

ARCHITECTURAL DESIGN
of a

YOUTH CLUB
on the

BEACH NEAR RAS BEIRUT

by

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in partial fulfillment of the requirements for the degree
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INTRODUCTION

The meaning of recreation as commonly understood is the refreshment of one's strength and spirits, after a certain period of toil. It is attained by participating in activities that are a diversion from one's daily tasks, and that are necessarily amusing and entertaining. For it is relaxation that forms the main component of recreation, the need for which is evermore increasing.

Looking about us, we find Beirut full of movie-houses and night-clubs, most of which seem to be doing good business, for they are still increasing in number. It is these that are being used as recreational facilities by the public. Considering them further, most of them are by no means truly serving the public as such. Many of them even have detrimental effects, especially the latter, and being commercialized activities, they cannot be a sound basis for the worthy use of leisure.

Those that are most affected by the above, are the youths of the community, for it is they that are making use of these facilities most. Since youths, until a certain age, need guidance in most phases of their life, it is to their advantage and to that of any nation as a whole to provide for them proper recreational facilities which, at the same time, serve to advance their physical, mental and social life.

It is with this idea in mind that this project has been conceived by the author.

1. LOCATION

The club building has been located on the rocky beach to the south of the present "Bain Militaire", near Ras-Beirut, for the following reasons:-

- a) Most important of all it has to have swimming facilities, and thus has to be somewhere on the shore.
- b) Being a club, and also having a hostel, it has to have easy means of transport. In this case it is served by tramline No.2, and service taxis.
- c) Since it will also function in winter, it should not be too far away from the residential quarter of the community it is to serve.
- d) Being a recreational center, it is advisable, if not required, that it be away from the congestion and noise of the city.

The location chosen on the shore is not an ideal one for swimming, due to its rocky nature. Yet, considering all the above mentioned factors, it is believed to be the most satisfactory.

There already exists an earth road connecting the site with the main road, but it will have to be widened and asphalted.

2. FACILITIES PROVIDED.

The facilities that are provided are mainly for recreational purposes. There are two large game rooms, each having an area of 70 sq. meters. One room, preferably the one adjoining the

gymnasium, will be used for ping-pong, trick-track and other such noisy games. The second room will be used for the quieter games, such as billiards, chess and others.

The music room will contain a piano, a pick-up and a varied collection of records to be used by music lovers.

The quiet room will contain a small library of fiction and non-fiction books, the latter covering most of the current subjects. The room, as its ^{name} signifies, could be used by those wishing to study, or do some quiet reading. The door connecting this room with the director's office will be used only by people wishing to enter or leave this office, without having to pass through the secretary's office, for some reason or other.

The gymnasium, which may also be used as an auditorium, will provide for physical education and training. As an auditorium, it will provide for varied activities, such as concerts, theatricals, lectures and movies.

The dining room and terrace will be used mainly by the public. This will serve as a clean and decent place where almost anybody can enjoy a meal by the sea. Such places are very much needed, since there are hardly any where a person can enjoy his leisure time with his friends or family.

The first floor will be used as a hostel for club members, and young people who wish to visit Beirut. As to who will be allowed to use the hostel, will depend on the administration of the club.

The beach will be equipped with all the facilities required for a swimming place, which together with the dining hall and terrace will serve as the main summer attraction of the club.

3. THE INTERIOR ARRANGEMENT OF UNITS.

One main factor that influenced the relative arrangement of the various units is the configuration of the land, as will be seen from the location plan, drawing No. 1. This also had a great effect in the shaping of the whole building.

The rocky promontory immediately suggests an ideal place for a dining terrace, for it could not very well be used for anything else. Thus having located the terrace the position of the dining hall has become more or less fixed.

As both the dining hall and the gymnasium have to have access from the interior of the club building, the latter has been placed on the other side of the small bay, leaving enough space between the two for the main club building.

One item that needed special attention in its placement is the main desk from which the activities in the club are controlled. As shown on the ground floor plan, drawing No. 2, the desk as placed controls a view of the staircase and of all the entries to the main club building, these being the main entrance, the entrance from the dining hall, and that from the gymnasium. It also commands a view of the main entrances to the game and music rooms, as well as part of the lounge and adjoining terrace.

No special plan has been followed in the arrangement of the bed rooms on the first floor, except in placing some of the larger sized ones in such places as to fit in with the partitioning in the ground floor.

4. THE DINING HALL AND TERRACE

The floor area of the dining terrace is approximately 130 sq.m. Allowing an area of 1.25 sq.m. per person it can comfortably hold 100 people. It could hold about 30 people more, but then it would be too crowded.

The dining hall has a floor area of 292 sq.m. Allowing an area of 1.25 sq.m. per person it can hold 230 people comfortably. If allowing 1 sq.m. per person, according to American Standard Specifications, it could hold 62 people more. Thus in summer, the hall and terrace together have an average seating capacity of 330 people.

If provision for dancing is to be made, a dancing floor of about 45 sq.m. will be required. The orchestra will need about 12 sq.m. This will reduce the total capacity by 45 people.

As shown on the ground floor plan, drawing No.2, the dining hall has a special entrance from the outside which is to be used by the public. The side entrance is for those club members wishing to make use of the hall.

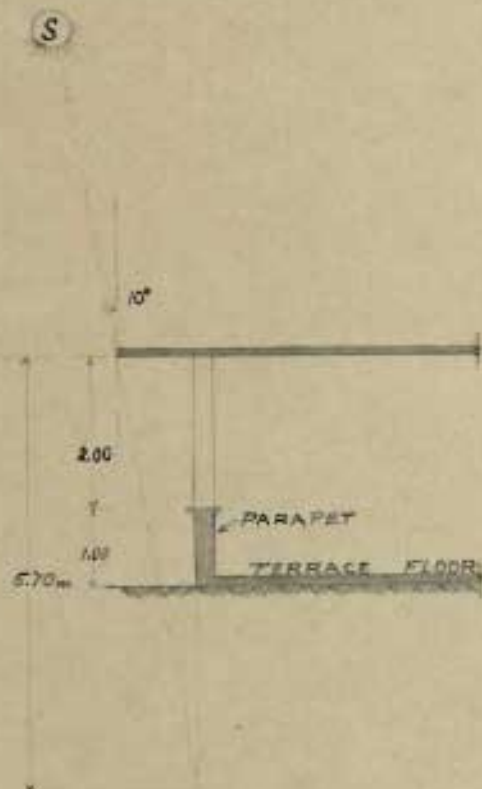
The adjoining soda fountain is for the use of the club members only. The public will be served its products through a small window opening into the dining hall.

The toilets are arranged in such a way so that the men's toilet could be used by the public as well as by the club members, thus saving an extra toilet room.

The projecting canopy of the dining terrace, as shown in drawing No. 3, has been extended on the southern side much more

than on the northern side for the following reason:

Being in the northern hemisphere and to the north of the Tropic of Cancer the sun will never shine into any place from the north. In summer, the sun will have a maximum inclination at noon of about 10° with the vertical, as shown in figure 1.



The canopy extends one meter beyond the edge of the terrace. Since $1 \cot. 10^\circ = 5.7$, the canopy will cast a shadow of 5.7 meters below it. The distance between the roof of the terrace and the top of the parapet is 2 m. The shadow will extend 3.7 m. below the top

of the parapet. Thus the canopy will take care of the sun's rays for about 3 hours at noon, when it is the hottest.

5. THE SERVICE UNIT

The service unit consists of the kitchen, pantry and store room. The kitchen is separated from the dining hall by a small corridor, so as to reduce the possibility of any odor entering the hall. The corridor leads to an outside entrance which is especially made for the unit.

The kitchen is arranged in such a way as to allow easy circulation. Of the two entrances to the dining hall one will be used by the bearers of the out-going food. The second will be used by the bearers of the soiled dishes which are deposited through a window directly onto the dishwashing table, without having to enter the kitchen itself. By this device circulation in the kitchen has been reduced.

For the proper ventilation of the kitchen, and to prevent smoke and odors from entering the dining hall, there will be two or more exhaust fans. These will cause an air flow from the dining hall through the kitchen, from whence the air will be forced out by the fans.

The serving staff will be housed in a small adjoining building which will be mainly used to provide for the beach facilities.

6. THE GYMNASIUM AND AUDITORIUM

The main function of the hall will be as a gymnasium. It will be equipped with the various devices necessary for physical education in group games, calisthenics and sports.

It is large enough for the indoor game requiring the largest area, which is basket ball. It will provide for a medium sized court of 15.20 x 25.50 meters. When being used as such, there is enough space on both sides of the court to seat about 200 people on stepped benches. When being used as an auditorium, the hall can seat 500 people comfortably.

The baskets for the basket ball game are suspended from the ceiling on a metal frame. When the necessity arises they could be completely removed, or moved upwards on hinges.

Behind the stage are two changing rooms, the smaller to be used by visiting teams. Both rooms have a total of 50 lockers which are placed in rows of two on top of each other. The size of a single locker is 40 x 60 x 90 cm.

The two store rooms will provide ample space for the storing of the physical training implements when the hall is being used as an auditorium, and for the storing of chairs when being used as a gymnasium. The stage being one meter high, the chairs could be stored under it, by placing them on small roller trucks which can be easily pushed in or out when loaded.

Thus one store room could be used as a crafts room, or for any other purpose. The room designated as general utilities, is to be used as a general workshop for the club, and also as a crafts room.

The two exterior doors are for the use of the public when invited to activities taking place in the hall. The two doors that are in line with the stage will be used only by the club members when making use of the gymnasium.

The floor of the hall will have to be of hard wood. That of the stage should be soft wood, to facilitate scene setting.

For the reduction of noise accoustical plaster will be applied to the ceiling and also to the upper side wall surfaces due to their height.

The roof will be supported by a rigid frame structure consisting of reinforced concrete bents. These bents will be spaced at 5.5 meters intervals. Struts will be placed at the quarter points. The roof covering will be a reinforced concrete slab which will be slightly raised at the center and sloping towards the sides, so as to provide for the proper drainage of the rain water.

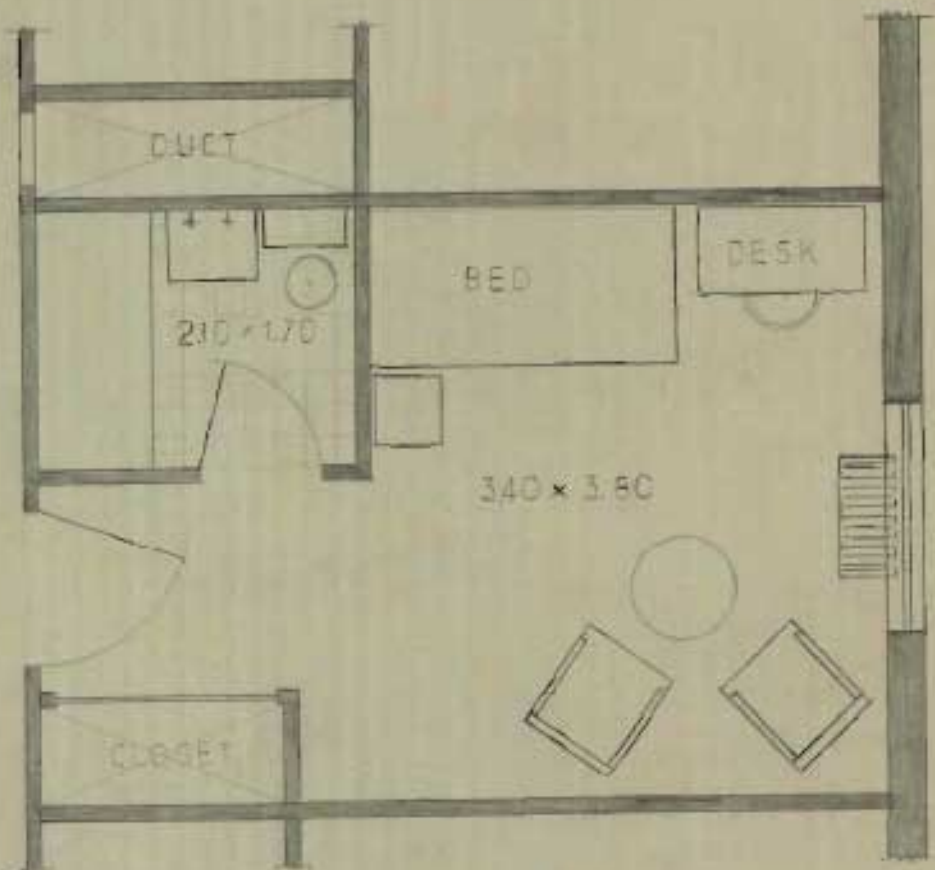


Figure 1.

Detailed plan of single bed & bath room.

7. THE HOSTEL

The hostel will occupy all of the first floor. It consists of 16 bed rooms which are divided into 6 single, 5 double, 4 with three beds, and one dormitory to contain 10 beds. These can accommodate a total of 38 people.

The bed rooms are arranged in such a way as to have a small foyer into which corridor, bath and closet doors open. In this way wall-space within the bed room is increased, allowing more space for comfort. Privacy is thus also increased.

According to the *Hotel Management Magazine*, the minimum and maximum sizes for bed room areas are as follows :

	<u>Min.</u>	<u>Max.</u>
Single bed rooms	7.5 m ²	11 m. ²
Double bed rooms	11 m. ²	22 m. ²

In several cases the maximum figures have been slightly increased. The areas of the rooms with three beds are almost proportional to the above figures. On the opposite page is a plan showing the interior arrangement of a typical single bed and bath room.

The bath rooms are of minimum size. Some contain tubs, others only stall showers. Adjoining each bathroom is a duct which contains the plumbing stacks. Connections can be made to fixtures horizontally through walls, thus preventing leaking bath room floors.

The bed rooms above the dining hall have access to a large terrace which will be partly covered by pergolas. The shape of the bed rooms, as shown in drawing No.3, was especially made thus so as to allow for cross-ventilation.

The bath rooms are ventilated by grilles opening into the ducts, which are open at the top, where they are covered in such a way as not to allow rain in. All the ducts will be connected at the bottom by a pipe or more which will have openings to the outside, at which points there will be fans forcing air into the pipe, so as to cause a draft in the duct. These pipes together with the plumbing fixtures will be concealed by false ceilings in the ground floor. The bath room doors will have grilled openings to facilitate the circulation of air.

The store room near the lounge will be used to store the linen required by the bed rooms, and also extra beds.

8. ARCHITECTURAL TREATMENT

As the building consists of two floors only, and occupies quite a large area, it will have^a definite horizontal axis of direction. The main elevation being quite long it will tend to have a monotonous effect.

To break this effect the staircase has been made into a small tower with a clock at the top. This will cause a contrast of mass, a vertical with horizontals, a feature that is necessary and important. For contrast is one of the main qualities of modern architecture. The elevation of the horizontal masses are made in such a way, so that the eye will be carried gradually to the tower in steps.

Also to break the monotony the windows have been treated in several varied ways, as shown in drawing No. 3. The windows of the gymnasium, to contrast with those of the main building, have been given a vertical direction.

The main entrance to the gymnasium and auditorium has been decorated with two stone engravings, symbolic of the physical and cultural education provided within.

The face of the building will be stuccoed, having a very light brown colour to match with that of the sea behind it.

The building will be a reinforced concrete frame structure. The outside walls will be of sandstone 25 cm. wide. The interior partitions will be^{of} 10, 12 and 15 cm. hollow bricks, as the case

may require. The slabs will be made of ribbed floors which will act as noise reducers, and also as heat insulators.

9. SEWAGE DISPOSAL

Since the beach is to be used for swimming the sewage cannot be disposed directly into the sea. In this case a septic together with a siphon tank will be used. There will have to be two septic tanks, one with a capacity of 3000 gal. for the club, and the second with a capacity of 2000 gal. for the beach. The effluent of these tanks will be disposed into the sea, beyond the farthest rocks, so that it will be carried away by the sea currents.

10. CENTRAL HEATING

The boiler room for the central heating system and for the bath rooms will be under the dining hall. It thus has access from the outside, due to the slope of the land. The room will be large enough to contain the boiler and its accessories, together with the necessary space required for fuel storage. It will also contain a hot water tank which will take care of sudden heavy demands by the bath rooms.

The low pressure two pipe system will be used for the central heating. In this system one pipe will convey the hot water to the radiators, and another will receive the cold water and return it to the boiler. There will be an exhaust pipe leading from the boiler back to the water tank of the system. This will act as a precaution against overheating, and against the possibility of there being no water in the boiler.

The radiators will be of build up sections, large enough to meet the requirements of the various rooms. They will have covers with solid tops which could be used for decorative purposes in summer. Where possible, they will be placed under windows to help in the ventilation of the rooms.

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

1. Architectural Construction

By Theodore Crane - John Wiley & Sons.Inc., New York

2. The Architectural Forum

October 1938

3. Time-Saver Standards

F.W. Dodge Corporation, New York

