

ABELA

ARCHITECTURAL
DESIGN OF A
PRIVATE HOSPITAL
IN BEIRUT

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OF A
PRIVATE HOSPITAL IN BEIRUT

BY

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A.U.B.

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I N T R O D U C T I O N

The problem consists in planning a private hospital for the surgery of the head : a special eye - ear - nose - and - throat hospital. As this hospital would be owned by its own doctor, the problem also involves the combination of the doctor's clinic and provision for his apartment.

In Beirut there is no such hospital and the coming into existence of one would meet the necessity of it. One reason for its usefulness is that it could give superior medical service because it would be specially equipped and manned by specialists. Moreover, while general hospitals are often not equal to and not interested in special clinical categories, a special hospital could take care of them.

CHAPTER I

COMPREHENSIVE ANALYSIS - HOSPITAL REQUIREMENTS

The object of this study is to analyse the project in all its parts and phases before studying any immediate or specific parts. That is to find out the purpose and services the hospital will fulfill; to determine the needs and desires of the doctor desiring to build, and also the various requirements for the different categories of persons concerned with it (patients, nurses, nonprofessional personnel, etc.) and the diverse activities (therapeutic, dietary, housekeeping, etc.) to be carried out.

The analysis of the requirements is presented in condensed form in the following lists of items grouped under different headings.

1. Kind of hospital :

A small hospital for the surgery of the head, eye, ear, nose and throat.

2. Persons resident in the hospital :

The doctor owning the hospital.

The nurses and service personnel.

The patients. (Average stay in hospital is about 12 days).

3. Persons nonresident in the hospital :

Visitors, parents and friends of patients.

(Average maximum number : 20 visiting at the same time).

Outpatients or clients.

(Average maximum number : 12 to 15 waiting at the same time).

4. Personnel schedule :

a/ Professional

One matron or head nurse (as doctor's assistant) and probably three or four help nurses.

b/ Nonprofessional

Male : These are the cook, the janitor, and one or two others for help.

Female : There will be three maids to do the house-work.

5. Clinic requirements :

Waiting-room for the clients.

Doctor's office and private toilet room with a basin and closet.

Examination room.

Dark room : a small room for special examination of the eye.

6. Diagnostic-therapeutic requirements :

Major Operation room.

Sterilizing room for sterilizing instruments, and

where the doctor can sterilize his hands before entering the operation room.

Laboratory room.

Radiography room.

Minor operation and examination room (this can be the same as the clinic examination room).

Large elevator for bedridden patients.

7. Patients requirements :

There will be first and second class departments each consisting of four bedrooms and their toilet facilities.

The first class bed-rooms will be private rooms to receive one patient, but should be large enough to accommodate two beds just for particular cases (as for instance when a mother wants to stay in the hospital with her operated child). Each of these rooms will have its own bath room with tub, basin and closet.

The second class bedrooms will be semi-private and receive two patients. These will have separate toilets and baths.

8. Doctor's individual requirements :

Bedroom and private bath.

A small study is desirable.

Also a private toilet room in the clinic.

9. Nurses' requirements :

The nurses will reside in the hospital.

The matron or doctor's assistant will have an individual room and bath.

A nurses' dining-room is also desired.

10. Administration :

At the main entrance there should be the administration and business office where the hospital accounting is done. During the day one of the nurses will stay there for information to visitors. And during the night this may be the place for the night nurse.

11. Services :

Kitchen.

Scullery.

Food store.

Laundry.

Ironing.

Separate service entrance.

A serving kitchen in the patients' unit

Provision for food elevator.

12. Toilets and baths :

The bathing and toilet accommodations for those not having private or semi-private ones will be in sufficient number and separate units for men and for women.

13. Storage rooms and closets :

Every division in the hospital has to have a place in which to store its own goods, materials or apparatus; Also patients' clothing has to be taken care of.

CHAPTER 2

FUNCTIONAL ELEMENTS AND STUDY.

After the comprehensive study which is a survey of facts is finished, the next stage is to examine and study the functional elements; that is to study the function, size and arrangement of the units with respect to one another. The purpose of this is to plan a hospital which will meet the requirements as exactly as it is possible to do so, and at the same time keep the probable cost of the building within the limits fixed by the financial budget. In this chapter a discussion of the main specific units of the hospital will be given.

1. The Nursing unit

The most important part of the hospital is the nursing unit. It is the space where the patients live during their stay in the hospital. This also comprises the various services and auxiliaries which are necessary for their wants and needs.

Since this hospital is of the hotel type with almost every patient having a private room and bath, it is a relatively expensive system. But this presents an ideal situation from the point of view of flexibility because every patient could be ministered to in accordance with his particular wants.

Considering that the area required per bed to be 3 square metres, and allowing for a second bed and other free space, the area of a bedroom will be about 18 square metres. The baths will be approximately 6 square metres.

Also the first class and second class units will be separate.

Finally among the elements of the nursing unit there will be a small serving kitchen where the food elevator reaches; and a sitting-room which can serve both as a visitors' waiting-room and day room for the patients.

2. The Clinic unit

The requirements are that it should be located on the ground floor and with easy access to the operating department.

3. The Operating department

The major operations room need be as large as possible, 5 metres by 6 metres being considered a good size. A northern exposure for it, although not necessary, is recommended in order to obtain even, shadowless daylight and also cut down summer heat. However the surgeon may resort to artificial illumination even in the presence of abundant daylight.

The sterilizing room should have a door to the operating room.

The dark room need not have any window; and although it might be placed independently from the radiography room it would be convenient to have them both adjacent.

It is suggested that the dark room be placed adjacent to the radiography room.
The dark room should be placed adjacent to the radiography room. This arrangement is convenient for the operator and the film.

In some instances the dark room may be placed in the same room as the radiography room. This arrangement is convenient for the operator and the film.

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CHAPTER 3

GENERAL CONSIDERATIONS

It is necessary to give consideration not only to the arrangement of the rooms with reference to the activities of the occupants inside the building, but also with reference to conditions that exist outside of it and their effect upon the comfort of the people who will be living in it.

In what follows the most important of these factors will be considered. These are related to the lot, orientation and daylight.

1. Lot

The factors involved are : the site (that is the plot of land where the lot is situated), the size and shape of the lot; its relation to the streets and the question of transportation.

As a recommendation the hospital should be as free from noise, odors, and dust as possible.

Wind is another important factor. In Beirut the general direction of the prevailing winds is from the southwest towards the northeast.

Also one has to consider the question of neighbourhood, surroundings and the possibility of views if any.

2. Orientation.

In the latitude of Beirut (33° North) a south to southeast exposure is the most desirable for maximum sun exposure especially in winter and cutting off of high heat in summer.

3. Daylight.

Good daylighting is of great importance for three reasons. First, proper vision : it is necessary in the hospital to be able to read a thermometer readily and to see abnormalities in colour of skin. Second, psychological effect : the average patient who must spend a week or two in the hospital would welcome it very much. Third, protection from cross-infection : because of its germicidal effect.

Daylight can be achieved through greater expanse of windows and glass.

CHAPTER 4

SOLUTION PROPOSED

The solution of the problem is presented in the set of drawings. In this chapter there will be given first a general description of the hospital and then explanations of various points.

General description of the hospital :

The hospital consists of two floors : a ground floor and a first floor. Looking towards the North one sees the South façade where the main entrance is. Entering the hospital there are on the right the clinic and the operating department; on the left there are the service quarter and the business office near the main entrance. Upstairs there are the first class division together with the doctor's apartment on the right; and the second class division together with the nurses' apartments on the left. For the details the reader is referred to the drawings.

Ground floor :Operating department :

It is put on the ground floor. In this way it is located near the clinic for easy communication between both units.

The Operation room has the recommended north exposure, and is 6 metres square.

The Radiography room has access to both Operation room and Examination room.

The Sterilizing room is large enough to allow coat room space for the doctor to change for the operations.

Kitchen :

The placement of the kitchen on the ground floor is convenient because it can have ample light and air. It is not placed on the top floor to keep it in a service quarter as separate as possible from the rest of the hospital. Thus it is close to the stores and many other difficulties and inconveniences are avoided.

First Floor :

The patients' unit has the desirable South exposure and the first class division is on the east side.

The doctor's apartment is placed on the same floor in the first class division. There is a psychological feature in this arrangement : it produces an impression of greater security on the patients.

The nurses are housed on the same floor in the second class division.

The sitting-room in this floor serves as visitors' room and day room for the patients. During the night the night nurse can stay there (or in the office downstairs).

SOME GENERAL POINTS.

Corridors :

Since circulation is an important consideration corridors are made 2.40 metres wide. In addition this will give the impression of spaciousness and comfort.

Doors :

The operation room and patients' bedrooms doors are made specially wide (1.40 metres net) to permit very easy passage for the largest bed. (Different doors may have 0.90 m. net and for toilet rooms 0.80 m. net).

Windows :

All windows are good size windows in order to secure proper daylight and ventilation. Bedrooms window openings are 2.00 metres wide and 1.60 metres high.

ESTHETICS.

Esthetics is inherent in the atmosphere of quiet, cleanliness and healthfulness created by a proper functional design. For example the great expanse of windows and the sunshine on the south façade produces a good impression of quiet and cheerfulness.

C O N C L U S I O N

Besides thinking and reading on the matter, discussions were done with doctors and nurses. Various hospitals in town were visited to see the actual requirements as well as their good and bad points.

In conclusion it is hoped that the solution reached is satisfactory.

B I B L I O G R A P H Y

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