

THE ARCHITECTURAL DESIGN OF
THE ARAB NATIONAL SANATORIUM IN PALESTINE

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THESIS

THE ARCHITECTURAL DESIGN OF

THE ARAB NATIONAL SANATORIUM IN PALESTINE

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

The Near East in general, and Palestine in particular is in great need of sanatoriums built and run by government, where by all classes of patients are afforded prospects of treatment and cure. This is due to the fact that tuberculosis, as statistics indicate, is one of the wide spread diseases especially among the poorer sections of the population, the majority of whom are living under very unsatisfactory conditions.

Because of the infectious nature of the tubercle bacillus, and the absence of any direct cure for it, the only way by which its progress can be checked in a patient is by isolating him in a sanatorium to give his body chance to build up ~~an~~ resistance to overcome the microbe, thus avoiding the risk of passing it to people living around him.

These were the main underlying considerations that led to the design of the Arab National Sanatorium in Palestine.

Establishment

As it was decided to make the sanatorium of medium size, it was designed on the basis of seventy-six beds mainly third class, and divided as follows :

- 1 - 6 second class beds
- 2 - 60 third class beds
- 3 - 10 isolation beds.

The personnel to run the sanatorium consist of the nursing and domestic staff. Eight nurses and a staff nurse are required for both night and day duties, while a cook with two assistants, two male orderlies, and four maids headed by the matron comprise the necessary domestic staff. These are housed on the buildings of the sanatorium, while the doctor, X-Ray technician, and pharmacist pay it visits at certain hours of the day.

THE SITE

The choice of a suitable site is an important consideration in the case of a sanatorium. It should answer several requirements namely it should be in the outskirts of a city or preferably out in the country in a hilly region but not at a great altitude. The climate should be comparatively dry, for the tubercle bacillus thrives in humid atmosphere. The area should be big enough to provide ample garden space around it. For a seventy six bedded sanatorium an area of 3-4 acres of land is sufficient.

A site satisfying most of these requisites lies in the hills of Jerusalem about five miles to the south of the city of Bethelhem on the main road from Jerusalem to Hebron. Its altitude is about 850 meters above sea level and the climate is favorable. Water can be supplied to it from the old water supply system of Jerusalem which is still in operation. Being only at about twenty minutes drive from Jerusalem supplies and provisions can be brought from there directly.

The Main Building

As it is important that the patients quarters should receive a sufficient supply of sunshine and fresh air, the building was designed T-shaps and oriented facing south. The main block consists of three floors containing the various departments and a portion of a fourth. The remainder of the roof space was left unbuilt for possible future extension. The gross area of the building is 2635 square meters, giving a gross area per bed of 35 square meters.

To make the building in harmony with the ^ysurroundings the exterior walls are to be of rock faced limestone of the Mizzi type which is abundant in hilly districts and is both strong and a bad conductor of heat. It also stands weathering much better than concrete blocks which look ugly out in the country.

There are two staircases to the building, a main staircase which is located centrally, and a service staircase which is in the west side of the building. These are composed of 26 steps each divided into two flights, 120 cm. wide and 110 cm wide respectively.

The tread is 30 cm. and the riser is 17 cm giving a total height of 4.42 m. between floor and floor. The building is also provided with two lifts, situated one near each stair case.

The window openings were all made of the same dimensions to give some uniformity in appearance, the ratio of the height to the width being 2 to 1. The ground floor was raised 85 cm. above the general level of the ground in order to eliminate any possible effects of dampness.

GROUND FLOOR

The ground floor is divided into three main wings separated from each other by corridors and halls. At the entrance there is an administration block which consists of a big reception room and a doctors office on one side of the entrance hall, and the director and clerks rooms' on the other. A lavatory is provided for the use of the personnel and visitors.

From the administration, there is a corridor that leads to the other two wings. One contains a surgical department, an X-Ray department, a laboratory and a pharmacy. A mortuary occupies a room at the farthest end of this wing with very little contact with the rest of the building and with an exit to the outside. It is usually preferable to have it in the basement if there is one, but it is not practical to design a special building for it. The room called general store can be used for storing medical supply and equipment. As the patients are not admitted in their own clothes, they are first taken to the disinfection room when they change and are then taken up to the wards.

The head nurse's office is also in this wing.

The third wing is devoted to the service quarters. The kitchen with its pantry, scullery, and cold storage room occupy the north western side of it, while the room directly opposite the kitchen is left for miscellaneous storage. The laundry

is near the linen store which also serves as a place for ironing. Two dining rooms are also found in this wing, one for the nurses and the other for the servants.

FIRST AND SECOND FLOORS

The next two floors are identical in internal arrangement, one being reserved for the male, and the other for the female patients. Each is composed of two main wards taking fifteen beds each at the rate of 4 square meters per bed approximately. The wards are 6 meters wide so as to accommodate two rows of beds with a two meters passage between them. The window space is 27% of the floor area approximately. Each ward has two bathrooms with lavatories for the use of the patients.

As helio-therapy is an important part of the cure, there are two big solariums, 2.7 meters wide and running all along the southern side of the sanatorium. These are equipped with big glass windows with an opening 3 meters high, which can be removed during the summer season, converting it into a covered veranda. The main corridor also has similar glass windows, thus giving the wards the advantage of having two exterior walls.

There are also five isolation rooms for the very advanced cases in a separate wing by themselves and with a seven meters long corridor leading to them. The second class rooms are insured with enough privacy being far away at one corner of the building and provided with a bathroom, one ^{room} taking one bed and the other two beds.

The service room is situated directly above the kitchen to facilitate easy distribution of the food to the patients. There is besides these an auxiliary linen store and an office for the nurse on duty.

THE THIRD FLOOR

The third floor consists of living quarters for both the nurses and the female domestics. There is a room with a bath for the head nurse, a sitting room, and two bed rooms with a bath for the nurses. These are grouped by themselves, while the room for the matron, and that for the maids with their bath make up the other unit. Access to this floor is by means of the service staircase, while the rest of the roof space could be reached through the main staircase and could be used as terrace by the patients.

The final roofing should be properly finished, and care should be taken in insulating it against changes of temperature by the use of special tiles as the Hourdi variety.

THE OUT-BUILDING

As it is desirable to house the male servants outside the main building, separate quarters were designed to accommodate them. These include, besides the garages for the sanatoriums ambulance and pick-up, a room for the janitor, and a room with a bath for the servants. The main entrance being made 4 meters wide enables big cars to enter without difficulty. The garages are 3.25 meters high while the living quarters are 4 meters high. The entrance which is roofed is 5 meters high.

LAYOUT

Since there is no contour plan at hand, the site is assumed to be approximately level. The main building is centrally located with respect to it, and having a front set back of about 20 meters, leaving 50 meters as rear set back. The space in front of the sanatorium is forested and trees are planted as well, all along the boundary walls, which helps to give the whole place the atmosphere of a mountain resort. The space in the back is arranged into grass lawns with two small fish ponds, and plenty of benches for the patients to use. A path 4 meters wide with 3 meters of metaled surface runs from the main entrance and round the sanatorium enabling big cars to get around it with ease.

CONCLUSION

If this project is to be adopted, it will be executed from public funds, and will cost approximately 53,000 pounds sterling at the rate of 20 pounds per square meter of built up area. Of course this is a very rough estimate, but it will just give an idea of the size of the project, and unless financed by government, it might be difficult to carry out.

In conclusion, it is seriously hoped that conditions in the Arab World will favor the adoption of such constructive projects, that will tend to help solve its various problems.

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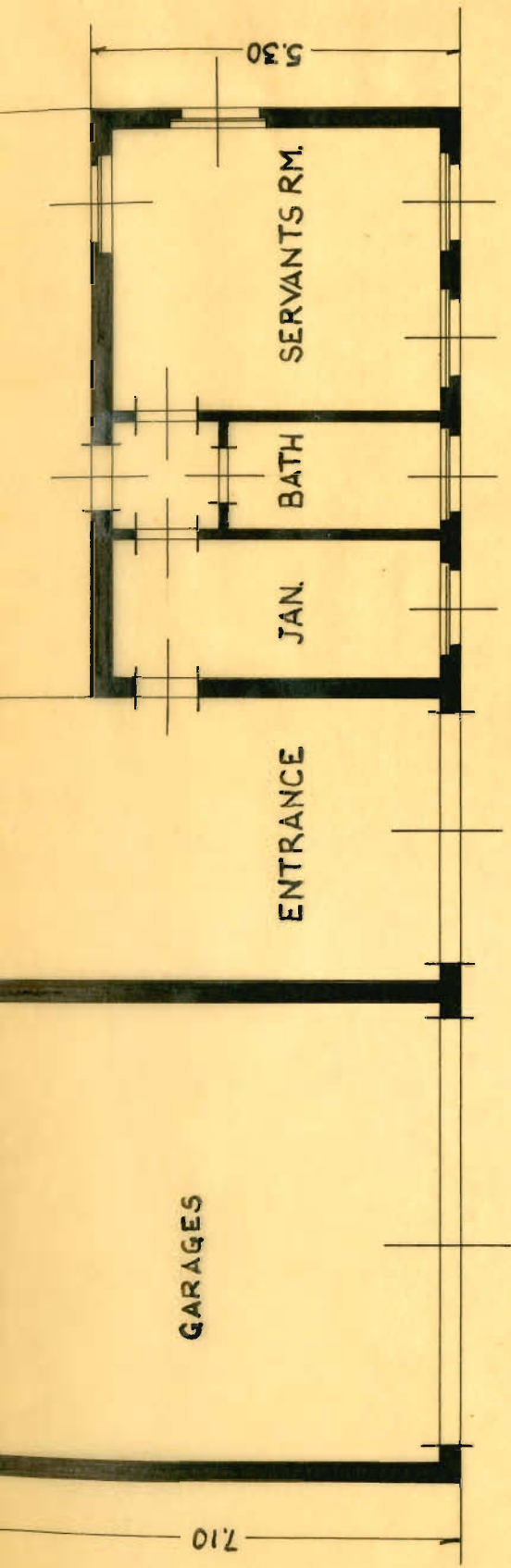
Bibliography

Books

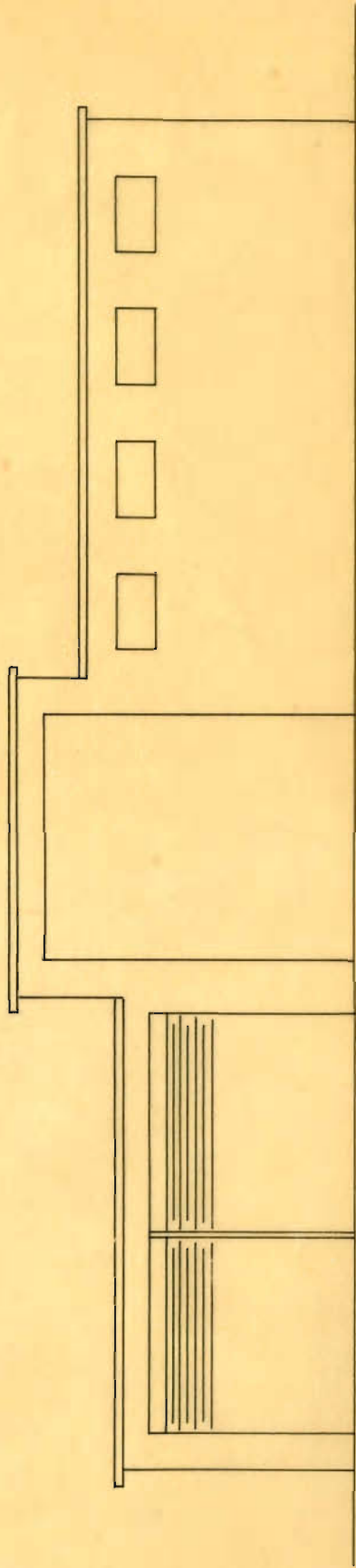
1. Modern Hospitals
by Hornsby, Allan, & Schmidt

Magazines

1. Architectural Record June 45
2. " " Oct. 48
3. " " Nov. 48



PLAN



NORTH ELEVATION

THE OUTBUILDING

