The architectural development of the William M. Rice Institute at Houston, Texas, has been associated with long-continued and careful study on the part of those in charge of the affairs of the Institute, and the work of laying out the grounds and erecting the first buildings has now begun in accord with the results of this careful preparation.

The development of a university plan adequate to meet all the needs of the growth reasonably to be expected in an institution of this character naturally required all of the time and study which this has received. It will be perfectly evident to those familiar with the architectural problems to be solved in development of a university, that time and study are essential features which make for the success of the final solution. The growth of universities in this country has been so general and so tremendous during recent years, and such marked increase in public interest in them has prevailed, that the planning of a university has become a matter of vital and tremendous interest to architects, and one accompanied with extraordinary interest.

The development of the William M. Rice Institute has been made possible by the gift of the late William Marsh Rice.

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Founded by the late William M. Rice, a native of Massachusetts who lived and amassed his fortune in Texas, and at his death left to it the bulk of his estate, the William M. Rice Institute now commands an endowment fund amounting to ten million dollars. The foundation is administered by a self-perpetuating board of trustees composed of seven members who exercise all the corporate powers of the institution in the execution of the Founder's will to establish in the city of Houston an institute for the advancement of literature, science, and art, open and free to the white inhabitants of the city of Houston.

In 1908 the trustees placed in the hands of Dr. Edgar Odell Lovett the task of organizing a non-sectarian institution of college and university standing. This work was well under way, the first problem approached having been the planning of a domicile worthy of the generous endowment and in keeping with its high aims and auspicious future. In its solution the trustees of the Rice Institute have boldly avowed a belief in the potency of a noble and impressive architecture in inspiring and enabling the youth who study and live within its shadow, no less than a consciousness of the high influence felt in the community life of a city through a beautiful environment.

The architectural problem, however, has been particularly unique. It is unlike that of the many institutions of learning throughout this and foreign countries, in which the college, now grown into a university, began on a small foundation, and frequently with the gift of one building, perhaps the private residence of the founder, but at all events begun with little idea of the tremendous successful growth which it has since attained, and thus unfortunately started; that is, unfortunate for its architectural development;
The architectural problem, however, has been particularly unique. Unlike that of the many institutions of learning throughout this and foreign countries, in which the college, now grown into a university, began on a small foundation and frequently with the gift of one building, by the generous bequest of the founder, but at all events with little idea of the tremendous successful growth which it has since attained, and thus unfortunately started — that is, unfortunately for its architectural development, it very shortly began to realize how difficult it was the problem of harmonizing the buildings, made necessary by its growth, into one successfu and dominant style, and to gain more than a merely homely effect of domestic architecture. Particularly unfortunate has been the development of many of our American universities, and their realization of this is fully shown by their recent steps taken toward the improvement and harmonizing of their college campuses, and toward the gaining of the effects which uniformity of style and formal arrangement of buildings can alone secure. A difficulty always encountered by the architect in the re-planning of a college or university lies in the association and traditions which have arisen around buildings early connected with its growth, and which, because of these associations, are difficult to alter or to harmonize with the more studied and more successful collegiate architecture. No matter how fortunate architecturally these early beginnings may have been, the traditions which cluster around the old buildings have, in nearly every case, become so much a part of the college, that the efforts of the architect to convince those in charge of alteration or removal of earlier buildings for the attaining of a complete architectural harmony, meets with little success, yet it must be realized that years, perhaps centuries, of future growth is reasonably certain in the case of all the colleges of this country. This reason, if none other, should be sufficient for serious thought in obtaining the building to be adequate for the exercise of those functions for which the buildings are required, and for the exercise of those functions in the fullest and most complete manner. The problem of the Rice Institute which we have called unique was so because its planning at the beginning of a university which in its ultimate development might be used partly for liberal educational purposes, and beyond this it had for its development a tract of land desirably situated but nearly perfectly level, and in extent of approximately three hundred (300) acres. This area is unusually large when it is considered, as in this case, that practically all of it has been adapted in the laying of the buildings of the University and in grounds immediately adjacent thereto. The fact that this tract was of an irregular polygonal shape, with its greatest diagonal extending from the east to west, or nearly so, had a large influence in the solution of the plan, and the absence of contours and of consequent positions of natural prominence afforded opportunity to develop axes and vistas wherever they were most necessary and desirable for circulation from group to group, and to make for architectural unity. With these characteristics of the tract in mind the reader may reap a fuller idea of the architectural development of the Rice Institute from the illustration of the general plan in this review. The Institute grounds lie some three miles from the business center of the city of Houston, and upon the main street of the city, which being prolonged beyond the business section is one of the most desirable residential sections in the city. This approach will ultimately be by means of a wide boulevard, and it is from this boulevard, and immediately upon its reaching the tract of the Institute, that the main approach and main axis of the University have been taken. The approach to the Administration Building, which is now in course of construction, is approximately a quarter of a mile in length, and consists of a broad avenue, flanked on either side by wide lawns, and ultimately being combed by a fore-courts consisting of two buildings, one upon the north and one upon the south side. The main driveway divides in front of the Administration Building and continues throughout the entire grounds in two broad and heavily planted drives. Passing through the sally-port of the Administration Building entrance is made into the academic group which consists of a richly garden court planted in evergreens, and the buildings having their walls exterior to the buildings in the form of cloisters. This court is approximately 300'X500', and beyond it is a future academic court planted with groves of live oaks, and enclosed by four large buildings. There has been a desire constantly to secure the effects given by widening vistas, and this is particularly noticeable as the smaller court widens into the larger, and finally into the group of Persian gardens at the extreme west of the pool and outdoor theater ending the long vista. The distance from the entrance to the drive running back of this outdoor theater will be considerably in excess of half a mile. At right angles to this main axis 1
important axes have been planned starting from Main street Boulevard and extending toward the north. At the head of this are the Newell House and Mechanical Laboratory, which are now in the course of erection, and surrounding these buildings are two courts which will consist of scientific and technical buildings. Upon the second of these axes lies the residential group, with a long spread of turf of its own, ending to the east in a student's club and at the west in the gymnasium and stadium. This residential group will be composed of four large dormitory buildings, each with gardens and lawns of its own, and each having ample accommodations for several students. These buildings will be of the design of the most accepted and best practice with regard to arrangement of rooms and studies, and will afford opportunity for pleasing architectural effects. It is also to be noted that the arrangement of the residential group places the dormitories adjacent to the gymnasium and to the stadium, and to all the athletic fields, and so provides for this sphere of university activities which has become so important and popular. At the head of the same axis lies a group of buildings for advance and professional study and research; out of which group leading toward the west had been arranged a half mile avenue of cypresses. The large tract of the campus to the north of the driveway leading from the main entrance to the group of scientific and technical buildings has been planned to provide for a group of Faculty residences. These residences have been arranged upon two driveways and all of the buildings fall toward the south and have an unobstructed view of the front portion of the campus.

All of the courts have been so arranged that the prevailing winds blow unobstructed into them. Because of this and also because of the opportunity for the use of a southern style of collegiate architecture, based upon those of Oxford and Cambridge, all have been departed from, as the small and charming quad of these universities would be ill-suited to the openness desired in a southern climate. For this reason the style of architecture in which the treatment of the Rice Institute has been begun, has been that of the north of Italy, and one well adapted to large open courts and with ample play of color.

In the study of the architecture of cities of the north of Italy the exceedingly successful use of brick work has long been the delight of architects who have had the privilege of careful study at the homes of such important architects as those of the north of Italy. The use of brick color and quality have been secured largely from such sources as the north of Italy. The use of brick work has been secured largely from such sources as the north of Italy. The use of brick work has been secured largely from such sources as the north of Italy. The use of brick work has been secured largely from such sources as the north of Italy.

In the Admistration Building the color has been secured by using bricks and columns and inlaid slabs of foreign marble, including Swiss Giotto, Languedoc, Vert Turino, Varona Red. The size of these columns and shafts are such, however, that they are never of sufficient mass for their color to have any other than a pleasing contrast with the domaining color of the building. In the building of Enfield brick have been used for the face brick, as it was desired to give to the building the richness of color and finish which would be commensurate with its importance. These brick are of a decided pink color and are made of a mixture of imported clay with a Pennsylvania clay. With the brick special tile of the same clay are made at the same time and are used abundantly in the face work. There is also a frieze of glazed tile of blue color beneath the projecting marble cornice, and glazed tile upon the facades of the tower.

The buildings already under way are the Administration Building, the Mechanical Laboratory and the Power House. The Administration Building, of which the foundations, walls and footings have been placed, will be a three story fire-proof building, three hundred feet by fifty feet, and will center upon the main axis of the university a little more than a quarter of a mile from the entrance. The tower of this building will have its vaulted sally-port will center upon this axis, and will be conspicuous from the entrance and from the campus. Upon the west or court side of this building will be a cloister, which will connect with future
future academic buildings upon each side. In this building will be the necessary offices of administration. The offices of the college and of the bursar and registrar will be upon the first floor, and will be easily accessible to the students from vestibules opening upon the cloister and upon the sally-port. There will be upon the first floor, in addition to those offices, three large lecture halls, and a smaller number of professors' rooms and seminar rooms.

Stairways have been introduced in each wing of the building, as well as upon each side of the tower, and these give access to the lecture halls, library and other academic rooms upon the second and third floors. Upon the level of the second floor in the south wing is the assembly hall, which is two stories high and is provided with small galleries, at the level of the third floor. This hall will serve for the assembling of the students, until it is considered advisable to erect the larger auditorium, provided upon the general plan. The ultimate purpose of this room shall be that of the Faculty Room.

In the floors of the tower above the sally-port are the offices of the Trustees and the offices of the President.

The large portion of the building temporarily adapted to academic purpose will ultimately be used in the administration of the university, and the lecture halls, seminar and professors' rooms will be placed in academic buildings upon either side of the Administration Building and attached to it by cloisters, the whole forming the academic group.

The Mechanical Laboratory and Power House, which is also in course of erection, consists of a 200x40 ft., two story Mechanical Laboratory building, behind which will be a machine shop 40x70 and adjoining this the Power House 100x50. This building will be at the head of one of the most important axes of the university, and the tower includes the necessary boiler stack and recalls the Italian campaniles in its style. This will be seen at the head of this and several other minor axes for considerable distance. The Mechanical Laboratory will contain upon the first floor the necessary offices for professors in charge, and two large laboratories, one electrical, the other hydraulic, together with a thorough system of locker rooms. Upon the second floor will be two large draughting rooms, one for electrical, the other for mechanical engineering, and three lecture halls. The Power House which will serve to supply light, heat power and water for the entire university will be complete in its equipment, and this equipment is now in course of design along the lines of the most thorough engineering practice. The light, heat and water to be supplied by this plant will be carried to all parts of the tract by water proof tunnels of considerable size, built for this purpose.

The planning of the roads and the grading of the grounds is proceeding simultaneously with the development of the building upon the site, and the planting of the drives will immediately follow their construction, as will the development of future buildings the need for such buildings.

Already details have been worked out in the plans for the several buildings next to be constructed. In this later construction will be included a part of the faculty group for professors' residences, dormitory accommodations for students and laboratory facilities for physics, chemistry, biology and electrical engineering. In the preliminary studies for these laboratories the architects have had the valuable assistance of an advisory committee consisting of Professor Ames, Director of the Physical Laboratory of Johns Hopkins University, Professor Conklin, Director of the Biological Laboratory of Princeton University, Professor Richards, Chairman of the Department of Chemistry, Harvard University and Professor Stratton, Director of the National Bureau of Standards.

The interest which has been taken in the work by the citizens of Houston has been very marked and inspiring. The growth of a university, with its widening influence, is realized as a highly desirable asset. The charm that always grows more and more potent as a university increases in its age and association spreads far beyond the confines of the campus and makes for those things which are highest and best in our civilization. About the college, as about the home and the church, are clustered those memories of all that is most precious in history, and it is indeed natural and fitting that the development of the Rice Institute should be accompanied by tremendous interest.