

**A NEW CAMPUS LAYOUT
FOR
DAMASCUS COLLEGE**

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BY

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MARCH, 1948

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4/6/48

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R E C O G N I T I O N

The writer is indebted to Prof. J.R.Osborn for helpful suggestions and valuable ideas, and for supervising the work and correcting the proof of this thesis.

F O R E W O R D

One of the most prominent questions that could be asked to an educated Arab these days is "What is an Arab?". Very few of us have given this question enough of thought and some of us are very often caught without much time to think of an answer. To this question Azam Pacha, secretary of the Arab League, once answered: "An Arab is a person who talks our language and understands us, who feels what we feel and thinks the way we think, and who is one of us." In my opinion, the answer could be summarized more briefly: "An Arab is a native of one of the Arab countries who has acquired the Arab Culture."

Damascus is one of the oldest cities of the world. As far as the sixth century A.D., it was a center of higher learning. It had at that time, the best school for Christian theology and philosophy. The well known St. John the Damascene was a graduate of that school. Patriarch Sophronius who handed Jerusalem to Omar Ibn Al-Khatab, at the time of the Moslem occupation, was another graduate of the same school. At the time of the Caliphs, Damascus stood for the spirit of pure Arab culture, supported the Omayyads, and formed the opposition against the Abbassides. The Damascus of today, feels very strongly this cultural heritage, is proud of it, and is ready again to resume its responsibility as a center of higher learning for the Middle East.

Aside from this cultural heritage, Damascus lends itself

to be a center of learning for the Arab World because of its geographical location. The centers of learning at present, Alexandria, Cairo, and Beirut, are greatly exposed to and influenced by the western culture. Damascus, on the other hand, due to its geographical position, can acquire all what it needs of outside cultures, and still hold to its own cultural heritage. The founding of Damascus College, for the purpose of diffusing modern principles of education, will have the greatest influence in orienting and shaping the future culture of the Arab World.

CHAPTER 1

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

1. Scope of this Thesis:-

The purpose of this thesis is to indicate some of the fundamental principles underlying the design of a campus layout, supply information on some modern standards for school buildings and grounds, and present a plan of the general layout which is designed, to promote the efficiency of the instructional program, whether in the classroom buildings, residence halls and cafeteria, or on the athletic fields or recreational grounds. It is intended to provide the general plan for developing the Damascus College Campus so that those in charge will not approach the building program in a haphazard way. Design of the various buildings falls outside the scope of this thesis which is restricted to the general layout.

2. Plan for the Future:-

Buildings and grounds and their equipment are means to an end and not an end in themselves. They serve, and therefore must not dictate, the educational procedure and activities. Many of the present school buildings were constructed some fifty years ago, and we can realize now to what extent they restrict the educational program of today. We should consider seriously therefore to what extent will the school plant that we intend to build today hamper the educational program of the year 2000. Of course this can be done only

with the help of the leading thinkers of the educational profession who should be aware of the responsibility of planning for the future.

3. Function of the School:-

The college campus is an educational tool and its nature can be determined only in terms of its use. The first step in planning a college campus therefore is to determine its function. What is the purpose of the school? What are we supposed to plan for?

For the purpose of this thesis we assume that, for the first ten years, Damascus College is supposed to be a Junior College to prepare students for upper divisions of the University. The main function of the College is to prepare students to be academically and socially fit to pursue their higher studies in foreign universities without too long a period of adjustment. Graduates should be stamped by the seal of Arab Culture which their school intends to stress but at the same time they should be able to feel quite at home in a European or American institution of higher learning. Such a duty can be fulfilled most efficiently if the boys are admitted to the school while still young. Hence this campus is intended to start with the following divisions:

- a. An elementary school.
- b. A high school.
- c. A Junior College.

4. Modern Trends in Education:-

The following modern trends in education have been considered of significance in planning this campus layout:

- a. Standards are being revised upwards. These standards cover all school buildings and grounds, recreational and athletic facilities, health and safety of the students. In construction of buildings and landscaping the trend is to strike a medium between utility and beauty.
- b. Elementary education assumes rightful importance. Placing the elementary school in any locality, in any kind of building, or even supplying it with any kind of equipment or teachers, is a very poor old policy. Elementary education is the foundation on which we are to build, and hence the school plant facilities have to be placed on a much higher level.
- c. Public demands to share in school facilities and activities.

CHAPTER 11

T H E S I T E

1. Location:-

It is desirable to locate a college campus in favorable surroundings. Business districts and others that are devoted to commerce or industries are not desirable. Sites near railways or street-car lines should be avoided. Residential areas, away from busy thorough-fares, where there is complete freedom from noises, dirt and dust, odors and hazards of all kinds, are best. At the same time, a college site should be centrally located for the students who are to attend in order that the average distance travelled by students may be as short as possible.

2. Choosing the Damascus College Site:-

The writer was asked last summer to help in looking over possible sites for the new campus. A site in the center of the city was not possible to secure due to exorbitant costs and at the same time such a site would not be very desirable. The outskirts of the city had to be explored and of all the various possibilities the Mezzeh Site seems to be choice number one for the following reasons (see plan 1, Map of Damascus and plan 11, present plan of the Site.) :

a- This site looks far from the center of the city but it is not more than three Kms. from the center and in fact

it is nearer to the center than certain parts of city quarters as Midan and Muhajereen.

- b- The locality is known for its good climate as the Mezzeh district used to be a summer resort for the wealthy Damascenes.
- c- The price of land is very cheap as compared with other suburbs of Damascus that are at equal distance from the center of the city.
- d- There are no industrial areas within three kms. from the Site.
- e- A huge residential area project, known as Sheikh Al-Ard project, is being planned to turn all the area between Mezzeh and the city, into the most modern residential area of Damascus.
- f- Electricity and city water lines are on the site at the present time.
- g- The property used to be a French Military camp and as it is now owned by the state, it is much easier to acquire than if it were belonging to one or more individuals.
- h- The land lends itself very nicely to the proper location of the various college units; flat areas for the school buildings, athletic fields, recreational activities with slightly elevated areas overlooking beautiful areas for residence halls.

3. Size of Site:-

The site for a college for about 1000 students with a comprehensive program of activities should have about 50 acres of land. This site contains more than 80 acres. For our purposes the college site must provide enough space for the development of an attractive and impressive college campus, with buildings advantageously placed, with play areas for a program of physical education for all the students, with parking spaces, school gardens, out of door educational activities, plantings, and with enough space for future expansion. So far as size and shape are concerned, this plot is ideal to fulfil these conditions.

CHAPTER 111

PLANNING THE LOCATIONS

1- The Master Plan:-

The first plan for a college campus should be the master plan involving the entire site and the location of all buildings and facilities that will ultimately be provided on the site. Buying a large site, put up the first building or two on the corner, leaving " room for later expansion," is an extremely poor way of doing things. Long-range plans in minute detail should be made before the first building layout is sketched. As conditions change through the years, the master plan may have to be revised, but the existence of such a plan improves changes of making the buildings and site serve effectively the present needs of the institution and fit in properly with the possible future growth.

The determination of functions is the first important duty of the planner. We have already determined the main functions that this site is obligated to serve, at least for the first ten years. Our first duty therefore starts by deviding this site into four functional areas:

1. Elementary School area which should be a separate unit by itself.
2. Area for Buildings of Instruction and general units.
3. Residence Halls and Dining Halls.
4. Areas for athletic activities and recreational grounds.

11- Elementary School:-

Here are some of the principles that have been considered in designing the layout of the Elementary School grounds:

1. The Elementary School should be a separate unit by itself, segregated from all other parts of the campus by fences properly landscaped.
2. According to modern standards the area for such a school should be about five acres. In this design we have given it about 25000 square meters to have ample size to care for extensive activities.
3. As it should be separated from the rest of the campus we have given it the corner of the plot nearest to the city so that it will neither hamper or be hampered by the future growth of the main institution.
4. Safety is the first prerequisite for the small children. Though there is a vehicle road designed on this site, yet it is understood that no vehicles of any kind are to enter the grounds when the school is in operation.
5. The boundary line parallel to the road is moved inside about thirty meters so that we avoid the dangers of having the entrance or exit right on the highway.
6. This area between the road and the boundary line is properly landscaped to include special approaches for a students' bus station and parking areas so that vehicles load and

unload students in an area that is free from the dangers of the highway traffic.

7. About hundred meters towards the city from the corner of the site there should be a sign on the highway " School site. Speed 20 Kms. per hour ."
8. The site should be inclosed by a high fence so that children can not get out except through the main exit.
9. Building walls all around, is not very desirable. Stone walls are very expensive in Damascus; mud walls are unsightly. Ornamental steel fences are the best for this purpose.
10. A hedge of ficus trees is to be planted all along this fence. Ficus trees do very well in Damascus and they could be cut very often to take any shape desired.
11. Buildings must be built to the scale of understanding of the young so that they will attract rather than frighten. One big huge and impressive building is the most unsatisfactory. This is why we have recommended in the plan two small units of home nature making the transition from the house to school as easy as possible.
12. These units are not located at the boundary line. They have an inviting entrance, a row of shady trees and a path leading through them to the small classroom building.
13. Planning the development of the site should be conceived in terms of the small children who will use it. Some of the

recommended features are: a grove of trees with lots of shade, some big rocks, a little brook if possible, one or two pools of shallow construction with some fish in them and a fountain in the middle where some birds could drink and bathe, few posts for birds' nests, and few houses for pigeons.

14. Playgrounds are grass areas planted with type of grass that is resistant to wear; hard-surfacing is not desirable for little children. Playground apparatus suitable to the child's age should be located in a corner of one of the playgrounds.
15. Soccer Field for this purpose is designed to be 55 x 35 meters.
16. Basket-ball courts are designed about 11 x 22 meters and should be constructed of well compacted gravel and surfaced with a mixture of sand and loam ($\frac{2}{3}$ Nihaty plus $\frac{1}{3}$ Hawara). Note that the courts are oriented north and south.
17. Last but not least, a word of advice to those who intend to plan the interior of the buildings. Bring things down to the level of the children. Bring the window sills down low enough so that little children can look out of them without having to stand on a chair. Let us have blackboards down where little children can look at them rather than placing them at the eye level of the architect.

111- Area for Buildings of Instruction and General Units:-

Buildings of instruction are mainly classroom buildings and laboratories; general units are buildings housing offices of administration, the auditorium, the library, etc..In designing this area the following points have been taken into consideration:

1. The plan shows a long range building program. Construction takes place gradually, one building at a time as funds are available and as required by the expansion of the college, but the locations of all buildings are marked right from the start.
2. In general buildings are meant to be low construction except for one or two that should be the dominating units architecturally.
3. The future dominating building is the Memorial Library. To start with, the dominating building will house the auditorium, the administrative offices, and reception rooms.
4. All buildings are so placed as to give a pleasing appearance from the street and from the principal avenues of the campus.
5. Special effort has been made in this design to avoid having the college grounds as a public garden for off-campus people. This is done by the proper location of buildings that are open for the use of the public.

6. The building housing the auditorium and administrative offices is placed near the campus entrance so that it could serve the public more conveniently and thus preventing outsiders from passing through college grounds that should be restricted to the student body. This building has got an east entrance for the public and a west entrance for the students.
7. Buildings intended purely for instructional purposes requiring conditions conducive to study are placed far from the highway and far from the playing fields.
8. For instruction, open shapes of buildings are used as such shapes could be used to an advantage for lighting and ventilation.
9. Note that these buildings are placed so that they do not cast shadows on other buildings and they are so oriented that there will be sunlight in maximum number of rooms.
10. Roads and walks are located to facilitate the changing of classes and to put the administrative offices and auditorium within easy reach of other buildings.
11. Parking spaces are arranged to take care of crowds coming to the auditorium; bus station and grass areas are planned just outside the main entrance; parking spaces sufficient to accomodate cars of students and teachers are planned near the classroom buildings.

12. Group of buildings that are related to each other in their use, are connected by covered passageways which are of great help during rainy seasons and still of greater help during the hot summer months. (It is recommended that these passageways be made in the form of arcade that contribute to the unity of the total architectural effect.)
13. In planning the location of the future memorial library we have considered that it should be centrally located for the classroom buildings and dormitories and it should also have a direct entrance for the public.
14. In choosing the type of architecture for the buildings of this college, I wish to recommend a type that is appropriate to the locality and in keeping with the traditions of the country. Modern type of Architecture with Arabesque touch will probably be the best. Once a type is decided upon, all buildings, arches, gateways, and all other elements should be consistent and so arranged that each contributes to the total effect.

1V- Residence Halls and Dining Halls.

The trend in dormitory planning in later years has been from large units, where a great number of students are housed together, to smaller units separating the students into smaller groups. Some leaders of the educational profession think that the ideal situation is to have the students in groups of about thirty-five living in a cottage type building including an apartment for a married professor. The students and the family of the professor live like one single family. This arrangement is very desirable but it is far from being economically practical for schools that intend to keep down their fees. Such units are costly to build and costly to operate. Here are some of the important items that have been considered in the design of this area.

1. The elevated part of the plot has been chosen for these buildings thus getting the benefit of the view and sparing flat areas for athletic grounds.
2. This area is far from the distracting noises of the highway and athletic grounds, has the privacy needed for such quarters, and is so located as to be within easy reach of the classroom buildings.
3. Each dormitory unit is designed in a group of three buildings as indicated in the plan. The central building is supposed to house the lounges, dining rooms, and kitchen. The two wings are small units accomodating about thirty students

on each floor and joined to the central building by covered passageway with arches. The top story of the central building could be used for dormitory as well.

4. If the policy of the school is to have the students live in smaller groups, this could be done by a dividing wall making two separate houses of each floor, each served by its own entrance and stairway. Such a unit will house about fifteen students and a supervisor.
5. All students and staff eat in the central dining halls.
6. Large rooms for dances, receptions, and games, are located on the second floor of the central building.
7. Parking spaces, screened with shrubbery, are made available for the use of students and teachers living in these buildings.
8. A service route is made for the service entrance of the kitchen building.

V- Area for Athletic Fields and Recreational Grounds:-

During recent years the world has been putting more and more importance on the character-building possibilities inherent in play activities. Character-building is one of the most important objectives of athletics in addition to physical fitness and sports skill. The facilities needed depend largely on the physical education program. For our purpose we have assumed that this institution would not require more than the following facilities: athletic field suitable for soccer, basket-ball courts, gymnasium, and swimming pool.

1. As this part of the campus is very often used by crowds of off-campus people, it is planned to be a fenced in area with a direct entrance from the street so that spectators will be restricted to this area only.
2. A main driveway from the street leads to the grandstand with parking spaces sufficient for the crowds attending the games. Note that the parking area is within reasonable walking distance from the grandstand.
3. Public toilet rooms of sufficient size are designed to handle anticipated crowds during athletic events.
4. The athletic field is to be planted with a type of grass that is resistant to wear and should be graded as to allow its irrigation by flooding. Curbs of concrete are designed on the inside and outside of the track which is to be

surfaced with screened cinders on a 3-inch cushion of clay and sand loam ($\frac{2}{3}$ Nihaty plus $\frac{1}{3}$ Hawara) mixture with a bottoming of a crushed rock and heavy gravel. The track is to be a quarter mile with a 100 - meter straightway.

5. As most of the games take place in the afternoon, the grandstand is made to face eastward.
6. The grandstand is to be of permanent concrete construction. Wood will be used for seats and footrests.
7. A gymnasium 68 x 111 ft. is planned for the future to take care of indoor athletic activities. This will include dressing rooms, showers, lockers, etc...
8. Three Basket-ball courts of regulation size 60 x 90 ft. are planned in this area. One of them is to be lighted for evening practice.
9. Eight tennis courts of regulation size are planned to encourage students in a sport that they take with them out of school and keep it for a long part of their life. Asphalt surfaced courts, good for all weather purposes, are slightly more costly, but the upkeep is negligible. Note that all courts are oriented north and south.
10. Swimming pool: The popularity of swimming as a sport and as a recreation has increased tremendously all through the world during recent years. Many schools have a rule that no student can graduate without knowing how to swim. A swimming pool is

therefore one of the essential sports facilities on a campus far from the seashore.

- a. The pool is planned to be 70 x 30 feet and about 4 - 8 feet deep.
- b. The runway on the side of the pool will be about ten feet wide.
- c. This pool is intended to be in the open air and to be used at times when weather conditions permit.
- d. It is located near the gymnasium building which houses dressing rooms with showers and toilet facilities.

CHAPTER IV

PLANNING FOR THE GENERAL SERVICES

Our main objective in planning so far has been the educational program and the safety and comfort of the students. This objective cannot be arrived at effectively without planning for the various services that are so essential for the proper functioning of the educational program. Such services are generally grouped under one single service department, the Buildings and Grounds.

1. Special care has been made to centralize the administration of all services in one single group. Workshops are planned for the various workers in this Department. These include shops for carpenter, painter, electrician, plumber, and a store room for the grounds workers. The office of the Superintendent is to be on top of these workshops, so that he could be in direct touch with all the personnel working under him.
2. A central heating plant is located near the workshops which should be capable of furnishing all the heat and steam needed by the buildings. The following points have been considered in locating the steam plant.
 - a. Fuel can be delivered directly to the building.
 - b. Distances to the buildings are not greater than necessary.
 - c. Prevailing winds will carry smoke away from the buildings.
 - d. Condensation can be returned by gravity in a good part of

the lines.

- e. The building and stack is made as inconspicuous as possible.
3. The main lines for the distribution of heat are designed to be in well-built tunnels large enough to permit the passage of workmen.
4. Adequate hot water supply is provided in all the buildings by steam coil water heaters located in the basement of each building.
5. Adequate sewers are designed to connect the various buildings to the main city sewer on the street.
6. Drainage from roof gutters and surface drainage are taken care of by storm sewers designed for this purpose.
7. Outside toilet facilities are designed in areas that are used by off-campus people.
8. Water lines are designed of adequate size to provide the volume needed without appreciable decrease in pressure. If the city pressure is not adequate, a supplementary elevated tank is necessary. This was done here very economically by putting up a concrete reservoir in the highest point of the plot as indicated in the plan.
 - a. Fire hydrants are located in convenient places near the buildings.
 - b. Water outlets are provided in lawn areas and for the irrigation of shrubs and trees.

- c. Drinking fountains are located in many places outside the buildings specially in areas where there are crowds of students at the change of classes, play areas, and in areas used by the public.
9. Electric transformer is located in one corner of the plot. High tension line, 5000 volts, comes to this transformer which reduces it down to 110 - 115 volts. Main distribution lines on the campus are to be underground cables thus avoiding the dangers of overhead lines.
10. Campus lighting is done by light posts the style and design of which is to be in keeping with the general architectural effect.
11. A telephone switch board is to be in the administration building with at least three city trunks connected to an internal telephone system. In addition to the administrative offices there is to be a telephone in each dormitory, the gymnasium, and several telephones in academic buildings housing the offices of the professors and in the physical plant offices.

CHAPTER V

PLANNING THE GROUNDS AND LANDSCAPING

The main motive behind school - ground planning is the welfare of the student, his safety and comfort. The grounds in general have to be laid out so as to make the campus as attractive as possible and create an atmosphere of beauty which is inspiring and conducive to study.

A. Walks and Drives :-

1. Walks and drives are so located as to directly serve their purpose.
2. Walks are planned in several places parallel to drives with grassed spaces between them, as a drive should not serve the double purpose of a walk and a drive.
3. Rows of trees are planted on both sides of the drives in the grassed areas.
4. Sidewalks are designed not less than 8 feet in width. Drives are not made less than 18 feet in width with about 30 feet width at the loading zone.
5. Concrete walks are economical while " Idealite " surfacing is preferable and not much more expensive. All drives are to be " Idealite " surfaced with proper drainage.
6. The use of flagstone is recommended in some of the walks, specially in secondary walks near buildings.
7. Turning areas are made with a radius of about 60 feet.
8. The driveways are designed to have proper and easy approaches to the highway.
9. Those responsible for construction ^{should} ~~ought~~ to understand

that money spent right at the start on proper drainage, construction of walks and drives, and surfacing, pays dividends in increased utility, attractiveness, safety, and reduced cost of maintenance and upkeep.

B. Grassed Areas :-

Large open areas are always needed in front of school buildings. Special effort has been made in this project to design the maximum of grass lawns for two reasons; first, because grass is the most economical covering; and second, because a campus located on the fringes of a desert ought to have the maximum of green to form a contrast with the neighbouring country side. The best kind of grass that resists wear and that could be used to an advantage in our country is the "Tayeel", a native grass very much like the Bermuda grass. After it is planted, it sends shoots that catch root again and spread over larger areas. It has got very hard roots that continue to survive even if all the above ground growth dies out. During the rainy season, such lawns do not require any care whatsoever. Once they are well established, all the care they need is watering and mowing. If left without mowing, the grass forms red toppings with seeds which could be used for starting other grassed areas.

C. Trees and Shrubs :-

1. Planting in areas near buildings :-

- a. Planting should not be done in a haphazard way. There should be a purpose behind the planting of every tree and shrub. Planting around buildings; for example,

should be planned as to frame the building and bring out its architectural beauty in such a way that when viewed as a whole the scene is a pleasant and harmonious one. The following plan has been followed in landscaping most areas around buildings: an open grassed-area in front of the building, very few but big and tall evergreen trees towering high near marked points in the construction, flowering shrubs covering spaces between the big trees, and few shady trees in one locality with benches where students could sit facing a nice view.

- b. Ivy is to be used to considerable advantage on many buildings to reduce the effect of the glare of the sun.
- c. Retaining walls that are connected or adjacent to buildings are to be designed of material harmonious with the buildings, or should be covered with vines.
- d. Some areas adjacent to classroom buildings are so planned to be conveniently used for out-of-door classroom purposes.

2. Planting in other areas :-

- a. In landscaping other areas, it is important that the view should not be obstructed. Tall evergreen trees are planted in occasional spots as exclamation marks while lower flowering trees or flowering shrubs are used to fill in between.
- b. In order to get the mass-color-effect, flowering shrubs of the same kind and of the same color are grouped together. By studying the flowering period of each kind

of shrubs, a program of ~~planting~~ could be designed where different areas are planted with shrubs or trees flowering during different months, so that there could be color on the campus, in one place or the other, through as many months of the year as possible, and not during the spring only.

3. Planting as a protection from sandstorms :-

Sandstorms are not very uncommon on this site during summer. The whole campus is planned to have an ornamental fence all around. Just inside the fence, a row of Ficus trees is planted all along the boundary line. These trees make a real solid hedge, not of shrubs, but of high trees the foliage of which is so compact that will reduce the menace of sandstorms to a certain extent. Moreover such trees are evergreen, known of their long life, have very nice foliage, are not dirty, and are ^{not} apt to be climbed on by students or outsiders as they neither have fruits nor flowers.

D. Amphitheatre :-

It is always a great asset to have an amphitheatre on college grounds if it could be done without major expense. The topography of one section of this plot lends itself very nicely for this purpose. The amphitheatre is designed on the elevated area on the west side. The location is such as to give the audience the best possible view of the surrounding country and of the fascinating minarets towering supreme over the old crowded city.

