

A SUBTROPICAL SEASIDE HOTEL IN CHI-CHIN, KAOHSIUNG, TAIWAN

by 72/4

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A MASTER'S THESIS

submitted in partial fulfillment of the

requirements for the degree

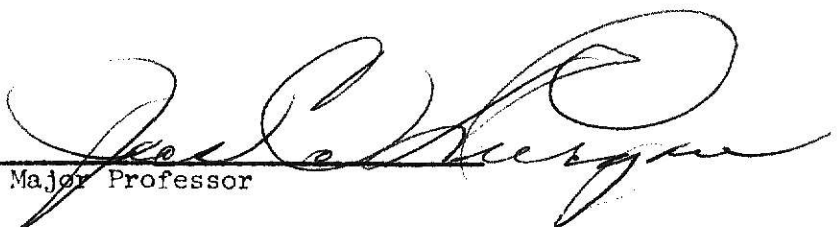
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CHAPTER I

INTRODUCTION

The tourist industry is an excellent source of foreign currency. Taiwan has many conditions favorable for a good tourist industry: (a) It enjoys the advantage of being located midway between Japan and Hong Kong, the two big business centers; (b) with flowers blooming abundantly all year round, and the beautiful contrast between the mountains and sea, Taiwan has beautiful scenery; and (c) the island has convenient transportation facilities, including airlines, railroads, and highways.

Since the middle of the 1950's, the government of Taiwan has taken rapid strides for the development of its tourist industry. The number of tourists in the island has been doubling every two years since 1959, and the island is now well known as a "paradise in the Pacific".

As new industries develop and the economy of the island rises, hotel accommodations have become an urgent need throughout Taiwan, especially in Kaohsiung, the fastest growing city. With only three big hotels for tourists providing a total number of only 108 rooms in 1968, it is definitely an excellent place to build new hotels.

Backed by high mountains and facing the ocean, Kaohsiung has beautiful scenery. Shou-shan Park, Cheng-t'seng Lake, KEPZ, and Ci-tze Beach are the four main tourist attractions in this city. However, the condition

of Ci-tze Beach, which is located just outside the harbor where the water is now entirely polluted by the growing industries, is deteriorating. In order to suit the city's and tourists' needs, a new beach area should immediately be considered. Chi-chin, the long sand bar that encloses Kaohsiung Harbor, is considered to be the best site in the nearby area. (Reasons in detail will be described later). There is no doubt about the development program of a seaside resort in Chi-chin. "A subtropical seaside resort in Chi-chin" certainly will serve the needs of the tourists, the southern island and the city itself. For such purpose, it is carefully designed as a place for man to rest, to dine, and to embrace nature. The hotel designed as a landmark with jewel-like quality is also a part of the beautiful seaside environment. The design is based on the following considerations:

- the geographical and physical background of Taiwan and Kaohsiung City
- Factors that affect the architecture design
- consideration of interior environment for a subtropical seaside resort

To design a hotel from the view point of an interior designer, and to experience the entire process of a building design from site selecting, site planning, landscaping, architecture planning, interior design to furniture design are the two main goals of this master's thesis. Since a hotel is one of the few building that combines commercial and residential scenes in one, in doing the design, the author tried to have a better understanding of human relationship in society in order to develop the technique of handling the tremendous changes on the use of space in all types of building.

CHAPTER II

TAIWAN, THE BEAUTIFUL ISLAND

HISTORY

Taiwan is also well known as Formosa. Besides a small surviving group of aborigines, the first major population was composed of people from the coastal province of Fukien in southeastern China, who arrive in the seventeenth and eighteenth centuries. They were people who, filled with the spirit of adventure and positive aspirations, came to the island to bring virgin land under cultivation. The first Chinese Governor arrived in the mid-sixteenth century. Over the years, control of the province shifted. The Dutch held it from 1624 to 1682. Then it was seized by Tseng Chein-gon, a Ming loyalist, to resist the Ch'ing Dynasty (1644-1911). This government remained until 1683 when the control of the Ch'ing Dynasty was reestablished. After a war between the Chinese and the Japanese, Taiwan was lost to Japan in 1895 until the end of World War II. Taiwan was then returned to the Chinese Nationalist Government.

Taiwan today is both politically and culturally Chinese, but it bears many marks of the long period of Japanese colonial rule. The influences are in custom, food, and language.

This amalgamated culture, as most dual heritages, has happily adapted and harmonized the essentiality of the two main streams; Taiwan has

successfully provided herself her own personal charm and dignity. Through the years, these originally adventurous people has polished their personality into a sparkle of enigmatic beauty. Today, the sensitive tourists all over the world find that these humble people are astonishingly friendly and agreeable. They work in silence, always satisfied with what they have, but also ready for change and progress at all times. They are also unconquerably full of good fighting spirit: never frustrated in failure or self-intoxicated with their accomplishment. Smiles are their symbol for through the centuries, they have learned that a happy mood many times could solve problems spontaneously; the people here are thus beautiful.

LOCATION, SIZE AND LAND FORM

As shown in Fig. 1, with the Pacific Ocean to the east, Taiwan is some 695 miles south of Japan and 199 miles south of Korea, north of the Philippine Islands. Taiwan is thus halfway between Shanghai and Hong Kong, and midway between Japan and the Philippines. Because of this important position, Taiwan is a strategically significant point in the archipelago that borders the Pacific coast of Eurasia.

The island of Taiwan is just under 14,000 square miles (240 miles by 90 miles), lies at a longitude of 119.183° to 122.625° East, by latitude 21.4525° to 25.3753° North. It is slightly larger than Holland and about the size of Massachusetts and Connecticut combined, shaped like

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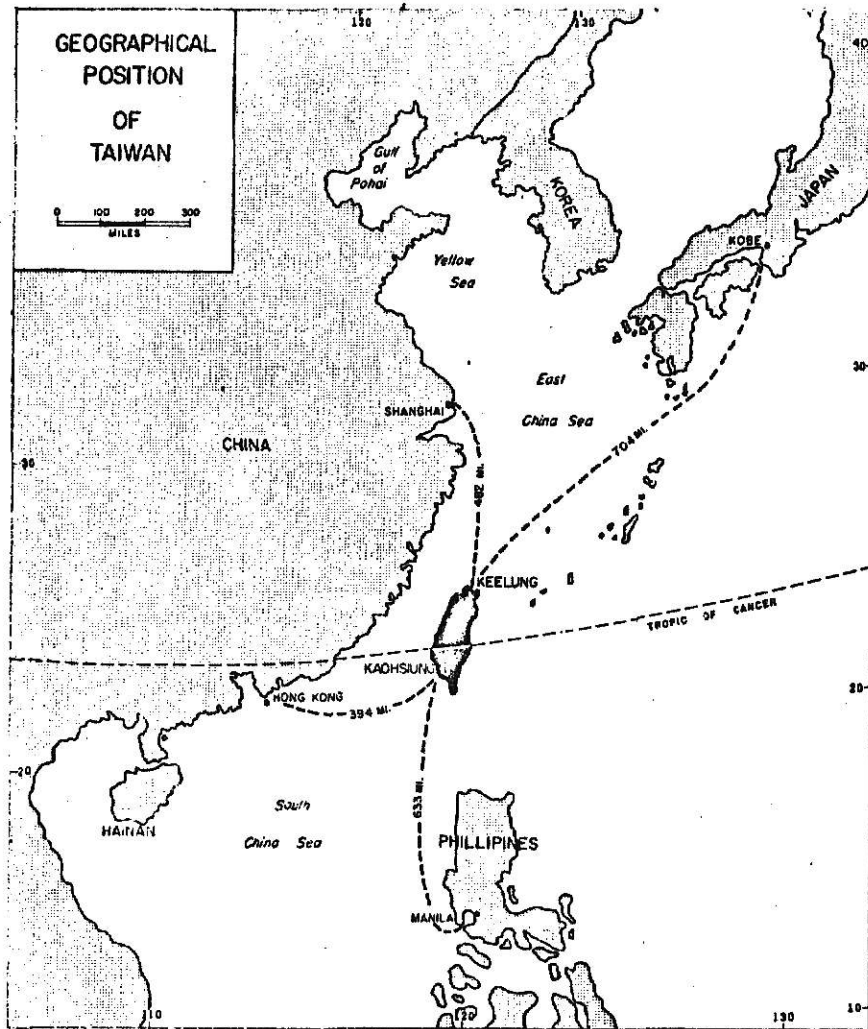


Fig. 1. The geographical position of Taiwan.

a hug tobacco leaf with a range of high mountains running like a spine through the center from the north to the south. With the strong contrast in terms of both character and form between the mountains and the sea, Taiwan is a natural beauty.

Geologists tell us that Taiwan was not always as it is today. It was born out of violence; turbulence brought it into the world. At some remote period in the Tertiary Era, an extensive subsidence took place along the eastern seaboard of the Asiatic Continent. Later in geological time, terrific volcanic explosions flung up huge igneous rock-masses as high as 1,500 feet above the ocean, carrying with them vast amounts of coral. This was the birth of Taiwan.

CLIMATE

Since Taiwan is an island facing the Pacific Ocean on the east and is separated from the Asian Continent to the west by only 100 miles, its climate is influenced considerably by the seasonal monsoon wind. It is this seasonal change of monsoon winds that determines the rainfall of the island, but the temperature distribution results primarily from the arrangement of the mountains, and the latitude as well. The ocean current also plays an important role in the climate of the island. Flowing northward from the Basal Strait, the Kurosiwa Ocean current is split by the southern tip of Taiwan, forming two currents which influence the climate of the eastern and western coasts.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Aver.
Keelung	59.9	59.4	62.1	68.4	75.4	79.7	82.8	82.4	79.7	74.1	68.5	63.1	71.2
Taipei	59.4	58.6	62.6	69.3	75.4	79.9	82.8	82.2	79.3	73.6	68.0	62.2	71.1
Hsiunchu	59.0	58.3	62.6	68.9	75.2	80.1	82.2	81.9	79.7	74.7	70.7	62.2	71.2
Taichung	60.4	60.3	64.8	71.6	77.4	80.4	81.9	81.5	79.9	74.8	69.1	63.1	71.1
Tainan	62.6	62.8	69.3	74.1	79.3	81.3	82.0	81.5	80.8	76.6	71.2	65.3	73.8
Kaohsiung	65.5	65.8	70.8	75.2	79.6	81.3	81.7	80.4	80.4	77.0	72.6	67.8	74.8
Hengchun	68.5	68.9	72.1	76.3	79.7	81.3	81.5	79.2	80.1	77.5	74.1	70.3	75.9
Taitung	66.0	66.2	69.3	73.6	77.5	80.6	81.5	81.1	79.7	76.1	72.0	68.0	74.3
Hualien	63.0	63.3	66.2	70.9	75.4	79.2	79.2	80.8	78.8	74.5	70.2	65.7	72.5
Ilan	60.4	60.8	64.2	69.1	74.3	79.0	79.9	79.2	78.4	73.0	68.4	64.0	71.1
Penghu	61.2	60.4	65.1	71.8	77.2	79.3	84.2	82.0	80.8	76.5	71.1	64.9	72.9
Ali Shan	42.4	43.7	47.0	51.1	54.5	56.7	57.4	56.9	55.9	52.5	49.5	45.7	51.1

Source of information: Fifty-one Years of Statistical Abstracts in Taiwan, Taiwan Governor's Office, Taipei (1949)

Table 1. Mean Monthly Temperature ($^{\circ}$ F) in the major cities of Taiwan.

Temperature

Lying in the Tropic of Cancer in the Subtropic Zone, Taiwan has a lovely mild climate where snow is rare except in the higher mountains. The summer is long and the winter is short. Throughout the island, the annual mean temperature is not less than 70° F. As the latitude increases, the annual temperature decreases at about 1.5° F for every degree of change in latitude. The mean monthly temperature for some representative locations is given in Table 1. From the table, it is shown that the annual range of temperatures on the island varies, being greater in the north than in the south. Due to the regular winds from the sea, the variance in temperature is only slightly felt.

Rainfall

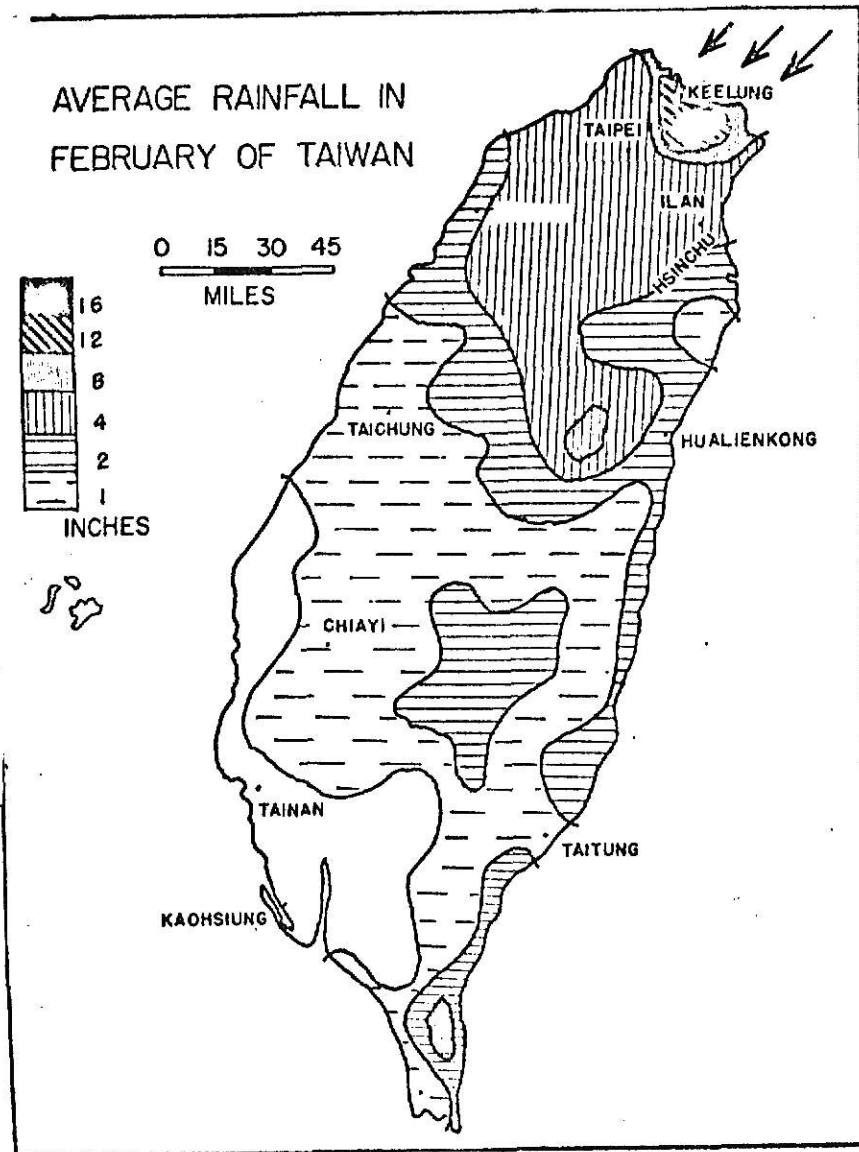


Fig. 2 Average rainfall in Taiwan during the month of February.

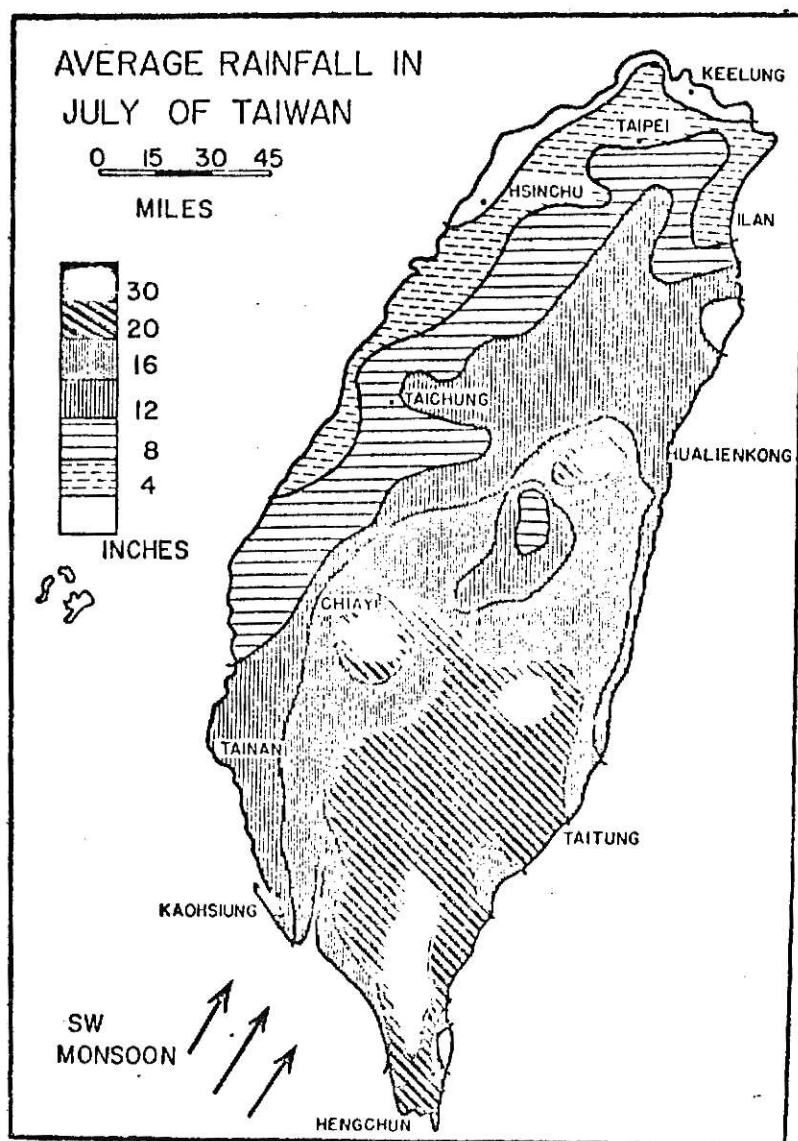


Fig. 3. Average rainfall in Taiwan during the month of July.

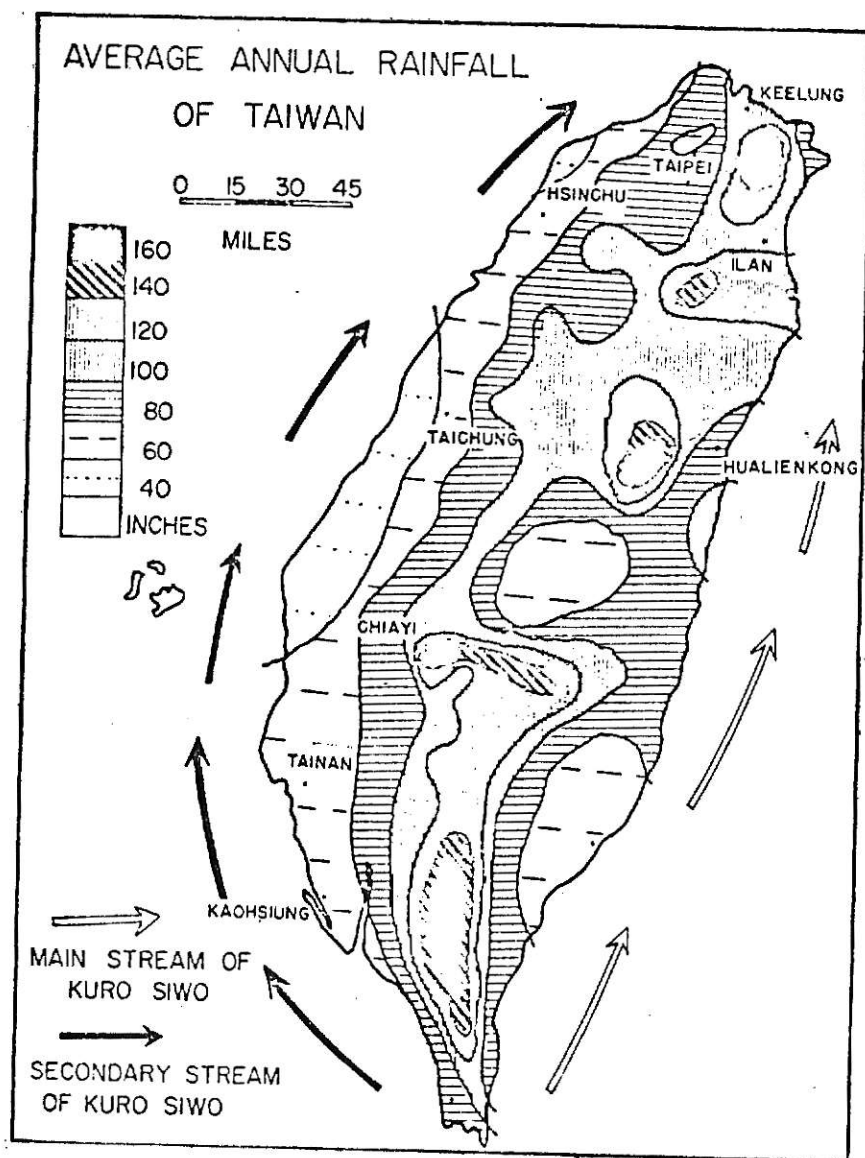


Fig. 4. Average annual rainfall of Taiwan.

Taiwan has abundant rainfall throughout the year, with an average of 2,500 millimeters. However, the rainfall is not evenly distributed. This is caused mainly by the monsoon winds and the island's mountain arrangement. In the north, the rainy season is from October to March, while in the south, it extends from May to September. Not only is the rainy season opposite in the north and south, but the character of the rainfall is also different. In the north, the rainfall brought by the northeast monsoon seldom comes in torrents. The rain falls at a moderate rate and rainy days are many and drawn out. The rainfall in the south is comparably bigger in downpours but lesser in frequency and duration. The average annual rainfall of Taiwan, and the average rainfall in the months of February and July, are shown respectively in Fig. 2,3 and 4.

Wind

Taiwan wind patterns are largely determined by the monsoons. In winter, the wind comes from the northeast and in the summer, from the southwest, both bringing a lot of moisture.

Humidity

Many places in Taiwan have an absolute humidity ranging from 0.39 to 0.79 inches. In general, the absolute humidity is much greater in summer than in winter. The relative humidity in Taiwan averages between 75 and 80 percentages annually. Table 2 shows the monthly relative humidity in some major cities of Taiwan.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Aver.
Keelung	84	84	84	83	83	83	78	77	79	79	80	82	81
Taipei	84	84	84	82	82	81	78	78	70	80	81	83	82
Hsinchu	82	85	85	84	83	82	81	80	80	77	79	78	81
Taichung	81	82	82	82	82	82	81	82	80	78	78	80	80
Kaohsiung	79	76	76	77	80	84	84	84	82	77	76	76	78
Hengchun	73	74	74	76	79	84	85	85	81	75	73	72	78
Taitung	74	75	77	79	82	82	81	81	80	77	75	74	78
Hualien	78	81	81	82	85	84	81	81	81	78	78	78	81
Ilan	84	83	84	85	88	87	83	83	86	86	88	85	85
Penghu	82	83	84	84	85	87	85	86	83	77	78	80	83
Ali Shan	80	83	84	85	88	90	90	90	89	86	82	78	86

Source of information: Fifty-one Years of Statistical Abstracts in
Taiwan, Taiwan Governor General's Office, Taipei(1946)

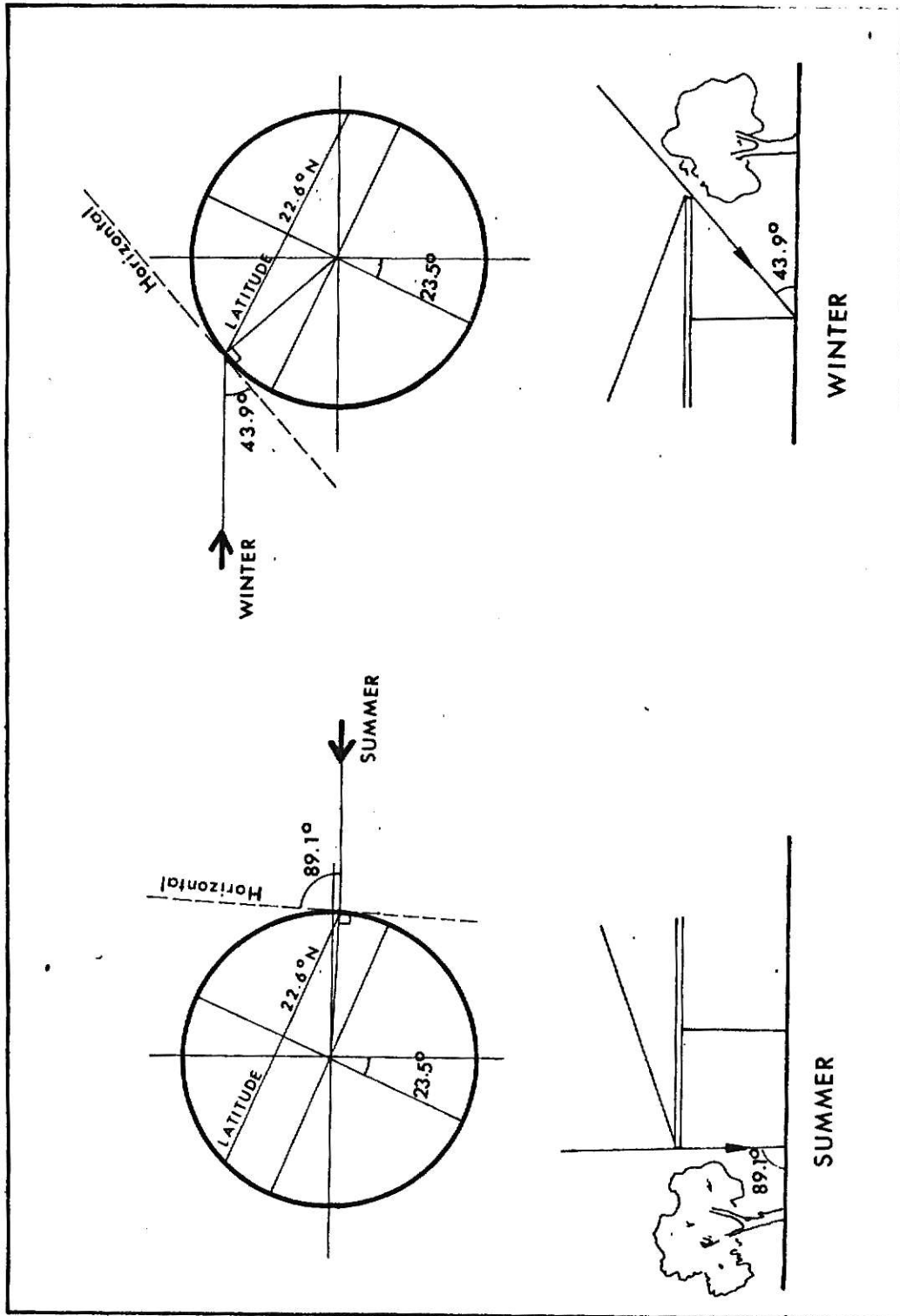
Table 2. Monthly relative humidity (percent) in the major cities of Taiwan.

Sunshine: Solar Angles

There exists a large difference in winter and summer solar angle in Taiwan (43.9° vs. 89.1°). Therefore, it does not seem economically feasible to consider a building design with year-round solutions if the facilities would only be of seasonal use. For instance, for a seaside resort where business is somewhat limited to summertime, the solar angle in summer should be of greater importance in the design.

POPULATION

Taiwan is one of the most densely populated regions in the world. According to the census statistics taken in December, 1970, 12,898,860 people are now living there, signifying an increase of 2.19% over that of the December, 1969 statistics. The population density is now 929 persons



per square mile. Kaohsiung, because of its growing industry and the improvement of its harbor facilities during the last few years, had a population increase of 5.57% last year, this being the highest among the major cities.

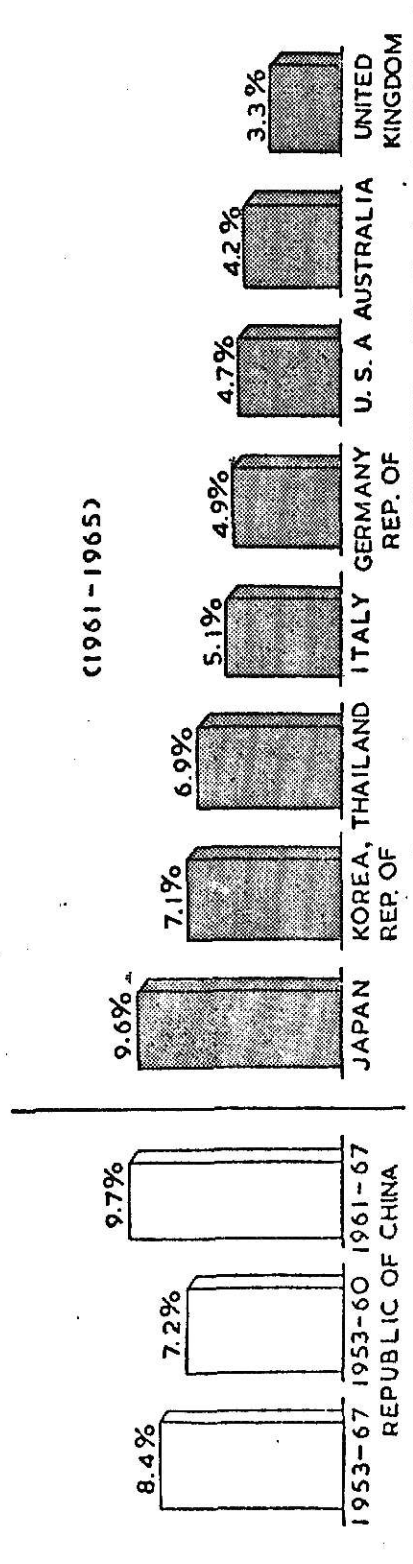
TRANSPORTATION

In transportation, the western half of Taiwan has better facilities than the east. The main railroad line, totaling more than 250 miles in length, starts at the port of Keelung in the north and extends to the entire length of the island along the western coastal plains to Kaohsiung in the south, bringing the northern and southern extremities of Taiwan into direct communication. The most important highways are also located on the western plains of the island, parallel to the main railroad line. Being an island, Taiwan naturally depends on ships for trade and communication with neighboring areas. Of the island's seventeen harbors, Keelung and Kaohsiung are the two biggest. Taipei is now the only city with an international airport but numerous inter-island airlines carry passengers to all the major cities of the island. A new international airport in Kaohsiung is planned to open in the near future.

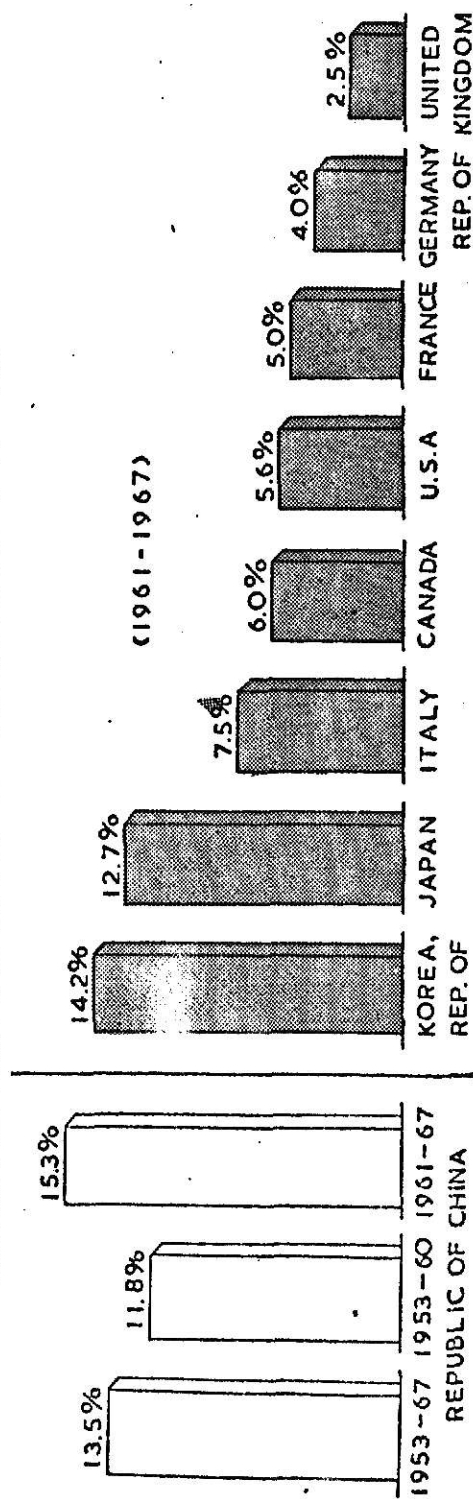
ECONOMICS

The rate of economic growth in Taiwan is not only the highest among the countries of the United Nations Economic Commission of Asia and the Far East Region with the exception of Japan, but it is also extremely high

AVERAGE ANNUAL RATE OF ECONOMIC GROWTH (GDP)



AVERAGE ANNUAL RATE OF INDUSTRIAL GROWTH



Source of information: Council for International Economic Cooperation and Development

Fig. 5. A comparison of Taiwan's average annual rate of growth in economic and industry with some other countries of the world.

when compared with the growth rates of the countries of Western Europe and America (see Fig. 5). In the period from 1950-1960, according to the "Economic Survey of Asia and the Far East" (1961) by the United Nations, Taiwan's growth rate stood highest at 7.9%, surpassing even the rate of West Germany. The result of this economic growth of course, is higher individual income which in turn means higher living standards and more spare time for relaxation for the people.

TOURIST STATISTIC

Table 3. Number of visitors in Taiwan (1956-1967).

Table 4. The percentage of foreign visitors in Taiwan by nationalities (1959-1967).

Table 5. Hotel business in Taiwan (Jan. 1967).

Table 6. Revenue from tourism in Taiwan (1956-1967).

1956 - 1967

Unit: person

Year	Total	Foreign Visitors	Overseas Chinese	Increase & decrease (com- pared to the former year)	
				No. of Persons	Percentage(%)
1956	14,974	11,734	3,240	-	-
1957	18,159	14,068	4,091	+3,185	+21.27
1958	16,709	15,557	1,152	-1,450	-7.99
1959	19,328	17,634	1,694	+2,619	+15.67
1960	23,636	20,796	2,840	+4,308	+22.29
1961	42,205	34,831	7,374	+18,569	+78.56
1962	52,304	44,625	7,679	+10,099	+23.93
1963	72,024	61,348	10,676	+19,720	+37.70
1964	95,481	83,017	12,464	+23,457	+32.57
1965	133,666	118,460	15,206	+38,185	+39.99
1966	182,948	160,279	22,669	+49,282	+36.87
1967	253,248	198,218	55,030	+70,300	+38.43

Source of Information: Immigration Division, Police Department &
Tourist Organization of Taiwan

Table 3. Number of visitors in Taiwan (1956-1967).

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		1959 - 1967								Unit: person
Countries of Nationality	1959	1960	1961	1962	1963	1964	1965	1966	1967	
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	
Arabia	0.04	0.12	0.13	0.14	0.09	0.09	0.09	0.07	0.06	
Australia	0.06	0.06	0.27	3.78	3.63	2.23	2.96	2.98	1.93	
Belgium	0.30	0.27	0.20	0.26	0.20	0.15	0.13	0.10	0.11	
Brazil	0.08	0.17	0.25	0.24	0.06	0.07	0.08	0.08	0.06	
Canada	0.96	1.45	1.19	1.52	1.17	1.22	1.16	1.21	1.01	
Denmark	0.13	0.15	0.20	0.19	0.17	0.06	0.10	0.08	0.05	
France	1.12	0.75	0.69	0.80	0.73	0.33	0.31	0.27	0.21	
Germany	1.12	1.73	1.36	1.21	1.31	1.31	1.31	1.07	1.18	
Italy	0.24	0.39	0.39	0.44	0.30	0.32	0.31	0.25	0.20	
Japan	9.78	15.85	15.52	13.60	17.68	25.92	32.50	33.88	36.36	
Korea	1.61	2.89	2.02	1.40	1.29	1.28	1.33	1.34	1.93	
Malaysia	0.02	0.20	0.68	1.20	1.75	3.12	3.77	3.30	3.08	
Holland	0.09	0.14	0.21	0.14	0.18	0.14	0.14	0.13	0.09	
New Zealand	-	-	-	0.54	0.33	0.31	0.36	0.33	0.22	
Mexico	0.26	0.28	0.34	0.34	0.33	0.26	0.32	0.28	0.26	
Norway	0.06	0.21	0.08	0.11	0.06	0.05	0.08	0.06	0.05	
Okinawa	0.71	0.96	1.17	1.07	1.39	1.46	1.62	1.48	1.52	
Philippines	5.02	5.50	5.83	5.17	5.66	6.22	5.26	5.83	5.68	
Portugal	0.26	0.15	0.19	0.17	0.12	0.11	0.10	0.09	0.05	
Spain	0.26	0.32	0.21	0.20	0.17	0.18	0.14	0.12	0.09	
Sweden	0.12	0.21	0.23	0.19	0.14	0.13	0.11	0.19	0.13	
Switzerland	0.31	0.44	0.48	0.50	0.61	0.42	0.40	0.39	0.34	
Thailand	2.00	2.33	2.35	2.13	2.40	2.64	2.40	2.36	3.21	
Britain	0.98	3.43	4.06	3.86	3.93	3.15	2.74	2.71	2.71	
America	70.02	58.21	57.08	58.16	53.93	46.68	40.39	39.28	35.84	
Vietnam	0.12	1.35	1.02	0.93	0.65	0.97	0.70	0.65	1.64	
Others	2.43	2.48	3.86	1.71	1.72	1.18	1.19	1.47	1.99	

Source of Information: Taiwan Police Department

Table 4. Foreign visitors to Taiwan from 1959 to 1967 by nationalities (percentage).

January 1967

District & Name of Hotel					District & Name of hotel				
Total	Single	Double	Suite		Total	S.	D.	Suite	
3,224	1,124	1,749	351		Tainan City	130	59	42	29
					Seaside Hotel	27	10	12	5
Keelung City	20	-	18	2	Hwa-cha	37	20	9	8
Fareast	20	-	18	2	Tainan	66	29	21	16
Taipei City	2,248	756	1,276	216	Kaohsiung City	108	27	75	5
Orient	120	30	70	20	Garden	52	2	46	3
International	39	17	18	4	Grand	26	-	24	2
Hwa-fu	35	17	17	1	How-hwa	30	25	5	
The Pacific	128	35	90	3					
Lucky	40	13	4	5	Peitou	347	146	123	78
Queen's	36	28	14	4	New Lite Villa	40	20	10	10
Stong Garden	27	9	12	18	Mayflower	40	9	29	2
Green Garden	37	7	16	5	Sincere	22	14	8	-
Taiwan	124	46	65	10	I-tsun	27	19	-	8
Empire	330	138	176	16	Fairland	22	15	2	5
China	56	24	22	10	Dragon Place	50	22	22	6
Paris	28	10	15	3	Paramount	40	-	6	34
Duke's	38	17	19	2	Song-lin	26	7	13	6
Astar	40	10	26	4	Metropole	80	40	33	7
The First	196	93	74	29					
Palace	54	-	48	6	Tao-yuan County	39	17	20	2
The Ambassador	44	56	206	11	Asia	39	17	20	2
Oasis	273	17	25	3					
The Sun	45	21	14	6	Taichung County	24	-	21	3
The Grand	41	10	116	14	Li-san	24	-	21	3
The Diamond	140	13	13	2					
Mandarin	28	117	175	30	Nan-tou County	119	23	89	7
					Hun-pi-lou	70	16	49	5
Taichung City	109	48	53	8	Sun-moon Lake	49	7	40	2
Hwa-kon	48	25	20	3					
Railroad	31	10	20	1	Ilan County	48	26	22	-
Italy	30	13	13	4	Pi-san-tzun	48	26	22	-
					Hualien County	32	10	10	-
					First Hotel	32	10	10	-

Source of Information: Taiwan Tourism Bureau

Table 5. Hotel business in Taiwan (Jan. 1967).

1956 - 1967				Unit: U.S. dollar	
Year	Annual Total	Jan.-June	July-Dec.	Compare to the Former year Amount	Percentages
1956	953,876.00	412,813.00	523,063.00	-	-
1957	1,134,938.00	490,688.00	644,250.00	+199,062.00	+ 21.27
1958	1,044,313.00	507,438.00	536,875.00	-90,625.00	- 7.99
1959	1,208,000.00	543,438.00	664,562.00	+163,687.00	+ 15.67
1960	1,477,215.00	718,313.00	758,983.00	+269,251.00	+ 22.29
1961	2,637,814.00	1,231,563.00	1,406,251.00	+1,160,563.00	+ 78.56
1962	3,269,000.00	1,505,812.00	1,763,188.00	+631,186.00	+ 23.93
1963	7,202,400.00	3,217,500.00	3,984,900.00	+3,933,400.00	+120.32
1964	10,502,910.00	4,752,100.00	5,750,800.00	+3,300,510.00	+ 45.83
1965	14,703,260.00	6,878,850.00	7,824,410.00	+4,000,350.00	+ 36.87
1966	20,124,280.00	9,276,080.00	10,848,200.00	+5,421,020.00	+ 39.99
1967	27,858,280.00	12,667,270.00	15,190,010.00	+7,733,000.00	+ 38.43

Illustration:

1. From 1956-1962, the average day of stay per person is 2.5 days, spending 25 U.S. dollars per day.
2. From 1963 - 1967, the average day of stay per person is 4.0 days, spending 27.5 U.S. dollars per day.

Source of Information : Taiwan Tourism Bureau

Table 6. Revenue from tourism in Taiwan (1956-1967).

CHAPTER III

KAOSIUNG, THE BIGGEST HARBOR OF THE ISLAND

Kaohsiung originally a fishing village, is located on the southwestern coast of Taiwan. It is very near the Fukien and Kwangtung Provinces of the Chinese Mainland, 395 miles from Hong Kong and 215 miles from Amoy. With a population of over 70,000, it is presently the fastest growing city on the island. According to the records of the Police Department of Taiwan in 1970, Kaohsiung, with its 5.57% increase in population was the most highly populated among all of the cities of the island.

THE EXPANDING HARBOR

Kaohsiung Harbor is now the largest international harbor in Taiwan. Running east to west between two sand bars, the long lagoon is 7.5 miles long and 4,900 feet wide. The bottom consists mostly of sand, which is a good holding ground for the ship's anchor. It is also easy to deepen and presents no silting problems. The Port Authority of Kaohsiung Harbor has undertaken a 12-year deep water harbor extension project which will be completed - if the schedule can be kept - at the end of 1971. The project, which will lengthen the existing fairway from 10,170 feet to 33,788 will claim 9 million square yards of land, and will develop 110,400 feet of shallow wharf and 655 feet of deep water wharf. When completed, the harbor area will be six times larger and will be able to handle the world's largest vessels.

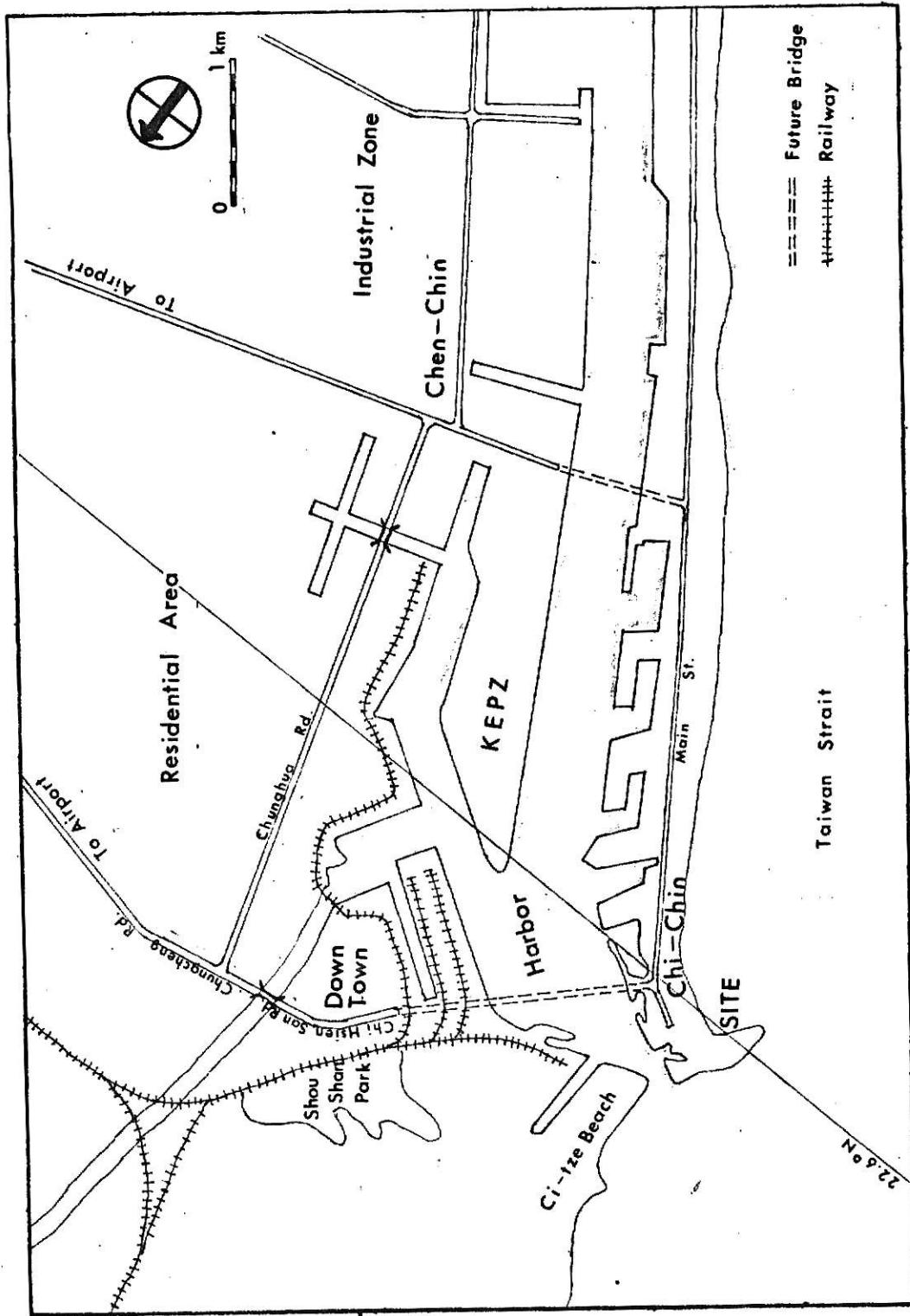


Fig. 6. A map of Kaohsiung Harbor.

Another project is also under discussion. It includes (1) the construction of two bridges which will link the sand bar (Chi-chin District) to the main city area (shown as Fig. 6) and Kaohsiung Hsiao-kong Airport, and (2) a plan to open a second mouth as an exit out of the harbor. It will then provide a free route for a ship's passage and make the harbor facilities almost perfect.

THE GROWING INDUSTRY

With a hinterland including the extensive plains in the southwest part of the island, Kaohsiung handles two-thirds of the total import and export commodities of Taiwan. It is not only an important port but also a convenient industrial center. The reclaimed land from the extension project of the harbor will provide suitable sites for four times as many plants as are located in the industrial area. KEPZ (Kaohsiung Export Processing Zone) is the first-born land of this project (see Fig. 6 for location). It has now become the most industrially-oriented estate in southern Taiwan. Similar in many aspects to a free trade zone, KEPZ has an impressive set of incentives and facilities available to firms which manufacture, process, or assemble products for export. Many well-known manufacturers such as General Garment of Hong Kong, Philips of the Netherlands, and General Micro-Electronics of the United States have already set up their plants in the zone. This growing industry not only has provided tremendous working opportunities for the surrounding areas, but has also helped to draw tourists into the city.

THE FREE TRANSPORTATION

Kaohsiung is the terminal of the North-south Railroad. Kaohsiung Hsiao-kong Airport provides four round-trip flights to Taipei Airport each day where connections can be made to all ports of the world. Provisions for international services in the Kaohsiung airport are planned.

CHAPTER IV

FACTORS THAT AFFECT THE ARCHITECTURE DESIGN

THE TRADITION

All people love their own national traditions, and from the viewpoint of regionalism, every country should have its own particular national form of architecture to reflect its culture, history, customs, religion, and other natural conditions.

In general, the original buildings in Taiwan can be classified into three categories: (1) the Chinese rural-style building which is found throughout the island; (2) the Tatami building, a copy of Japanese wooden huts found mainly in cities; and (3) the Dutch-style building which has never been too popular. It is sad to conclude here that Taiwan, with her striving history, never did have the time and spirit to develop her own architecture. The page of architecture here is still blank. It is now the responsibility of the young generation of architects to fill the sheet out with definite lines and colors. Eventually, the buildings of the island should be able to speak for its Oriental culture.

It should be kept in mind here, that to promote the development of the traditional "Oriental" architecture does not mean to deny that of the "West". The knowledge of the new and available building materials and their scientific constructional methods can assist in making a good

selection of the materials and design that are relevant and ideal to the structure. Furthermore, in the author's concern, the true sense of tradition is in the spirit rather than in form. The perfection of an architectural design is a harmonious solution formed by blending the old traditional spirit into the new architectural form. The form speaks for the time in which it exists, but the traditional architectural spirit is what links the past with the present, and forges a link with the future.

*

Some idealisms of design in traditional Chinese architecture can be briefly outlined as follows:

- (1) Principle of dualism
- (2) Exposure of structural beauty
- (3) Horizontal decentralization
- (4) Projected eave on solar principle for admitting more light and less sun heat.
- (5) Columns and lintels with curtain walls
- (6) Balance of the formal and the informal
- (7) The merging of indoor and outdoor living
- (8) The harmony of building and its surrounding nature
- (9) The cantilever bracket system
- (10) The comprehensive color scheme
- (11) Peaceful and elegant living conditions for the retired
- (12) Perforated sun screen for privacy

* Su, Gin-djih, Chinese Architecture - Past and Contemporary , pg. 247

It is believed that an eternal aesthetic beauty (functionally and visually beautiful) can be achieved by thinking along the line of these Chinese idealisms together with some of the intangible universal principles of design.

THE CLIMATE

The climate of a given region is determined by several elements and their combinations. When human comfort and building design are being considered, the principal climate elements of a subtropical region are solar radiation, air temperature, humidity, wind and rainfall.

Solar Radiation

Chi-chin, the long sand bar that encloses Kaohsiung Harbor, lies at a latitude of 22.6° N and has a critical solar angle of 89.1° in summer and 43.9° in winter. Intensive solar radiation, especially in summer, is the biggest problem in the design of local buildings.

Rainfall

The greatest quantity of rainfall in the Kaohsiung area is during the late summer season (September and October) when the southwest monsoon sweeps through the island and strikes the Central Chung-yang Mountains. When compared to the northern part of the island, Kaohsiung has fewer rainy days. The rains are concentrated in high intensity over periods of a few days and are accompanied frequently by storms of high wind velocity. The average rainfall of this area is 16 inches in July and 0 inches in

February.

Humidity

In general, the absolute humidity in Kaohsiung is 81.8% in summer and 76% in winter. To achieve comfortable indoor climate, ventilation has to be carefully considered.

Temperature

The summer in Kaohsiung is long and the winter is short. Due to the regular winds from the sea, the variance in temperature is only slightly felt. The average temperature is 82°F in summer (April to September) and 70°F in winter (October to March). In extreme weather conditions, the maximum temperature reaches 99.5°F while the minimum is 36.3°F.

Wind

The direction of the monsoon wind is mainly westerly, starting from the northwest in winter, and changing to the west and southwest in summer.

The main objectives of the architectural design with regard to climatic conditions in this subtropical region can be summarized as being the provision for effective ventilation and the prevention of over-heating of the building, as well as the protection from rain during the rainy season.

Orientation of buildings with respect to the wind is very important in

this area. It is also of equal importance to minimize the impact of solar radiation. When constant air-conditioning is not provided, the architectural design of the buildings should ensure cross-ventilation through any habitable room, either directly or through other rooms which may be kept open when necessary. The size of the windows is not a factor of great importance as long as they are well-shaded.

BUILDING MATERIALS

The building materials used are mainly influenced by the local climate and what materials are available. "Available" here means that which is easily obtainable and economical - local products and imported ones may be used depending on whether they meet the points of economics and convenience. Since architecture is created for human beings to carry out their activities and become part of the surrounding environment, the character of the surrounding environment therefore is also a factor that will influence the choice of building materials after the selection of the right form.

The materials available in Taiwan are listed as follows:

Wood

With high mountains, high temperature and abundant rainfall, Taiwan has rich flora. Today, lumber is one of the main natural resources; forests cover more than 55% of its entire land area. Because of this, wood is the most common building material used in Taiwan.

Oak is one of the most valuable among the subtropical hardwoods. In Taiwan, oak trees cover nearly 1,414,500 acres of land, 962,500 acres of which are accessible.

Camphor trees are used mainly for furniture material. Teak and mahogany, although good construction materials, can only be planted in limited areas. Thus, their price is high and they are now used predominantly for furniture and interior work.

Cypress trees give the most valuable wood in Taiwan, and among the hardwoods, acacia trees are the most important.

Plywood

Plywood is by far the most important of all wood-based panels. It is produced by placing three, five, seven, or more layers of wood one on top of the other, with the grain of each ply at right angles to that of adjacent plies. It offers the furniture maker three distinct advantages: (1) it has greater structural stability, it is less apt to shrink, swell, warp or split; (2) plywood surfaced with only a thin veneer of select fine wood is less expensive than this fine wood in solid form; and (3) it is easier to match the fine grain patterns of plywood compared to solid wood. Plywood production is now one of the most promising industries in Taiwan. Ninety percent of the product is exported, mainly to America and Canada.

Cement

Cement is used in all types of concrete construction, and mortar for masonry materials. It is also used for making asbestos, floor surface finishes, and plaster for exterior walls.

Taiwan has an ample supply of electric power and plenty of pozzolan (volcanic ash) for the raw materials of cement production. This supply has long satisfied the cement demands of the island since 1958. Up to 1967, the production was close to three and a half million tons of cement per year. Forty percent of this was available for export to the nearby Far East countries.

Concrete

Concrete is a mixture of sand, gravel, crushed rock or other aggregates held together by a hardened paste of cement and water. Besides being good for its strength, hardness, durability and plasticity, concrete also resists intensive solar heat, an important factor in tropical and subtropical regions. Reinforced concrete, pre-cast concrete, hollow concrete block and lightweight concrete are produced in large scale in Taiwan and are even available for export.

Steel

Steel is one of the industries that have developed through American aid. By importing raw steel sand from Malaya, Taiwan is now capable of producing 200-250 thousand tons of steel rod per year. They are mostly used in local construction and the rest are mainly exported to the Philippines, Thailand and Vietnam.

Aluminum

Aluminum has a wide range of uses in compound and metallic form. Because of its tremendous workability, aluminum has become increasingly popular for spandrels, windows, doors, ornaments, railings, roofings, sidings, and miscellaneous hardware.

It is now the only important metal industry in Taiwan. The present supply of 30-40 thousand tons of bauxite per year is mainly obtained from Malaya. Due to the abundant supply of electric power in the island, it is considered as one of the few metal industries that is able to flourish in Taiwan.

Glass

Recently, there has been a tremendous growth of glass industries in Taiwan. During the mid 50's, the island could only produce enough glass to fill 45% of its needs. However, in 1962, it not only could meet the local demands but 30% of its total production was for export to nearby countries as well.

Marble

A large quantity of marble is stored in the eastern slope of the central mountains of Taiwan. It is found about 200 miles from Su-auo to Yu-le. However, due to inefficient mining methods, the amount of production is still small, only about ten thousand cubic meters per month. Marble is used mostly as a decorative material in buildings, as well as a material for furniture and sculpture.

Rubber

The major uses of rubber in architecture are for : (1) extrusions and moldings, (2) resilient flooring, (3) adhesives, (4) paints and protective coating, (5) bituminous toppings and fillers, and (6) insulation material.

Although the first rubber tree was not planted in Taiwan until about forty years ago, the rubber industry is already well-established. The production now is well beyond the needs of the island and rubber is available for foreign trade. It is shipped mostly to HONG Kong, the Middle East and Western Europe. The raw materials of rubber are mainly imported from Malaya and the Philippines.

THE PUBLIC UTILITIES IN TAIWAN

Electricity

Three-fourths of electrical power in Taiwan is generated by water power. It is cheap and has reached practically every part of the island. This is uncommon in Asia. There are at present ten thermal stations producing a total of 185,000 kilowatts of electricity per year.

Water Supply

The annual average rainfall of 98.4 inches in Taiwan is enough to keep all potential ground water reservoirs full. However, hot water supply is still not available in the island. Big public buildings such as apartment houses or hotels need a private boiler room built in or near the building

complex to provide the occupants with hot water.

Gas

Crude oil and natural gas arise from the sedimentary rocks on the western plains and on the foot-hill region of Taiwan. The most productive area is the region from Hsin-chu to Miaoli, providing the entire eastern coastal coastal area of the island with its main gas supply.

Sewage Disposal

As in most Asian countries, a public sewage system is lacking in Taiwan. A private septic tank is usually obtained by each building where after a series of chemical reactions, the sewage can then be loquefied and disposed of through the public soiled water system.

CHAPTER V

CONSIDERATION OF INTERIOR ENVIRONMENT FOR SUBTROPICAL SEASIDE RESORT HOTEL

To create an environment of comfort is certainly a vital part of all architecture design. For a resort hotel, since recreation and completeness of services are the two essential parts of the design, the comfort of the guests should be borne in mind concerning all design phases.

There are many factors that affect a person's comfort but only a few of them can be adjusted and controlled by architectural solutions. For a subtropical seaside resort hotel, the considerations for a guest's comfort are defined as follows:

THERMAL FACTORS

It is felt that the thermal environment factor is extremely important when human comfort is concerned. Without successful control of thermal conditions, no one can be comfortable. According to the ASHRAE (American Society of Heating, Refrigerating and Air-conditioning Engineers) Comfort Standard, thermal comfort exists when a person is surrounded by an environment in terms of temperature, relative humidity, etc. which allows him to lose the heat which he produces at the same rate it is being produced without conscious effort on his part. It is the positive feeling of mind which expresses satisfaction with the thermal environment.

With relatively mild temperature and high humidity in summer, it can be seen that the main problem in the subtropical marine climate is the provision of good ventilation.

The pattern of air flow in a room is affected by two factors: the pressure distribution around the building and the inertia of the moving air.

Design factors affecting ventilation:

Window Orientation

Generally, it is believed that optimum ventilation cannot be achieved unless the inlet window is directly facing the wind; deviation from the wind's direction will reduce the indoor air speed. Yet, according to recent research, better conditions can be assured when the wind is oblique to the inlet window and thus has to change direction within the room. As a result, the air flow is increased along the side walls and in the corners. This factor is of great importance in a subtropical region where the wind direction is mainly westerly in the hot summer. As far as shading is concerned, according to the earlier explanation, there may be a conflict between the required orientation for the ventilation and solar radiation aspects.

Window Size

In rooms where cross-ventilation is not possible, the size of the window has little effect on the internal air velocity. However, if the window is oblique to the wind, an increase in its size may create an appreciable effect on the internal air velocity. This could be

explained by the pattern of pressure distribution. When the wind is oblique along the width of the wall, air can enter through one part of the window and leave through another. If the room is cross-ventilated and the inlet and outlet openings are of the same size the increase in size of windows can cause a much greater effect on internal air velocity.

Sub-division of the Internal Space

It is inferred that comfortable ventilation is possible where air has to pass from one room to another, as long as the connections between the rooms remain open when the ventilation is required. Figure 7 shows the distribution of internal air speeds for the arrangements tested, and Fig. 8 gives the flow patterns observed in the model by smoke-tracing. Figure 9 shows that cross-ventilation is also possible in rooms with one external wall. This could occur when the wind direction is oblique to the external wall.

The architecture design of a building in this region should consider that the main stream of air flow is actually directed toward the people in an occupied zone. Mechanical ventilation should be considered where natural ventilation is impossible.

NOISE CONTROL

Noise can be annoying because of its unexpected ness and unattractiveness. From an investigation done by Geoffrey Baker and Brune Funaro in 1955, "noise" topped the list of complaints from hotel guests. This happened mostly because of inefficient building orientation, lack of landscaping

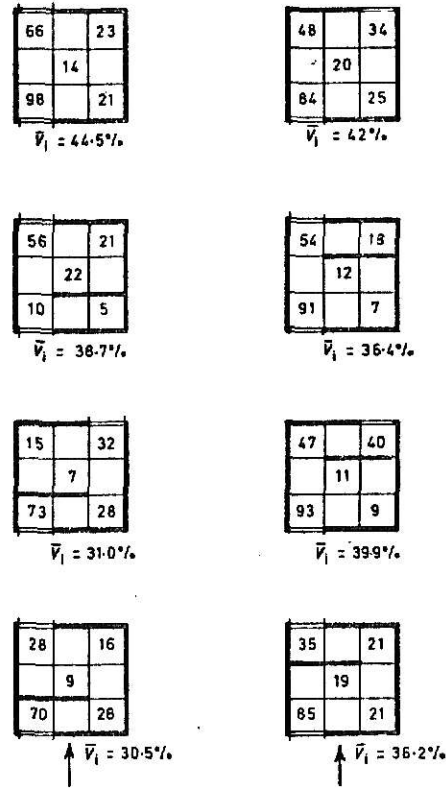


Fig. 7. Effect of sub-division of the interior on the distribution of internal air speeds.

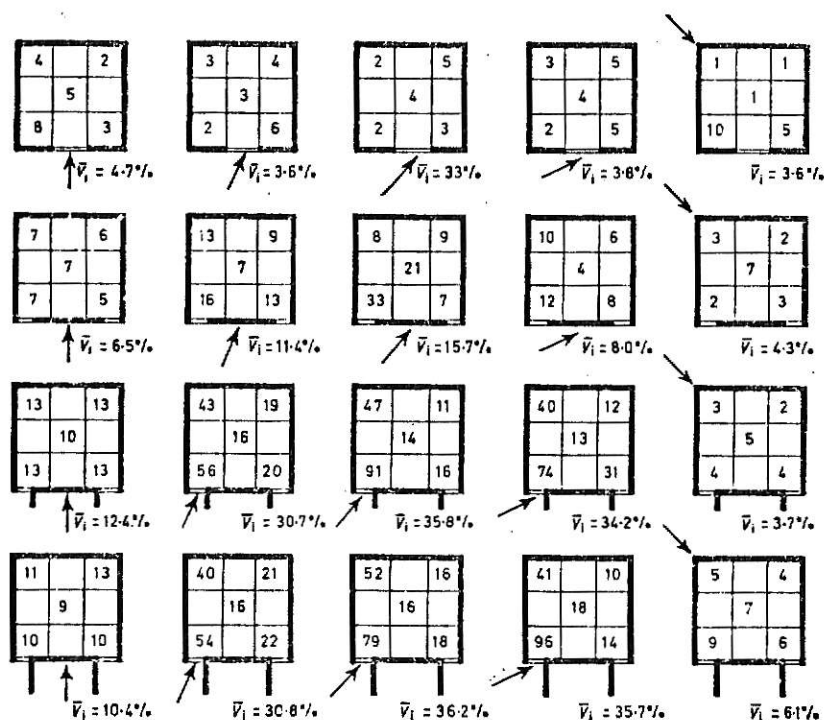


Fig. 9. Internal air speeds in models with vertical projections of different depths, compared with values in models without projections. Window width 1/3 of wall width.

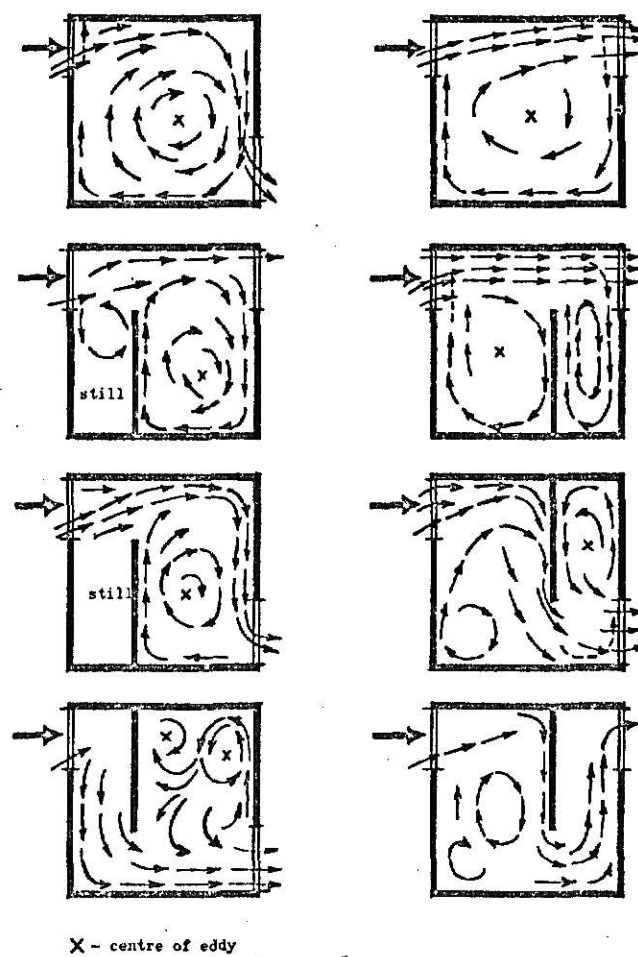


Fig. 8. Flow patterns in models with different subdivisions of the internal space.

and flimsy construction of the building itself. For a design of a resort hotel where guests' comfort is of top importance, noise control should be considered right from the beginning of the design.

Generally, for a resort hotel, the acoustic problem is most serious in the guest room area. The disturbing noise in a hotel guest room comes from three main sources: the neighboring rooms, the outside surroundings and the corridor.

Little research has been done to assess the role of noise in upsetting human sleep, but it is known that the REM (rapid eye movement) sleep phase can be disrupted by noise. A thirty-five decibel standard for night noise was recommended in the "Final Report on Noise" presented in 1963 to the British Parliament. When noise is at a level of fifty decibels, falling asleep has to be a long process, and there are fairly short intervals of deep sleep (onehour) followed on waking, by a sense of fatigue accompainied by palpitations.

The main acoustic problem in the public areas of a hotel such as the lobby, lounge and dining hall is communication interference. Behavioral responses such as frustration and increased anxisty may result from the simple fact that background noises make conversation difficult.

When background noise approaches 80 decibels, it causes a significant decline in hearing accuracy. A 65-75 decibel noise will barely permit conversation and is considered as the maximum permissible level of background noise for easy speech communication.

A well-designed floor system must provide adequate insulation against both air-borne and solid-borne noise. For example a bare concrete slab has a high transmission loss for air-borne sound, yet it increases the impacts of solid-borne noise. To avoid this a resilient covering should be used on concrete slab flooring. The following are impact-noise reduction values of various coverings on concrete slab compared with that of bare concrete slab:

*

Nature of Floor Construction Laid on Concrete Slab	Impact-noise Reduction in Decibels
None (bare concrete)	0
Asphalt tile (5/32 inch)	0
Rubber Tile (3/16 inch)	7
Hardboard (3/16 inch) over fiber board (1/4 inch)	17
Wood floor (3/4 inch) on sleepers	19
Cork tile	20
Carpet : Hard rubber-cork composition (1/4 inch)	10
Heavy carpet (no pad)	10
Linoleum (1/8 inch) and linoleum	5
Wood blocks, thin carpet, rubber	5-10
Carpet (1/8 inch) on under felt (1/8 inch)	10
Sheet rubber (1/16 inch on sponge rubber (1/4 inch)	20

* Vern O. Knudsen and Cyril M. Harris, Acoustical Designing in Architecture
pg. 257

LIGHTING AND LIGHTING BALANCE

Light should be designed to harmonize with the architectural function in a revealing manner. As aesthetics is also an important concern in a hotel design, lighting should be integrated with all the other architectural elements.

In most areas of a hotel design, the emotional aspects of the lighting program are of greater importance than the ability to discern fine details. * "Lighting for Seeing" may be considered as light for the formation of visible ideas necessary for subsequent action. In general, this concept is correlated with the provision of "enough" light. Proper design of light - lighting elements located in the right place, at the right angle, with the right amount of illumination - not only will expose the function of the environment in a hotel design, but will also insure the visual comfort of the hotel visitors.

Some useful illumination levels recommended by the I.E.S. are as follows:

Task	Foot-candles
Entrance foyer	30
Reception	50
Lounge or lobby	10
Bedrooms general	10
Dining tables	30

* Phillips, Derek, Lighting in Architectural Design, pg. 30

Task	Foot-candles
Corridors	20
Stairs	20
Bathrooms	10
Kitchen	30 (at mirror)
	70 (at sink)
	30 (general)
General bookkeeping, accounting	150
Executive offices	100
Store: Circulatopm	30
Mechandising	100 (servoce)
	200 (self-serv.)
Stockrooms	30
Regular office work	100

COLOR AND COLOR BALANCE

The sense of color is given to man by nature to aid his acuity, orient him better to the world and contribute to his survival. The psychologist has pretty well substantiated the fact that color, rather than shape is more closely related to emotion.

The author believes that a proper color scheme for interior design not only should follow the principle of color harmony or contrast, but should also have a reason in its concept. Thus, the mood of guests, their activities in the hotel, and the meaning or prupose of the building should be analyzed before color selection.

Climate should also be considered together with color. Architecturally

speaking, color can easily help to emphasize the character of a particular room, to vary the mood of the occupants as well as changing the room's temperature. For a seaside resort located in a subtropical region where weather is mainly warm and the daylight strong, "a right cold color scheme" aside from a proper mechanical air-conditioning system, is a solution to the problem.

Since artificial illumination is a necessity in all parts of a hotel building, its effect on the color scheme must be considered at length.

The following chart shows the effect of different light sources on the appearance of neutral colors :

* Type of Light	Appearance of Neutral Colors
Incandecent	slightly red
Warmtone Deluxe White	slightly orange
Warmtone White	slightly yellow
Daylight (fluroescent)	slightly green
Deluxe cool white	slightly blue

* Ketcham Howard, Color Planning, pg. 157

CHAPTER VI

AN INTERIOR DESIGNER'S VIEWPOINT ON BUILDING DESIGN OF RESORT HOTELS

The human body, is by no means a perfect piece of machinery. It is because of this inadequacy that man was forced to conceive clothing and architecture as protective devices. For a while, being warm and well-protected inside a three-dimensional structure, man thought and believed that he had conquered nature, forgetting that he was - flesh and soul - a very part of nature. Man was born with the love of fresh air, clean water and a sunny sky. He grew from nature, was rooted in nature and was nourished by nature. Like a plant placed in confinement, he soon may fade, dry and die if he is isolated from nature.

The world must have been better off for those men in history who had mostly minded their plans in full accord with nature's form and force. For modern man who has to spend most of his "modern life" cuddled on a table inside a noisy factory or office, "nature" becomes a luxurious treasure. In order to regain the pleasure of being close to nature, man moves his home or just travels to places where he can fully see and feel the sky, the mountains and the waters.

It is the need of this fulfillment to relate man to nature that recreating facilities such as parks and zoos are established. This also leads to the birth of resort hotels in sites of beautiful landscape. Apparently, the visitors in a resort hotel are all seekers of natural beauty.

The function of this hotel obviously has to suit this need. It has to be a place for man to rest, to dine, and most important of all, to embrace nature fully.

Running away from home where he used to be isolated from nature, a visitor to a resort hotel expects to have complete satisfaction for all his senses, such as , a warm and friendly atmosphere in the lobby, a joyous air flow inside the dining hall, a complete relaxed sense in the guest room, and whenever he walks out of the hotel, a feeling that he is surrounded by a beautiful environment.

It is of course the job of a designer to see that all of these functions be carried out. But an interior designer should be concerned with more than these. A building of course must look as if it has grown out of the soil, and is well-anchored to it. To the interior designer, this building must express man's own joy and appreciation of his surroundings. This could only occur when the relationship of architecture and natural environment are all in harmony, with architecture as an outstanding element. It should not be any plant which might get lost in a forest, but should be a wild scarlet blooming rose that sparkles between the bushes of green. It should be a diamond in the dark, or a surprising but welcome gift, and not just a common building to be taken for granted. It should be a landmark with jewel-like quality.

Thus, the thinking of our industrialized society, to which the city of Kaohsiung belongs, as, "machine-dictated styles" or "function before

beauty" might not be enough. We do believe that form must always follow function, but because of the fact that 80 percent of the data which stocks the mind of an average person is acquired through vision, we also have to believe that the aesthetic value of architecture, may well be a major function that should not be forgotten. For a resort hotel, where satisfaction of the human senses is most concerned, aesthetics should be even more emphasized.

Our viewpoint is that although structure and practical purpose are the basic and important determinants of design, they are only the most tangible parts of a complete design. The practical problem of organized planning, which is a necessity that involves many factors, has remained unchanged since Phidias built the Parthenon and Michelangelo created St. Peter's Cathedral. We must say that both are examples of organization and construction brought to perfection; we must also say that they are perfect because they leave no aesthetic desire unfilled.

A successful design of a resort hotel shall then be functionally based on the principle of working from inside out, but aesthetically it should also blend with the environment. Its design therefore should also be developed along another direction, outside in instead of inside out.

Man's power is limited however, and as an Oriental, this writer cannot help but agree with the principle of both Taoism and Zenism, that one may want to seek perfection, but one must not expect to achieve the final goal of perfection. For the conceptions of perfection lay more

stress upon the process through which perfection is sought than upon perfection itself. The most important thing is that we have managed to look for it at all.

CHAPTER VII

A DESIGN FOR A SUBTROPICAL SEASIDE RESORT AT CHI-CHIN, KAOHSIUNG

SITE STUDY

The selected site for the seaside resort is located in Chi-chin, Kaohsiung. It is a sand bar that encloses Kaohsiung Harbor. With a few small fishing villages spread throughout, and a total population of not over 1500, Chi-chin used to be considered as the most valueless land of the city. It was not until the project of the Harbor Extension was under process that the local government began to consider the development of this district. A school and a park have now been established. A main street that leads throughout the sand bar is under construction. As the development of the harbor's facilities continues, Chi-chin is finally becoming an island herself, having the ends of the sand bar as the entrance and exit of the harbor. Harbor facilities, such as piers, mooring buoys, basins and beths will also be located on it. To complete the transportation of the district, two bridges are planned to be erected to connect the harbor and the city.

With the cities of the island and its industries developing, and the economy of the island rising, the need for more hotels has become urgent throughout Taiwan. Kaohsiung, the fastest growing city of the island and with only three big hotels, providing a total number of only 108 rooms in 1968, definitely is an excellent place to establish

new hotels. Ci-tze Beach, used to be the finest beach in the south, but due to the polluted beach water, its condition is deteriorating. A new seaside resort area is thus urgently needed for both the southern island and Kaohsiung City itself.

The site chosen here, which is located at the western end of Chi-chin District is considered to be a perfect selection to establish a new seaside resort hotel because of the following reasons:

- The secondary stream of Kuro Siwo Current running along the west coast of the island, carrying the polluted water of Kaohsiung Harbor from south to north is the main reason that caused the decay of Ci-tze Beach. Located at the western side of Chi-chin, and at the south of the mouth of Kaohsiung Harbor, the site here is able to maintain excellent clean water for seaside recreation.
- Chi-chin, liked Ci-tze Beach, has a gentle slope beach and extremely fine sand which is perfect for seaside activities. According to the report of the Kaohsiung Water Supply Plant, a 1,000 feet distance along the coast from west to east of Chi-chin is considered to be the safe water distance. (This is caused by the ocean current and the direction of the wind).
- The site is about 1.8 Km away from the downtown area of Kaohsiung City with Kaohsiung Harbor in Between. When the construction of the two bridges is finished, Chi-chin will be directly connected to the

downtown area, the industrial zone, the Railway Terminal Station and, the Kaohsiung Airport, w-ere international service has already been scheduled. Then Chi-chin can be easily reached by local residents, out-of-town visitors and international tourists.

The site is about 600,000 square feet in area. Facing southeast to the Taiwan Strait and with a range of highland in its north and west area, the site here is then able to keep itself from the busy and dirty harbor yet provides the natural beauty of a subtropical seaside. The peak of the highland is about 100-110 feet. For acoustic control and satisfactory visual control, it is logical to orient the bed rooms of the hotel beneath the highland level.

With high temperature together with high relative humidity during summer, sun control and ventilation are the kajor environmental problems, especially in the harsh afternoon hours. With the coastline facing southeast, and southwest winds blowing during the summer, the location and direction of the buildings should be carefully considered so that all of these necessary physical and visual functions can be fulfilled.

PROJECT REQUIREMENTS

According to the difference of function, the seaside hotel complex will be divided into two sections: the beach house and the hotel. The beach house serves mostly the local people of Kaohsiung City, who come to the beach for only a day or even half a day.

The hotel includes the living quarters and dining facilities. It is designed to serve the foreign tourists, the island's vacationers, overseas Chinese and the City herself. For the living quarters, the rooms in the main building are designed to show a more luxurious and formal air; the cottages are designed for guests who prefer more relaxed living atmosphere.

The Beach House

- Lobby
- Slack Bar
- Rental Service
- Booking Office
 - a. Manager
 - b. Cashier
- Storage
- Mechanic

The Hotel

The hotel will be classified into the following 6 main divisions:

1. Public space
2. Living quarters
3. Administration and management
4. Subrental spaces
5. Food and beverage facilities
6. Recreation and entertainment area

Public Space

- Lobby
 - a. Lounge
 - b. Public telephone
 - c. Public restrooms
- Front desk
 - a. Reception
 - b. Reservation service
 - c. Rooms clerks
 - d. Cashier and bill clerk
 - e. Telephone service
 - f. Boardcasting service

Living Quarters: 154 total rental units (around 300 guest units)

- Single bed rooms : 8 units
- Double bed rooms : 48 units
- Twin bed rooms : 40 units
- Suits : 16 units
- Cottages : 26 units

Administration and Management

- Office
 - a. Executive manager
 - b. Personal manager
 - c. Guest affair manager
 - d. Finance manager
- Secretary
- Typist

- Accounting
- Housekeeping
 - a. Executive housekeeper's office
 - b. Employees' lockers
 - c. Maids rooms
 - d. Laundry room
 - e. Workshop
 - f. Electric room
 - g. Mechanical room
 - h. General storage area
 - i. Employees' lounge

Subrental Spaces

- Post office
- Bank
- Travel Agency
- Beauty shop
- Barber shop
- Shopping mall
 - a. Men's wear shop
 - b. Women's wear shop
 - c. Floral and magazines
 - d. Gift and souvenir
 - e. Cosmetic and Pharmacy
 - f. Grocery
 - g. Storage

Food and Beverage Facilities

- Cocktail and bar : 60 seats
 - a. Restrooms
 - b. Pantry
 - c. Cashier
- Chinese restaurant : 115 seats
 - a. Cloak room
 - b. Restrooms
 - c. Kitchen
 - d. Pantry
 - e. Day storage
 - f. Cashier
 - g. Employee's toilet
- European restaurant : 92 seats
 - a. Cloak room
 - b. Restrooms
 - c. Kitchen
 - d. Pantry
 - e. Day storage
 - f. Cashier
 - g. Employee's toilet
- Outside dining : 90 seats
 - a. Restrooms
 - b. Serving counter
 - c. Kitchen
 - d. Pantry
 - e. Day storage

f. Cashier

g. Employee's toilet

- Employee's dining room

- Food receiving

- Food storages

a. Fish

b. Meat

c. Vegetable

d. Dry and can food

e. Liquid

Recreation and Entertainment

- Indoor game : snooker

- Outdoor recreation

a. Outdoor dancing

b. Swimming pool

c. Tennis courts

d. Golf course

e. Children playground

f. Gardens

LANDSCAPING

It is believed that the natural character of the site must be as much a part the architecture as its structure. For this seaside resort, the most important character of the site is the wide and open sea. Buildings should then be designed in such a way that all the important areas can

have a view of the sea. It is for this reason, that the high-rised main hotel building should be located behind all the lower cottages. For the same simple reason, all guest rooms dining area, and lobby should have openings directly facing the sea; and with the hill as its background, the control of noise from the harbor can also be assured.

Cottages are oriented in a way so that the relationship between them and the main hotel building can be strongly felt. If the main building here is the masterpiece of a chain of necklace lying on the site, the cottages are then the chain that will link the hotel and the surrounding landscape together.

Besides the mentioned function and a view of the sea, the wind direction is also considered in the orientation of the cottages. Although privacy and integral communication with nature are important for the design of the cottages, grouping is still necessary to create the feeling of security in the neighborhood.

Since the beach house is designed more for the temporary visitors, and more noise is expected to be created by them, it is necessary that the beach house be oriented in such a way that activities of the hotel will not be disturbed; yet, provide its guests the full enjoyment of the sea view and the beach activities.

Being a preposition of the sea view from the hotel building, gardens are planned to establish a more pleasant environment. By leaving the

land comparatively low, it links the hotel building and the beach together, and gives a smooth flow of the whole design complex.

Planting of tree is important here. Besides beautifying the environment, it also helps to deal with solar heat and glare as well as to create cozy outdoor space.

ENVIRONMENTAL PROBLEMS

Acoustic

The major acoustic problems in the hotel are to exclude the outside noise and to suppress the noise generated inside.

By orienting the building below the northwest slope of the site, the hotel is then shielded from the noise generated from the harbor and nearby industrial zone. A significant noise-controlled environment for the cottages will be achieved by the surrounding plants. The parking area is located at the very northeast end of the hotel building, and with plants in between, it will be able to free the building from the main traffic noise.

To prevent the transmission of noise from adjacent rooms, hollow walls with an acoustic blanket in between are designed for all guest rooms' partitions. Pipes and ducts are also isolated from any solid structure by an acoustic blanket. Since concrete is used for the main construction, the concrete slab flooring in all guest rooms and the main traffic

area will be covered with good sound adsorptive materials, so that the transmission of solid-borne noise can be minimized.

Besides using the right acoustic materials : the right acoustic flooring ceiling and wall, a gentle background music will be boardcast in all the public areas to serve as a masking noise.

To avoid the unpleasant mechanic noise, chilled-water system is used for air-conditioning.

Heating and Air-conditioning

In this subtropical region, heating is only needed for about a month annually. However to assure the comfort of guests all year round, the heating must still be carefully considered in the guest rooms where the temperature should be constantly warm enough for sleeping. Electric heating is used here for its easy control and cheapness of the electricity in the island.

For cooling economy, the design of the buildings is such oriented that most of the glass areas are facing north and south, so that the absorption of solar heat can be minimized. The 5-6 inch-deep water pool on the top of the first floor roof will create for the guest a visual transition between the mountain and the sea. Functionally, it also help in reducing the transmission of the solar heat.

Chilled-water system is used for air-conditioning because of the following advantages:

- Economy of its machine space
- the relative quietness in its operation

Especially in the areas where there is a high density of guests and in the kitchen, proper exhaust and intake of fresh air must be controlled.

Air-conditioning in all public areas, including the lobby, lounge, elevators, restrooms and corridors will be centrally controlled. While, modulating control will be used in restaurants and cocktail bar for economic reasons as well as the creating of different atmosphere through the control of temperature.

The air-conditioning of guest rooms will be controlled individually through a fan-coil unit. The unit is built in a cabinet with the electric heating system located beneath the windows. It will draw in fresh air at the bottom and blow the room air out at an upward angle.

DESIGN CONTENT AND CONCEPT

The project here includes the design of site plan, landscaping, and the architecture plan of the main hotel building. Special attention has been put in the interior design of the living quarters. The typical twin bed room and site are selected for detail study. A series of wall units is also designed to fit in the typical room.

Public Space

The public space consists of the lobby, lounge, front table, public telephone and public restrooms. The round stairway is a sculptural form designed as the focal point of the lobby; it is also for the convenience of the guests that come to dine. With the open balcony that lead directly to the two restaurants and the wide spanned windows looking down the outside dining area and out to the sea, the function of the hotel is then wholly defined.

The front desk is centrally located to avoid any possible traffic conflicts. In contrast to the round stairs and to the curled balcony, the desk is of a straight long form, so that a strong statment could be made to point out its importance.

The lounge groups in the north east corner is designed for longer seating, while the chairs in the south-west are more for the waiting guests. The low railing (approximately 2 feet high) between these seating and the glass windows is to provide a free route between the back and the front offices; and by keeping the guests away from the windows, this railing will also create a psychological feeling to the guests and thus increase the aesthetic value of the attractive outdoor scenery.

Living Quarters

For accomodations, the main hotel building will provide 128 guest rooms.

It is compised of approximately 7% single bed rooms, 38% double bed rooms,

30% twin bed rooms, 12.5% twin double bed rooms and 12.5% suites. It will provide about 250 guest units, (counting every single bed as one guest unit, every double bed as two guest units, with the exception of the twin double bed room which is only counted as two guest units).

Bath rooms and HVAC units are provided in every room. A special closet is designed for luggage storage. The dressing area is separate from the main quarters to avoid conflict of activities sepecially during day time.

Easy cleaning vinyl wall covering is used where needed. Furniture is also carefully selected so that it meets both the requirements of guests' comfort and ease of maintenance. It is visually aesthetic in form, strong in construction and still light enough for easy movement during daily room cleaning.

Three color schemes are used to add variety and charm to the rooms and to avoid the institutional feeling. For the reason of air-conditioning the rooms by mean of color, comparatively cool color is used for all the basic large elements. Warm contrasting color is used to brighten the color scheme and liven up the rooms atmosphere.

Plywood panelling with oak grains finished in a deep color tone is used for part of the wall covering. It's natural warmth will help to add life to the interior environment. It is also serves as the background of the two wall units. The part behind the beds serves as the head rest; the height of the pannel depend upon the height of the head rest needed, so

that no hair stains will be marked on the attached vinyl wall.

Administration and Management

The administration and management section of hotel includes all offices and the related housekeeping space.

For the sake of good personnel control, a "sign in" table is located tight in the employee's entrance. The stair way that immediately follows the entrance is for the smooth flow of all administrative and managerial service. The service elevator serves the same purpose. It is located closed to the loading and unloading platform so that the incoming goods can easily be stored. This elevator goes all the way up to the guest rooms and to the lower basement also connects the offices, the housekeeping section and guest room floors together.

Lockers, a lounge as well as a dining room are designed for the employees. They also have their own parking lot to minimize employee-customer traffic and to increase employee efficiency.

Subrental Space

The subrental space in the hotel building is to serve all the hotel guests, including those who stay in the cottages. It includes a bank, a post office, and travel agency in the first floor; a beauty shop and barber shop in the upper basement; and an independent shopping mall. The mall includes a central court of six shops and a room for general storage. The shops include a men's wear shop, a women's wear shop,

and grocery. The central court is designed for children to play in while their parents do their shopping.

Food and Beverage Service Space

All the food and beverage space in the hotel is to accomodate both resident and non-resident guests. The total dining seats in the hotel, including the formal Chinese and European Restaurants and the informal outdoor dining area, numbered around 300. While the cocktail and bar provided approximately 60 seats. All of them are designed to have a good view to the ocean, convenient to be reached by both resident and non-resident guests.

The formal dining areas:

Because of the need for different food, a Chinese restaurant and a European restaurant are designed separately to provide different menus. They both can be reached easily from the lobby by way of the round stairway. An entrance hall is designed before each restaurant to provide a space for the cloak as well as to create a transitional atmospher before reaching the dining area. The kitchen area is caredully placed between the two dining areas. Although under the same executive director, and sharing the same day-storage, the separation of the kitchen space is necessary due to the entire different ways of cooking.

The informal dining:

The outdoor dining is designed for a more informal and relaxing atmosphere. It can be easily reached by guests from the beach or

from the rooms or lobby. Enjoying the ocean view and the ocean breeze, diners are also well shaded from the sun. With a slightly difference in floor level, it is also directly adjacent to the swimming pool. A dancing floor and band stage are provided to add more charm to the evening activities.

Besides serving the outdoor dining, the kitchen is also designed to provide food for the guest rooms and employees' dining room. A dumbwaiter is designed to meet these purpose.

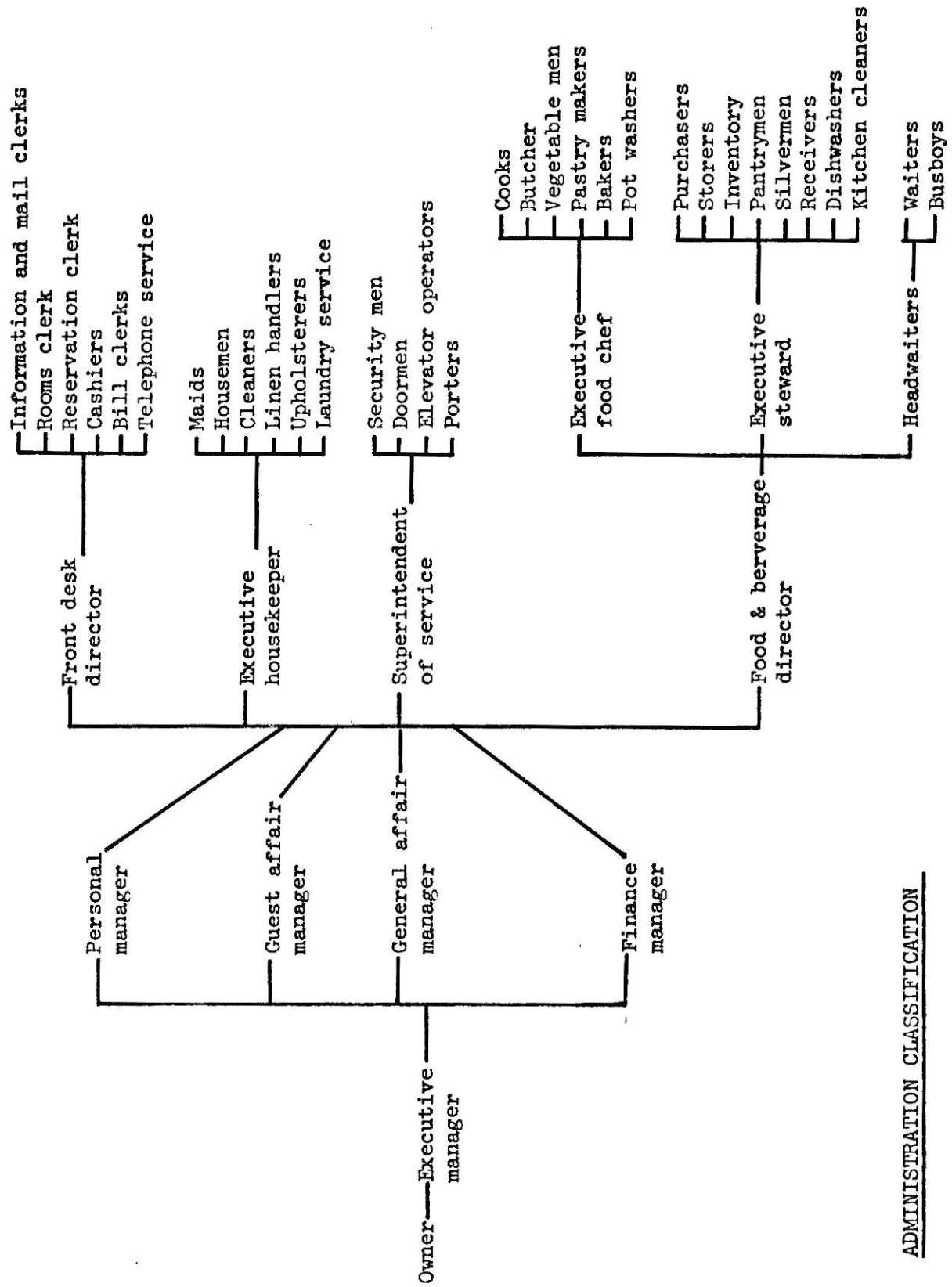
The cocktail and bar:

It is located in the first floor immediate following the lobby lounge. A terrace is included with a small round stair leading downward. It will then link the cocktail bar and the outside-dining together.

Recreation

Swimming is one of the main attractions of the tourists. Besides the beach, a swimming pool is necessary for fresh-water swimming. An attractive terrace is designed for the grouping of nonswimmers and sunbathers. Shower rooms and confessions rooms are provided nearby the terrace.

Other recreational facilities include: children playground, tennis court golf course, gardens, and indoor snooker room.

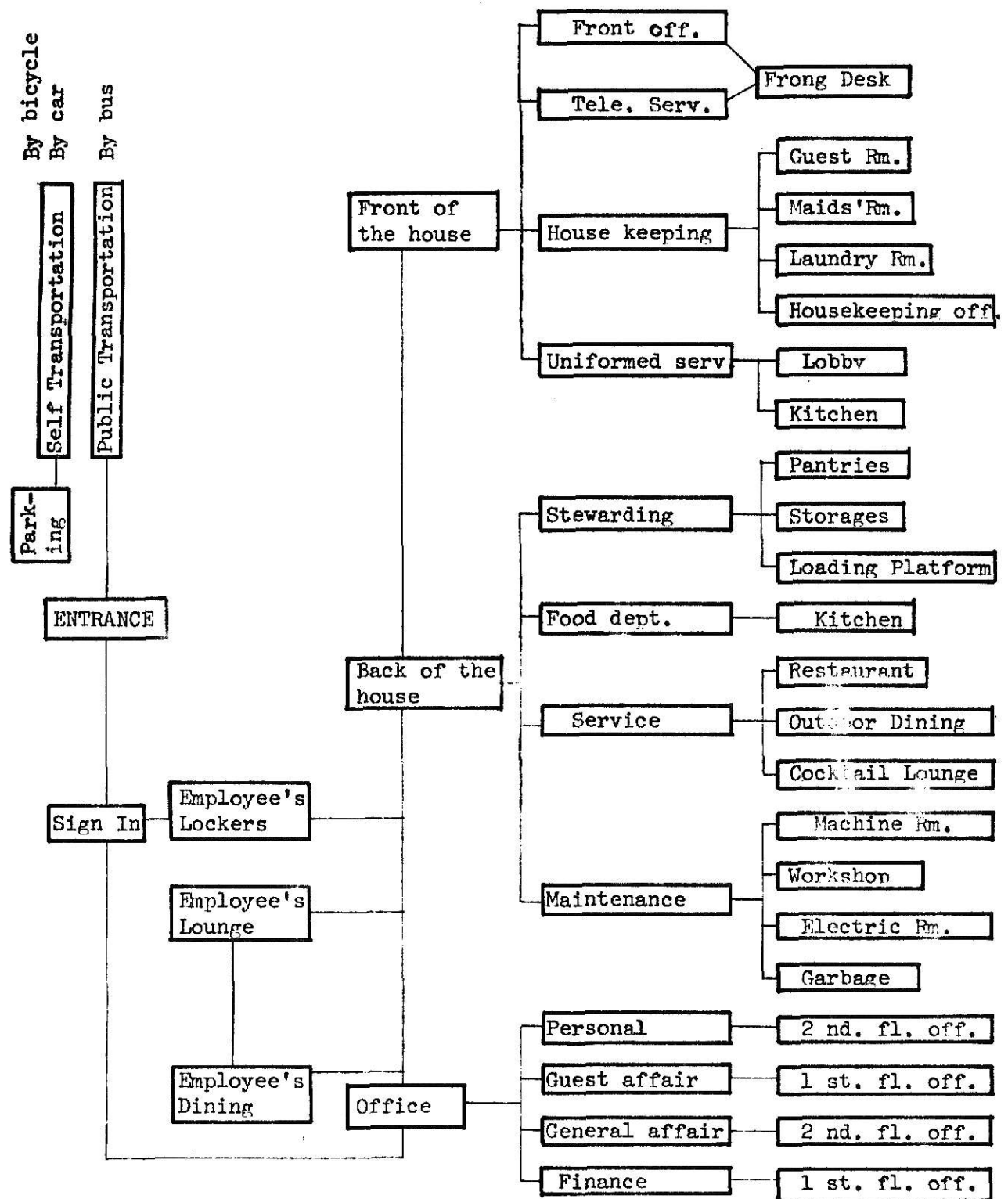


ADMINISTRATION CLASSIFICATION

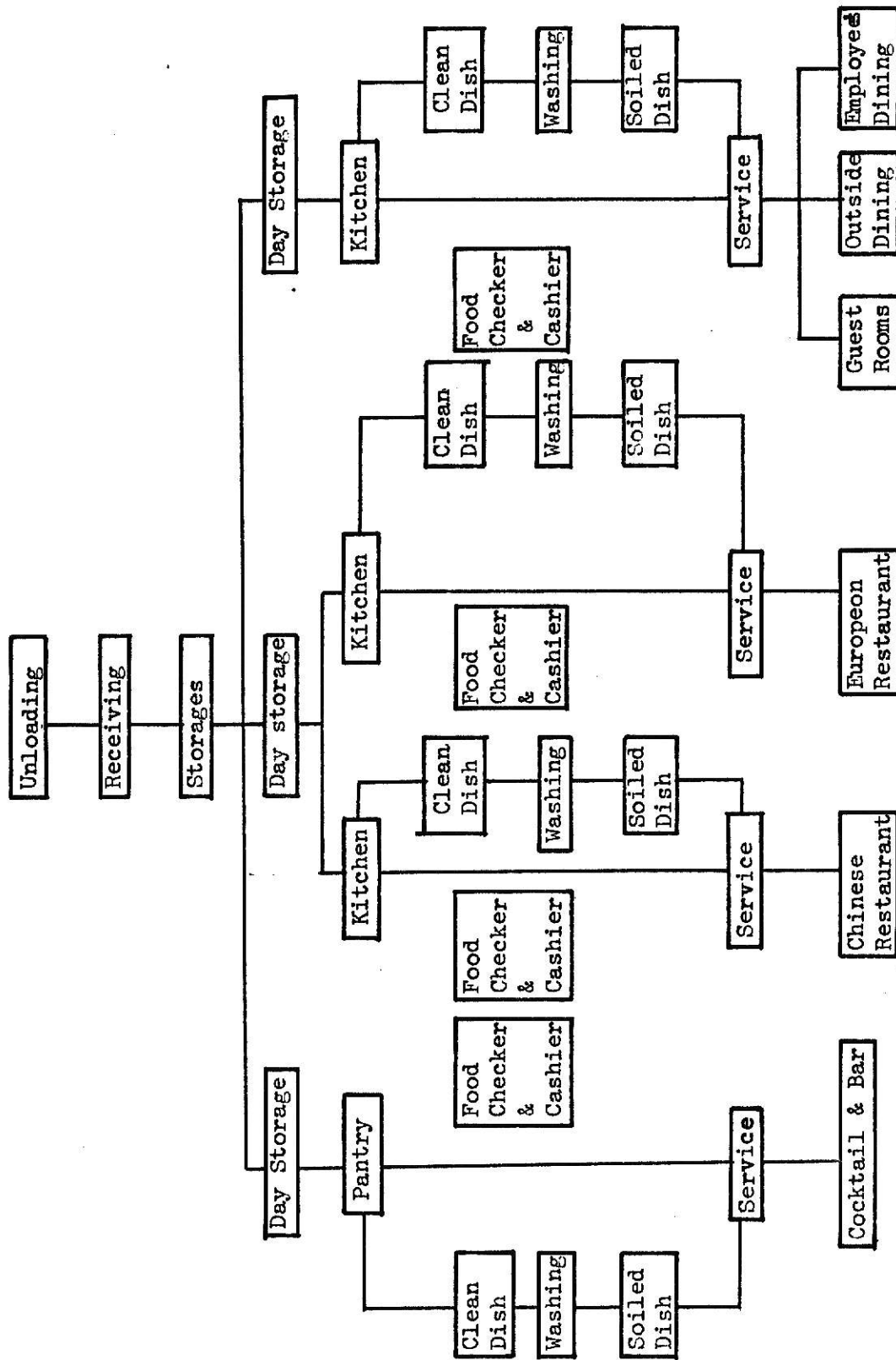
ILLEGIBLE DOCUMENT

THE FOLLOWING
DOCUMENT(S) IS OF
POOR LEGIBILITY IN
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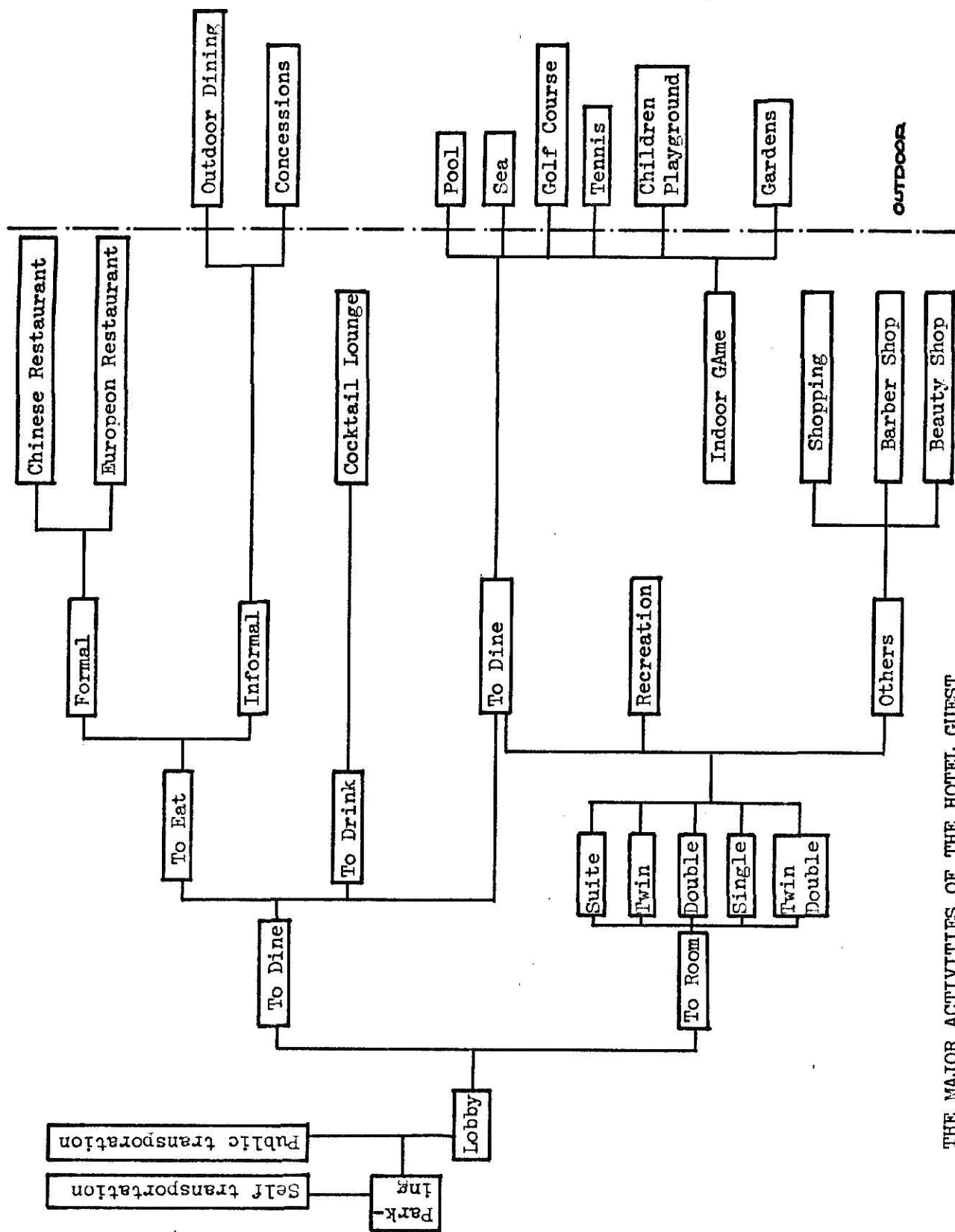
THIS IS THE BEST
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THE OPERATION OF HOTEL'S STAFF



FLOW CHART OF FOOD AND BEVERAGE OPERATIONS



THE MAJOR ACTIVITIES OF THE HOTEL GUEST

PRESENTATION

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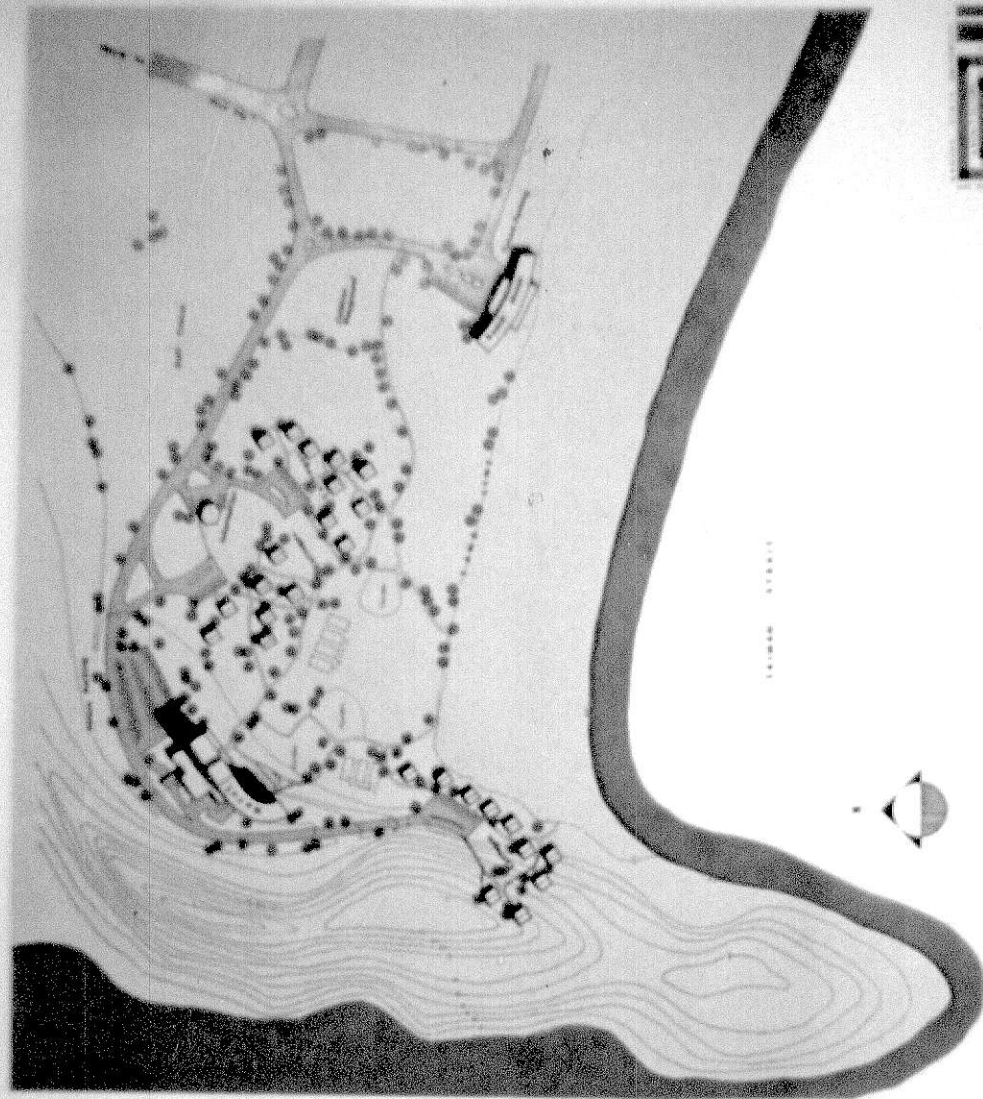
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EXPLANATION OF PLATE I

Site Plan

**THIS BOOK
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A

SEASIDE

RESORT

IN

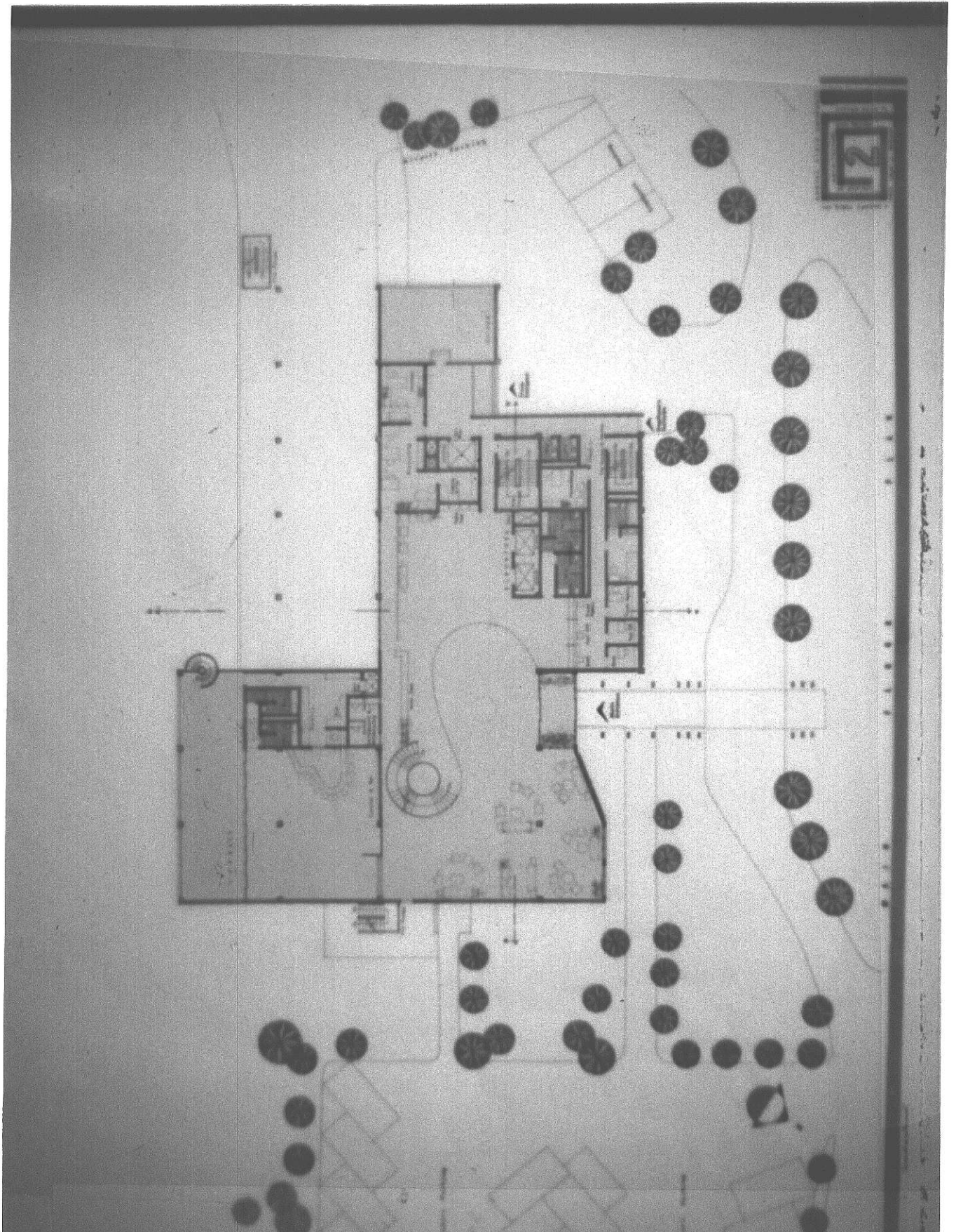
CHI-CHIN

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TAIWAN

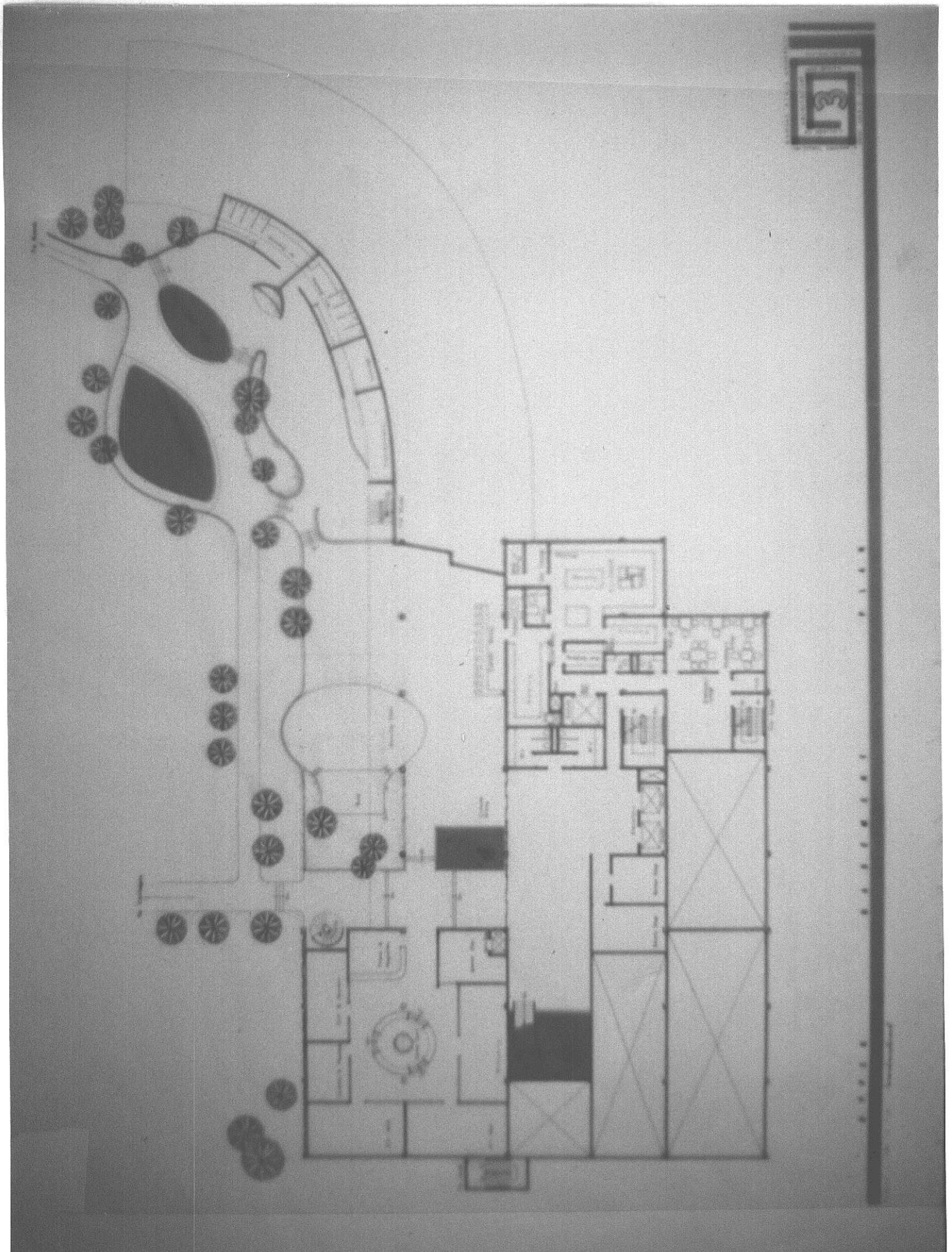
EXPLANATION OF PLATE II

Main Floor Plan



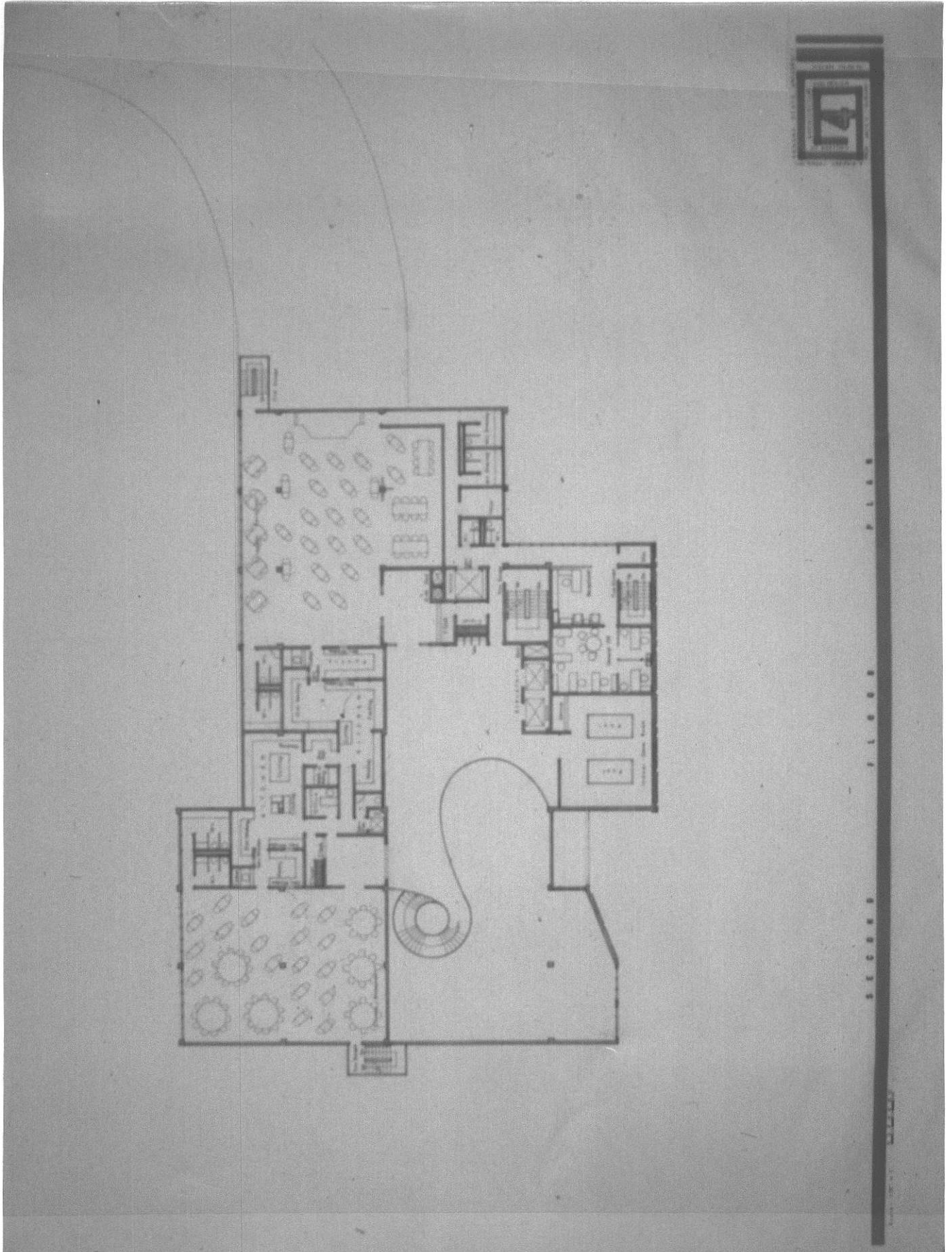
EXPLANATION OF PLATE III

Foyer Basement Plan



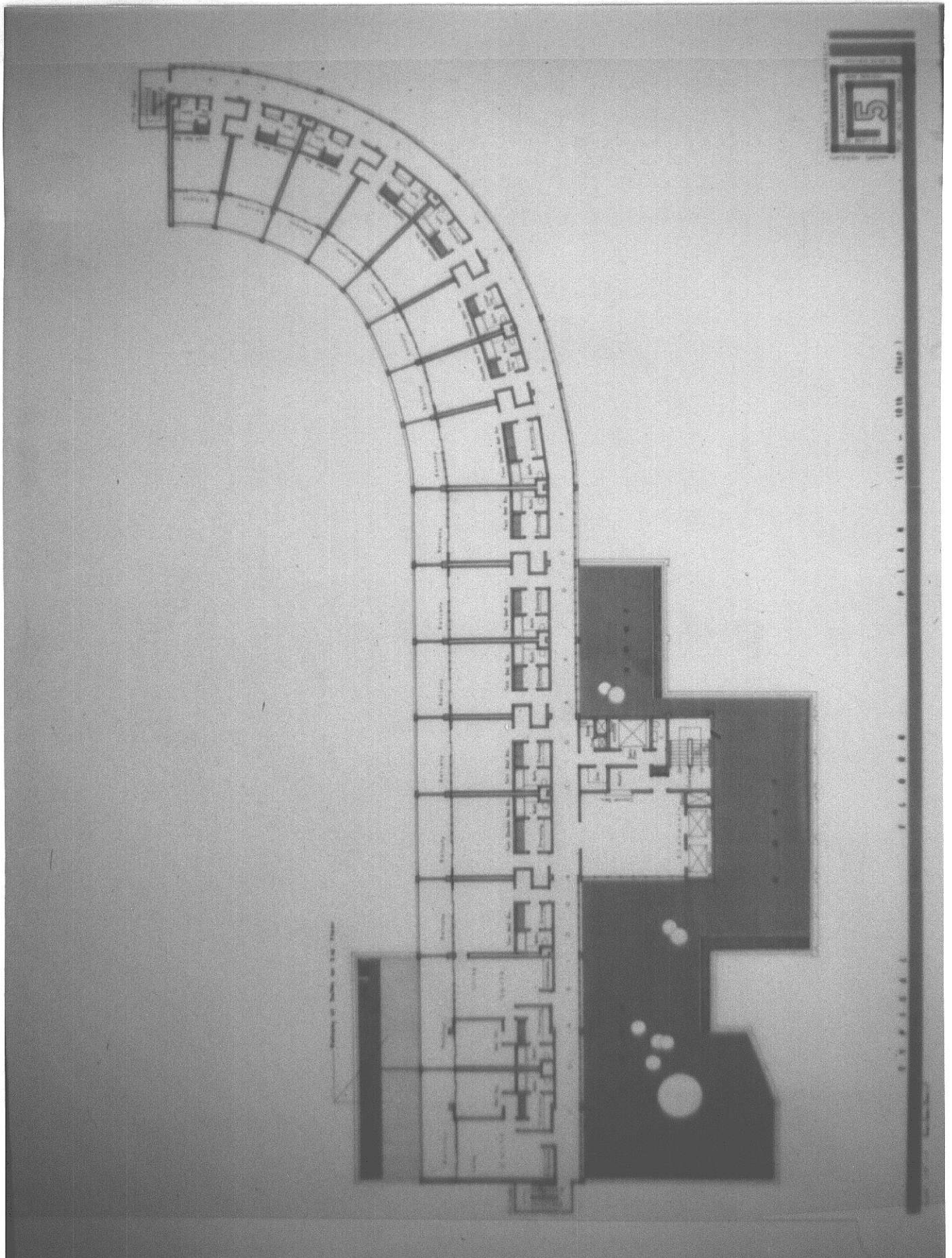
EXPLANATION OF PLATE IV

Second Floor Plan



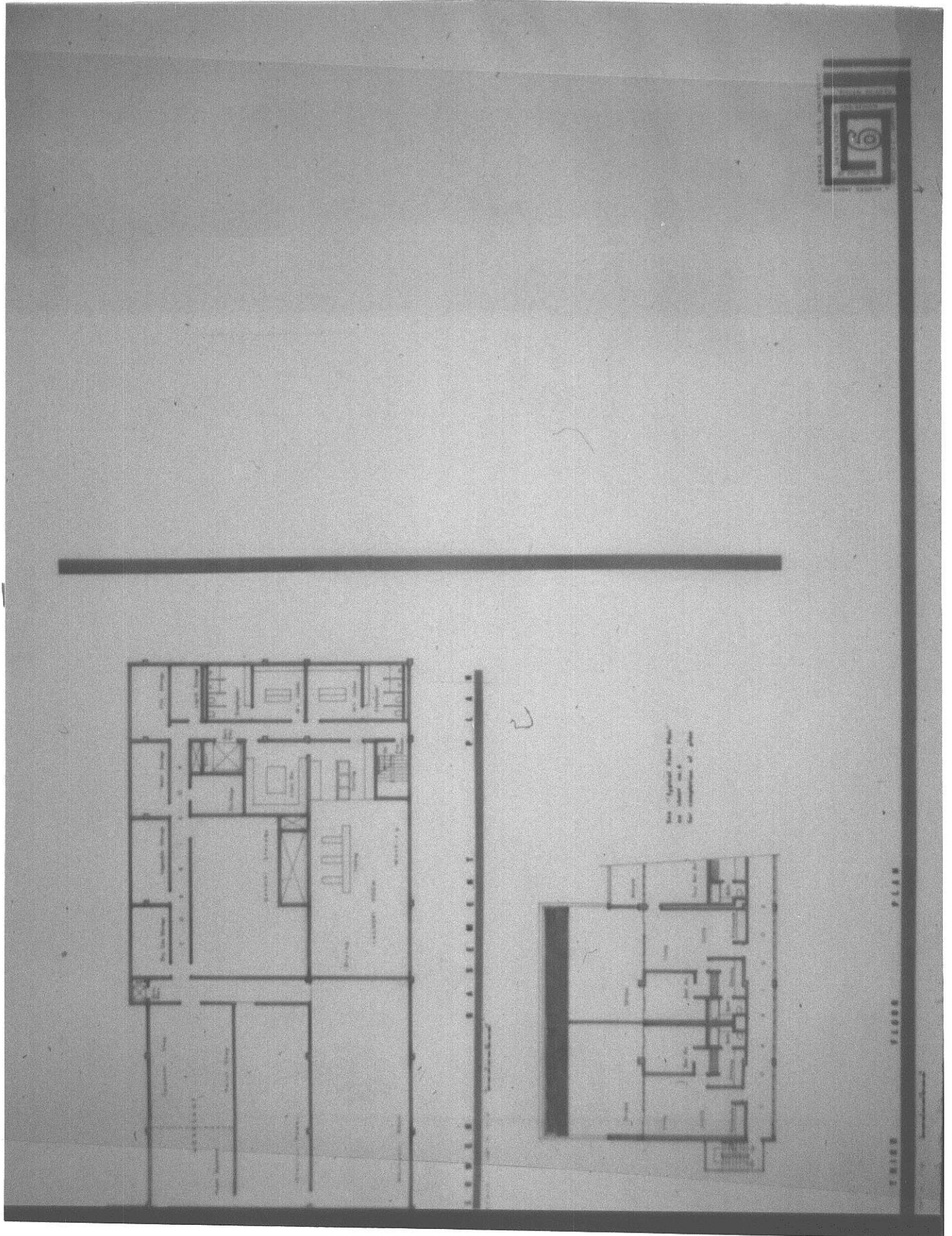
EXPLANATION OF PLATE V

Typical Floor Plan



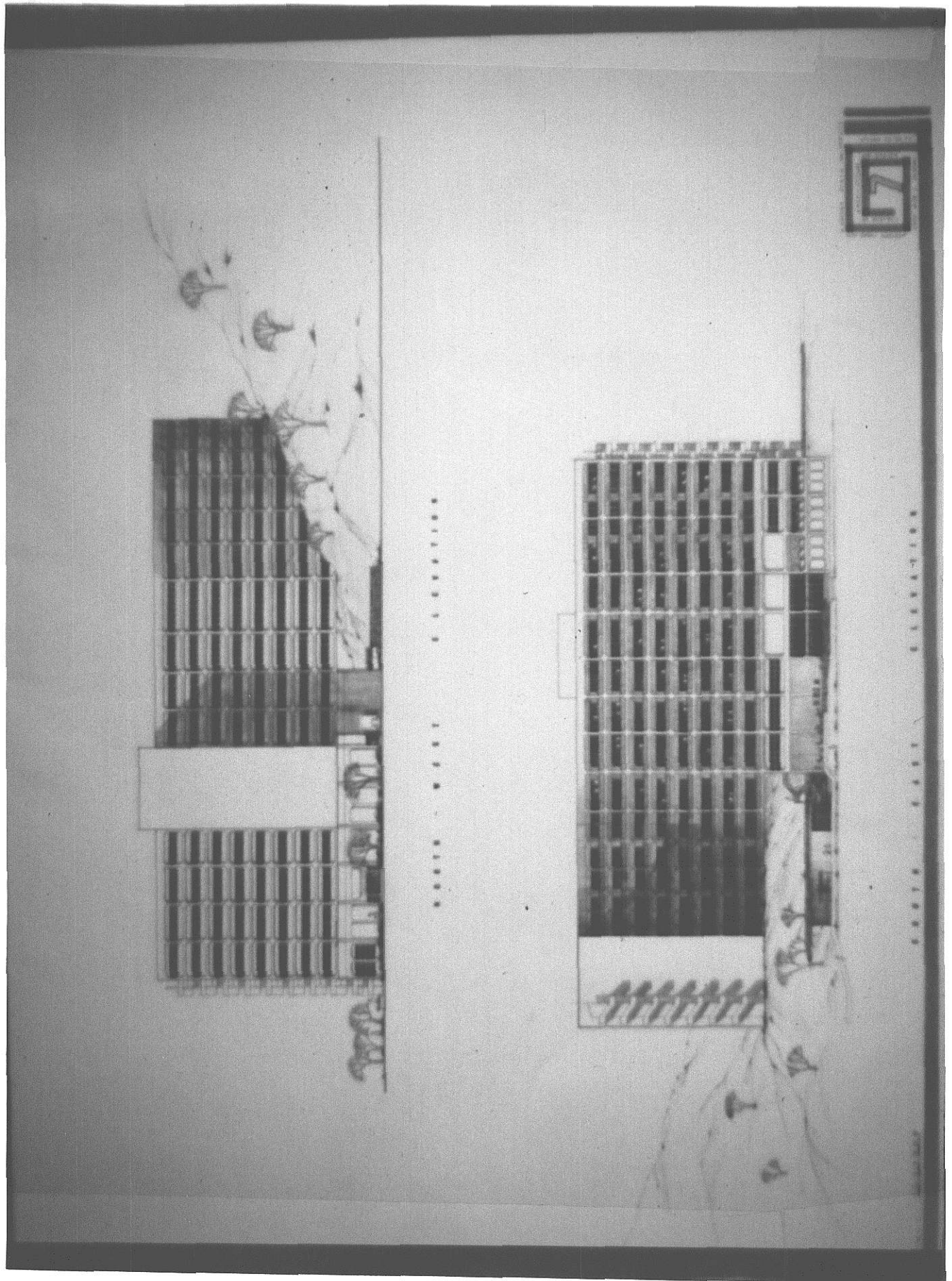
EXPLANATION OF PLATE VI

Third Floor Plan



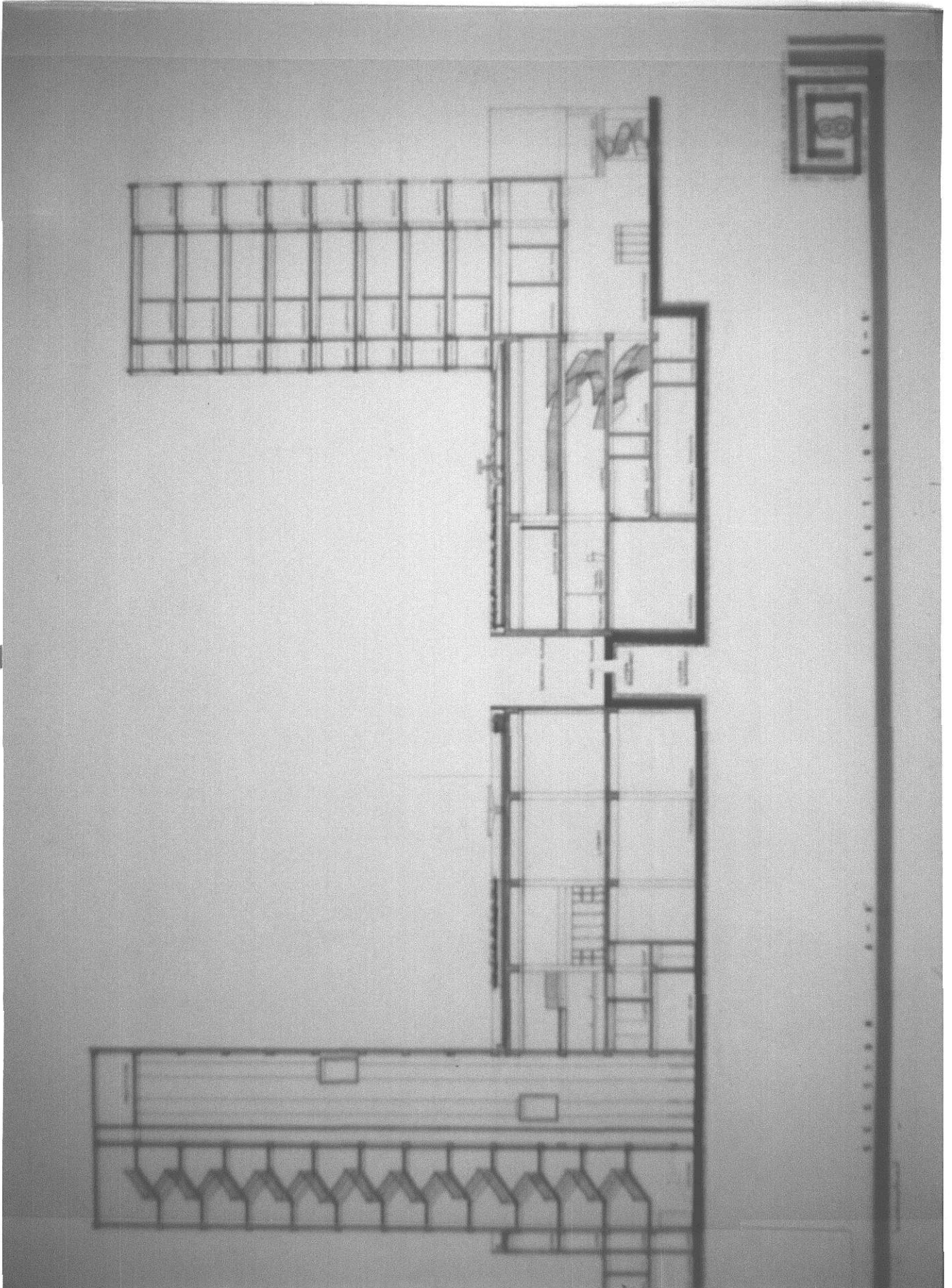
EXPLANATION OF PLATE VII

South East Elevation



EXPLANATION OF PLATE VIII

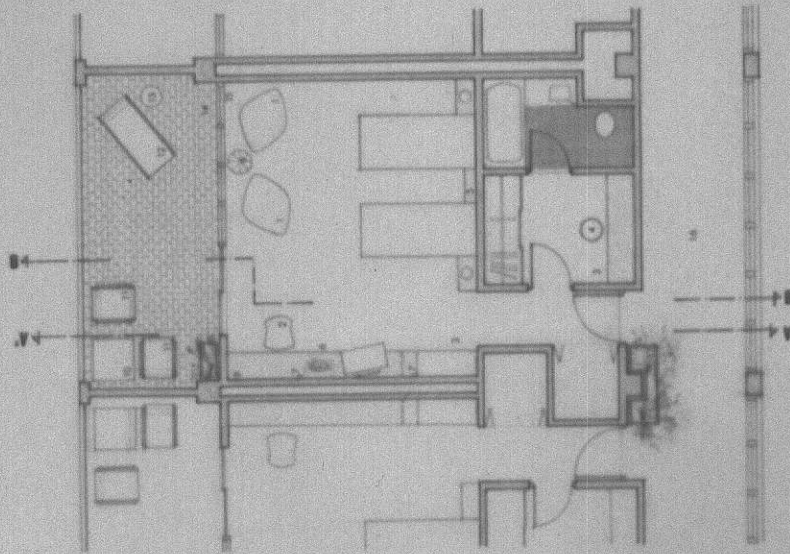
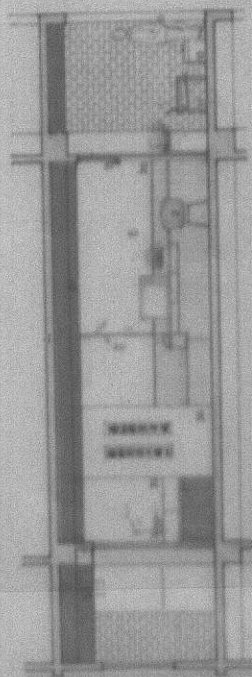
Sections A-A' and B-B'



EXPLANATION OF PLATE IX

Interior Design for Typical Twin Bedroom

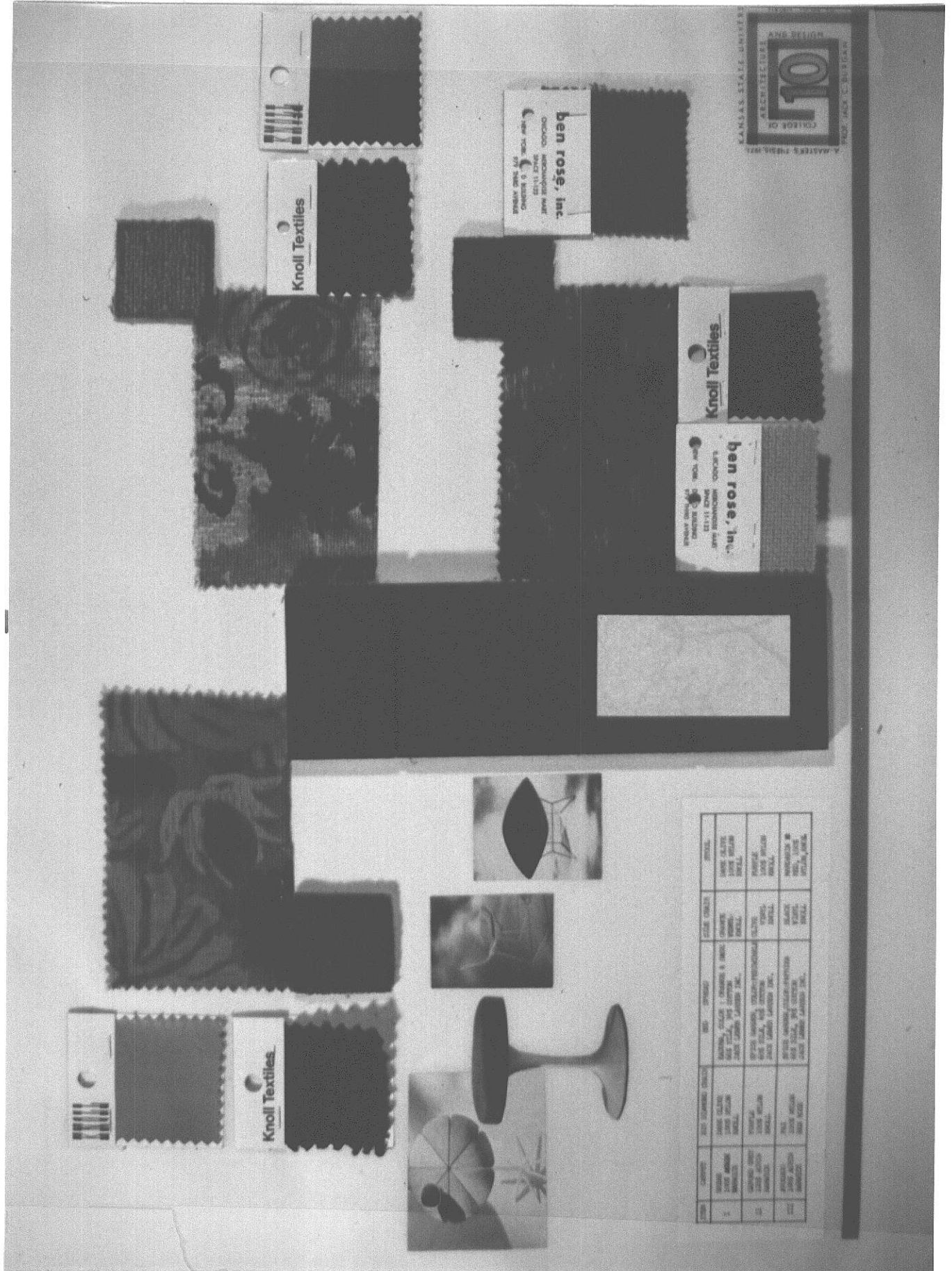
INTERIOR DESIGN
FOR TYPICAL
TWIN BEDROOM



ROOM	FINISH	ARO	PAINTINGS
10	Acoustic Tile		Decorative
1	Wood	Large Diamond Chair w/ 100	
2	Wood	Side Chair w/ 425.00	Table
3	Plastic	Cornet, Endless (100.00) w/ 100	
4	Wood	Box w/ 4200.00	
5	Wood	Box w/ 1750.00	Table
6	Wood	Box w/ 5140.00	Table
7	Acoustic Tile	Wood w/ 1020.00	Table w/ 100
8	Acoustic Tile	Wood w/ 1020.00	Table w/ 100
9	Acoustic Tile	Wood w/ 1020.00	Table w/ 100
10	Acoustic Tile	Wood w/ 1020.00	Table w/ 100
11	Acoustic Tile	Wood w/ 1020.00	Table w/ 100
12	Acoustic Tile	Wood w/ 1020.00	Table w/ 100
13	Acoustic Tile	Wood w/ 1020.00	Table w/ 100
14	Acoustic Tile	Wood w/ 1020.00	Table w/ 100
15	Acoustic Tile	Wood w/ 1020.00	Table w/ 100
16	Acoustic Tile	Wood w/ 1020.00	Table w/ 100
17	Acoustic Tile	Wood w/ 1020.00	Table w/ 100
18	Acoustic Tile	Wood w/ 1020.00	Table w/ 100
19	Acoustic Tile	Wood w/ 1020.00	Table w/ 100
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21	Acoustic Tile	Wood w/ 1020.00	Table w/ 100

EXPLANATION OF PLATE X

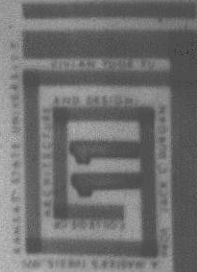
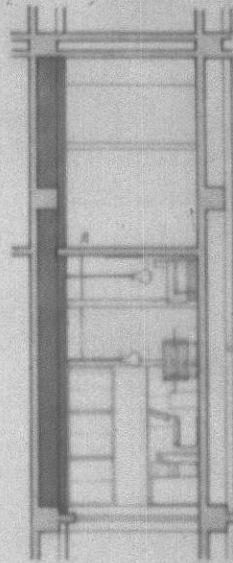
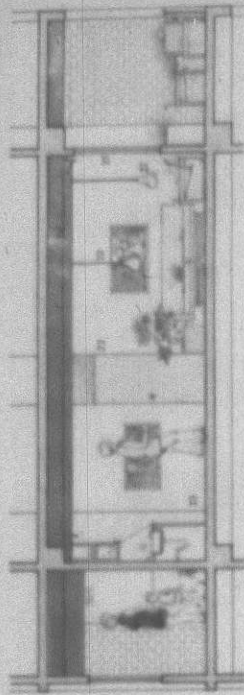
Fabric and Color Selection



EXPLANATION OF PLATE XI

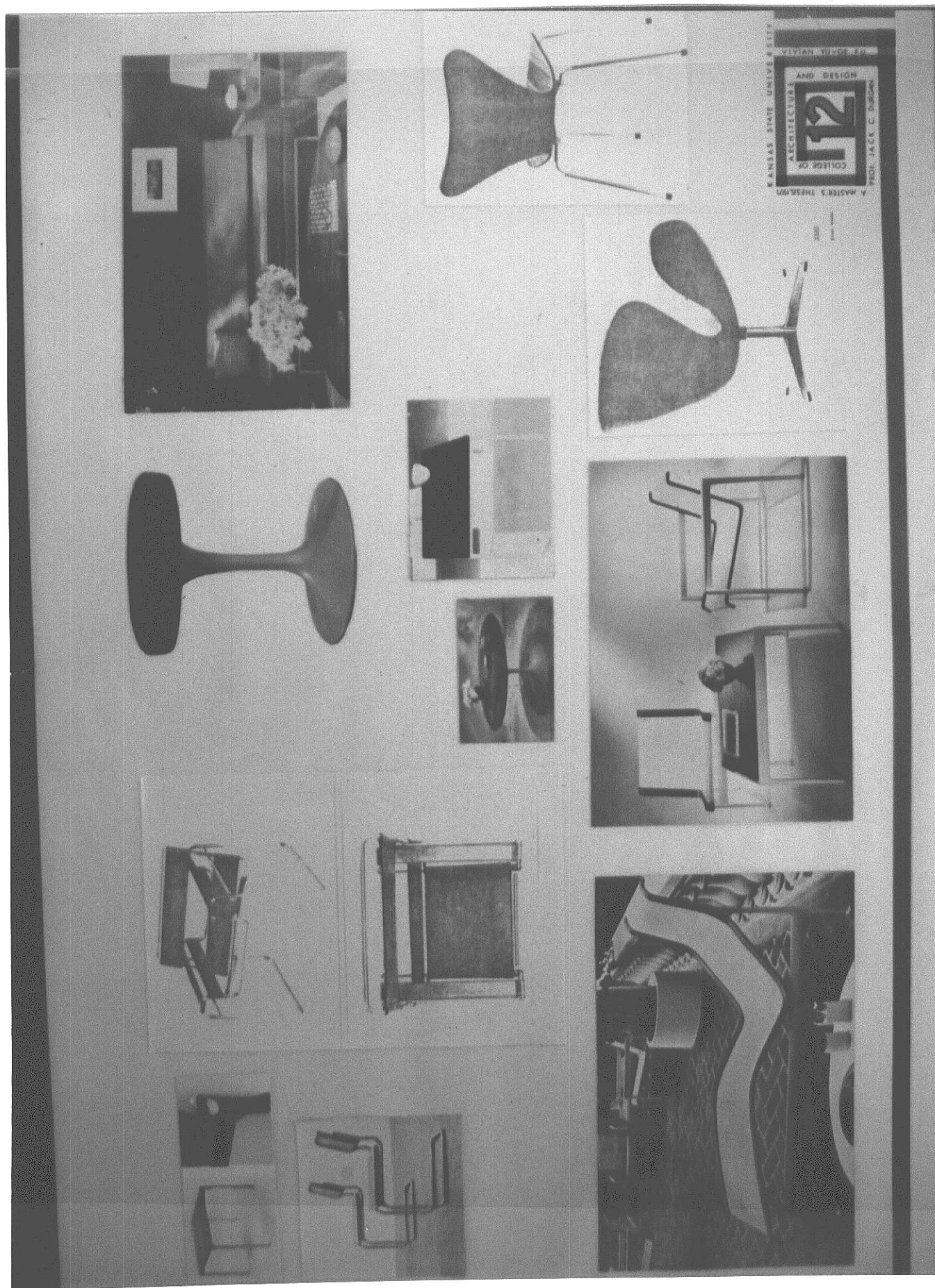
Interior Design for Typical Hotel Suite

ERIOR DESIGN
HOTEL
ICAL SUITE

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EXPLANATION OF PLATE XII

Furniture Selection

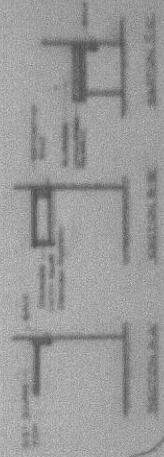
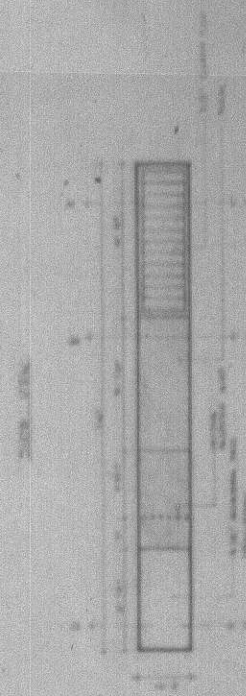
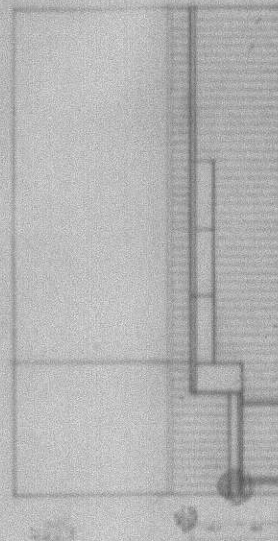
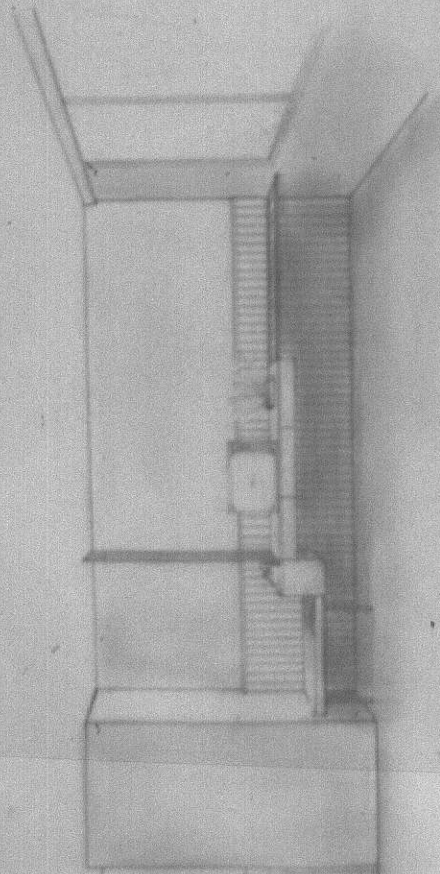


EXPLANATION OF PLATE XIII

Fabric and Color Selection

EXPLANATION OF PLATE XIII
Furniture Design for Typical Room

FURNITURE DESIGN
FOR HOTEL
TYPICAL ROOM



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And last but not least, the author wants to extend her highest gratitude to her guidances, Mr. and Mrs. M. S. Lam and Mr. and Mrs. S. L. Chen, and her husband, Mr. Kung-ping Fu, for not giving up the long and eternal wait and the invaluable spiritual and financial supports in making this work possible.

A SUBTROPICAL SEASIDE HOTEL IN CHI-CHIN, KAOHSIUNG, TAIWAN

by

VIVIAN YU-GE LAM

B.S., Cheng Kung University, Taiwan, 1967

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

1971

ABSTRACT

Taiwan, with its beautiful natural scenery, has many favorable conditions for a good tourist industry. According to the report of the Taiwan Immigration Department, the number of tourists in Taiwan has doubled every two years since 1963. And, because of the encouragement of the government the tourist industry is, in fact, still progressing. It is therefore imperative that more hotels be built to provide accommodation and recreation for tourists.

Kaohsiung, the biggest harbor of Taiwan, is located in the southwestern coast of the island. Presently the fastest growing city, it is definitely an excellent place for new hotels to be established. Backed by high mountains and facing the ocean, it also has beautiful scenery to attract tourists.

This project is a design of a new beach recreation area, a long sand bar that encloses Kaohsiung Harbor, located in the northern end of Chi-chin district, Kaohsiung City. This report contains the study of the local environment of Taiwan and its tourist industry. It also includes the study of the factors that influence the interior and architectural design. The design here is a building complex consisting the hotel and a beach house, and a group of 26 individual cottages. The hotel is designed to serve transient visitors and week-enders. It includes a total number of 128 rooms with 48 double rooms, 40 twin-bed rooms, 16 twin double bed rooms, 8 single rooms and 16 suites.

It also includes a swimming pool, a small shopping area, and two restaurants, one providing Chinese and the other European menus.

The beach house includes a snack shop, 28 conventional rooms, a public locker, and a beach-items rental area. Its main purpose is to serve the local residents who come only to spend a day or even only an afternoon on the beach.

The design is principally based on the integral function of the hotel with beach activities, and the harmony of the architectural form with the natural environment. It is to serve the need of the tourists and also the city itself. While designing, the designer has attempted to work in two ways : inside out and outside in. By utilizing these two methods, it is hoped that no practical function or aesthetic desire would be left unfulfilled.

A hotel designed as a place of relaxation and enjoyment, because of its various combination of different spaces, is many times referred as small city within the big community. It is believed that an interior architect is supposed to be a professional person that has the most comprehension of man-use space. It is then hoped that by successfully completing this report, the designer will then provide herself with the understanding of handling any architecture space.