AN APARTMENT BUILDING
IN BOSTON'S CHINATOWN

by

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Submitted in Partial Fulfillment
of the Requirements for the
Degree of Bachelor of Architecture
at the
MASSACHUSETTS INSTITUTE OF TECHNOLOGY
JUNE 1962

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Dean Pietro Belluschi
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Dear Dean Belluschi:

In partial fulfillment of the requirements for the degree Bachelor of Architecture, I submit herewith a thesis entitled "An Apartment Building In Boston's Chinatown".

Respectfully yours,

Tsō Siew-wong
To My Father and late Mother
## INTRODUCTION

### THE CHINESE IN THE UNITED STATES OF AMERICA

1. The Early Immigrants
2. The Immigration Problems
3. The Growth of Chinatowns
4. Social Structure of Chinatown

### THE BOSTON CHINATOWN

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1. The Site
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1. Construction
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3. Heating and Ventilation

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Map 1
Map 2
Oxford Street
Oliver Place
Tyler Street
Oxford Street (Looking at the existing buildings on the site)
Hudson Street
Children Playing on the Sidewalk

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**BIBLIOGRAPHY**
INTRODUCTION
Due to various restrictions which I shall discuss later many Chinese still prefer to live in Chinatown. However there is a serious shortage of housing. Thus it is the desire of the Chinese Merchants Association to see that the Chinese are properly housed.

After serious considerations including the future re-zoning possibilities of Chinatown by the Boston Redevelopment Authority, the Chinese Merchants Association decided to choose the site on Oxford Street which it owns as the site for the new apartment building. The Boston Redevelopment Authority has no intention of re-zoning unless it is an absolute necessity. Even if it is done, most likely the business section (see Map 1) of Chinatown, in which the site is located will not be re-zoned.

The Chinese Merchants Association will pay a part of the total cost of the building. The rest will have to be subsidized by the State or Federal Government. The intention is to provide low-cost housing, and the Chinese Merchants Association certainly does not expect to make any profit on this apartment building.
i) The Early Immigrants

In 1850 after the discovery of gold in California, Chinese began to immigrate to the United States. However, there was no large-scale immigration of Chinese across the Pacific Ocean until about 1860 after the legalization of the "coolie trade".

The early immigrants were poor and mainly unskilled. The rapidly deteriorating social, economic, and political conditions in China during the latter part (1850 - 1911) of the Manchu Dynasty caused many Chinese males to seek relief and economic betterment in foreign lands. They came mostly from the densely populated province of Kwangtung Province.

These immigrants did not consider their residence in the United States to be permanent. Their mental orientation was toward the home country. Very often a Chinese had to spend a major portion of his lifetime in America to raise his standard of living, but the full enjoyment and final achievement of his object were to be in his place of origin. While he was away his family and relatives would save the money he sent home, invest it, and prepare for the immigrant's eventual return, at which time he already owned various holdings which reflected his economic betterment and higher social status achieved abroad.

Most early Chinese immigrants maintained a psychological and social separateness from the larger society. They remained outside the general social system and lived restricted lives until they had accumulated enough wealth to return to China. This attitude still exists in the minds of many old immigrants whose families are still in the China Mainland.

ii) The Immigration Problem

In 1868 with the signing of the Burlingame Treaty between the Manchu emperor and the United States, the United States gained the right "to regulate, limit, and suspend" the admission of Chinese labourers or even prohibit their entry entirely. Since then a number of laws and bills were enacted that made Chinese immigration next to
impossible and made more difficult the existence of Chinese that were already in the United States.

During World War II when Chinese and Americans fought side by side against the Japanese, the American opinion of Chinese began to change. Equality was gradually reflected by the American government. In December 1943 the Exclusion Act which altogether prohibited the entry of Chinese labourers to the United States was repealed. On February 8, 1944, an annual quota of 105 was established for persons of Chinese ancestry. This step marked the beginning of an attempt to promote better racial relations throughout the country and throughout the world.

On August 9, 1946, the Second Exclusion Act of 1924 which prevented Oriental alien-born married women from entering the United States was amended. Alien wives of citizens were made admissible on a non-quota basis, while alien wives and alien children of citizens were given preferential treatment within the quota limitations. By the War Brides Act of July 22, 1947, thousands of Chinese women gained admission to the United States. This meant the composition of the Chinese population would then change tremendously. However, the War Brides Act expired on December 30, 1949, the same year that the People's Government gained control of the China Mainland.

After China split into two - the Nationalist and the People's Governments, many Chinese began to lose interest in returning to China. They do not trust the People's Government, and on the other hand they have no faith in the Nationalist Government either. Thus a lot of the Chinese tend toward a fatalistic attitude.

iii) The Growth of Chinatowns

In the early days while Chinese labour was still an essential human power in the Wild West, many newly arrived Chinese were housed in quarters provided by the railroad, timbering, ranching and mining interests whose agents had recruited them from China. These Chinese had difficulty in adopting the American way of life. They needed special food and clothing. In order to supply these special goods to the Chinese, some more enterprising
Chinese began to own and operate businesses around the quarters. And these merchandise stores became the centers of Chinatowns. Besides carrying a line of Chinese goods these stores also provided post-office and banking services, and became social gathering places for the Chinese.

After the completion of the railroads there was a tendency for the Chinese to settle in the larger cities. Several reasons may account for this. A primary factor was that Federal and State laws hindered their participation in mining. They were excluded from skilled occupations by labour unions. As more white men settled their families in the Wild West, hand laundries and small restaurants could no longer compete with the same services normally performed by women in the household. Moreover, municipal laws in small towns frequently taxed Chinese businesses out of existence or the local population boycotted their goods and services. Hence more and more Chinese settled in metropolitan cities where single persons desired their services and visitors or lovers of Chinese food preferred Chinese style cooking. Their enterprises existed because there was a large population base from which to draw customers, and the presence of a Chinatown is usually accepted in large cities inhabited by various racial groups.

iv) Social Structure of Chinatown

For over twenty centuries Chinese society was based on clans, groups and individuals stemming from a common ancestor and bearing the same last name, and these clan relationships involved social interaction, the extension of mutual aid and protection and power interrelation. The immigrants from Kwangtung Province re-created clan or family associations in Chinatown. Particular Chinatowns have been organized around a given clan. For instance the Wong clan dominates the Boston Chinatown. There is another basis for organization in Chinatown, namely, the district of origin. District associations tie those of a given clan or several clans to-
gether for mutual aid and protection. Hence, the clan and district associations supercede the individual in importance.

Since the Chinese are surrounded by many persons to whom they owe obligations and duties because of kinship relations, the commonest type of family unit is the extended kinship family. The extended families are composed of several generations living together under one roof.

After World War II, the number of American-Chinese (Chinese born in the United States) increased tremendously due to the change in government policy toward Chinese immigrants. It is estimated that by now the American-Chinese may easily constitute two-thirds of the total Chinese population. However most of these American-Chinese are still children. The future of Chinatown will be in the hands of these young American-Chinese.

Cultural conflict is quite evident within the home between parents born in China and their American-born children. The China-born parents accept the physical changes but they reject the corresponding alteration in their mode of living and thinking. And it is not uncommon to meet an old China-born Chinese who has difficulty conversing in English and who does not read at all. Moreover Chinatown has developed so much of a unity that a Chinese living in Chinatown can almost ignore the dominant society completely. This further strengthens the China-born parents' bond with the old Chinese culture. Naturally they transmit this to their American-born children. However later their children go to public school and come in contact with members of the dominant group; then the children begin to realize the inconsistencies of the American and old Chinese culture. The children are caught between conflicting loyalties to two groups and two ways of life. The most obvious incidence of parent-child conflict is in the language barrier between the parents and children. The parents cannot express themselves fully in English and the children cannot in Chinese. Thus the parents begin to realize that their children have become strangers and they cannot penetrate their thoughts and emotions.
Most American-born Chinese regard the occupations of their China-born parents as unbefitting their higher educational status. Few are willing to sweat and toil long hours for small profits. Many move away from Chinatown or resettle in other cities.

American-born Chinese are citizens of the United States of America. They are like other Americans born in similar circumstances, and they very much want to be integrated into the American society without reservations. Yet they are forced through various social contacts to be conscious of their different racial and cultural heritage. The possession of distinctive racial features adds to their difficulties because these physical characteristics arouse the prejudices of the dominant society who thinks of and treats them as a group rather than individuals. This difference invokes curiosity or even hostility whenever a racial minority interacts with the dominant group. As race is an unchangeable fact, the dominant group uses it as a criterion for membership in social groups and the conferring or denial of rights and privileges.

The American Chinese are less conscious of clan or district relations. They owe no loyalty to either of the Chinese governments. Their greatest wish is to be allowed to pursue the American way of life, have sufficient means to maintain themselves without being an economic liability to the society, and transmit their gains to the next generation.

Since the existence of Chinatown depends on the size of the population within, and the American-Chinese constitute two-thirds of the total population in Chinatown, the future of the Chinatown will depend on how well the American-Chinese can integrate with the dominant group.
THE BOSTON CHINATOWN
The character of Boston's Chinatown is no different from the general character of the Chinatown previously described. The elements that were required to form the Chinatowns are the same. However the size of the Chinatown may differ from city to city.

i) Population

At present Boston's Chinatown has a population of about 2,000. This is composed of both the American-Chinese and the China-born Chinese. Most of the adults belong to the latter group.

Among the China-born Chinese, the males greatly outnumber the females. Since a cultural conflict between the American-Chinese and the China-born Chinese exists it is quite difficult for a China-born Chinese male to marry an American-Chinese female. Due to these complications many China-born Chinese bachelors had to travel to Hong Kong to search for wives. After marriage the couple returned and settled down in the United States. For these newly arrived China-born females, language is their greatest handicap in this new environment. Thus most of these newly married couples prefer to live within Chinatown. They feel more comfortable being with their own kind.

Among the American-Chinese the ratio of males to females is almost equal. However most of them are under 18 years of age. A large proportion of them are between five and ten years old. There is an average of four children in each family.

After the People's Government gained control of the China Mainland in 1950 many of the families of the male immigrants over fifty still remained on the China Mainland. Communication between these old immigrants and their families in the China Mainland is being restricted. These men consist of about 10% of the Chinatown's total population. They are old and lonely but they dare not return to the China Mainland to meet their families. Therefore in general they find life very dull here, and probably the only excitement there is for people of their age is gambling.
ii) Occupation

Since the appearance of the laundromat Chinese hand laundry has declined to almost non-existence now. Chinese gift shops are no longer a Chinese monopoly. The reason is that real Chinese craftwork cannot be obtained due to the restrictions imposed by the United States government on goods coming from China Mainland. Thus the merchants turn to Japanese goods which are very similar to Chinese goods superficially. Since the profit on this merchandise is quite handsome other merchants besides Chinese merchants have begun to deal with the Japanese, too.

The restaurant business is still the most profitable business for the Chinese. About 80% of the men's occupations are related to restaurants; 10% work in the Chinese grocery stores; 5% work in gift shops and 5% work in the laundries.

A large percentage of the housewives (about 90%) work for the sewing factories near Chinatown. Those who have small children will take materials from the sewing factories and work at home. They make two or three trips a week to the sewing factories. These housewives earn about $180.00 a month. The ones that go to the factories to work earn about $100.00 more per month.

If both the husband and wife work, the average income per family per month will be about $550.00.

iii) Housing

Housing is one of the biggest problems, second only to immigration, that all persons of Chinese ancestry face. As a racial minority, they have a hard time finding suitable housing. Restrictive covenants in title deeds were severely enforced until 1947 when the United States Supreme Court declared such covenants non-enforceable. Since then the Chinese are less restricted, but legislation cannot stamp out deep-rooted attitudes and emotions. And this is one of the reasons why a Chinese will prefer to stay in Chinatown rather than go through all sorts of unpleasant situations before he can obtain a satisfactory place to live.
Boston's Chinatown is overcrowded. The shortage of housing has been growing worse since the end of World War II due to the influx of families and the high fertility of young Chinese couples. Also, a lot of deteriorated apartment buildings have been demolished recently and have not been rebuilt.

Available housing consists of living quarters over stores, one-bedroom or two-bedroom apartments. Many of these old apartments have no central heating system. The tenants have to install unit heaters in their apartments themselves. Very often a family of six has to crowd into a two-bedroom apartment. Convertible beds are extensively used in the living room by large families. There are cases in which a family of three generations occupies two apartments (one on top of the other), one being converted to bedrooms entirely while the other is used for family gatherings (i.e. living room, dining room, and kitchen). Some families crowd into rooms so small that the inhabitants spend most of the time in hall ways or out in the streets. As fast as families move out of these apartments, others willing to pay the exorbitant rentals move in. An old two-bedroom heated apartment ranges from $55.00 to $85.00 per month. A one-room unheated apartment is about $45.00 per month.

For the children of Chinatown, there is no adequate playing area except a small school yard which belongs to the Quincy School. Most youngsters play there now. The kindergarten-age children have to play on the sidewalks under their parents' constant supervision.

Because a lot of buildings have been demolished recently, there are spots of small open spaces scattered all over Chinatown. At present all these open spaces are being converted into parking lots. If it were not due to the possibility of re-zoning Chinatown in the future, I suppose these open spaces could be converted to much better uses than parking lots.
THE PROPOSED APARTMENT BUILDING
i) The Site

Chinatown is located in downtown Boston and the site of the proposed building is on the edge of Chinatown. It is on the opposite side of Chinatown from the residential section (See Map 1) and is only about 50 yards from Chinatown's center. The site is bounded by two streets - Oxford Street and Oliver Place - running in the north-south direction. The site is surrounded by buildings of various heights (See Map 2). Next to the site on the north is the Leong Auditorium; on the south is an apartment building.

Across Oxford Street opposite the site is a small parking lot with a capacity of about 10 cars. Surrounded that parking lot are the backs of those buildings that face on Beach Street. Oxford Street has no heavy traffic throughout the day. It is not a very exciting street like Beach Street, Hudson Street or Tyler Street that have colourful shops and are always full of activity. There are two grocery stores and one restaurant at the southern end of Oxford Street. A large proportion of the street is occupied by the rear of the New England Telephone and Telegraph building.

Oliver Place is almost a dead end street and has practically no traffic.

On Leong Auditorium was the major meeting place for the Chinese in Chinatown until the Chinese Merchants Association Building was built. However the On Leong Auditorium has not yet lost its purpose entirely. The afternoon Chinese school still holds its classes in the On Leong Auditorium.

All facilities are within a radius of 100 yards of the site. Such facilities include a bank, post office, restaurants and various kinds of retail stores. Washington Street M. T. A. station is only a few blocks from the site. Two blocks away is the New England Medical Center.

ii) General Considerations For The Design

Since the proposed apartment building is meant for the Chinese in Chinatown, in designing the building the Chinese way of living should be seriously considered. Neighborhood relationships should not be
overlooked, especially when this is the important factor that binds the Chinese together within Chinatown.

The basic problem of planning an apartment building can be considered as the problem of enclosing the required number of dwelling units, economically within walls and a roof; providing satisfactory access to them; and efficient means of escape in case of fire.

In planning the apartment it is essential to attain the required room sizes, with rooms of convenient shape, suitable arranged in relation to each other, and forming together a comfortable dwelling unit within an economical overall area. The enclosure of the dwelling units within walls and the roof is closely related to the shape of the block. Theoretically a square shape is most economical However it does not offer flexibility in planning the dwelling units within it. Therefore rectangular shape as deep daylighting allows is a more economical way of enclosing larger areas. The fewer breaks in the line of the external wall the less costly the block will be.

The form of the building not only will affect the total cost, but it also affects the coverage and the orientation. Therefore a well-chosen form should achieve the best result when cost, coverage and orientation are considered together. As far as the architectural aspect allows, maximum usage of land is greatly desired, especially when the site is located in the downtown area where land is exceptionally expensive.

The means of access adopted has a marked influence on cost per dwelling unit, because the number of dwelling units which staircases and elevators can serve varies over a wide range. The number of dwelling units served by the common space should be in such proportion so that no common space is considered wasteful.

iii) Requirements

a) The Dwelling Units

It is intended that the proposed apartment building should have about 50 dwelling units which consist of two-bedroom, three-bedroom,
four-bedroom and one-room apartments. The area required for each type of dwelling units are as follows:

<table>
<thead>
<tr>
<th>Type of Apartment</th>
<th>Area (square feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-room apartment</td>
<td>300</td>
</tr>
<tr>
<td>Two-bedroom apartment</td>
<td>640</td>
</tr>
<tr>
<td>Three-bedroom apartment</td>
<td>850</td>
</tr>
<tr>
<td>Four-bedroom apartment</td>
<td>1100</td>
</tr>
</tbody>
</table>

The number of each size apartment in relation to the total will be in the same proportion as the number of families in Chinatown which need that size apartment in relation to the total population of Chinatown.

b) Parking

A minimum of enough space for ten cars is required. The excess parking spaces can always be rented to the nearby office workers on a monthly basis.

c) Playing area

Separate playing areas for the youngsters and the kindergarten-age children are desirable.

d) Laundry room

An installation of two washing machines and two dryers should be provided in the laundry room for the tenants' convenience.

e) Storage

A large common store-room for bicycles and baby carriages should be provided at the most convenient level.
My philosophy towards this particular project is to create a unit residential space in Chinatown, so that the inhabitants can work in Chinatown conveniently and at the same time still live comfortably while surrounded by city congestion.

One way to achieve this is to have as little coverage as economy permits, while also allowing for a large open space for other functions such as landscaping, and playing area, which may even be the social gathering place for the housewives. In order to do so I chose the short tall slab as the form of the structure. However this slab should not exceed the zoning law specification of 155 feet.

Within the slab are corridor access maisonettes. This type of scheme has several economical advantages. It reduces the common corridor space, and consequently it cuts down maintenance cost. It also helps cross ventilation in the non-corridor dwelling units. In this particular project, since height is what is aimed at, and not large coverage, it also helps to accelerate height at the same time each corridor still serves a minimum of eight dwelling units.

In planning the individual unit it is essential to eliminate the specialized spaces so that the limited amount of available area can be so interwoven as to appear of greater dimension.

The slab will be oriented towards the north-south direction so that the dwelling units will have views open either to Oxford Street or to Oliver Place or both. Oxford Street has no heavy traffic throughout the day. While Oliver Place is almost solely restricted to pedestrians.

The slab will rest on a platform which is several feet above the street level. This rise will give the sense of spaciousness to this residential unit. Since the platform will also serve as the playing area for the youngsters, this rise will restrict their playing area to the platform only and consequently prevent accidents. Underneath the platform is the garage.

All dwelling units are raised one floor above the platform, so that the sense of one continuous space on the first floor can be achieved. This rise will also reduce noise coming from the playing area below.

It is advisable to have a common open space for hanging
clothes. To do so the roof terrace is assigned for such purpose as well as the playing area for the kindergarten-age children. The laundry room is also located on the roof terrace for convenience. While the mother is doing laundry she can also keep an eye on her children playing on the roof terrace.
TECHNICAL
i) Construction

Reinforced concrete frame seems to be the most appropriate type of construction employed for this kind of project. The concrete will be treated in such a way as to give aesthetic as well as functional values. Repeated units will be prefabricated or precast for easy handling.

ii) Acoustics

In apartment dwellings sound transmission from the adjoining dwelling units may prove very annoying and undesirable. Transmission may occur through walls, floor and ceiling. The major internal sound source may arise from children and sewing machines. The external sound mainly comes from the street. Thus it is suggested that these dwelling units should be sound insulated in a reasonable manner.

Party walls constructed of staggered 2 1/2" Holostuds* at 16" o.c. set on 6" track, with gypsum lath and plaster on both sides prove to have a transmission loss of 53 DB.

Interior partition constructed of 2 1/2" Holostuds with gypsum lath and plaster on both sides gives a transmission loss of 47 DB.

7" concrete slab has been proven to have a reasonable degree of sound insulation from floor to floor.

Whoever owns a sewing machine will be instructed to lay a thick soft rubber mat under the sewing machine so as to absorb vibration.

iii) Heating and Ventilation

Owing to the size of the block and its location it is more economical to buy steam than to install heating equipment.

A thermostat will be installed in each dwelling unit. The reason for this is that as the dwelling unit gets higher it has longer exposure to the sun and at the same time more air infiltration, thus the

* A National Gypsum Company product
temperature of each dwelling unit can be adjusted to the tenant's desire.

Exhaust fans will be installed in all kitchens and internal bathrooms.
RESIDENTIAL SECTION OF BOSTON'S CHINATOWN

BUSINESS SECTION OF BOSTON'S CHINATOWN

THE SITE

SCALE: 1" = 200' 0"
THE SITE

SCALE: 1" = 80' 0"

NOTE: THE NUMBER IN EACH LOT INDICATES THE NUMBER OF STOREYS OF THE BUILDING ON THAT LOT.
TYLER STREET

OXFORD STREET
CHILDREN PLAYING ON THE SIDEWALK
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