Printing Shop	8,600 sq.ft.
Post Office	2,520 sq.ft.
Book Store	11,200 sq.ft.

LAND USE PLAN¹

Land use plan itself has to express the ideals of the university and is to determine the character of the campus. Seoul National University, like any other university, is to:
Provide general education,
Train professionals,
Foster creative thoughts, scholarship and research,
Disseminate knowledge and skills through extension activities,
And serve as the center of cultural resources for those outside the campus community.

However, Korea requires a different kind of higher educational philosophy other than that of North America and Europe. If the western universities are pressing upon advanced scientific technology, the universities in Korea have to emphasize the transfer and interpretation of technical knowledge. The task is as difficult as the creation of knowledge.

A campus is more than a mere collection of buildings; its total design and architecture should express the ideals of the university and an integrity of function on several levels. The arrangement of the various facilities in relation to one another, if established without careful consideration, may create an atmosphere as definite in its disorder as the smooth coordination of a campus whose buildings and spaces are carefully planned to express a unity of educational purpose.²

1, See Plate VIII on p. 97

2, Planners & Planning, A Report from the Community College Planning Center on Community College Facilities, Stanford University, Stanford, California, 1966, p. 28.

Ideals of the academic community should be expressed in terms of architecture and planning. Unity has to be maintained from the beginning stage to the end of campus development. The campus must have a sense of infinite growth and at the same time have a sense of adjustability for future changes.

Campus is a place to educate students. Customarily, education is believed to take place only in classrooms and in libraries. It is not so at all. Education, broadly speaking, begins in a tiny cradle and ends on a death-bed. University education is very important in the sense that it influences an individual to be ready for further education.

To achieve the various objectives stated above, the Seoul National University campus has to:

Provide communications and understanding among the students, faculties, and communities,

Provide the students and the faculties for changes taking place now and to take place in the future.

With all of these in mind, the author has gone through a series of diagrammatic analyses to obtain a land use diagram.

Stage 0: One Circle



Ideal of the academic community

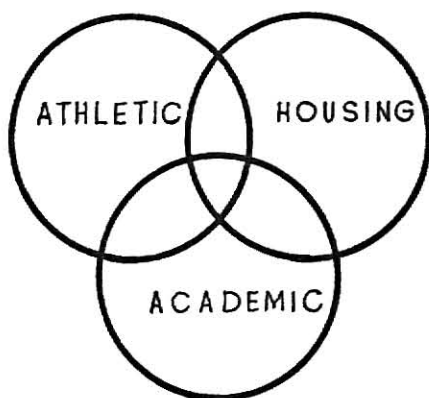
Unity of the academic community

Sense of infinite growth of the campus

Adjustability for the future

Communication - Tradition - Change

Stage 1: Three Circles



The campus is to be zoned into three major functional areas:

1. Academic Zone
2. Housing Zone
3. Athletic Zone

In between the major zones, transitory, or bi-characteristic zones will be located.

4. Intellectual Development Zone
5. Communicative Zone
6. Physical Development Zone

The six zoned areas will merge in one focal core of the campus, which will be called "the hub of campus."

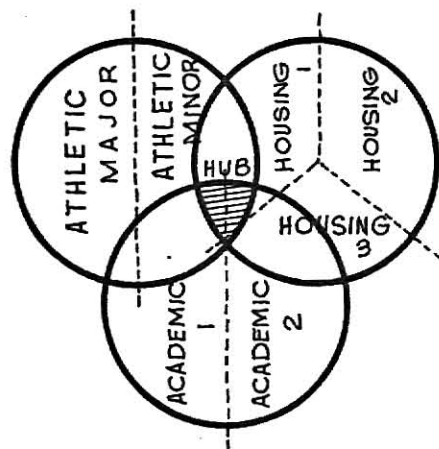
In the diagram above, the circles represent three major functional areas. The overlapping areas are transitory areas. The center is the hub of the campus. The size of each circle does not necessarily represent the physical size of each area.

Stage 2: Division of Three Circles

Each of the three major functional areas will be subdivided as followings:

1. Academic Zone

Academic Zone 1: to include the schools of humanities and social sciences, namely,



College of Commerce, College of Fine Arts, College of Education, College of Law, College of Music, and School of Liberal Arts.

Academic Zone 2: to include the schools of engineering and physical sciences, namely,

College of Engineering, College of Home Economics, and School of Physical Sciences.

2. Housing Zone

Housing Zone 1: To house single students

Housing Zone 2: To house married students and faculties

Housing Zone 3: To house faculties, staffs and families

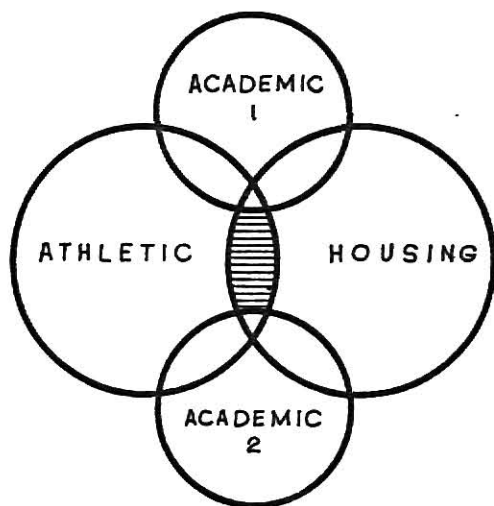
3. Athletic Zone

Athletic Zone Major: Big field track with tiers of seats

Athletic Zone Minor: Playing fields around academic and housing zones.

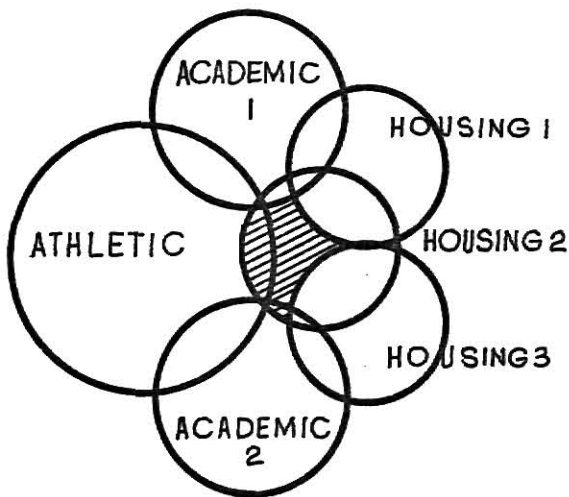
The transitory areas are discarded in this diagram.

Stage 3A: Separation of Academic Circle



The academic zone, while maintaining its unity through the hub of the campus, is to be divided into two. The shaded area represents the main hub of the campus and at the same time indicates the tie between the two divided academic areas.

Stage 3B: Separation of Housing Circle

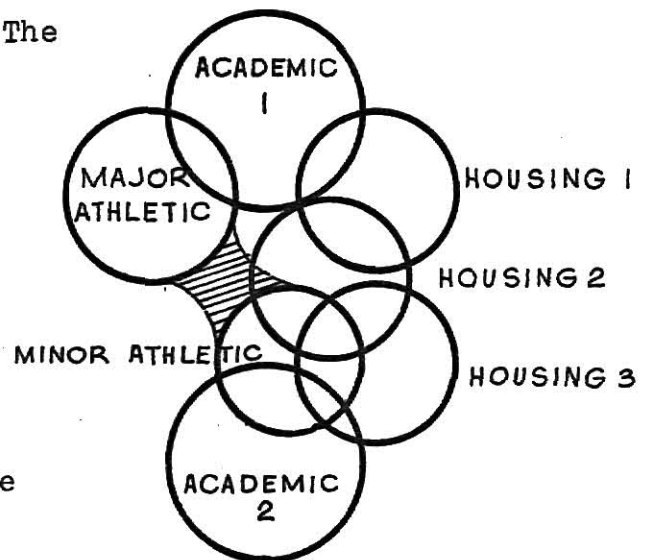


The academic zone, although maintaining its unity through the hub of the campus, has been divided into two parts physically. However, the housing zone will not be divided with one another physically. The three of them will commingle and will be tied with the hub of the campus and with the two academic zones. The shaded area indicates

the tie between the hub and three housing zones. This will become part of the hub of the campus.

Stage 3C: Separation of Athletic Circle

The athletic zone is divided into two parts; major athletic zone and minor athletic zone. The athletic zone major will be connected to the hub of the campus so that it can act as an integral part of the whole complex. The minor athletic zone will be scattered in and around the two other zones. The shaded area indicates the tie between the hub and the major athletic zone.



Hub of Campus

In urban design, a node is a center of activity. A node is a landmark but is distinguished from a landmark by virtue of its active function. A landmark is a visual object, but a node is a distinct hub of activity. As is the case with urban design, a distinct node of activity is effective in a campus in order to integrate the various elements on the campus. This will be called the hub of campus, or the core of campus.

Land use plan in this thesis is, in a sense, devised in a way to vitalize the hub of campus. All the zoned areas are merging to the core campus to be connected with each other. This will provide a way of communication within the campus in a very effective way.

The architectural integration of the campus can be greatly enhanced by the use of selected symbol or motif. This symbol can be located in the hub of campus to double the effect. In the thesis project, a monument dedicated to the April Student Revolution in 1960 was placed on horizontal axis which runs through the hub of the campus.

The student activity center, or the student union, and the library are located in the core campus alongside the axis. Both help form the node of activity, but neither of them acts as a center. The arcade which connects the hub and the humanities academic zone is a major branch of the node. The axis, or the wide pedestrian way, which connects the hub and the sciences complex, is another major branch of the node. The author tried

to devise a way to preserve the integrity of the campus, and at the same time to open door to the growth and adjustability of the campus.

CIRCULATION

The project campus will be a pedestrian campus. A pedestrian campus is not only preferable to an automobile-oriented campus, but is inevitable in Korea considering the economic structure of Korea.

The circulation system is laid out in such a way to help clear the land use plan. Three main features of circulation plan in physical form are; the architectural axis which runs from the engineering and physical sciences complex through the hub of the campus to the arts and music complex, two loop ways of elevated bus way which encircle two academic zones, and meandering pedestrian walk-ways running at right angles to the architectural axis. This meandering pedestrian walk-ways form the natural axis of the campus.

Pedestrian Circulation Plan

Principles in laying out pedestrian circulation are as follows:

- Circulation system has to be laid out in a way to create a variety of space.
- Easy access to all the buildings of the campus should be provided.
- Interference of automobile traffic must be avoided by way of circulation pattern.
- Pedestrians have to be separated from automobiles.
- Topographic variety has to be maintained and utilized in

the circulation pattern.

- The circulation system has to connect each zone visually.
- Walking distances between buildings have to be within ten-minute walk distance, or 1,200 feet.

Automobile Circulation

Automobiles will not be allowed within the campus. Wherever necessary, automobiles will give in to pedestrians. Two loop ways of one-way elevated bus line encircle the campus to ease the circulation. One of this is connected to the main deck leading to the engineering and physical sciences complex, while the other is connected to the deck leading to the humanities and social sciences complex. This will help solve the vertical circulation problem of the academic zones.

Parking lots will be provided but cannot be given much importance as is the case in a campus in the United States.

UTILITIES

College planners are often oblivious to disorder in the life-line of services below campus. A history of ad hoc installations, without regard to a coordinated pattern of feed lines for bringing water, sewage, heat, cooling, electricity, telephone, and television to all buildings has resulted in a crazycat underground maze of trenches, pipes, sewers, and conduits.¹

This calls for combining all services in a walk-through utility tunnel that would link all buildings with central source of heat power; provide for the addition of services to future buildings; and permit new services. In this project, a network of underground walk-through utility tunnel system is adopted considering the following virtues:

- Maintenance personnel can walk through for inspection of lines and repairs can be made without digging up pipes.
- Exterior corrosion is eliminated.
- Year-round repairs of electric lines and telephone cables are possible regardless of inclement weather.
- Air-conditioning for multiple buildings can come from a central source.
- Walkways on top of the tunnel get a free snow-melting system.
- Even though the initial cost of a tunnel is higher than the other systems, it pays off after a certain period and begins to save maintenance cost after that time.

1, EFL Newsletter Reprints, September 1963, Educational Facilities Laboratories, New York, N.Y.

At present, coal is used as fuel for heat. Since the production cost of electric power runs very high in Korea, and there is no one oil bed in Korea, it seems reasonable that the university continues to use coal as fuel. The railroad running by the campus provides an easy way to supply coal to the campus in an inexpensive way.

Electric power is supplied by a power plant which is located about 20 miles from the campus. The university has a generator of its own and runs it in case of emergency.

Steam heating system is used by the university at present, but is not effective in the cold winter of Korea.

No air-conditioning system is known in the university yet. Since the climate of Korea is similar to that of Georgia, air-conditioning is not a luxury but essential during the summer monsoon season.

Educational Facilities Laboratories published a report titled "Total Energy,"¹ which provides an effective way to solve college utility system. Diagram on p. shows the way how the total energy system works. By this system, air-conditioning will be probable on the campus and the university will have its own electric power control. In the United States, oil and natural gas are often used as fuel, but coal may be used in Korea in place of oil or natural gas.

1, Total Energy, Technical Report No. 2, Educational Facilities Laboratories, New York, N.Y., March 1967.

DEVELOPMENT PLAN

The project site is presently used by the College of Engineering and there are many buildings already existing on the campus site. Although the existing buildings are discarded in the development of land use plan and circulation plan, they are considered in the development plan. The development plan has three phases; phase I, phase II, and completion. Since this project belongs to a middle-range project category, each phase stands for a period of three years.

Phase I: 1969-1972

Phase II: 1973-1976

Completion: 1977-1979

Those lots which do not have any structures at present are used in the initial stage of the development plan for construction. The author tried to form an integrity in each phase of development plan, but certain things have to be suffered in order to give the final integrity to the completed campus.

Phase I

Very essential structures are built during phase I. An automobile way encircles the campus and a loop elevated bus way is constructed.

Phase II

The automobile way which was encircling the campus in phase I now runs through the campus. Another loop of elevated bus way

to connect the humanities complex with the other zones. The hub of the campus is not clear yet, but the architectural axis begins to form.

Phase Completion

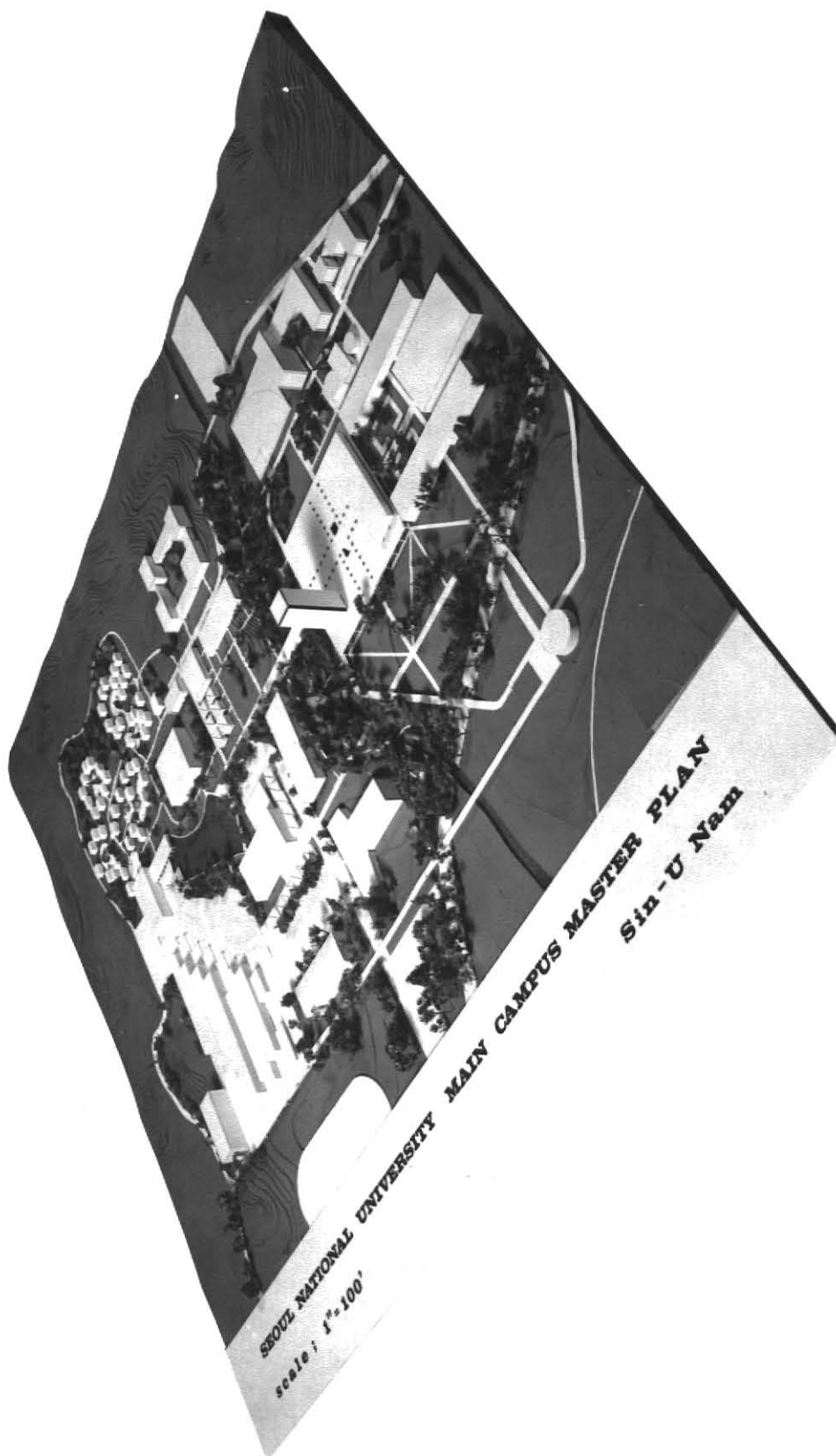
This has been discussed previously in detail in land use plan and circulation plan.

For the physical form of each development phase, see plates on pp.

PRESENTATION

EXPLANATION OF PLATE I

A bird's eye view of the model of the project



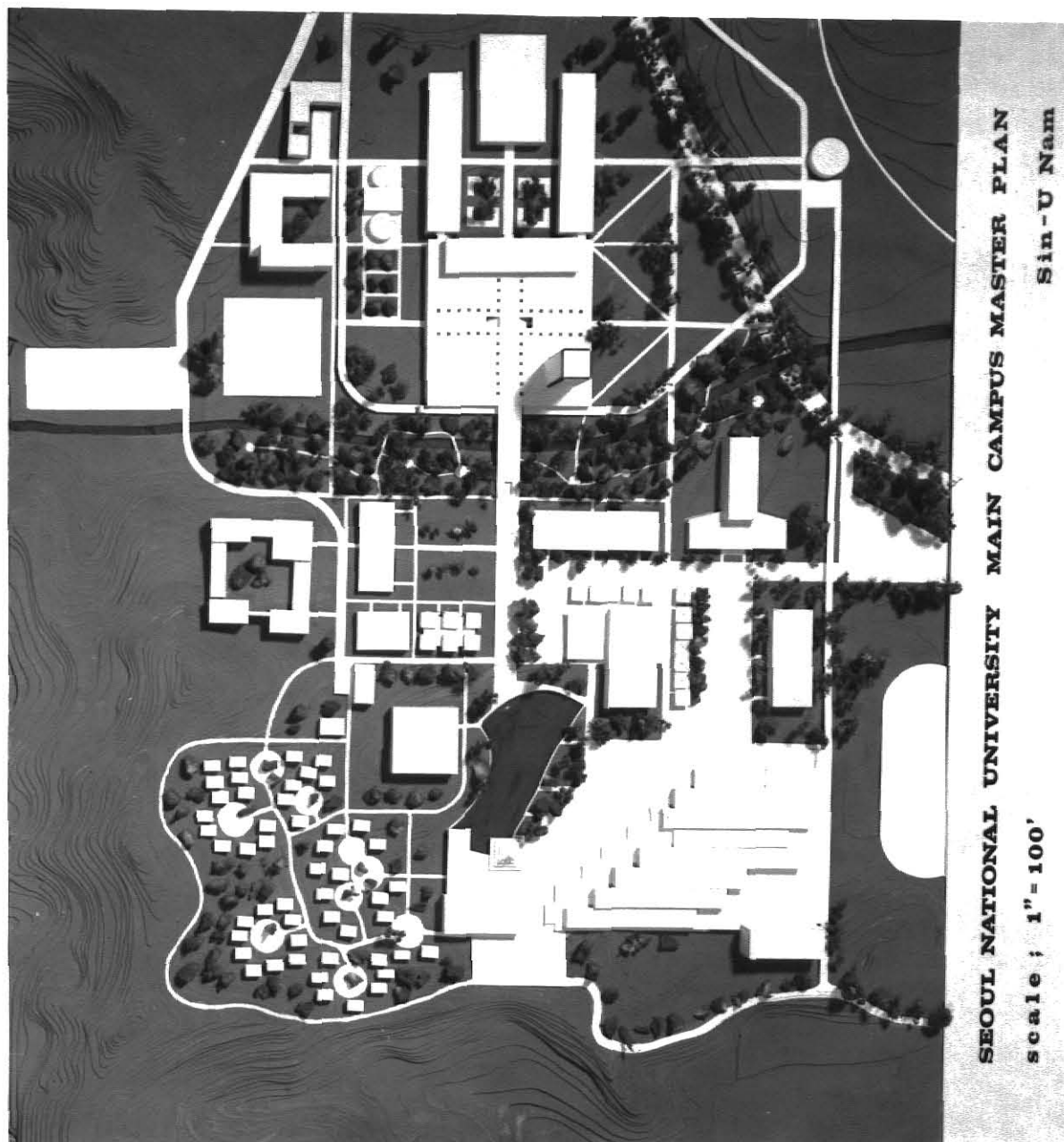
EXPLANATION OF PLATE II

Another bird's eye view of the project model



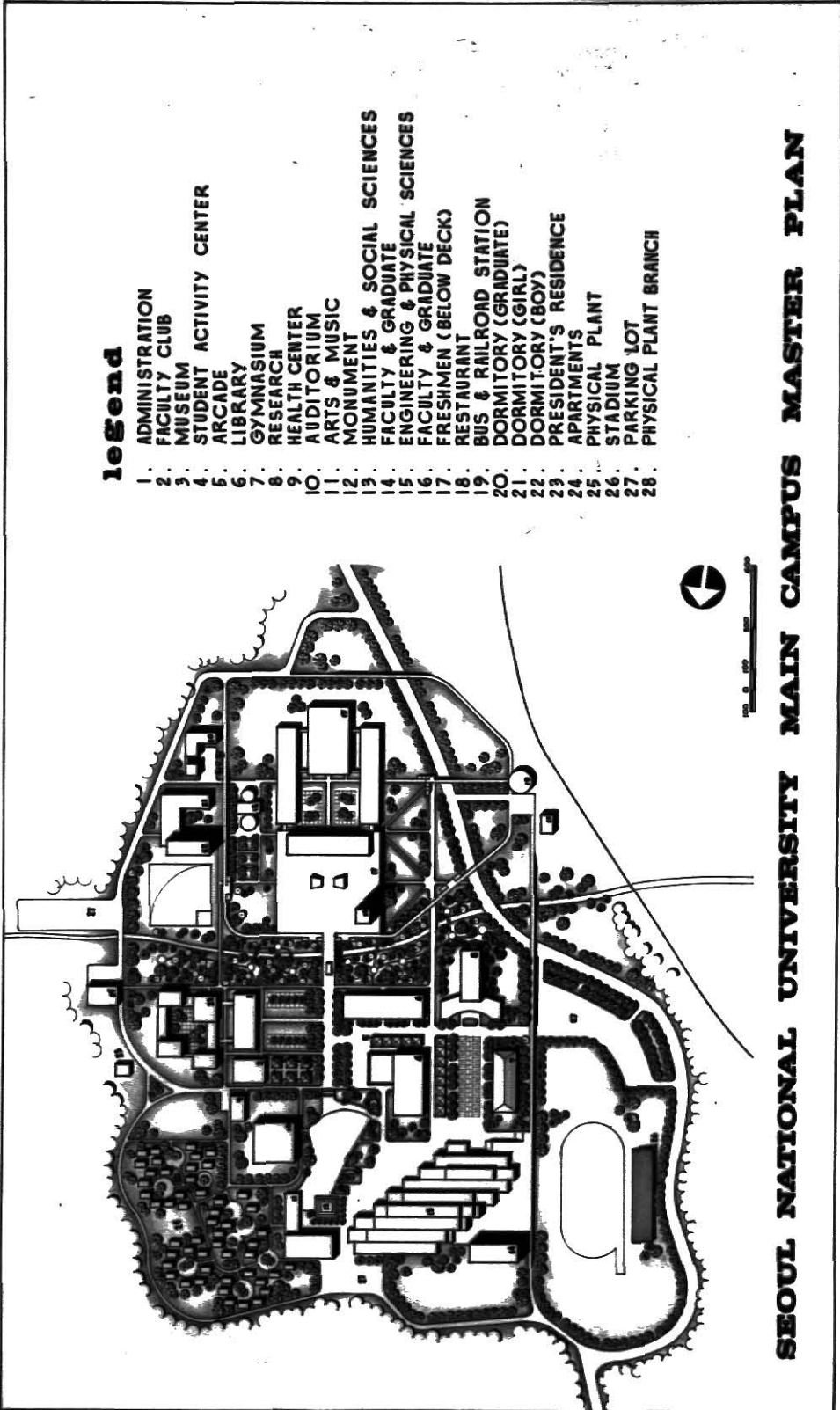
EXPLANATION OF PLATE III

A picture of the project plan



EXPLANATION OF PLATE IV

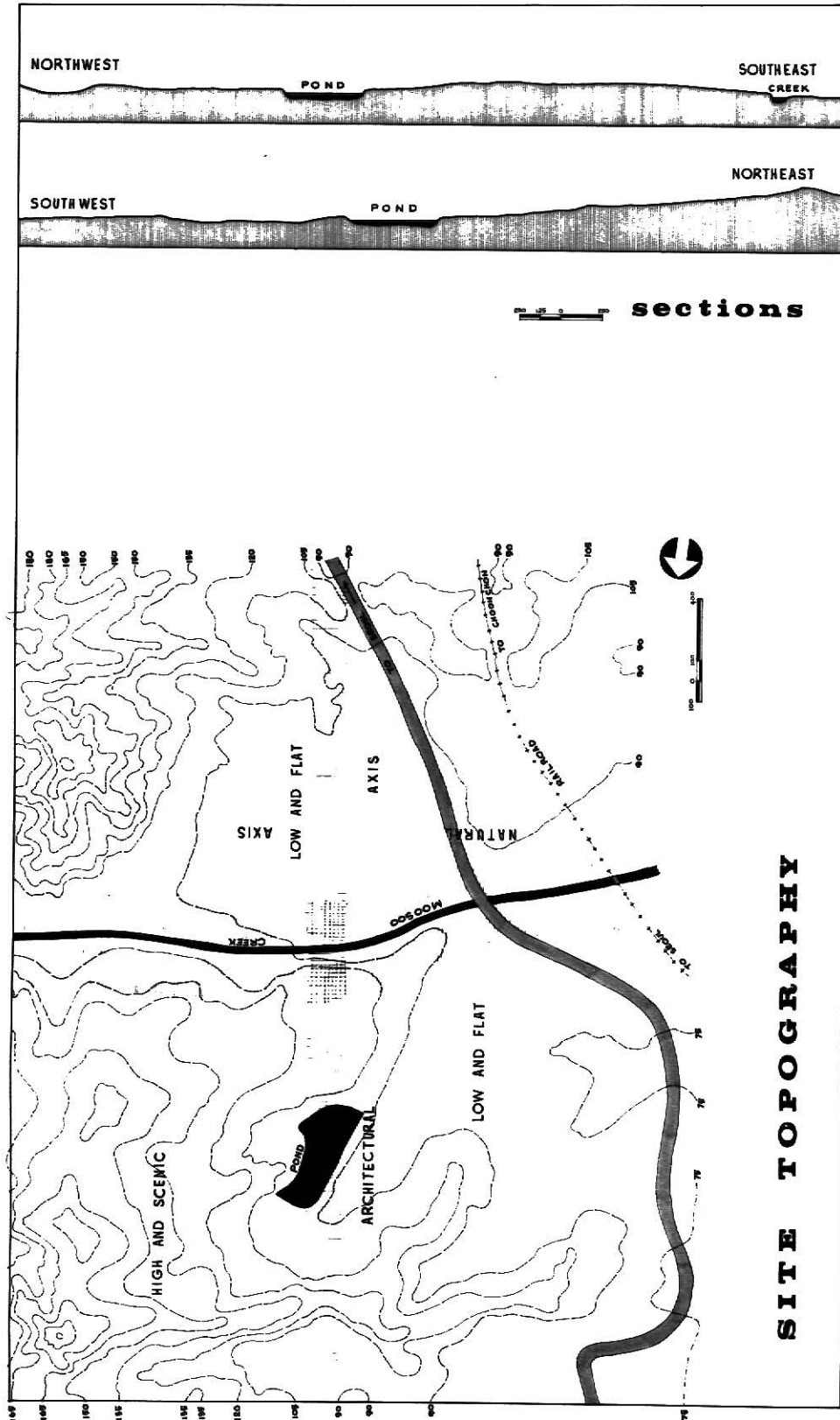
Seoul National University Main Campus
Master Plan



SEOUL NATIONAL UNIVERSITY MAIN CAMPUS MASTER PLAN

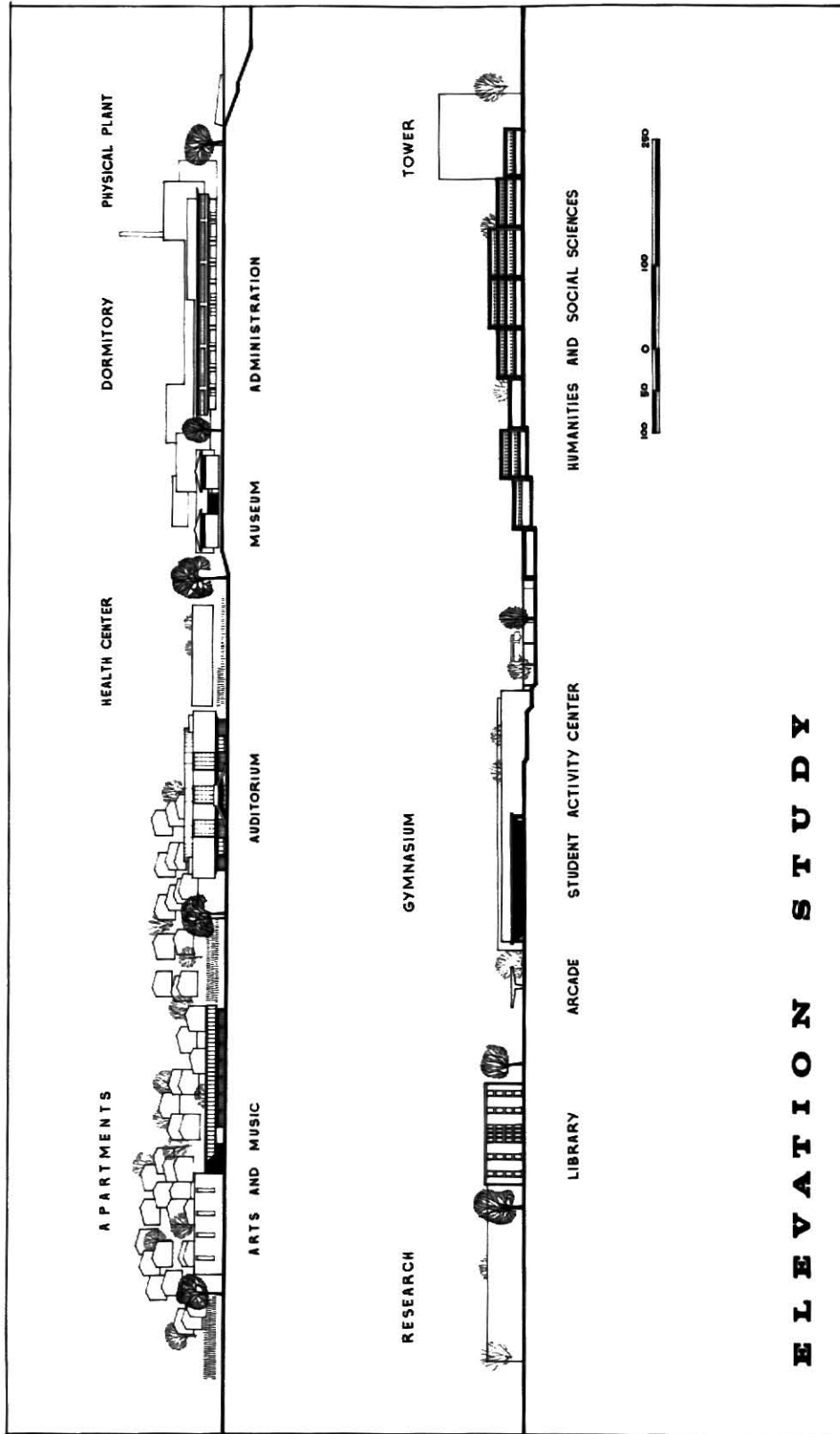
EXPLANATION OF PLATE V

Site Topography and site section



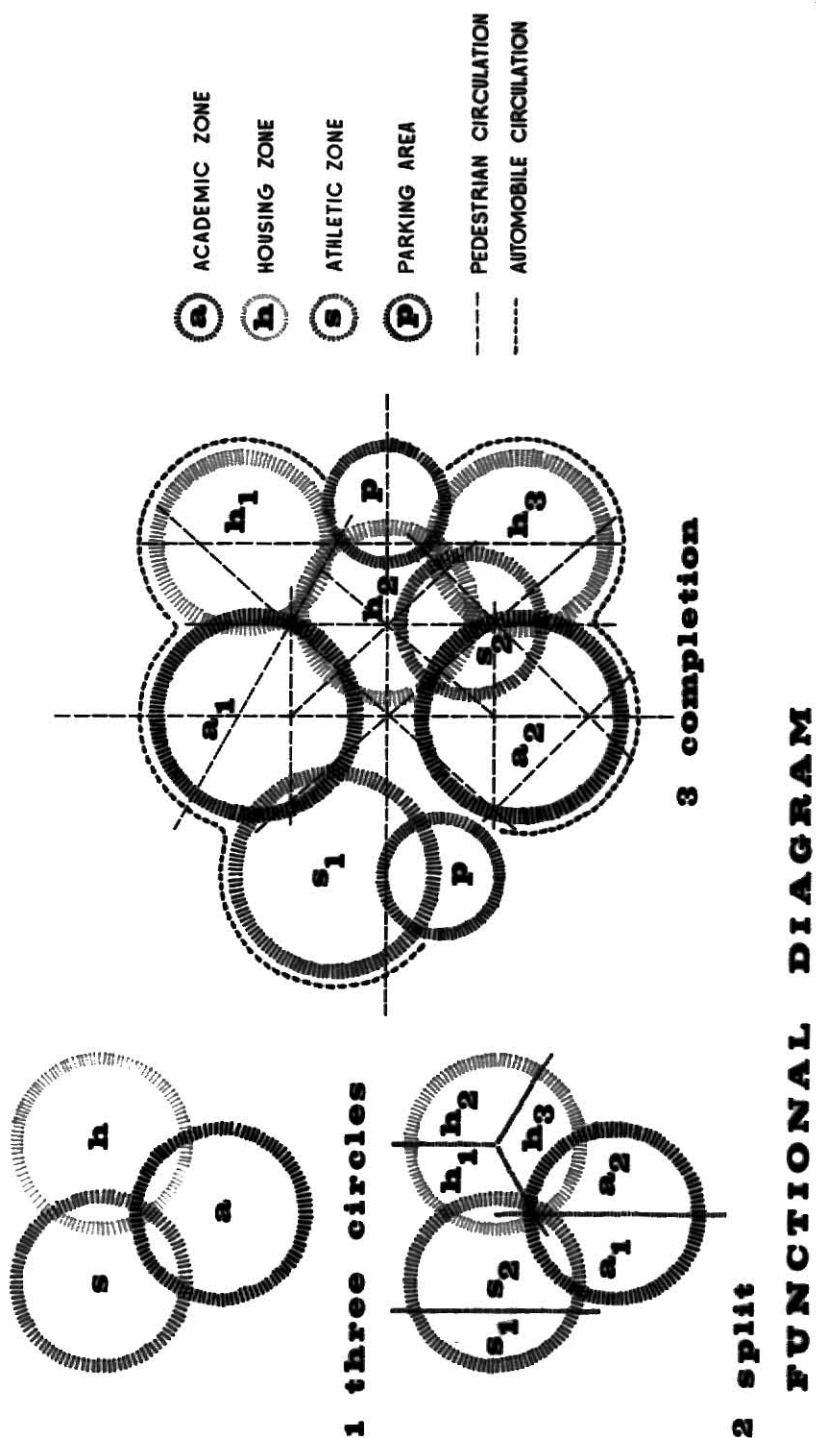
EXPLANATION OF PLATE VI

Elevation study of the project



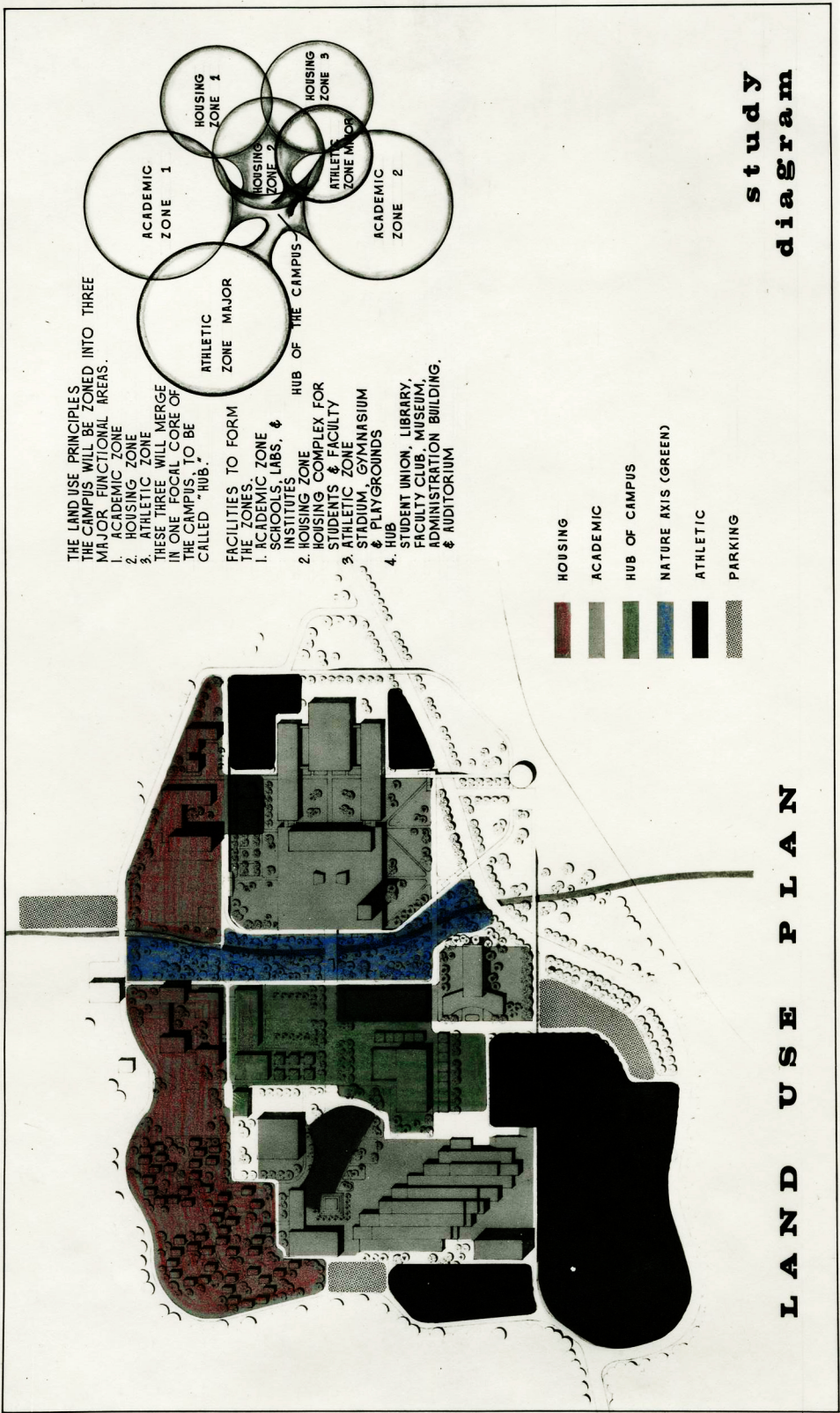
EXPLANATION OF PLATE VII

Functional Diagram of Land Use Plan and
Circulation Plan



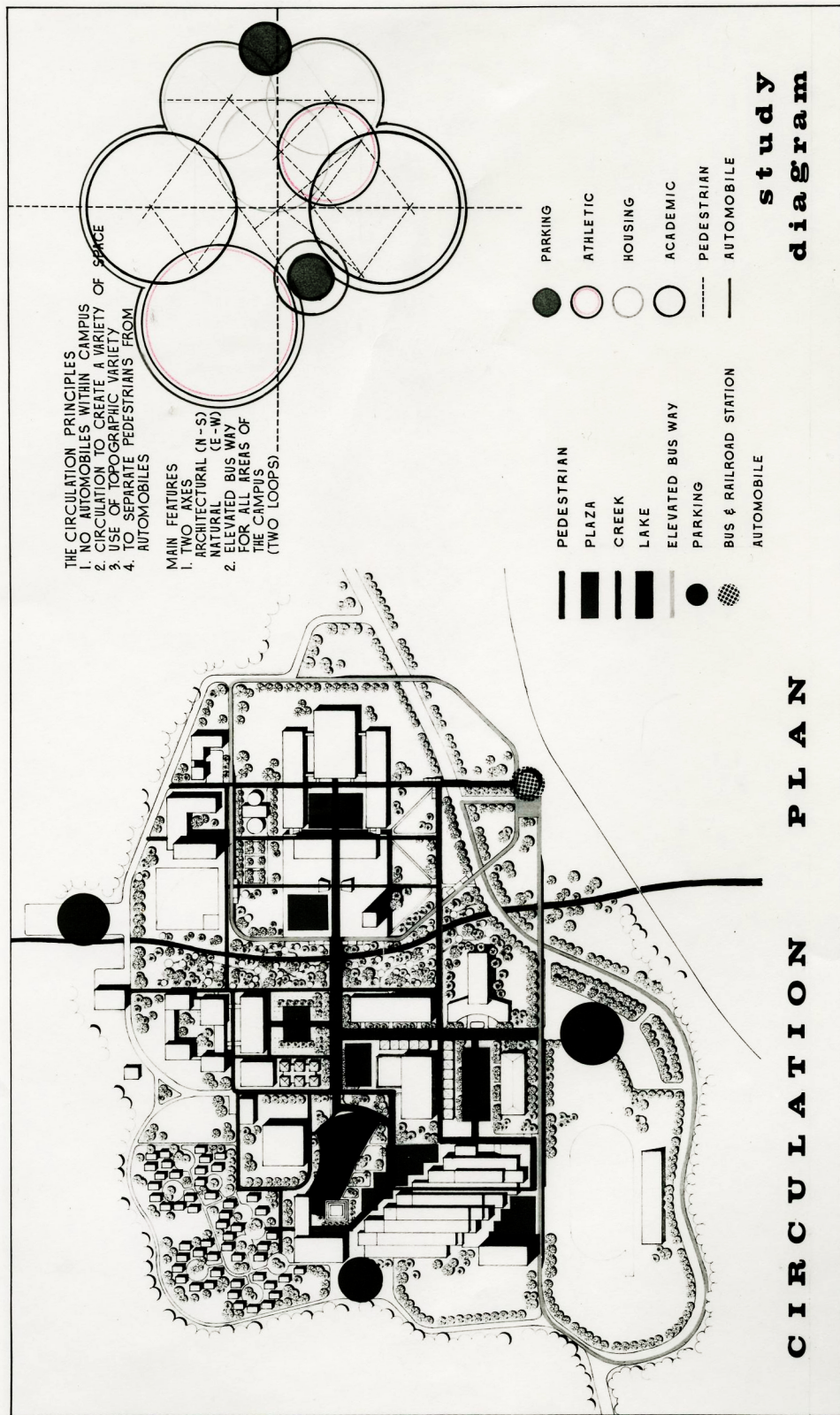
EXPLANATION OF PLATE VIII

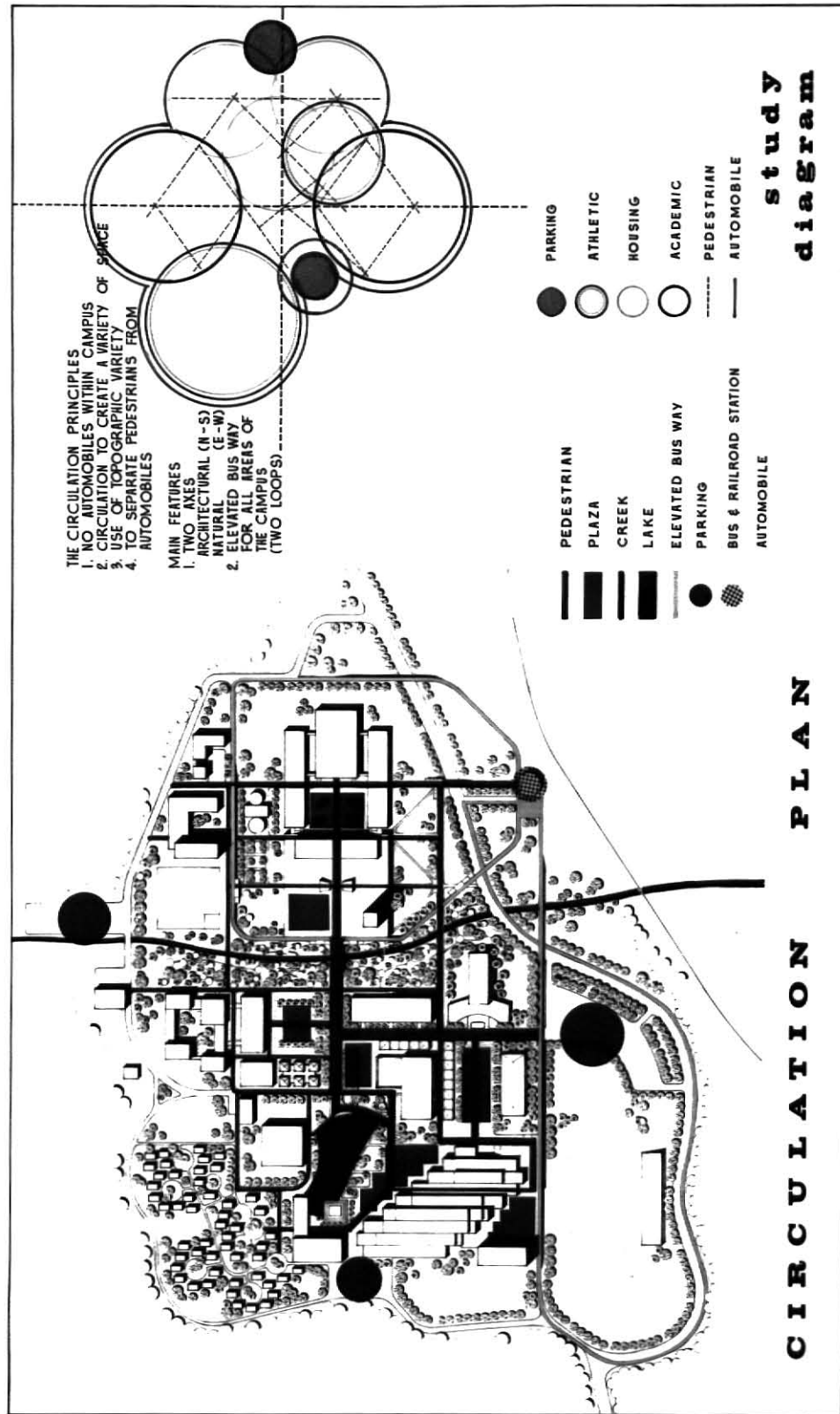
Land use plan of the project and
its diagrammatic analysis



EXPLANATION OF PLATE IX

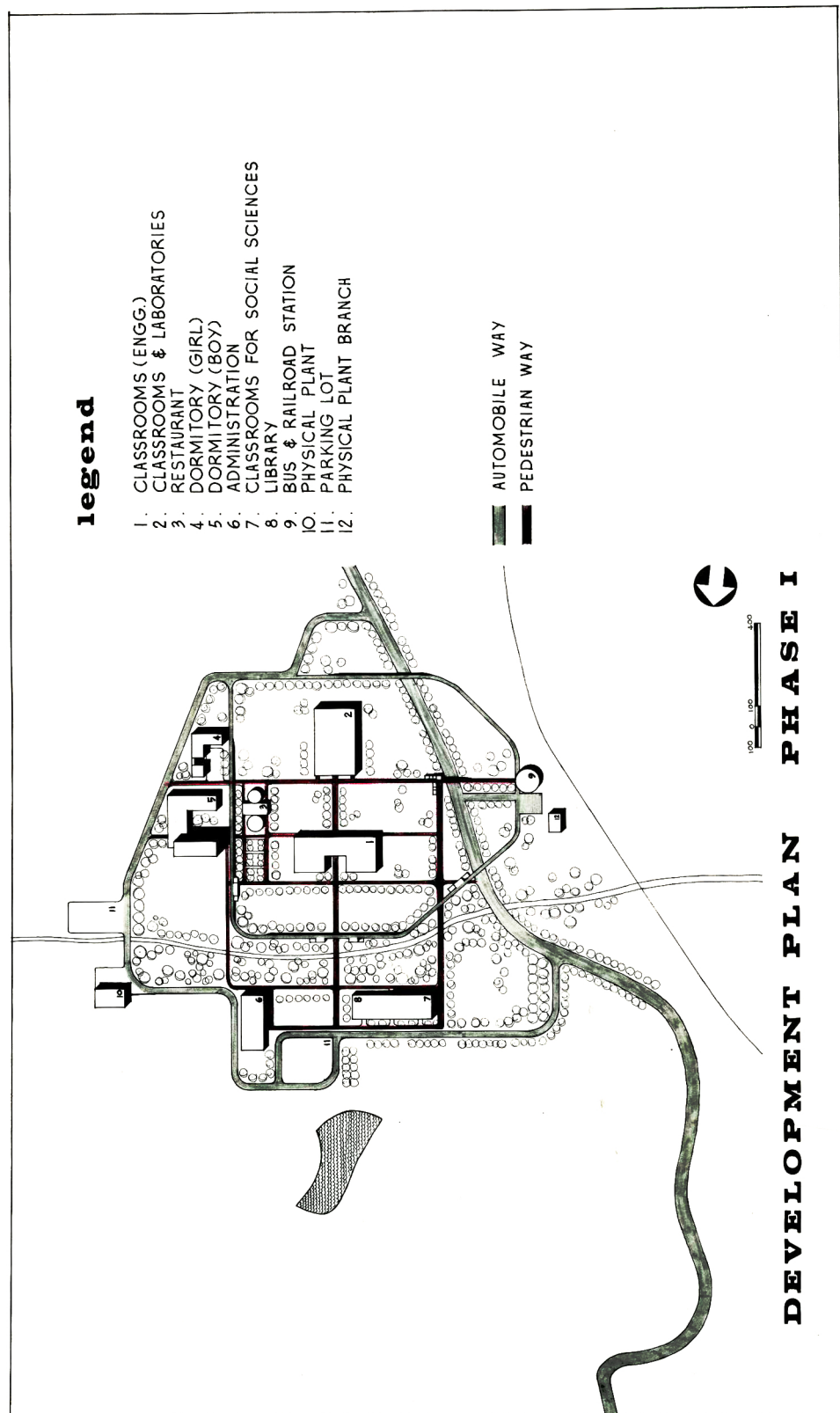
Circulation plan of the project and
its diagrammatic analysis





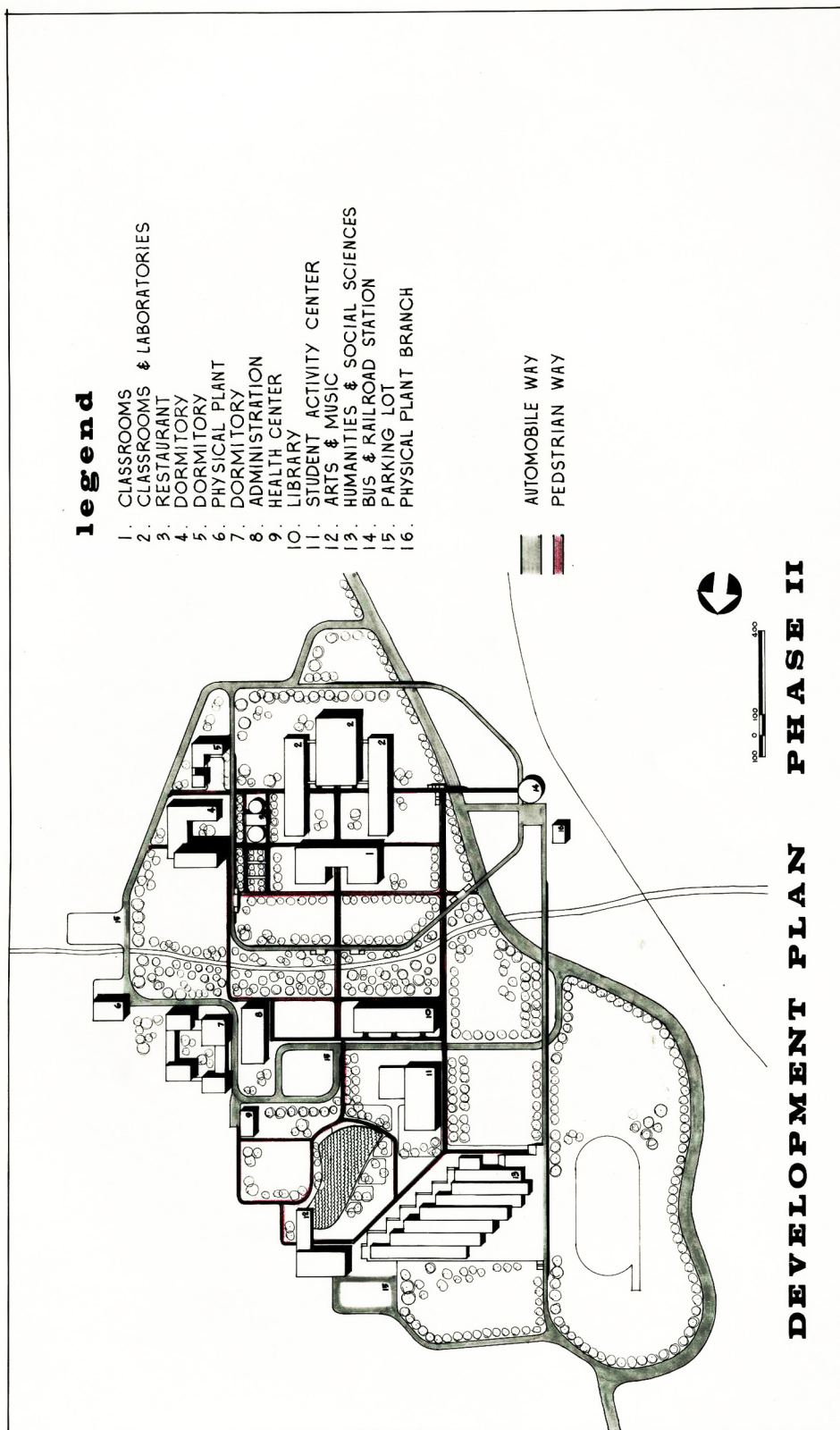
EXPLANATION OF PLATE X

Development plan phase I



EXPLANATION OF PLATE XI

Development plan phase II



CONCLUSION

University planning is now one of the major concerns of architects and planners. The final outcome of physical layout seems to be very simple, but the procedures involved are exceedingly complicated. Every project of university planning, whether it is large or small, must be approached and solved by a group of experienced professionals with deliberation, money resources, time and experience.

Here in this thesis project, it has been always in the author's mind that he should try to comprehend the problem in a general way. The final outcome is a simple development of a campus master plan, but educational problems, education in Korea where the project campus will be located, design procedures of campus planning are discussed first. Whether this discussion help form an effective determinant in the final outcome is uncertain. At least, the author has dealt with the problem in that direction.

The master plan is not the end of campus planning. Individual buildings have to be given equal importance and consideration. It is probable that the design of individual buildings may alter the general character of the master plan. If possible, the design of individual buildings must be within the general concept of the master plan. Order and unity can be achieved in this way.

The project is based on some real facts and dependable information, but many assumptions have been made in order to size up

the problem within the author's reach. These assumptions may be fatal in reality, but hardly affect the thesis project since the project is not to be necessarily real.

The author learned that the campus planning cannot be done by any single professional, but it has to be done by a group of professionals. An architect, however, should understand the problem in general. It is recommended that an architect should go through all the procedures involved in the campus planning alone so that he knows how complicated the problems is and later, can direct the other members of the group into right direction.

In this sense, although there is hardly anything to present with satisfaction in this thesis, the author has trained himself in the way described above and believes that this thesis may be helpful to those who are interested in campus planning, especially beginners.

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THE DEVELOPMENT OF A MASTER PLAN
FOR THE SEOUL NATIONAL UNIVERSITY, SEOUL, KOREA

by

SIN-U NAM

B.S., Seoul National University, Seoul, Korea, 1965

AN ABSTRACT OF A MASTER'S THESIS

submitted in partial fulfillment of the

requirements for the degree

MASTER OF ARCHITECTURE

College of Architecture and Design

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1970

It has been a remarkable trend that the society has become more and more committed to education regionally, nationally, and universally. The issue varies according to circumstances, but one thing common is that every country is concerned more than ever before with the quality and quantity of its schools and colleges.

University planning has become one of the major problems of architects and planners. The final outcome of physical layout seems to be very simple, but the procedures involved are exceedingly complicated. It is no more complicated, but definitely not less complicated than urban planning. Every project of university planning, whether it is large or small, must be approached and solved by a group of experienced professionals with deliberation, money resources, time and experience.

The Seoul National University is located in Seoul, Korea. It has a short history of twenty years, but inherited the long tradition of higher education in Korea, which goes back to the fourth century.

In this thesis project, it is intended to have the general problem of campus planning discussed with the whole picture in mind, and then to produce a master development plan for a specific case; the main campus of the Seoul National University. The main theme of this thesis, accordingly, is campus planning, or university planning. The secondary subjects contemplated in this thesis are education, design procedures, and Korea.

The master plan is not the end of campus planning. Indivi-

dual buildings have to be given equal importance and consideration. It is probable that the design of individual buildings may alter the general character of the master plan. If possible, the design of individual buildings must be within the general concept of the master plan. Order and unity can be achieved in this way.

In this thesis, although there is hardly anything to present with satisfaction, the author has trained himself in the way described above and believes that this thesis may be helpful to those who are interested in campus planning and design procedure, especially beginners.