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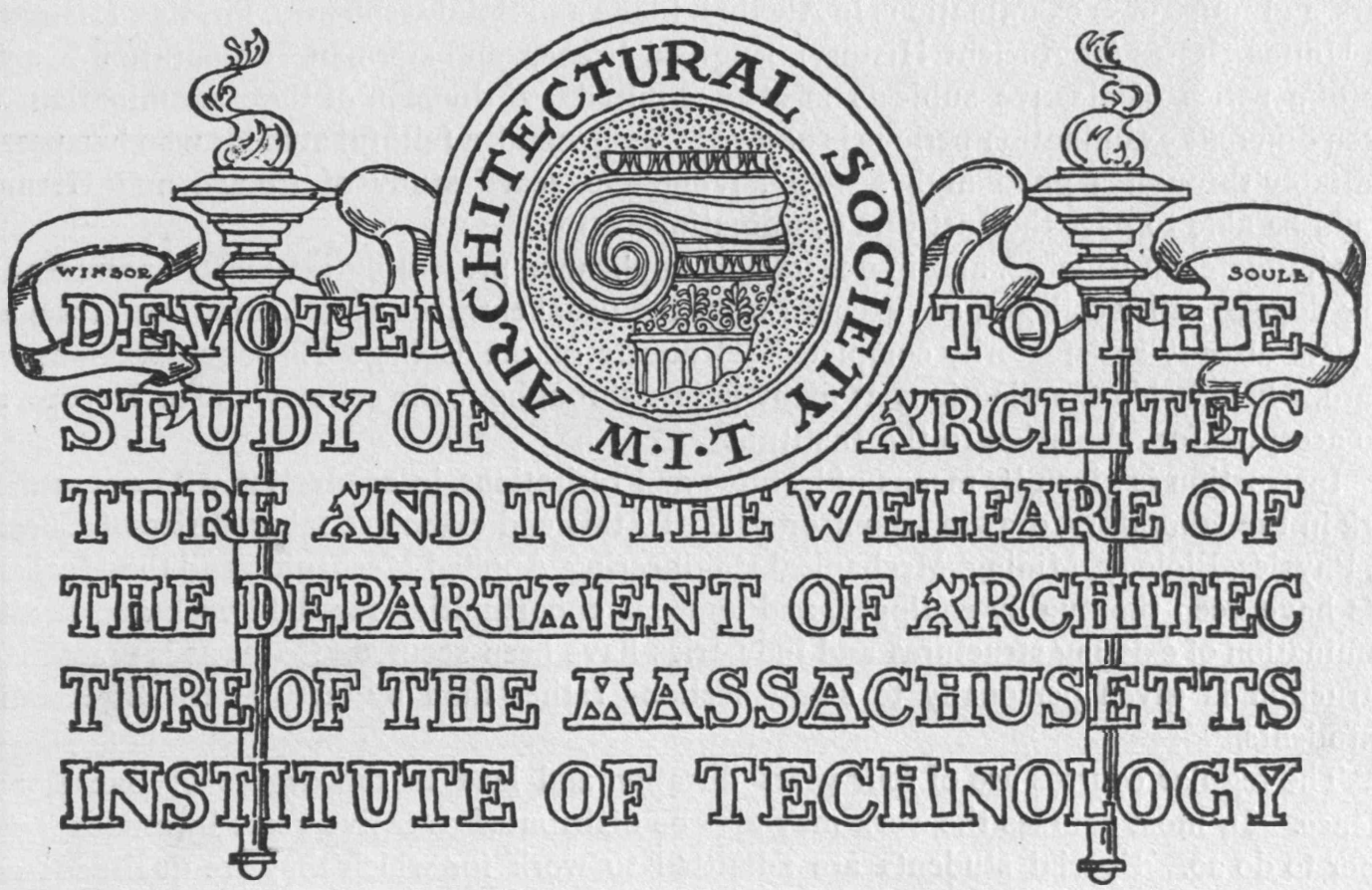
THE TECHNOLOGY ARCHITECTURAL RECORD



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THE

Massachusetts Institute of Technology

BOSTON, MASS.

THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY aims to give thorough instruction in CIVIL, MECHANICAL, CHEMICAL, MINING, ELECTRICAL, and SANITARY ENGINEERING; in CHEMISTRY, ARCHITECTURE, PHYSICS, BIOLOGY, GEOLOGY, and NAVAL ARCHITECTURE. The Graduate School of Engineering Research, leading to the degree of Doctor of Engineering, and the Research Laboratory of Physical Chemistry offer unusual opportunities for advanced students.

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The tuition fee, not including breakage in the laboratories, is $250 a year. In addition, $30 to $35 per year is required for books and drawing-materials.

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MASSACHUSETTS INSTITUTE OF TECHNOLOGY

DEPARTMENT OF ARCHITECTURE

The Course of Instruction

THE instruction offered at the Institute is intended to supply the preliminary training required for the practice of Architecture. It recognizes that Architecture is a fine art, and that its practice must be based on a broad training in design, and on the principles underlying sound construction.

The studies begin with Freehand and Mechanical Drawing, and the Descriptive Geometry which later is to aid in solving the problems of Shades and Shadows, Stereotomy, Perspective, etc. Courses in Applied Mechanics, Graphical Statics, and Strength of Materials prepare the way for professional work in constructive design, which teaches the application of the principles already learned to the solution of structural problems likely to occur in modern practice.

The studies of materials used in building, and of working drawings and specifications, are carried far enough to enable the student to take immediate advantage of office opportunities on graduation.

The course on The Influence of Materials on Architecture deals with the methods of construction resulting from the building-material used, and the constructive principles involved, in the growth of the great architectural styles. The courses in the History of Architecture afford instruction in the principles governing design in the Classic, Mediæval, and Renaissance work, and the proper use to be made of precedent. The importance of a broader æsthetic and historical training is also recognized, and amply provided for in the history course on European Civilization and Art; and the historical development of ornament and a consideration of the motives influencing architectural composition are given in the course on the History of Ornament.

Four years' instruction in Freehand Drawing, from the cast and the living model; a year's course in modeling; and extended courses in water-color, and pen-and-pencil drawing, based as much as possible upon architectural subjects, enable the student to associate at once the principles of draughtsmanship with architectural form.

The instruction in Option 2, a specialized course in Architectural Engineering, includes advanced courses relating to Applied Mechanics, the Theory of Structures, and practical problems in Structural Design.

The instruction in Landscape Architecture, offered as a Graduate Course, is mainly devoted to Architectural and Landscape Design, Landscape Horticulture, History, and to the necessary branches of Civil Engineering, Geology, and Biology.

The department offers opportunities for one or more graduate years of advanced study, to be spent in professional work, and leading to the Master's degree.

The student is strongly advised to spend part of the summer in an architect's office, for this practical experience is a great aid to him in the clearer understanding of his school work.

The Bachelor's degree of the Institute admits the holder to candidacy for membership in the American Institute of Architects, without the examination ordinarily required of candidates for membership.

A circular of the department will be sent on application to

ALLYNE L. MERRILL, SECRETARY,
491 Boylston Street, Boston.

The Technology Architectural Record

Vol. II February, 1909 No. 2

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The proceeds of this publication are devoted to a Scholarship Fund, founded by the Architectural Society for students of the Department of Architecture of the Institute.

THAT we have at last a President for the Institute is a great comfort and satisfaction to us all. The long wait was well worth while, since it brought to us Dr. Richard Cockburn Maclaurin. Dr. Maclaurin's record for brilliancy and versatility of scholarship is a remarkable one. His personality is very attractive, and he carries himself with easy authority. He has a big task to face, but we look to him with the utmost confidence to accomplish it.

The last report of the Committee on Education of the American Institute of Architects is very interesting, though it is mainly an iteration of last year's, with greater length given to the subject of the proposed establishment of a governmental Bureau of Fine Arts. It speaks of the difficulties which prevented a competition being held last year between the advanced students in the several schools of architecture, and believes that now such a competition would be possible, and it asks to have the unexpended grant of $150 given for prizes at the last convention transferred to the current year.

We cannot help thinking that a much better knowledge will be obtained of the methods of instruction pursued by the different schools through exhibitions like the one recently held by the Boston Architectural Club than by any form of the suggested competition. In this exhibition the principal schools placed side by side illustrated their four years' course of study. It was a most attractive display, for the inception of which the Architectural Club deserves great praise. It gave the finest opportunity for the schools and such instructors as could visit Boston to compare notes and discover the strength or weakness of their own work in comparison with that of other schools. This we believe to be the true form of competition for schools of architecture. Establish such exhibitions so that every one interested may see and have the opportunity to study them, and let the material presented be such as will best show the results of the methods of instruction in the different schools. Such competition would stimulate the schools, and the results would permit of an intelligent criticism.

With so many of the regular competitions for scholarships, etc., etc., already a part of the curriculum, we should be careful not to disturb unduly the higher school standard which we all strive to maintain, that aims to educate men to become architects, not draughtsmen. The instructor must have a further interest in his class than to aid its members to win prizes and to cater to the supposed predilection of a foreign jury, or the results would be more apt to be tricks of clever draughtsmanship than architecture.

The committee, in again indorsing the teaching of advanced design by practising architects in ateliers associated with different schools, fails to give credit to the Institute for its development of the atelier system, which we think is far to be preferred to that of the examples cited. There can be no criticism made of the principle of teaching advanced design by practising architects, but every criticism can be made against wasting a school's strength on small, distinct ateliers. We thoroughly believe in a great central Graduate School of Architecture, to which the best scholars graduated from the architectural schools shall go for a further period; but until that time comes we believe the atelier for advanced design should be developed in the school itself, where the best work of the "*ancien*," as well as the "*nouveau*," can be done.

The whole school must be the atelier; it takes numbers to make one. All must take part, and the function of the "*ancien*" and the "*nouveau*" must be well maintained, for it is the mutual help and comradeship that make for the efficiency of the atelier, and therein lies its great merit. At the Institute, instead of splitting up our students into small bodies with little interests, we keep together our three or four classes, representing that number of consecutive years of instruction, and therefore there has been developed splendid traditional enthusiasm and *esprit de corps* among our students. Strong fourth and fifth year classes are what build up a school, and it would seem to us poor treatment of the younger classes to deprive them of an association from which so much is to be learned.

Our atelier we believe to be the nearest approach that can be made to the system of the École des Beaux-Arts, and we repeat that only in the schools themselves can be evolved that fine spirit which animates the French atelier; for without the government patronage upon which the Paris system rests, the rewards accorded to high proficiency, our men will not stay long enough in an outside atelier to give it character and tradition. We have five practising architects on our regular staff giving instruction in design, and they maintain the closest personal relations with the students. They bring into the school unflagging interest; and we feel that results have proved that as yet we have shown no tendency to run in a rut, but are alert and alive to every opportunity offered us.

The school year 1908-09 of the Department of Architecture opened with a good increase of students over the register of the year before, and with a class of unusual size and strength taking fifth-year work. Seven members of this postgraduate class are last year's graduates who have returned for the advanced degree. The fifth-year work shows a most satisfactory growth. More and more do our students both from abroad and on their return home speak with increased respect for the training received at the Institute, a training not always fully appreciated till the Paris atelier and the Beaux-Arts exhibition give the opportunity for comparisons.

A fact becoming more and more noticeable is the number of graduates from other colleges coming to us for the study of architecture. This school year there were newly registered in the department, graduates from Allegheny, Amherst, and Santa Clara colleges; Harvard, Yale, Rochester, Wesleyan, Washington, and Vanderbilt universities; the State universities of California and Texas; and the Pratt Institute. This does not take into account students who have had partial college courses in preparation for Technology.

The loyalty of former students is always interesting to record. Mr. R. P. Bellows, '04, recently made a most interesting exhibit of his work accomplished at the Beaux-Arts, of which he is a diplomé. He also prepared a careful paper on foreign school methods and atelier ways of study, which he delivered to our students. This paper appears in another column.

Mr. F. L. W. Richardson, '03, after an exhibition in our gallery of some of his foreign work, presented us with three water-colors.

Mr. A. W. Longfellow, '78, has given us a large copper-plate engraving of the Leaning Tower of Pisa. He gave it "in memory of happy, useful days where I gained so much. I should like to be remembered there, and send it in grateful memory."

Miss Helen M. Longyear, a present student, has recently made us a most generous gift of photographs collected while travelling in Europe.

We are under a continual debt of gratitude to Mr. Guy Lowell, '94, who, beginning in 1906, enabled the department to offer a travelling scholarship of $1,200 for that year and another $1,200 for 1907, and who, since then, including the present year, has shared equally with the Institute to enable a prize of $1,000 to be continued. We appear to stand alone among the architectural schools without an endowed yearly travelling scholarship.

We are glad of this opportunity also to record another of the many kind things done for us by Mrs. William B. Rogers. A gift of books, photographs, and engravings from her has an additional value in its association with one who has done so much for the Institute.

The competition for the prize in architecture of the American Academy in Rome was concluded in the first part of January, and the award has been made. The prize, which is the highest in value and in honor offered to American architectural students, was won by Mr. E. I. Williams, a student of the Institute of Technology.

Nine of the American schools of architecture were eligible to join in the competition, which was in two parts, the preliminary and the final, the former being open to any one properly qualified. The preliminary competition reduced the number of competitors to four, of which three were from Technology,— E. I. Williams, C. F. Baker, and W. F. Dolke, Jr.,— and one, R. C. Jones, from the University of Pennsylvania. The final competition gave the first place to Mr. Williams.

The problem to solve was a very interesting one. It was assumed that the American Academy in Rome had come into possession of a plot of land situated within the walls of that city, and that upon this land there were to be erected permanent buildings in which the high aims and purposes of the founders of the institution could be carried out. The property, five hundred feet square, was supposed to be situated on the west slope of a hill, to be bounded by streets on all sides, and to command by its elevation a view of the city. The requisites of the problem were: first, an administration building, three stories in height, with suitable offices, lecture-rooms, and exhibition-halls; second, the studios, which would accommodate the architectural students and those of painting and sculpture; third, a porter's lodge, stables, and garages; and, fourth, gardens which would complete the treatment of the allotted space.

Mr. Frank Miles Day, chairman of the Executive Committee, in his letter to the department said: "Both the Executive Committee and the Jury of Award felt highly gratified by the splendid showing made by the competitors for the Prize of Rome. All the drawings submitted were excellent. All were in the true spirit of the Roman villa, well conceived and beautifully rendered. The award, however, was not difficult to make, as Mr. Williams's drawings were better in arrangement of plan and displayed a more poetic feeling than the others. The Massachusetts Institute of Technology is to be congratulated upon the character of the designs submitted by its students and upon the award of the Prize of Rome to one of them."

The winning of the Prize of Rome from such competitors means far more to Technology than the simple honor conveyed. It means an achievement due to our school methods and training, which is still further proved by Mr. Day's letter, when he speaks of the designs of all three of our competitors being "in the true spirit of the Roman villa, well conceived and beautifully rendered." It means that our students understand and are governed by the great underlying principles of design, that they are being educated to reason and to think clearly and logically, and that their sense of beauty is being trained and educated and their imagination stimulated. It is bound to follow, then, that they will grasp, as in this case, "the true spirit" of the problem. These three men had had little or no office training. Mr. Williams had spent only part of his summer vacations in an architect's office; one of the others has had a year's office experience, and the third has had none at all. Their work accomplished in this competition represented absolutely the results of school training, and as such the department is very proud of it.

The loyalty of the whole department student body was wrought up to a pitch while waiting for the final decision. When the good news came there was indeed rejoicing of the kind that goes with good fellowship and *esprit de corps*.

Mr. Williams is a graduate of the Institute in the class of 1908, and he will complete his graduate year at Technology before departing for Rome. Mr. Williams has fairly won this prize. His undergraduate record at Technology tells of all-round ability thoroughly cultivated. A first-rate scholar, he was also a prominent member of his class, serving on both baseball and football teams and other minor organizations. He was president of the Architectural Society of the Institute during his Senior year, and was a general favorite. All good wishes will go with him, and the Academy in Rome may well be congratulated on its happy choice; and the Institute may rejoice on being represented by one who is sure to reflect great credit on the school.

We would refer those of our readers who are not acquainted with the high standard and excellence established for the American Academy in Rome, and what such a prize means for its beneficiary, to a carefully written article in the August number of the RECORD, which tells of the aims of the Academy and of life in the school. It was written by Mr. E. F. Lewis, '07, to whom the prize was awarded two years ago without competition, and who is now in Rome pursuing the prescribed course of study.

Professor Despradelle, as a member of the firm of Codman ('92) & Despradelle, has achieved another great success by winning the recent competition for the plans for

the Peter Bent Brigham Hospital, to be erected on Huntington Ave. and Francis St., Brookline. In the competition, which closed October 1, were five Boston firms and one from New York. After much discussion, the committee in charge accepted the plans of Codman & Despradelle. Professor Chandler was retained as professional adviser to formulate instructions for architects, and to aid in conducting the competition, and Dr. John S. Billings, of New York, was medical adviser for the corporation. These two, with Dr. H. B. Howard, the superintendent of the new hospital, formed the jury to recommend the award. Upon learning of the new honor conferred on Professor Despradelle, the students of the department erected in the drawing-room a gigantic triumphal monument to their chief. This was artistically constructed of a step-ladder, several drawing-tables, boards, T-squares, a portière, paint-pots, colored streamers, and models. The whole was surmounted by an inscription, "*Vive la France.*" When electric-lighting effects were added it became a marvel of architectural beauty. When escorted to the platform Professor Despradelle expressed himself as heartily pleased with the sign of affection and esteem shown him.

The Institute has unfolded wonderfully in the past, and I know that you will watch with interest its future growth. I shall do my best to maintain its great traditions and shall enter upon the task strong in the assurance of your loyalty and coöperation. It has much in its favor,— a great reputation for thoroughness and efficiency, a distinguished and energetic faculty, a loyal and enthusiastic body of alumni devoted to its interests and ready to make great sacrifices to further its advancement. You know, however, better than I, that it also labors under certain disadvantages. These we must do our best to remove as speedily as possible, and the problem to which we must devote our energy most strenuously in the immediate future is to obtain a site and buildings that will free the institution from its cramped posture and enable it to develop naturally. I need scarcely assure you that I have far more concern for its inner worth than for its outer show. I do not advocate show, but I believe that such an institution should have a dignified site and buildings and that its inner worth will suffer very seriously if it has not.— *From Dr. Maclaurin's Greeting to the Alumni, Technology Review, January, 1909.*

Mr. George E. Burnap, '06, a graduate in landscape architecture and the beneficiary of a travelling scholarship from the Austin Fund, has recently returned from Europe. His successful work had brought him to the knowledge of Cornell University, and he was invited to the position of instructor in the Rural Art Department, which he has accepted.

Bernhard Vonnegut, '76, died at his home in Indianapolis on Aug. 7, 1908. He was a special student in architecture at the Institute and took a finishing course abroad. Later, as a member of the firm of Vonnegut & Bohn, he designed many of the important buildings of the State of Indiana. One of his sons, Kurt Vonnegut, graduated in the class of 1908.

Frank E. Alden, of the firm of Alden & Harlow, of Pittsburg, Penn., died at his summer home, Edgartown, Mass., on the sixteenth of September last. Mr. Alden was of the class of 1879 at the Institute, and afterwards for a number of years he was in the office of H. H. Richardson, where he was connected with some of Mr. Richardson's most important works. He won his early experience on such buildings as the Capitol at Albany and the Allegheny Courthouse at Pittsburg. Afterwards he settled in Pittsburg, where from 1888 he had been in practice. He was a member of two successive firms of architects, during which time no one left a greater impress for good than he on the architecture of Pittsburg. The work of his own firm included such buildings as the enlarged Carnegie library in Pittsburg, as well as eight branch libraries; also several bank buildings and the stock exchange. The domestic work of the firm was equally important. Nothing contributed more to the success of the firm than Mr. Alden's high professional honor. He is sure to be greatly missed.

William Martin Aiken died in New York the seventh of December last. He was born in Charleston, S. C., attended the University of the South, and later studied architecture at the Institute in the class of 1879. From 1880 to 1883 he was in the office of the late H. H. Richardson, of Boston, and from 1886 to 1895 he practised architecture in Cincinnati. His greatest achievement, it seems to us, was what he accomplished in his brief service as Supervising Architect of the Treasury Department from 1895 to 1897. Secretary Carlisle of the Treasury invited Mr. Aiken to this position to raise the low standard that dominated the architect's office, which to this time was the butt of professional satire on account of its lack of efficiency from every point of view. When McKinley was elected Aiken resigned his office, which, if not yet in perfect condition, had been wonderfully improved during the two years of his incumbency; and he surely left a much easier task, which his successor, Mr. Taylor, has completed with such ability. From Washington Mr. Aiken went to New York, where he practised since 1897; he served the city as consulting architect under Mayor Low from 1902 to 1904. Justice, integrity, and high professional honor were his chief characteristics.

Just as we were going to press came the sad news of the death of George Merrill Magee, a graduate of the class of 1904. Such a death comes very near home, so recently was Magee with us. His brightness and activity gave little evidence in those days that the fatal seed of consumption had already begun its work. He was a great favorite, and of most attractive presence, as well as a good scholar. He kept up his interest in Tech to the last, and his visits to the department now and then were always a pleasure to receive. He fought the disease which threatened him with great bravery, nor would he give up until his strength failed him. He had already formed a partnership with H. W. Rowe, a classmate at the Institute, under the name of Magee & Rowe, Architects, and the prospects for the firm were very bright. He was, however, soon forced to give up all active pursuits and keep to his home in Wenham, where after a long illness he died, February 7, in the twenty-sixth year of his age.

Architectural Study at Home and Abroad

By ROBERT P. BELLOWS, '04

Paper Read before the Architectural Society of the Massachusetts Institute of Technology, February 13, 1908

BEGINNING at Tech, I shall take as my text a remark of Professor Despradelle's that has stuck in my memory. I shall say a few words about descriptive geometry and perspective, and then pass to a more general consideration of what we are taught here. Next, I hope to show you that study in the school in Paris is based on very much the same principles that we have learned here at Tech. I am going to try to give you a glimpse of some of my good teachers and comrades. They are a wonderful group of men, and are well worth knowing. I shall have a word or two to say about their rather extreme devotion to method. However you feel about this, I hope you will agree with me in my concluding remarks. They concern the great place which I feel American schools of architecture are bound to take in the future.

When I entered Tech some years ago I was much saddened when I found that of the comparatively few compulsory courses for me, one was descriptive geometry. Of course I tried to squirm out of it. But the office was firm, and Professor Chandler was firm. However, I received some consolation from Professor Despradelle. He said, "Oh, the geometry descriptive! How beautiful, how grand! *It makes the mind to fly in and about the building!*" Later, I found that it did make "the mind to fly in and about the building;" but, at the time, I thought this rhapsody of our great teacher and master was merely another proof of his never-flagging enthusiasm.

It is true, however. Remember that we are talking about the designing of architecture on paper. Whatever the drawings we turn out, they are at their best but the signs and symbols of an actual building. They are not the building. They are merely the conventions that enable us to imagine the building, "to make our minds to fly in and about it."

And so half the battle for the student of architecture is to be able to think and feel and see his problem equally well in plan, elevation, and section; that is, to see his building. But I fear the section has never had a fair show in our designs. We are apt to rattle it off at the last minute; and yet by its aid what remarkable defects we discover in our pretty plans! But then, alas, it is usually too late to change them. We have neglected a vital part of the design. Now, this section, if you please, is another plan taken vertically — a plan of infinite variety, of varying heights, of roofs, of spreading vaults and ceilings, walls, windows, doors, floors, piers, foundations. Of these, the hidden secrets are revealed to us in the section. And for the mosaic of this wonderful vertical plan we have no need of circles, rectangles, stars, and sunbursts. Our mosaic is a most interesting variety of separate but interdependent elevations.

As a means of expression of what a building really is, as an analysis of its structure, as a grip at the very heart of it, the poor abused section is a worthy second to the plan. I sometimes wonder if it is not a more important drawing than the petted elevation, on which we squander so much time and care. But the real answer is that all three drawings — elevation, plan, and section — are of equal importance, and no one of the three is true and good unless it be the natural complement of the others and work for the general harmony.

I have been so engrossed in defending the poor section that we have almost let slip another most useful way of making "the mind fly in and about the building." And that is by the use of perspective. At the annual exhibitions of architecture at the Academy at London I have always been struck by the general use which English architects make of perspective as a means of presenting their ideas. And I have no doubt that, as the French use the more conventional descriptive geometry to quicken their imagination of the round, the English conceive and study their problems largely by this method of perspective, which shows the building as it will later appear, and which requires no great exercise of imagination—although an imaginative person can choose points of view that greatly enhance the beauty of his picture. My own patron in Paris, M. Pascal, would often point out disparities in "what happened around the corner" in our drawings, by rough little sketches in perspective. But on the whole, I believe it is the English designer rather than any other who most heartily appreciates the usefulness of the vanishing-point and the horizon-line.

What an interesting subject is this architecture to reason about and to feel! And how fortunate we all have been to have begun our studies here at Tech, to have been started *right*, to have been made to feel so early how entrancing and stirring a task is ours! Especially I say "to have been started *right*"— to have been introduced, at the very beginning of our studies, to truths so difficult without help to discover. The architectural creed taught us here is really so simple!

We believe that architecture is a fine art, and that what is fair must first be fit. And believing this, we find that each of our problems, having requirements peculiar to itself, imposes a special solution. We acknowledge, in design, the importance of the expression of truth, both structural and ornamental. We lay stress on proportion and scale. We appreciate our debt to the past. We seek to give to each of our works its appropriate character. And finally, in the making of a design we realize the importance of long, patient, and enthusiastic study.

These principles that we find laid down for us at Tech are also those of every good school, and of none more than the great school in Paris. Its fame and its success rest largely on an enthusiastic loyalty to these principles. That band of remarkable teachers, once, themselves, pupils in their own school, believe as firmly in their own school; believe, as firmly as we are taught here at Tech to believe, in the noble character of their profession. They also insist on fitness in what they seek to make fair. The solution of each problem given to their pupils must, above all, in their minds, answer the requirements of that special problem. I have never seen any men more interested in their task and more desirous of imparting their knowledge and enthusiasm to their pupils. Years of study and criticism have given them a real power to help. And how great their tolerance and patience and tact at their pupils' same old stupidities! Without their sympathetic and kindly suggestions I doubt whether some of our paper palaces would have stood up, if put to the test. Our stone cornices, with more weight of stone in their projections than in the

thickness of the walls that supported them, would have gone crashing down to our trim flower-beds and orange-trees below. Our piers, which on paper rested so easily on undreamed-of voids, would have come tumbling down about our ears.

The teachers whom I studied with, and consequently knew most intimately, were Messieurs Godefroy and Freynet, Umbdenstock, Duquesne, and Pascal. Godefroy and Freynet had an atelier where fellows used to go when they were trying for the school and wanted practice in tearing off twelve-hour sketches. Monsieur Godefroy had a most delicate sense of proportion and scale, and the elevations we made for him gave him an excellent opportunity to point out our lack of the same delicate sense. You may see a drawing by him in the Rougevin-Godeboeuf book, which he made when he was in the school. But although he was keen to our faults, his criticism was always helpful and kindly. His partner, Freynet, had a strange way of snorting and sputtering. I think we learned most when they forgot all about us standing there, and got to disputing about the drawings they were judging. M. Godefroy talked, M. Freynet snorted. But the snorts were most expressive and critical, and meant about as much to us as M. Godefroy's conversation.

Their rival for preparing the young idea to climb the school barriers was M. Umbdenstock. He came up one evening to see one of my room-mates, who was his scholar. Finding me at work on a problem for his rival, he took off his coat and stayed and helped me till half past two in the morning. Ever afterwards I was his defender and advocate; for he was an impulsive, wild-talking sort of man. He had the most remarkable ideas about architecture of any man on this globe — wonderful theories of what was grave and what was gay, the vibration of crestings and cornices, and a thousand other fancies that he expressed so forcibly that they stuck in our heads for a while and at least made us think. His great cry to us was to seek the "dominant," the dominating idea of each problem which we had to solve. To explain his ideas, he would draw, right off the handle, before his marveling scholars, the most remarkable perspectives in ink, full of suggestion and spirit, and as long as your arm. Many of these have been saved by his pupils, and photographed and reproduced for future generations to wonder at.

And then there was Duquesne, as quiet and reserved as Umbdenstock was assertive and confident. A group of us used to go round every week to a little planning-class in his atelier. This was not the work of the school. We did it for the sheer love of the game. But we realized what a privilege it was to work with this immensely skilful teacher. He it was that taught me in planning to keep an open mind, to search and search, this way and that way and the other. He would keep the whole plan in a state of jell until he had found something he really liked, and then, you may be sure it was something mighty good.

And last comes *the Patron*, *my* patron; that is, the fine old man with the shaggy locks and the keen eyes, full of years and honors, Jean Louis Pascal. Twice, and sometimes three times, a week he climbs the three steep flights of the Atelier Pascal. The hush that comes over his noisy pupils there is a real tribute of the love and respect in which they hold him. His sane judgment, his vast experience, and his untiring interest are all at our disposal. Of his many interests, I think the atelier is nearest to his heart. But there is no need of describing the French "patron" to you. In skill, devotion, and enthusiasm, our teacher here ranks with them, and in his insight to our special needs perhaps excels them.

But it is not only to our teachers that we owe a debt of gratitude. Our stronger comrades also gave us of their aid and criticism. There was the brilliant Dujarric, terror of the trembling "*nouveaux*." We are going to look at some of his work to-night. And Coutan, one of the nicest fellows that ever lived. "Bouge-le-pas" he was called, because of his Breton upbringing, and his opinions, which nothing could shake. Perhaps you have heard Mr. Cox speak of him. I have often heard him speak of Mr. Cox. And Duval, the able and kindly; and Paul Crét, who is now at Pennsylvania; and Joulie; and Licht, the American; and Tauzin, Levard, and Boussois. How ready to help a fellow they all were!

There is one thing I want to say that I am afraid I can not make quite clear without seeming to criticize these revered masters. They go farther than we do, I think, in their conviction that there is a one-and-only method of designing beautiful buildings. The French as a nation have a stronger love of method and system than we have. In that very remarkable book, "The France of To-day," Professor Barrett Wendell declares of the French that "the assumption that everything can be generalized and reduced to system lies at the root of their emotional existence." Now, to my way of thinking, there are great qualities in architecture that owe little to any system. No two men, given the same problem, will ever arrive at exactly the same results. Mr. Ruskin would have subscribed absolutely to the creed I have enunciated above. Yet how different would be buildings designed by him or his admirers from those made under the influence of the École des Beaux-Arts! The individual surely counts as much as the method. With all his training, the average French architect of to-day bungles when he comes to the small country house. He builds a little piece of city, set down in the country. How architecturally fitting, on the other hand, is the snug cottage of the English architect!

And, finally, there are architectural monuments that sin against every rule of architecture which, all the same, seem to me very beautiful.

It is absurd to speak as if schooling alone can turn out an architect. Artistic feeling, individuality, effort, and experience play their part. But the school can give something. I have visited all the large Eastern schools of architecture, except Cornell, and I have watched the graduates of all of them with great interest. And of all these schools I think Tech can give the most.

Some day I believe we shall all, as many now have to, stay at home to take our postgraduate courses, and go abroad only for observation. This has been the history in other professions in our country,—in science, in law, and in medicine. Fifty years ago you read of ambitious young Americans getting their chemistry in Germany, or their medicine in Vienna. Now they only go there, if at all, to "top off." I think the same thing will happen in architecture.

There is splendid training and discipline to be had in the Paris school. The teachers, their point of view, the vast number of pupils, the keen competition, make it a most remarkable place of study. But with all this go many inconveniences for the American student. One is the distance from home; another, not so serious, the foreign tongue. Besides, if proper advantages can be found here,

it is far more natural and fit that a youth should keep in touch with the life and art and aspirations and duties of his own country. However, it is surprising how universal in application are the teachings of this French school designed for French boys. But the herding of the grown-up American student with his more youthful and obstreperous Gallic cousin is sometimes very irksome.

As time goes on, I look for our American schools to increase in power and usefulness to a point where lengthy study in a foreign school will no longer seem worth while. We shall go abroad to see other countries and their monuments; but we shall stay at home to study, because our schools, *for us*, will be the best.

European Travel for the Student of Architecture

By MISS IDA A. RYAN

Holder of the 1907 Travelling Scholarship

A YEAR of European travel, first of all, sets the architectural student in the midst of architecture. He can see more fine examples in the few hundred square miles of Spain, Italy, France, and Britain than in the whole continent of the Americas.

Second, it takes out of him all kinds of kinks and provincialisms; for, separated from those trained in ideals and processes of thought similar to his own, he is brought face to face with other standards of material living, and with other scales of value in all that life, strife, and ambition stand for; the possession of wealth as such produces no distinctions; culture and art rest secure on a high plane.

Third, it reviews and puts in compact form the whole substance of architectural history. Buildings which until now have existed for him only as pictures and photographs become realities. The grand scale of St. Peter's — never before appreciated from drawing or photograph — fills him with awe and wonder. The delicate carving of the entrance at Azay-le-Rideau, once only an unrelated piece of beautiful detail, becomes an important part of a splendid building fine in proportion, exquisite in line, and well placed in a frame of field, trees, and water.

Last and best, such a year's trip shows the student objectively what true architecture really is,— the work of art and science in building combined in such high degree that they stand useful for ages, an education and inspiration to all future generations. What teaches pure architectural restraint and dignity better than a Greek temple? What shows more aspiration, breadth, and nobility of work than the interior of the Milan Cathedral? These monuments of Europe extend over so long a period of time that even the word "architecture" carries a weight of dignity inherited from tradition and years of veneration that in a new country like ours is manifestly impossible.

Once in an atmosphere that attaches to the word its true sense, the student cannot be slow to observe the causes for it. He sees on either hand, built in strongest masonry, in bricks, terra-cotta, stone, plaster, or concrete, numberless examples of fine buildings that certainly belong in the category of "architecture." Generally, they are not new works waiting to be discovered by students and critics, but old structures that have almost grown into the nature of things. At their very doors the people learn in earliest childhood to know architecture. When deprived of their monuments suddenly, as at Messina, it is to these people as if a mountain or a lake had been wiped away. Little wonder, then, that "architecture" comes naturally and sincerely into the European's sentences!

How different with America! So new a land is this that we still have forests to cut up for timber; hence thousands of our buildings, being only wood, are but temporary. Few will ever become venerable; they will settle and decay, or burn to the ground as easily as a child's village of pasteboard. So young in years are these United States that the majority of buildings have come within the memory of man. They do not impress us deeply, because our friends, neighbors, contemporaries, who built them, seem ordinary creatures like ourselves. Even when American buildings are fine — truly there are many such — we cannot venerate them, because the pictures of their pile-driving and steel skeletons are still distinct in our minds. We cannot even surmise what will be their future architectural standing. A hundred years hence the Library San Marco will stand near the head of the list, just as it does now; but our Library of Congress, where shall be its place? Of all our modern buildings, many will last but a few decades; others will endure for utilitarian or economic reasons; but only a few can become the admiration of later generations.

On the other side of the Atlantic all is so different — materials, structure, forms, and climate — that the student's observations begin actively at once. He sees the position of buildings, and how beautiful surroundings add to their importance. He notes the expression of use in external features, marks the planning and scale, wonders at the workmanship that stands for centuries, and respects the economy, sense, and skill that have adapted local materials to various types of building, suited to the climate and to the habits of the people. He exclaims at the wealth of harmonious accessories that mean so much to the local color of a town,— fountains, monuments, gardens, parks, avenues, and courtyards,— and revels in fine old furniture, paintings, frescos, metal-work, and sculpture, that add character to the building's inner parts. All these phases of architecture do not appear immediately or together. No one building possesses all the qualities that illustrate what an example of perfect architecture should be. No one country, even, brings out all things to their fullest development.

In Spain, he sees the Generaliffe and gets an idea of what a beautiful garden may be; or the Alhambra Palace, and feels how the warm climate, the native building-material (stucco), the habits and religion of the Moors, combined to result in this most beautiful of their works. Plain, solid, and bare, externally, as are all Mohammedan dwellings, it is internally delicate, lace-like, ornate, and richly Oriental. How it contrasts with the sombre stone buildings of the treeless, yellow North; the simple courtyards, heavy gateways, and walls of Avila and Toledo!

Italy spreads out still other features of true architecture. Fountains, gardens, monuments, and statues illustrate the aid of architectural settings; while mountains, rivers, cliffs, and bridges, together with a bountiful vegetation, add much in the way of natural charm. Variety of mate-

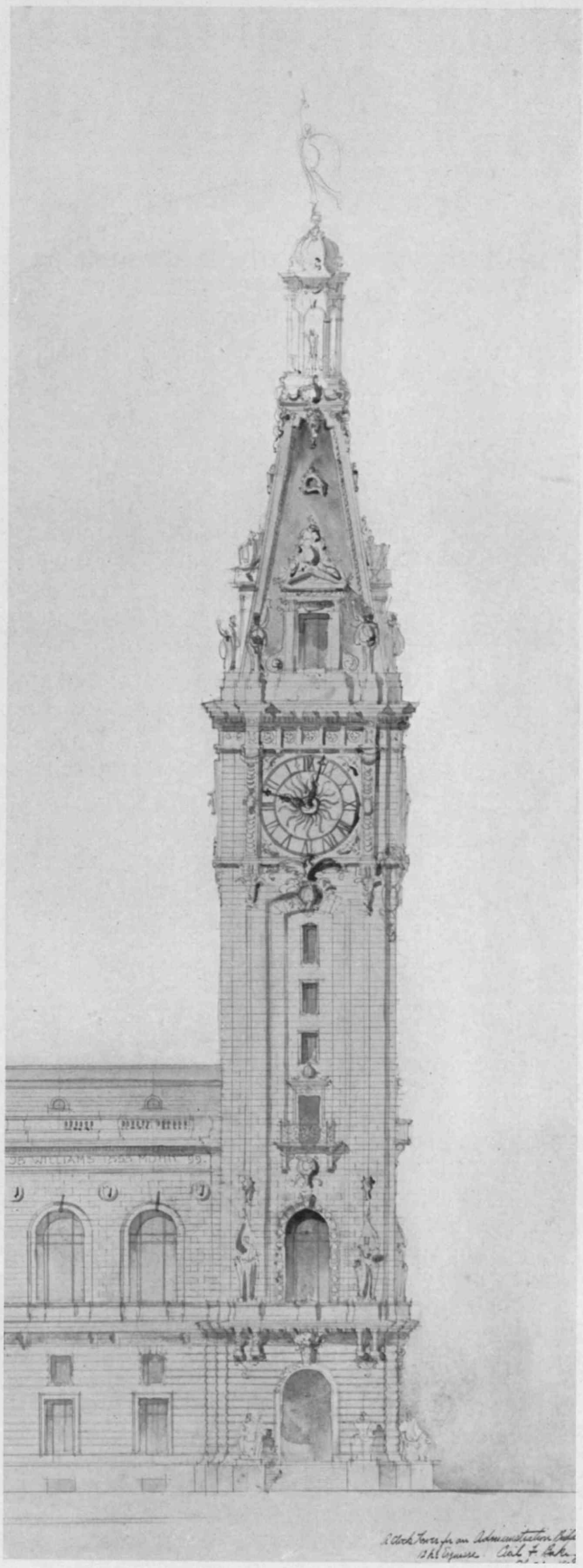
rials leave their stamp on buildings everywhere. There are tufa, marble, plaster, and concrete in Rome, substantial stone masonry in Florence, and terra-cotta and brick at Ferrara, Bologne, and Milan. The Italian sense of color glows richly in places,— in the Della Robbia friezes, in the red cloisters of the Certosa, in the colored marbles of Pavia, and in the mosaics and frescos of Orvieto. Delicate feeling for beauty of form appears in rich bas-reliefs and carved ornamentation, in friezes, doorways, wells, and tombs. Plans vary to suit the purposes of the building as well as the effect of climate; but the basilica and Italian palace, with square interior court, have influenced religious and domestic buildings all over Italy. St. Paul Outside the Walls is one of the most perfectly restored examples of the former, while the Strozzi is one of the purest Florentine types of the latter. Each little town and village has produced architecture that is a true offspring of native soil. In Siena, Perugia, or at Venice the student finds the architectural characteristics of each town as marked as those of an individual.

In Switzerland, as in America, the traveller finds wood in abundance, substantial, flexible, and easily handled. Here the châlets grew naturally into their present picturesque forms, with steep roofs in the valleys and flat ones with wide eaves on the mountain-sides. Churches with needle-pointed spires frame themselves among the houses of the mountain villages. The quaint charm given to the wood details, the care bestowed on the Swiss domestic furnishings, which are sure to have such pleasing forms, should make us grateful to this small country for continuing its tradition of wood construction.

Richly fertile, and peopled by an industrious race, France shows high ideals of workmanship and grandeur of form developed in all directions. Wood appears richly carved in the half-timber houses of Le Mans and Vitré; stone, in all public buildings and churches; and iron, in the splendid bridges over the Seine and in other engineering works. The natural French love of building and display has produced the grand conception and achievement of Paris, the graceful and rich chateâux of the Loire, and the uplifting Gothic cathedrals of the Isle de France. It is the spontaneous outgrowth of an imaginative, versatile people, with great constructive genius, living in a mild climate and fertile land.

In England, again, the student sees genuine architecture, developed from natural resources. Again, wood, brick, and iron appear, influenced throughout by the requirements of a different climate and a different mode of living. Substantiability and domesticity, rather than unrestrained imagination and display, seem to be general qualities. Houses suggest greater comfort and less splendor. Cathedrals, long and low, with central towers and superb setting, are wonderfully impressive. Who can ever forget the majesty of one of these, like Salisbury or Lichfield, placed in its generous green field, with trees and ivy enough around it as if to shut out forever the noise, confusion, and worry of an outer world!

Thus, after a year's travel, the student will have seen and learned as never before what true architecture is. He will appreciate better the magnificence of it; and he should come back with new interest and strong desire to help in the creation of our art in America, based on similar processes to those which developed the great works he has been studying, so that it may become eventually a true American architecture worthy the people and the country.



FOURTH YEAR OF DESIGN, A CLOCK TOWER

Twelve-hour Sketch, en Loge

BY CECIL F. BAKER

The Architectural Society

1908–1909

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FOLLOWING the announcement, on the morning of January 14, of the award of the scholarship of the American Academy in Rome to E. I. Williams, the students of the department organized an impromptu celebration the same evening at the Union, in honor of his success. After the singing of one or two parodies of popular songs with suitable words for the occasion, Williams responded to cheers for a speech, in the course of his remarks thanking the fellows for their enthusiasm and proudly acknowledging his debt to the Institute, and especially to the inspiration of Professor Despradelle. He was then enthusiastically crowned with a wreath of laurel, raised high on a large drawing-board, and carried triumphantly upon the shoulders of the crowd to Rogers steps, where long cheers for Williams, for the Institute, and for Professor Despradelle were lustily given. The return to the Union was a similar triumph, and the enthusiasm of the evening reached its height in a war-dance around Williams, crowned, in the centre.

"How To Be Happy Though an Architect" was the subject of an optimistic talk by Mr. Frank Chouteau Brown before the Architectural Society on October 29. Many instances of the value of diplomacy in persuading clients of the superiority of one's ideas, in dealing with obstinate contractors, in handling draughtsmen, in satisfying the man who wishes to see three sides of a house in the same picture, as well as many other troubles of the young architect, were cited in seeming contradiction of the statement that the architect's life should be a happy one. Mr. Brown declared that in many cities there is too much jealousy among the individual architects, causing a lack of mutual sympathy and progress. The spirit of coöperation and friendly criticism, so helpful in the school, should be carried into practical work, for in no other way can the profession obtain the highest results. It is what makes the architect's life one of constant inspiration and accomplishment. L. H. King, '09.

On the evening of November 19 Mr. A. G. Everett, Building Commissioner for the City of Boston, talked to the Architectural Society on "Building Laws." After prefacing his remarks with the statement that the man who designs is not likely to know a great deal about the detail of construction, and perhaps had better not give too much thought to it, Mr. Everett sketched the history of Boston's building laws from about 1679. At that time a number of serious fires called attention to the need of some building regulations, and they lasted down through the great Boston fire, from which period dates the present code. Originally relating for the most part to fires and their prevention, the building laws now cover a broad range of subjects, from the complicated conditions of tenement-houses and theatres and the heights of buildings to the size of flues and the proper bonding of party walls. It is difficult to cover all the cases that may arise, and the building inspectors are kept actively employed watching the real-estate speculator and the unscrupulous and ignorant builder. The architect is helped by the building laws in showing a client that certain restrictions which were laid down for the public good must be regarded, when he might otherwise be unable to persuade him to follow his own unaided advice. L. H. K.

Mr. Louis C. Newhall, '91, president of the Boston Architectural Club, spoke to the members of the Architectural Society, January 7, on the obligations of the young architect to his profession and to the world in general. In this connection Mr. Newhall urged the necessity of holding to one's ideals formed at school, which will usually prove true if worked for consistently and by honorable means. The compensation is in something more than the actual cash results, for the satisfaction which comes from the successful realization of one's designs is a further incentive to do better things.

With respect to the relations of architect to client, the former is a trained specialist and should never allow the latter to persuade him to do anything but what is right. It is necessary to judge the capacity of the client and to give him what he really needs; then he will always be thankful afterward. At present Boston architects tend to be too parsimonious and New York architects too prodigal in meeting the needs of their clients.

There are obligations to the profession as well. Every architect should join a professional society and adhere to its ethics. There is strength in numbers, and the results of association and inspiration are invaluable. At the present time organization is necessary to dignify the pro-

(*Continued on page 85*)

Design

AWARDS FOR FIRST TERM, 1908-1909

Fourth Year of Design

A TEMPORARY TRIUMPHAL ARCH TO CELEBRATE THE RETURN OF THE U. S. FLEET TO AMERICA

1st mention: E. I. Williams.
" " J. McGinniss.
" " R. J. Batchelder.
1st mention: R. Kibbey.
2d " H. D. Chandler.
" " J. T. Mohn.

ELEVATION OF A PAVILION OF A MUSEUM OF FINE ARTS

(Sketch Problem)

No 1st mention
2d " E. I. Williams.
2d mention: R. J. Batchelder.
" " C. C. Ford.

A MODERN BATHING-ESTABLISHMENT

1st mention: E. I. Williams.
" " R. J. Batchelder.
1st mention: C. F. Baker.
2d " C. C. Ford.

A STAIRCASE AT THE END OF A LARGE HALL

(Sketch Problem)

1st mention: C. C. Ford.
" " C. F. Baker.
2d mention: J. McGinniss.
" " W. F. Dolke, Jr.
" " J. T. Mohn.

THE STUDY OF AN IMPORTANT DOOR IN WOOD

1st mention: R. Kibbey.
" " J. McGinniss.
1st mention: H. D. Chandler.

CORNER ENTRANCE TO A STORE

(Sketch Problem)

1st mention: J. McGinniss.
2d mention: C. C. Ford.

CLOCK-TOWER FOR AN ADMINISTRATION BUILDING

(Sketch Problem)

1st mention: C. F. Baker.
2d mention: R. J. Batchelder.
" " E. I. Williams.

AN AMBASSADOR'S RESIDENCE

(Sketch Problem)

1st mention: J. McGinniss.

Third Year of Design

MONUMENTAL GATE OF A CHÂTEAU

1st mention: L. H. King.
" " T. H. Atherton, Jr.
" " K. E. Carpenter.
" " V. J. Seibert.
" " W. A. Meanor.
" " L. Svarz.
2d " T. F. Stark.
" " H. D. Bounetheau.
2d mention: T. Machen.
" " Miss H. M. Longyear.
" " A. G. Kellogg.
3d " C. G. Gilpatrick.
" " Miss R. H. Thompson.
" " F. A. Burton.
" " C. J. Brown.

A PUBLIC PAVILION FOR THE PROPAGANDA OF THE DISCOVERY OF THE LUMIÈRE BROTHERS

(Sketch Problem)

1st mention: F. A. Burton.
" " Miss H. M. Longyear.
2d " C. J. Brown.
" " T. F. Stark.
2d mention: V. J. Seibert.
" " K. E. Carpenter.
" " T. Machen.
" " F. R. Simmons.

A CITY HALL FOR A SMALL CITY

1st mention: H. D. Bounetheau.
" " W. A. Meanor.
" " L. Svarz.
" " L. H. King.
" " V. J. Seibert.
" " T. F. Stark.
2d mention: C. J. Brown.
" " T. Machen.
" " C. G. Gilpatrick.
" " K. E. Carpenter.
3d " Miss H. M. Longyear.
" " H. M. Glazier.
" " T. H. Atherton, Jr.

ENTRANCE-GATE TO A SPECIAL PARK

(Sketch Problem)

1st mention: C. J. Brown.
" " K. E. Carpenter.
" " L. Svarz.
" " W. P. Blodget.
2d mention: H. M. Glazier.
" " V. J. Seibert.
" " T. Machen.

ENTRANCE-GATE TO A NAVY-YARD

1st mention: K. E. Carpenter.
" " A. F. Menke.
" " H. D. Bounetheau.
" " T. Machen.
" " W. A. Meanor.
" " F. A. Burton.
2d mention: T. F. Stark.
" " L. Svarz.
" " T. H. Atherton, Jr.
" " L. H. King.
" " Miss R. H. Thompson.

A SPECIAL RESIDENCE AT A FASHIONABLE WATERING-PLACE

1st mention: T. F. Stark.
2d " C. G. Gilpatrick.
2d mention: L. Svarz.
" " Miss L. P. C. Packwood.

SUMMER PAVILION PLACED AT THE SIDE OF GARDEN OF THE SPECIAL RESIDENCE

(Sketch Problem)

1st mention: K. E. Carpenter.
" " W. A. Meanor.
1st mention: F. A. Burton.

Second Year of Design

A MEMORIAL HALL FOR A COLLEGE

1st mention: J. H. Scarff.
" " W. S. Davis.
" " R. H. Hannaford.
" " H. S. Gerity.
1st mention: W. E. Haugaard.
2d " W. H. March.
3d " J. E. Barnard.
" " C. C. Clark.

A CITY STREET STAND

(Sketch Problem)

1st mention: J. H. Scarff.
" " W. S. Davis.
" " C. C. Clark.
" " R. H. Hannaford.
2d mention: W. H. March.
" " L. A. Dow.
" " P. T. Harris.
" " W. E. Haugaard.

A GOVERNMENT POST-OFFICE FOR A CITY

1st mention: B. M. Pettit.
" " J. H. Scarff.
" " C. C. Clark.
" " W. H. March.
" " P. T. Harris.
" " L. A. Dow.
2d mention: R. H. Hannaford.
" " H. S. Cleverdon.
" " W. E. Haugaard.
" " Miss F. A. Johnson.
" " W. S. Davis.

A SUBWAY ENTRANCE WHICH SHALL COMBINE AN ADVERTISING-TOWER

(Sketch Problem)

1st mention: C. C. Clark.
" " W. S. Davis.
" " H. S. Gerity.
2d mention: J. H. Scarff.
" " R. H. Hannaford.
" " W. E. Haugaard.
" " P. W. Burnham.

A MASTER ARTIST'S STUDIO

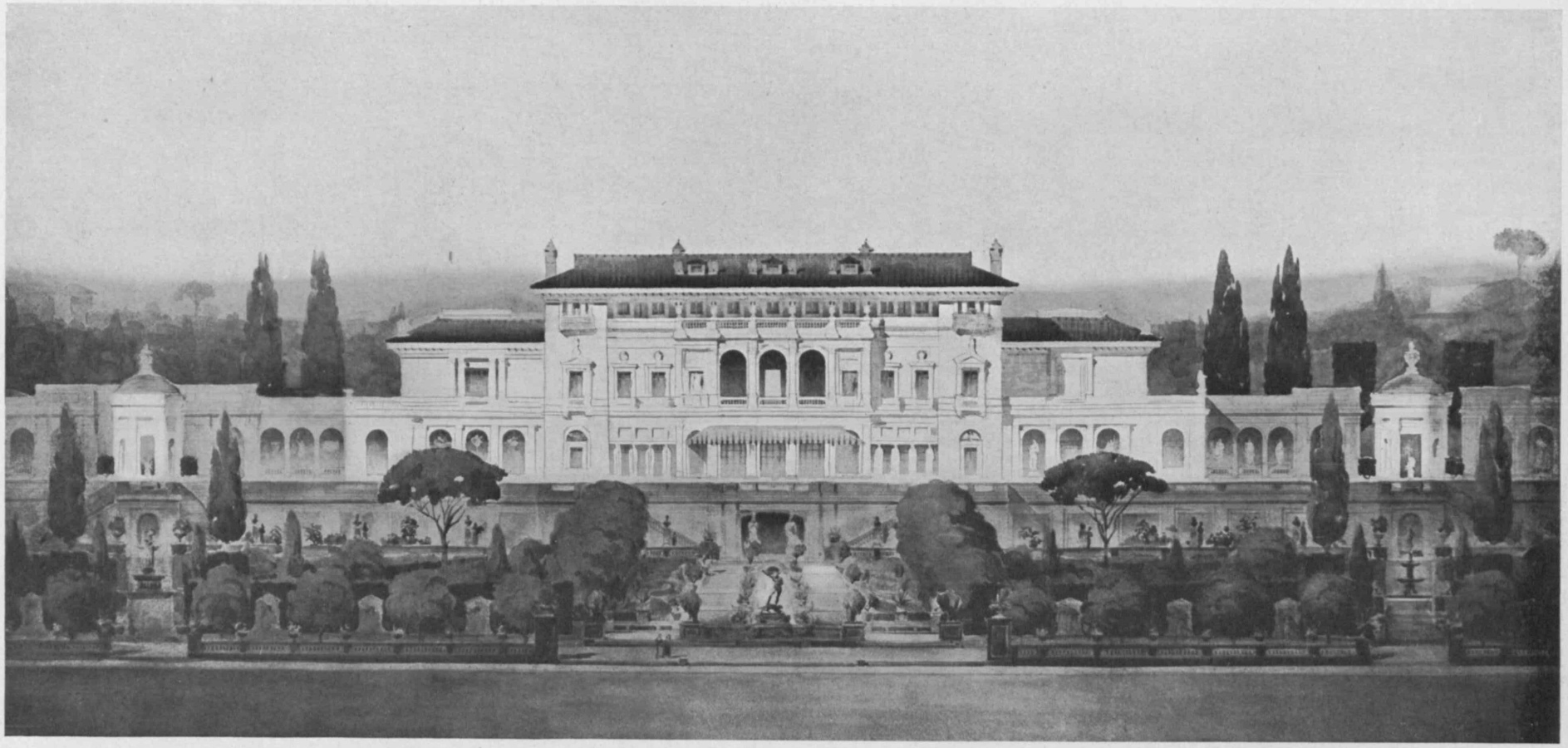
1st mention: S. N. Whitney.
" " W. E. Haugaard.
" " J. H. Scarff.
2d mention: W. H. March.
" " B. M. Pettit.
" " P. W. Burnham.
" " R. S. Simonds.

TABLET FOR THE WACHUSETT DAM

("Class of 1904 Competition Prize" Problem)

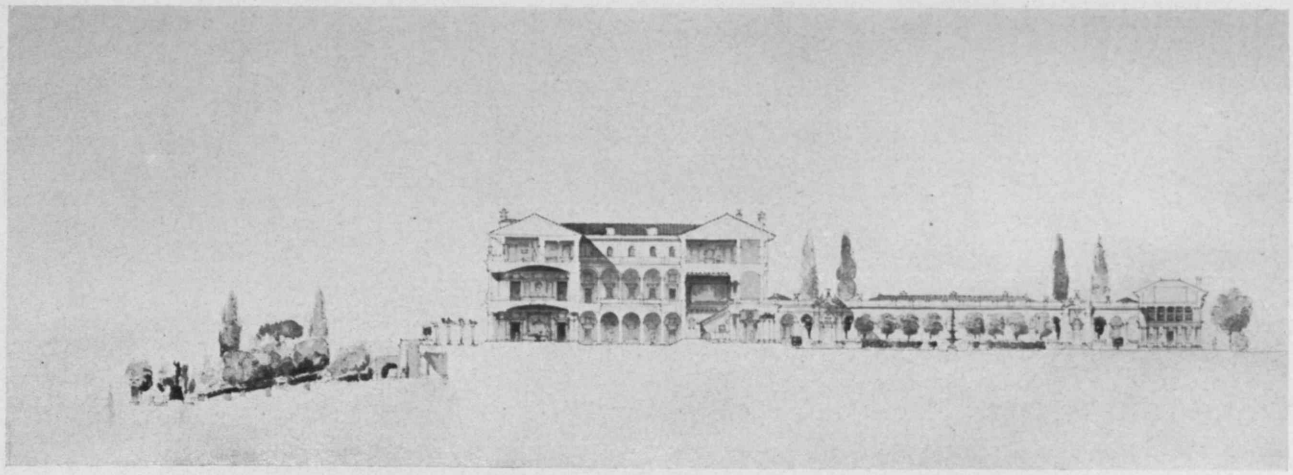
Prize, regular student: F. A. Godley.
Prize, special student: C. C. Clark.
1st mention: R. H. Hannaford.
" " W. S. Davis.
" " J. H. Scarff.
2d mention: P. T. Harris.
" " W. E. Haugaard.
" " S. N. Whitney.

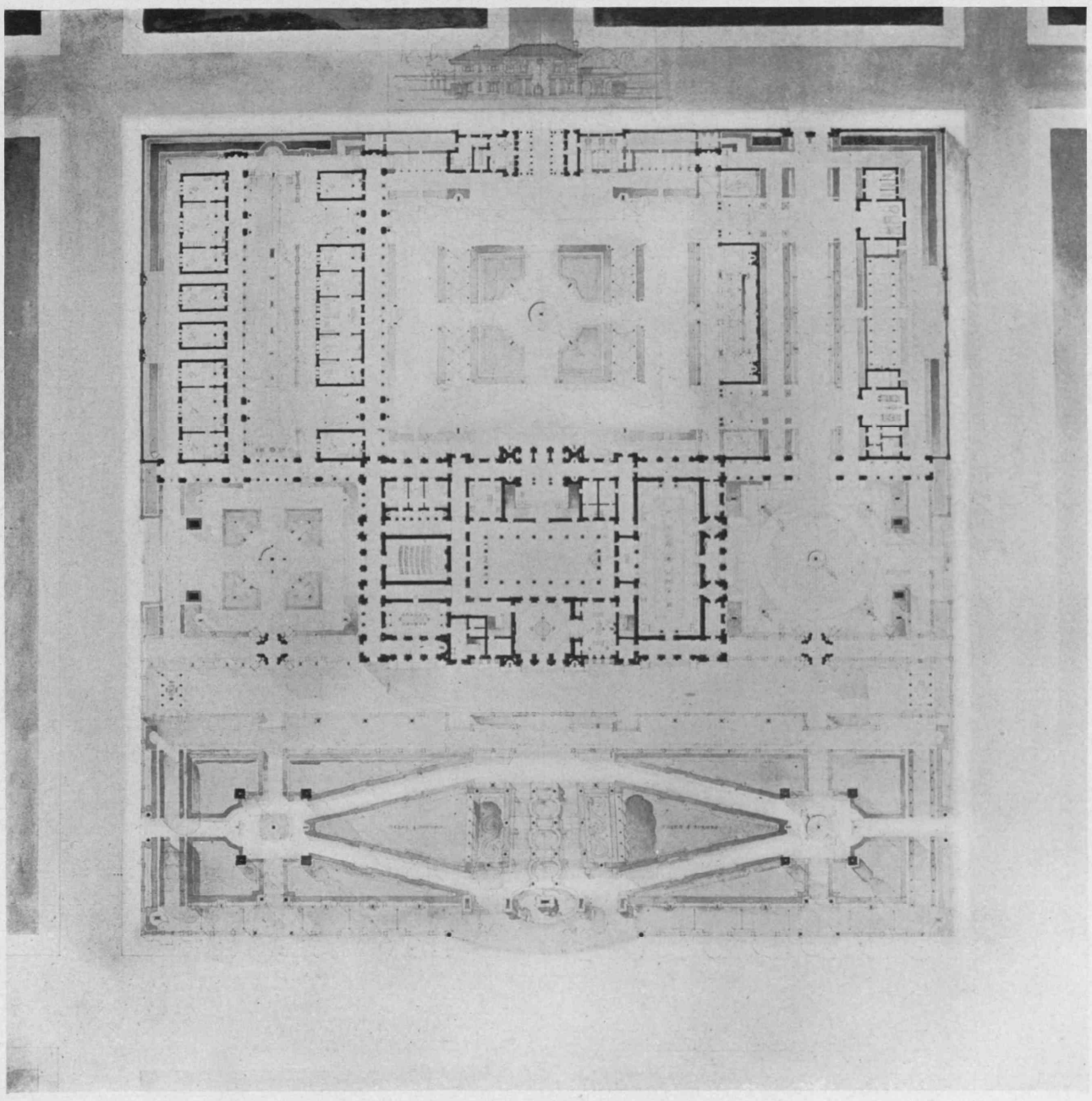
American Academy in Rome Competition



AN ESTABLISHMENT FOR THE AMERICAN ACADEMY IN ROME

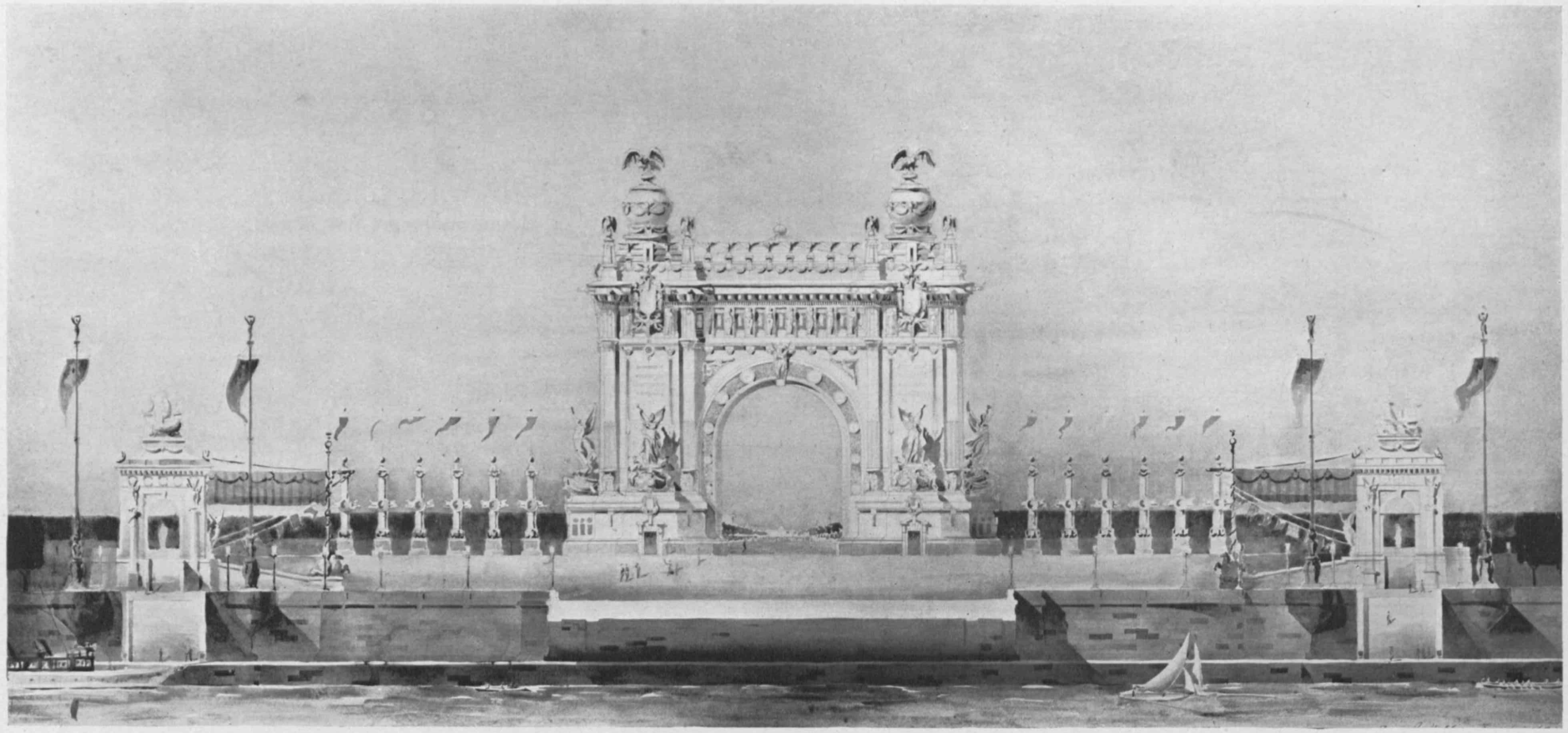
PRIZE DESIGN BY EDGAR I. WILLIAMS, M. I. T., '08.





AN AMERICAN ACADEMY IN ROME

PRIZE DESIGN BY EDGAR I. WILLIAMS



Fourth Year of Design

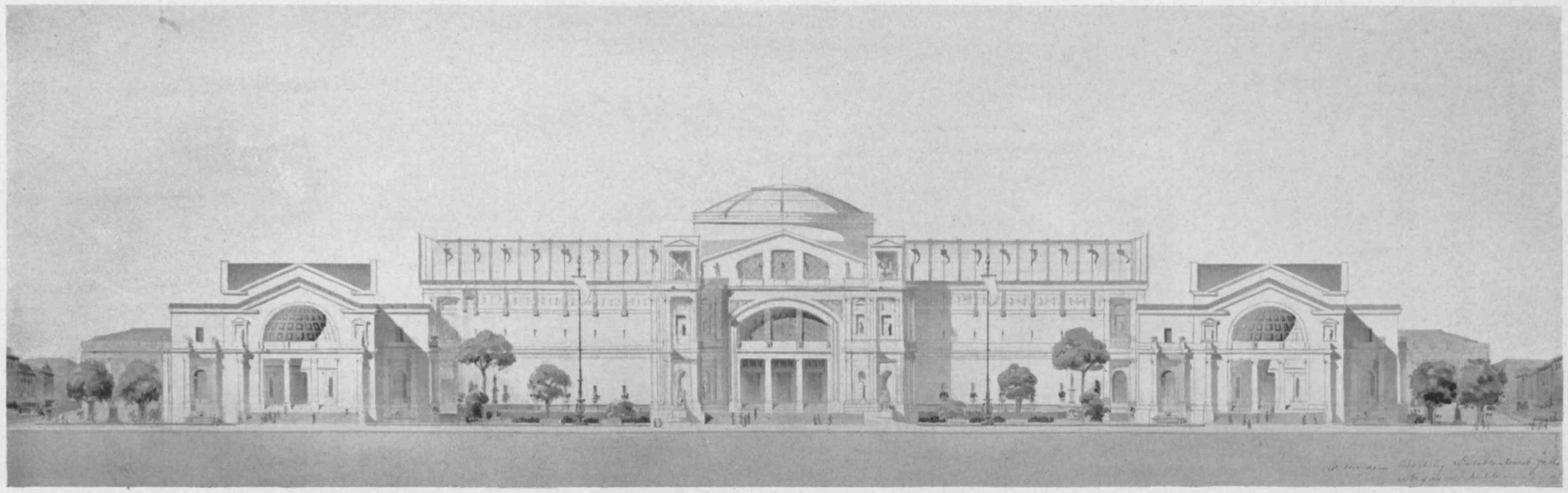
A TEMPORARY TRIUMPHAL ARCH TO CELEBRATE THE RETURN OF THE U. S. FLEET TO AMERICA

FIRST FIRST MENTION BY E. I. WILLIAMS

Fourth Year of Design

A TEMPORARY TRIUMPHAL ARCH TO CELEBRATE THE RETURN OF THE U. S. FLEET TO AMERICA

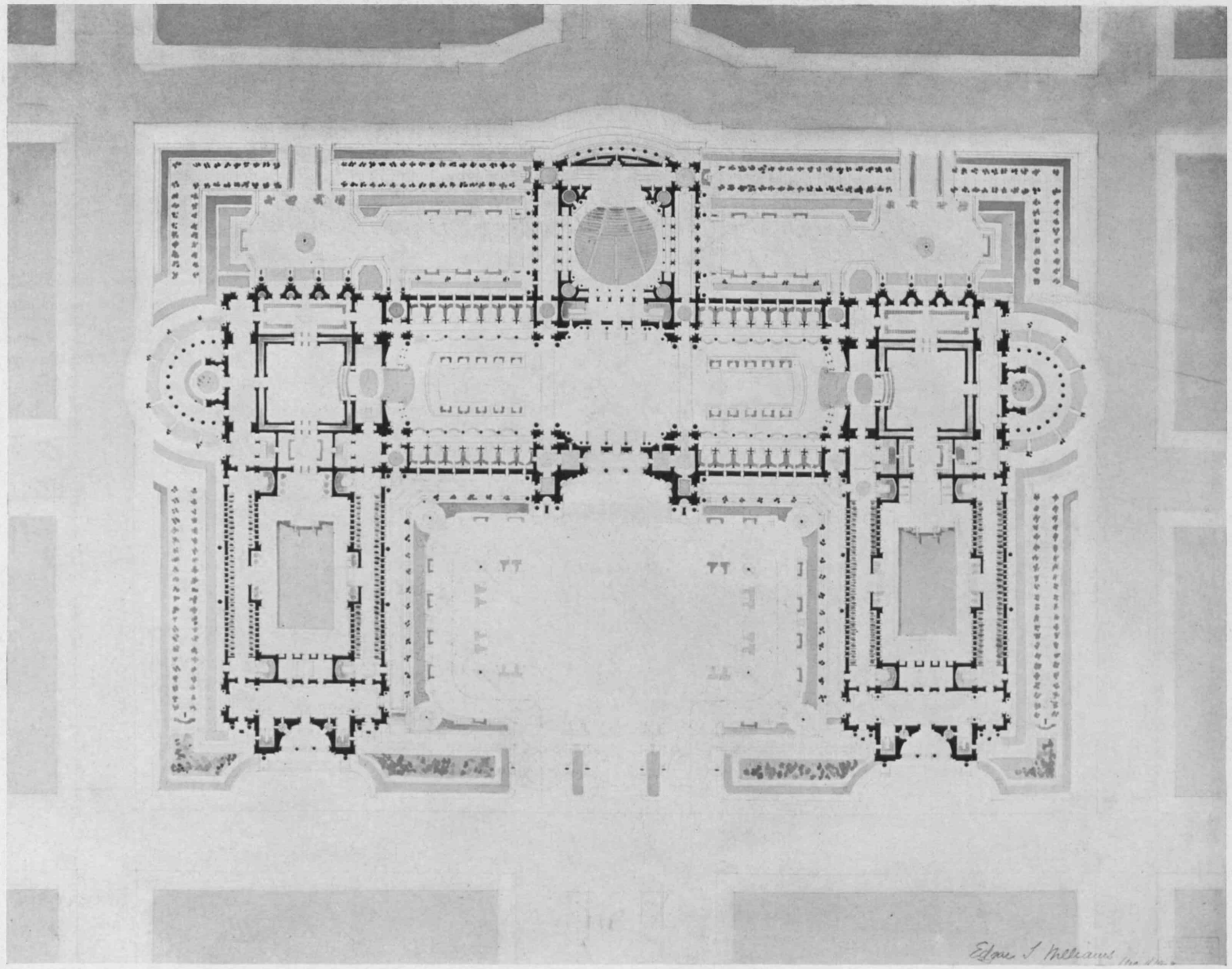
SECOND FIRST MENTION BY J. McGINNISS



Fourth Year of Design

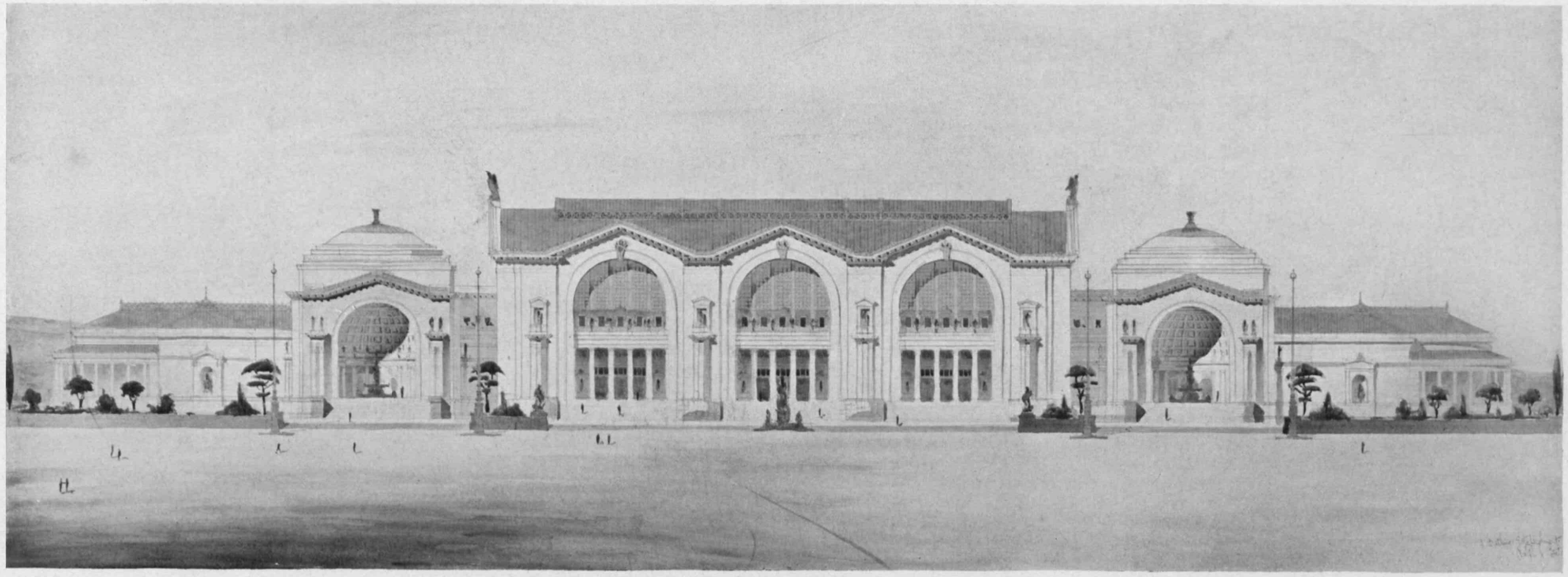
A MODERN BATHING-ESTABLISHMENT

FIRST FIRST MENTION BY E. I. WILLIAMS



A MODERN BATHING-ESTABLISHMENT

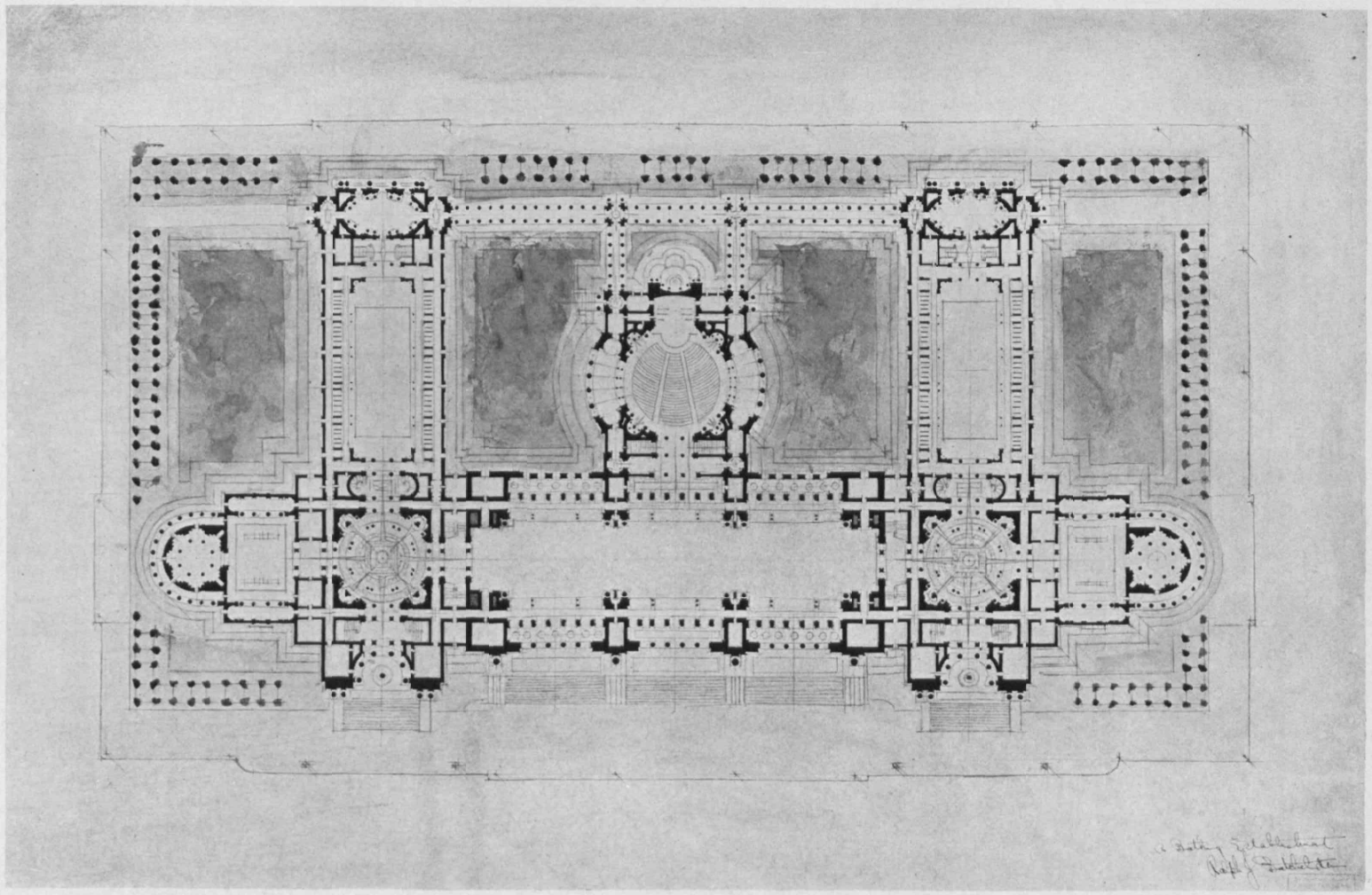
FIRST FIRST MENTION BY E. I. WILLIAMS



Fourth Year of Design

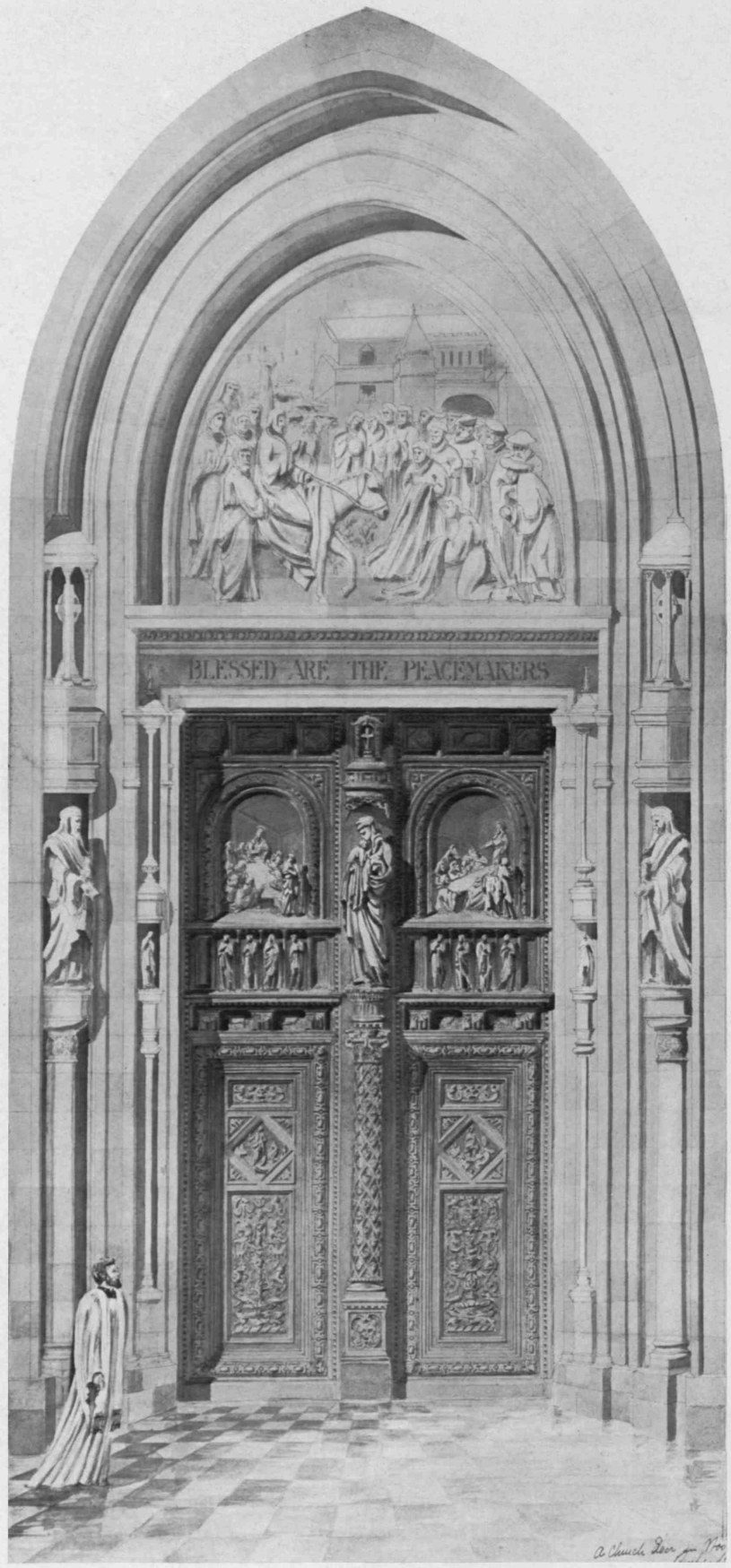
A MODERN BATHING-ESTABLISHMENT

SECOND FIRST MENTION BY R. J. BATCHELDER



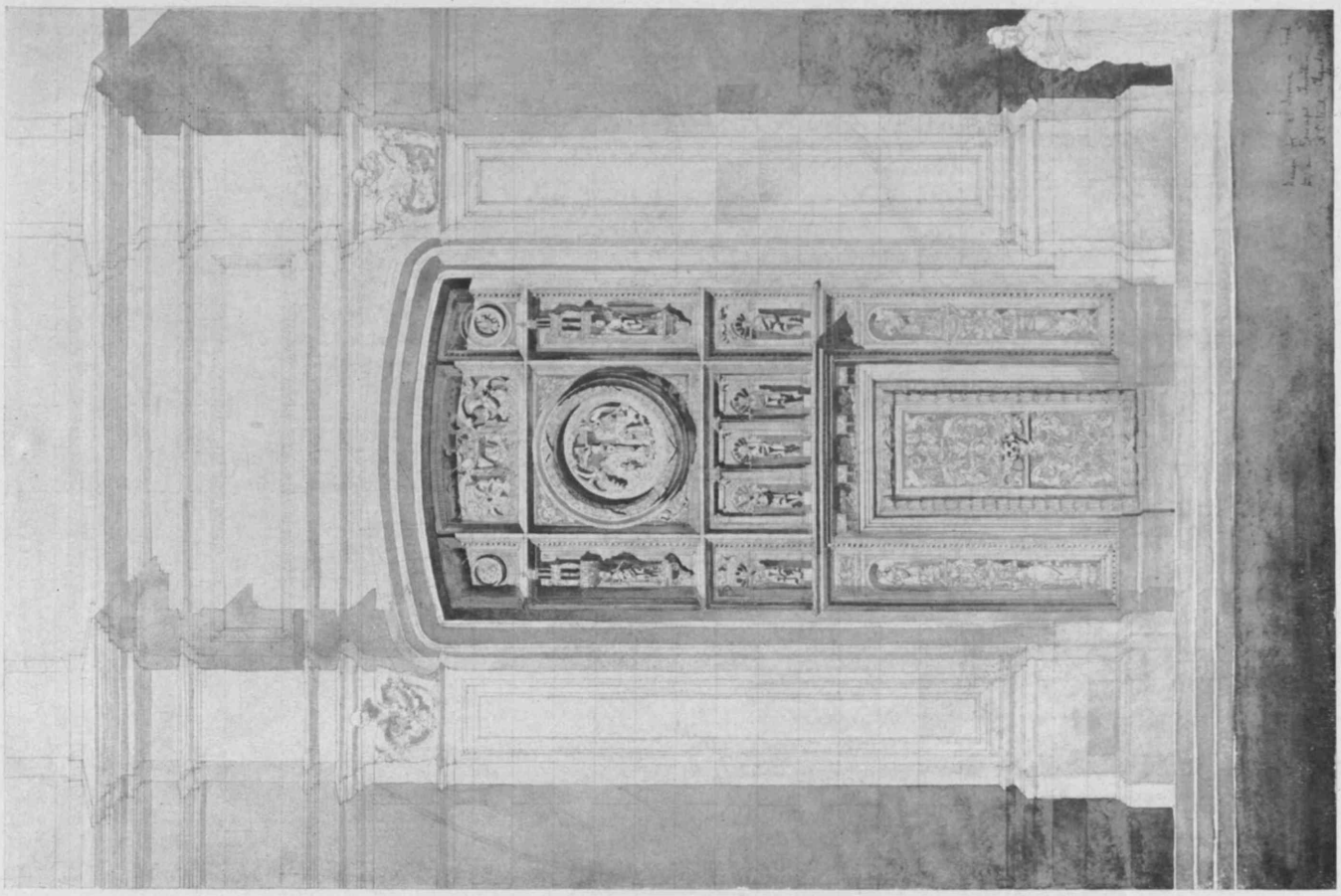
A MODERN BATHING-ESTABLISHMENT

SECOND FIRST MENTION BY R. J. BATCHELDER

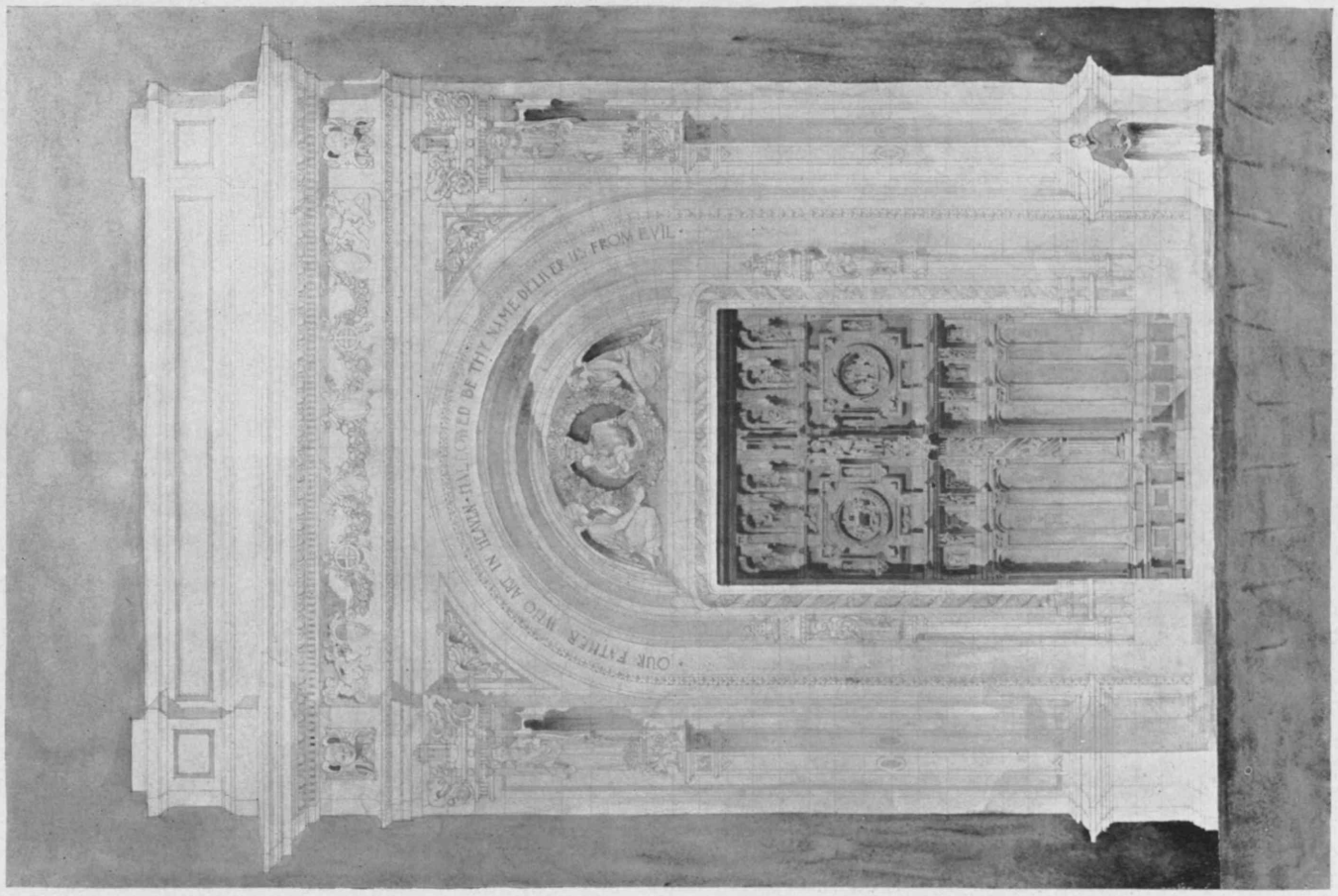


FOURTH YEAR OF DESIGN, THE STUDY OF AN IMPORTANT DOOR IN WOOD

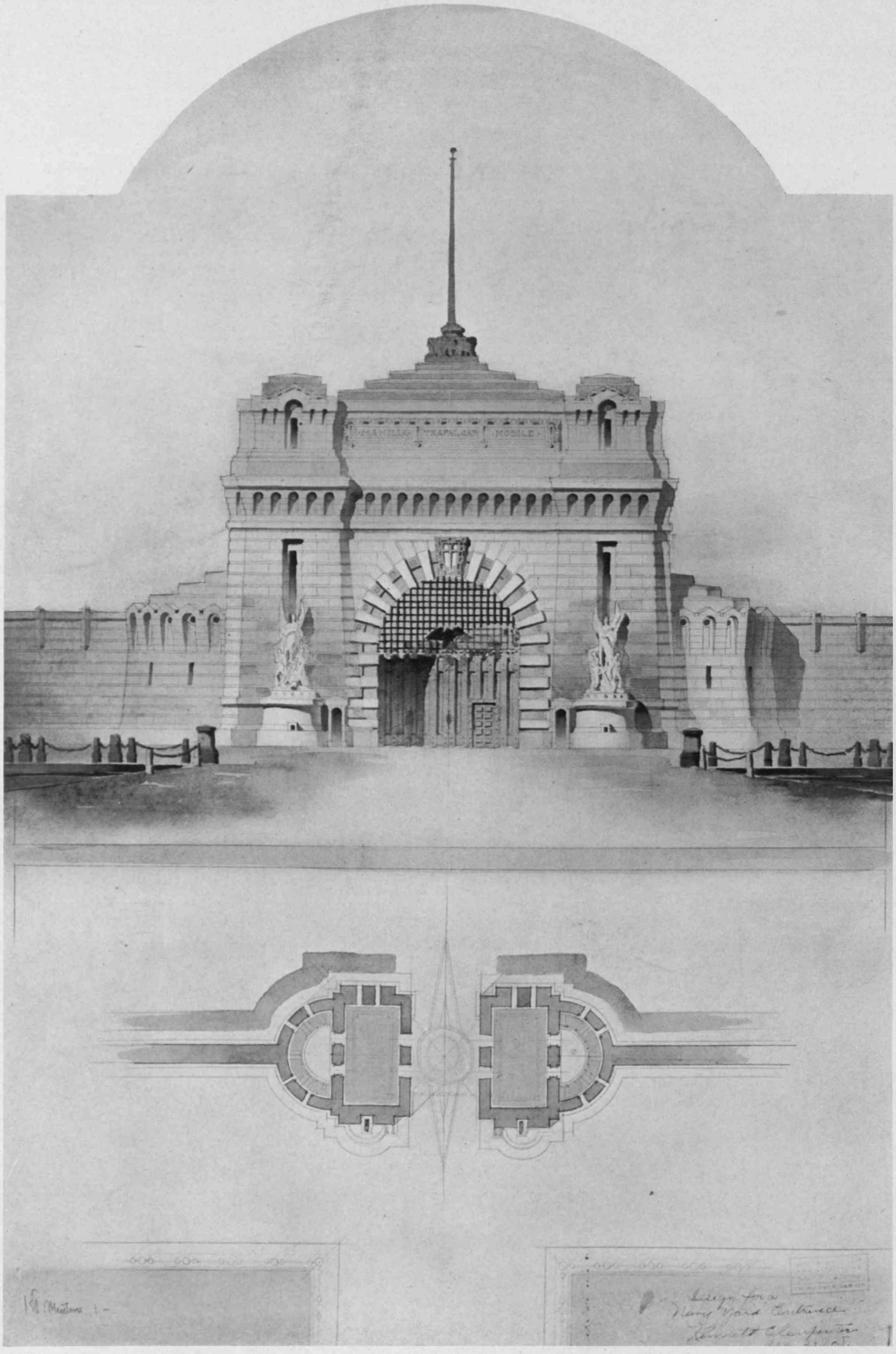
FIRST FIRST MENTION BY R. KIBBY



THIRD FIRST MENTION BY H. D. CHANDLER

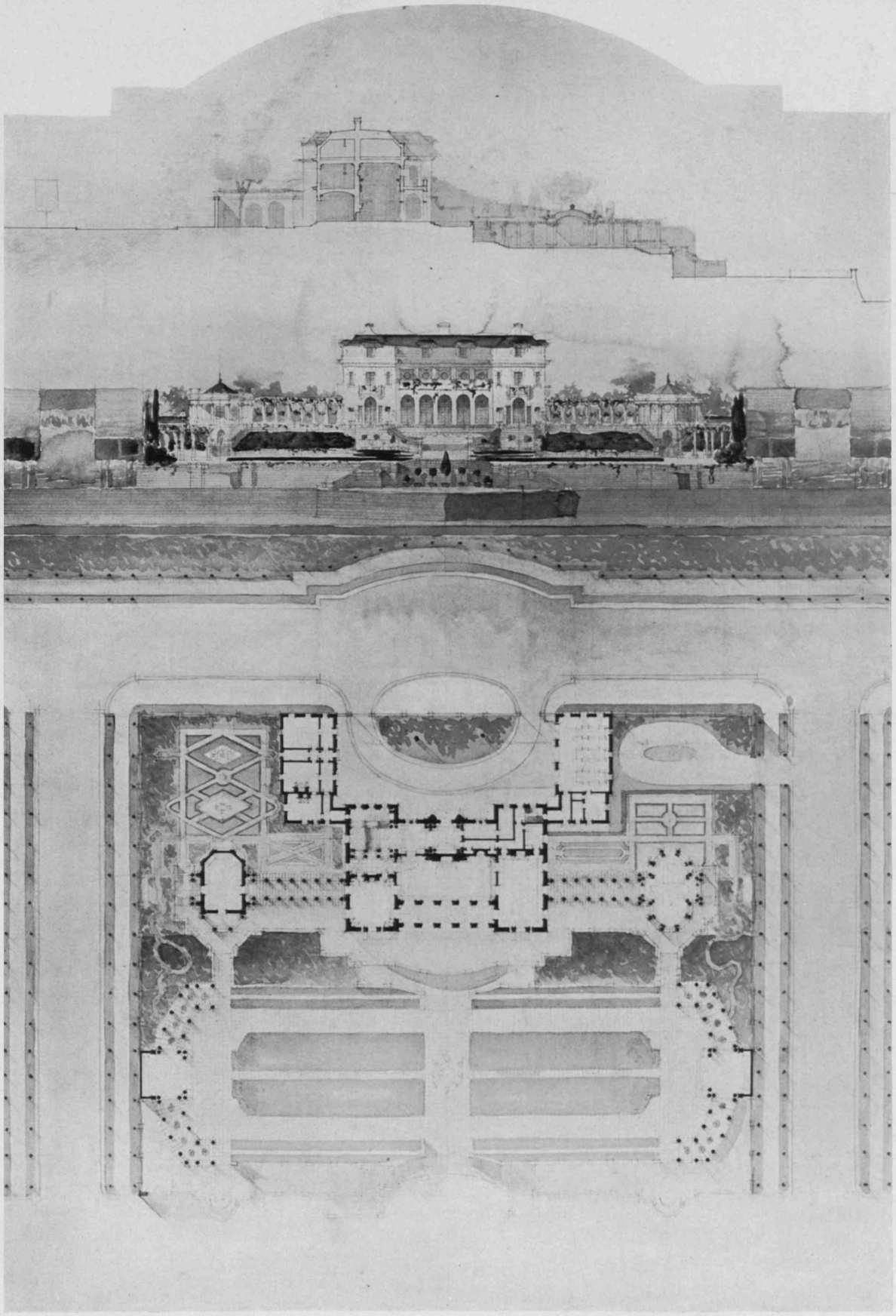


SECOND FIRST MENTION BY J. McGINNISS



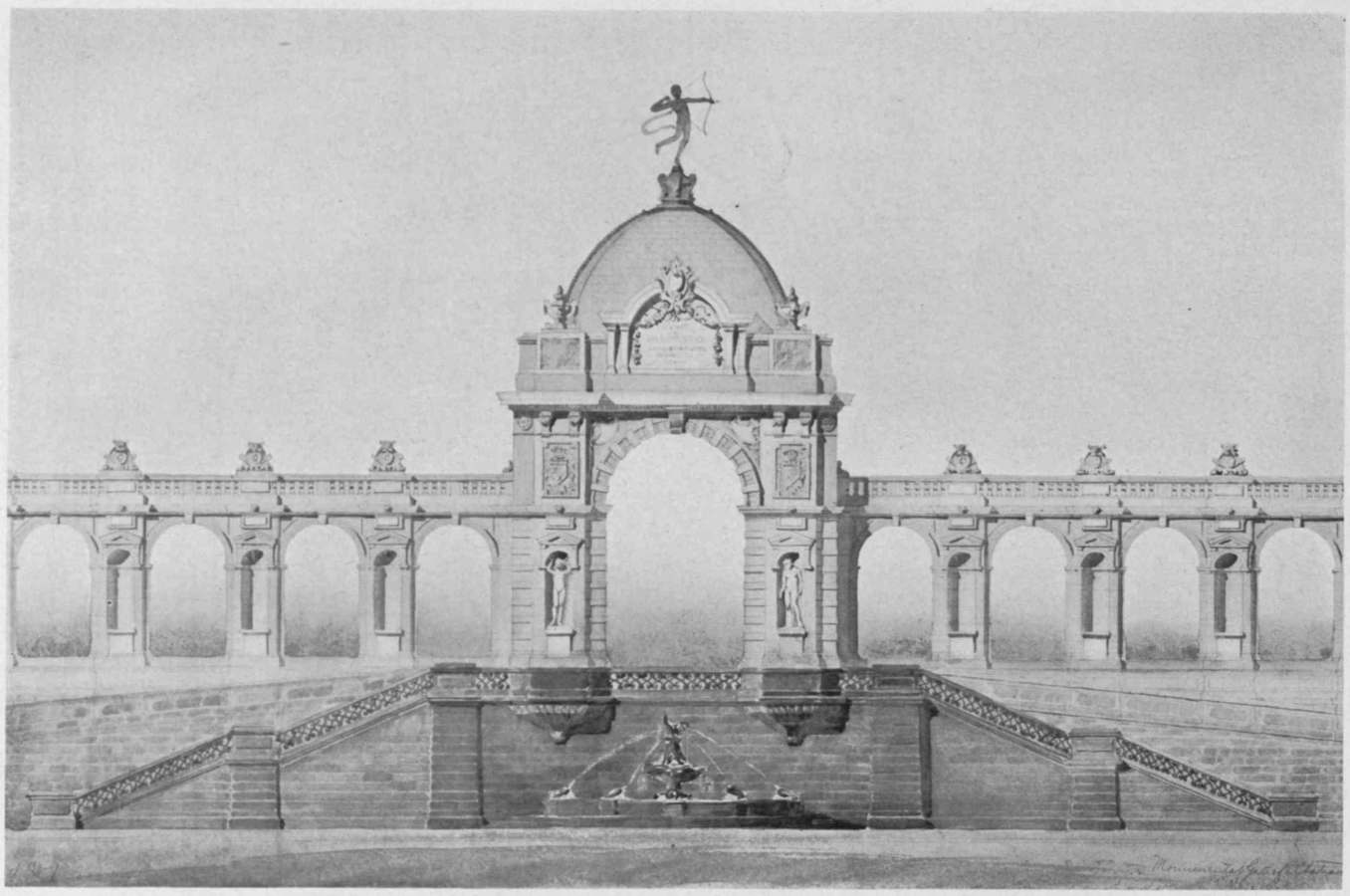
THIRD YEAR OF DESIGN, ENTRANCE-GATE TO A NAVY-YARD

FIRST FIRST MENTION BY K. E. CARPENTER



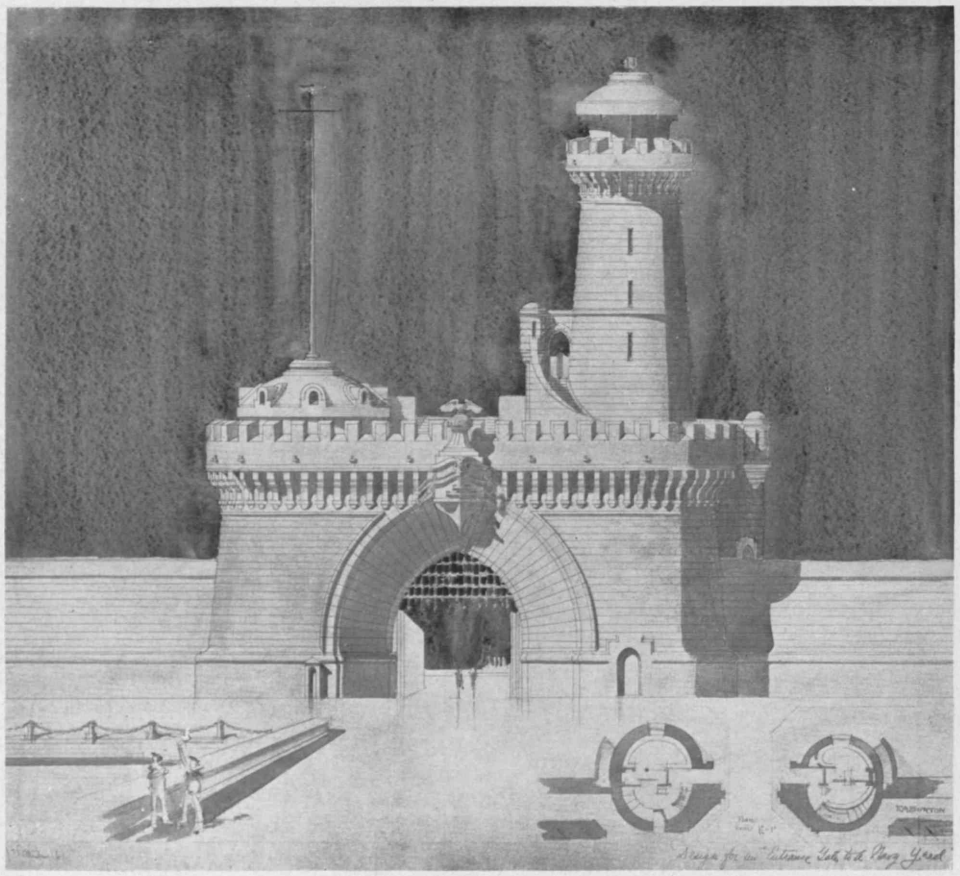
THIRD YEAR OF DESIGN, A RESIDENCE AT A FASHIONABLE WATERING-PLACE

FIRST FIRST MENTION BY T. F. STARK



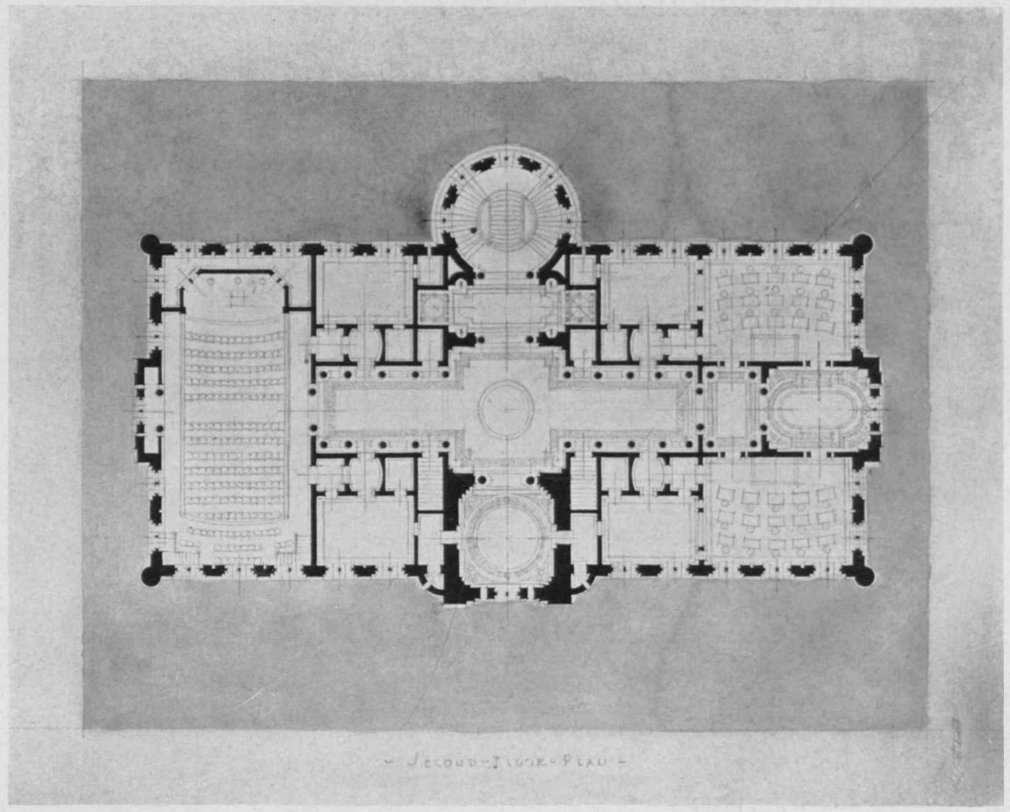
THIRD YEAR OF DESIGN, MONUMENTAL GATE OF A CHÂTEAU

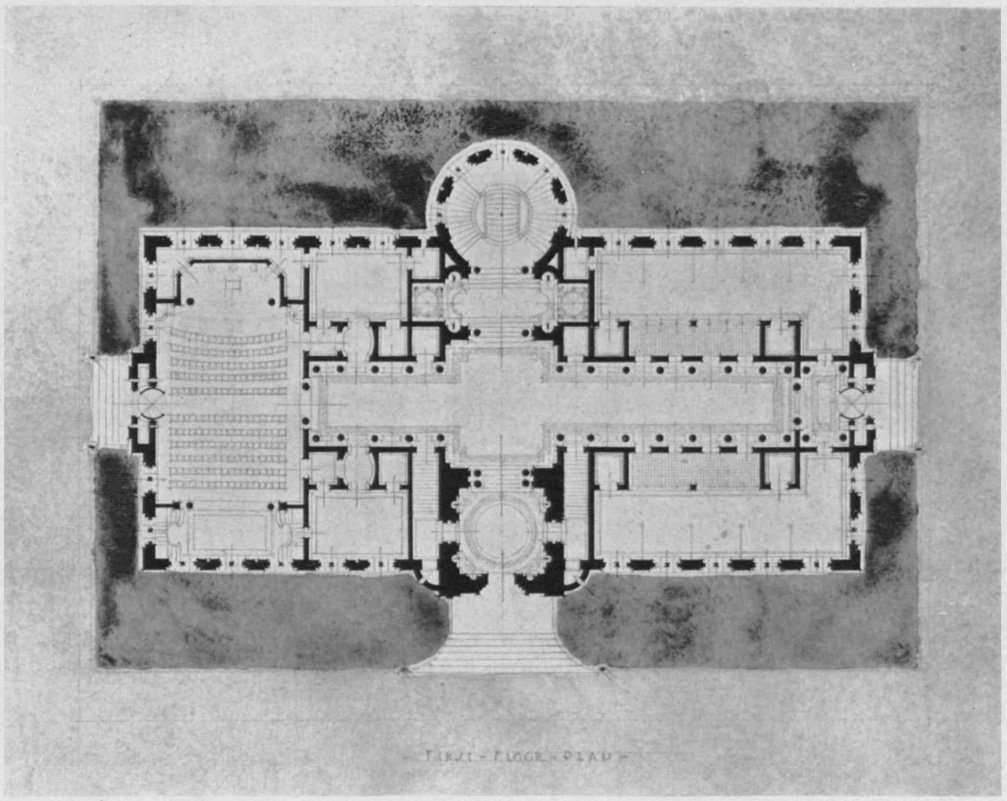
FIRST FIRST MENTION BY L. H. KING



THIRD YEAR OF DESIGN, A NAVY-YARD GATE

SIXTH FIRST MENTION BY F. A. BURTON





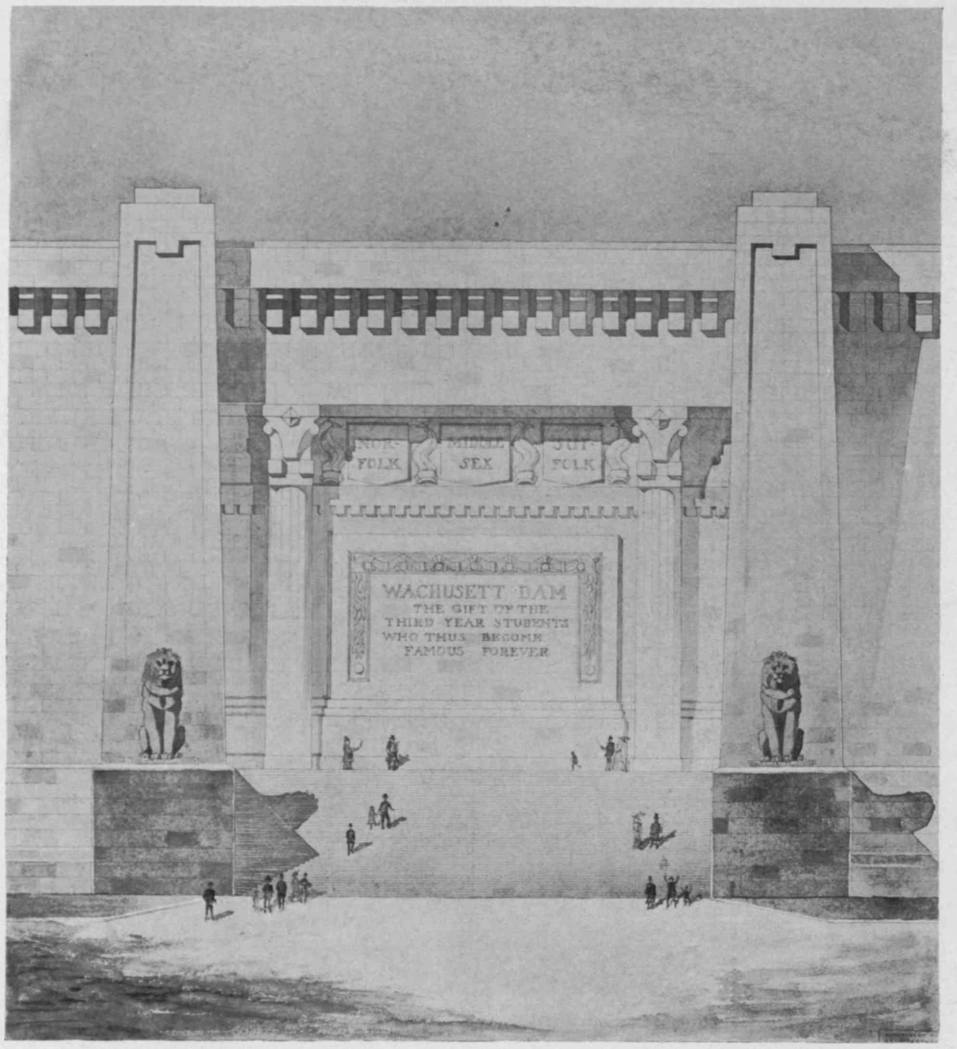
THIRD YEAR OF DESIGN, A CITY HALL FOR A SMALL CITY

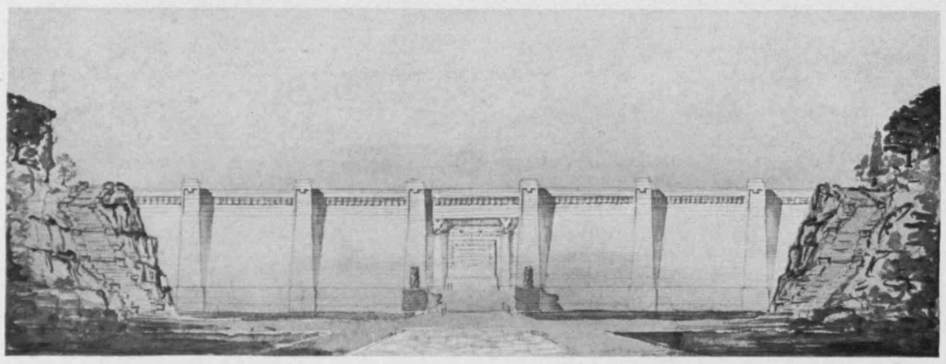
FIRST FIRST MENTION BY H. D. BOUNETHEAU

Competition for Class of 1904 Prize

TABLET FOR THE WACHUSETT DAM

SECOND YEAR OF DESIGN





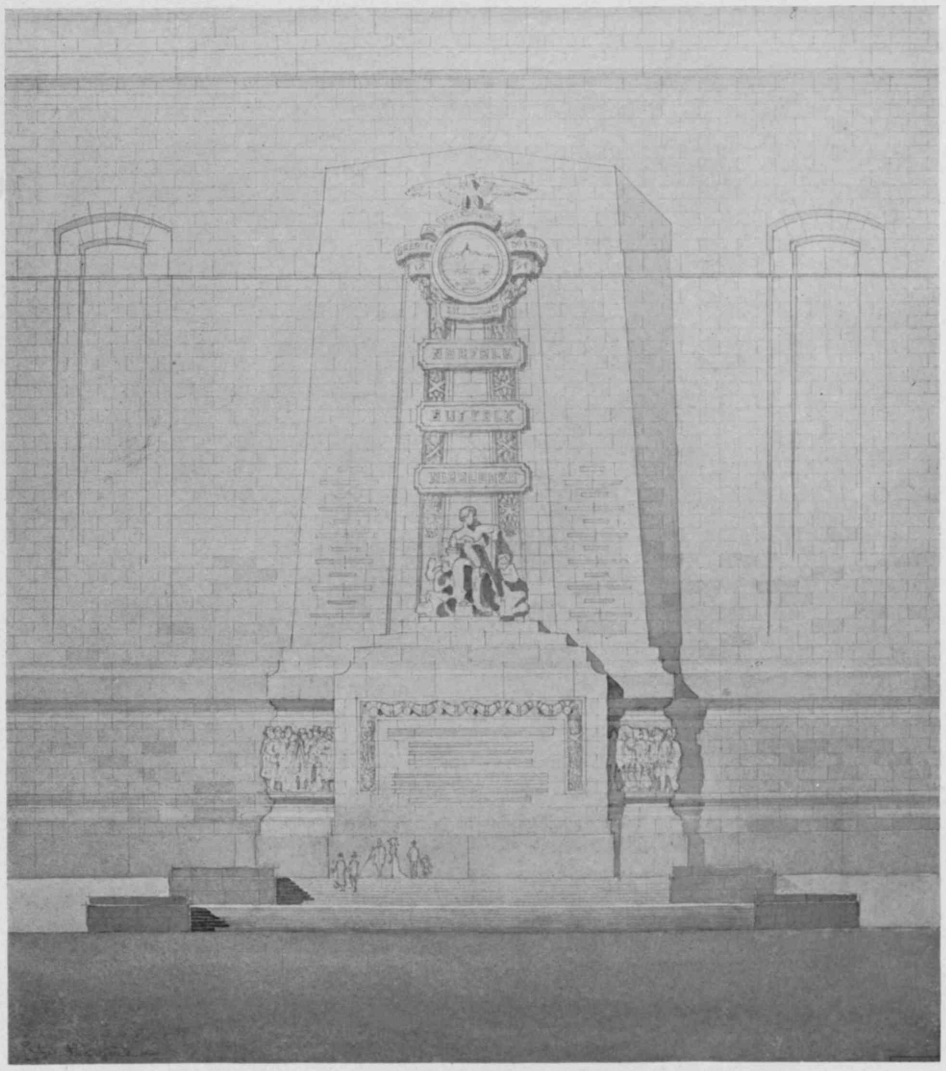
PRIZE DESIGN FOR REGULAR STUDENTS

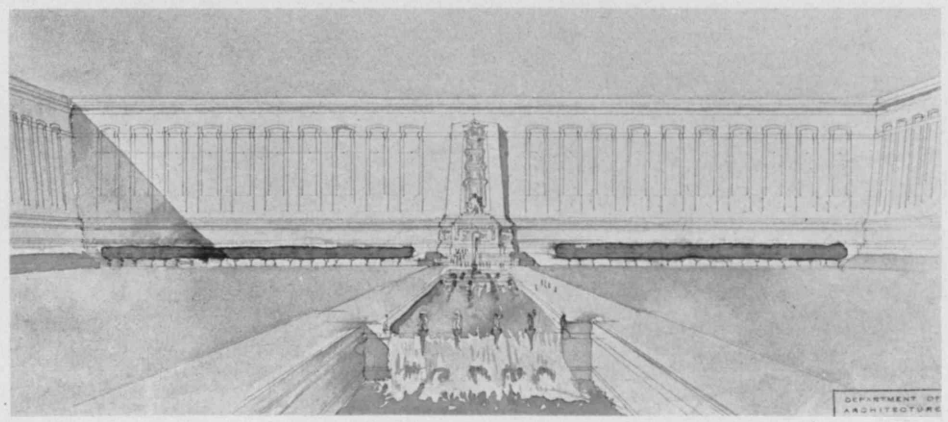
BY F. A. GODLEY

Competition for Class of 1904 Prize

TABLET FOR THE WACHUSETT DAM

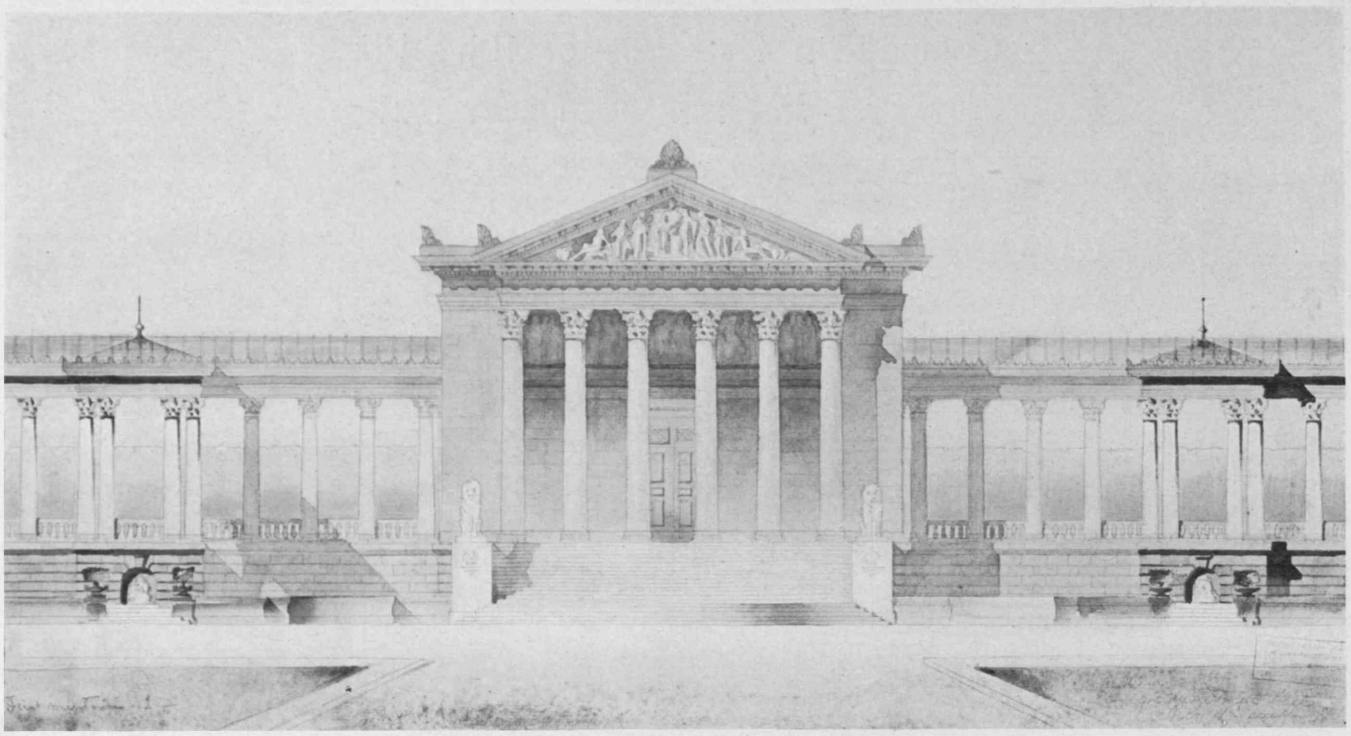
SECOND YEAR OF DESIGN

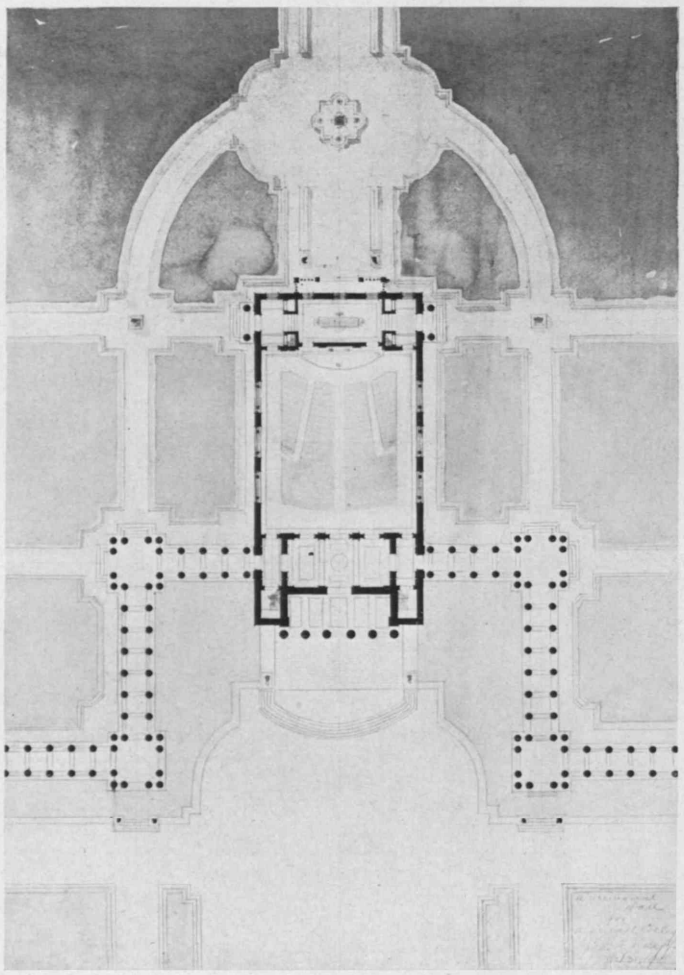




PRIZE DESIGN FOR SPECIAL STUDENTS

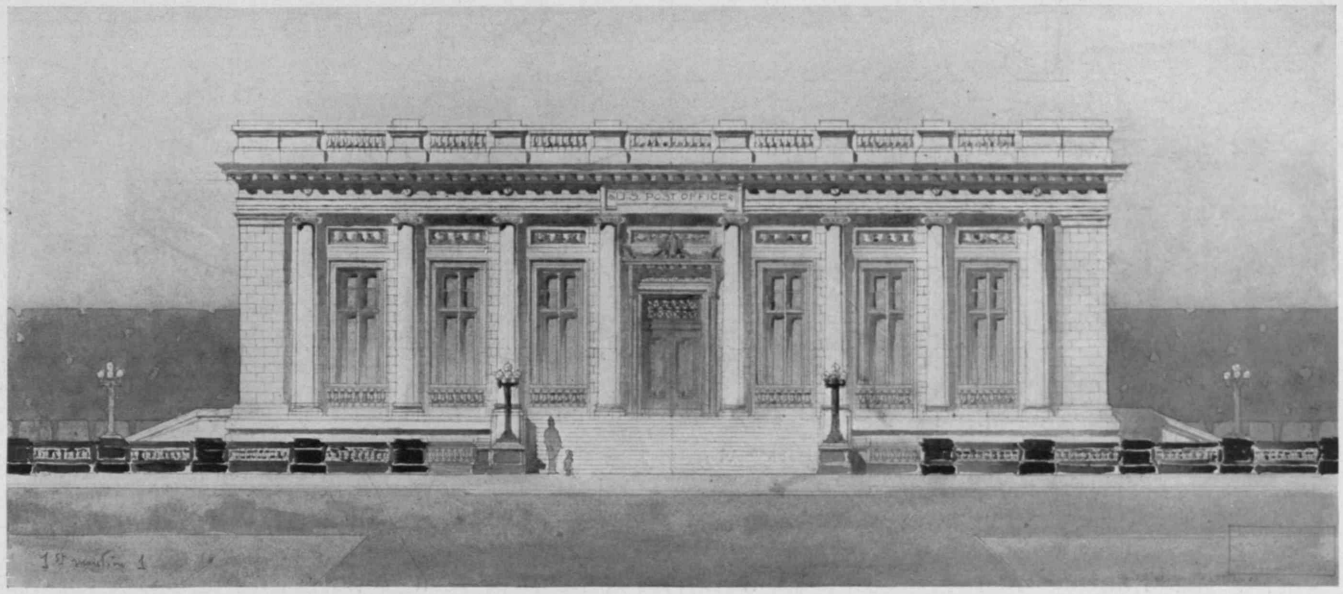
BY C. C. CLARK

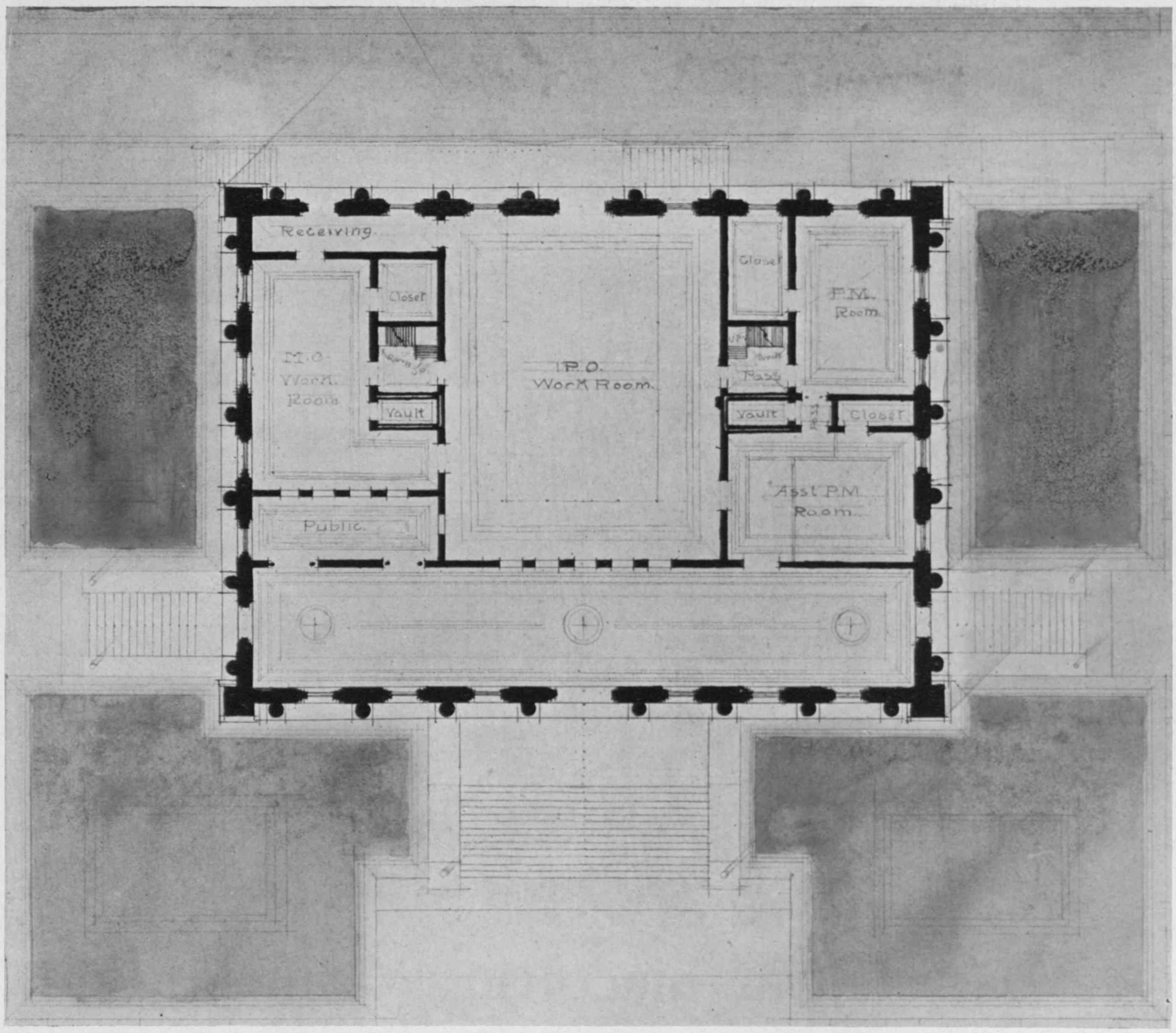




SECOND YEAR OF DESIGN, A COLLEGE MEMORIAL HALL

FIRST FIRST MENTION BY J. H. SCARFF





SECOND YEAR OF DESIGN, A POST-OFFICE FOR A CITY

FIRST FIRST MENTION BY B. M. PETTIT

BARRETT SPECIFICATION ROOFS

THE BARRETT SPECIFICATION is recommended to architects and engineers as a standard method of laying what is commonly called a slag or gravel roof, or more specifically a roof of coal tar pitch, tarred felt and slag or gravel. It is chosen as the result of many years' experience in laying roofs of these materials, and provides for the quality of roofing which will yield the best results with due consideration of first cost. It makes a roof which will give service for twenty years or more without any attention. There are many instances where such roofs have lasted and given perfect protection without care for periods exceeding thirty years.

A BARRETT SPECIFICATION ROOF is accepted by fire underwriters as a standard fire retardant, and it will take fire from neighboring conflagrations less rapidly than a tin roof. In such high-class fire-proof buildings as New York skyscrapers and great hotels, these roofs are invariably employed.

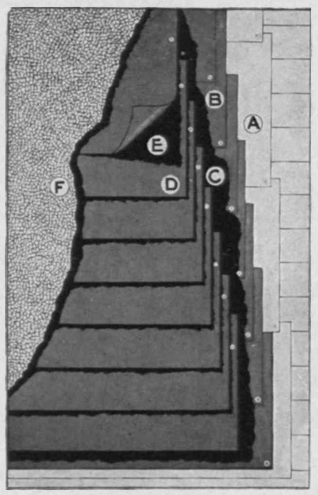
THE BARRETT SPECIFICATION

ROOFING (over Boards):

Over the foregoing shall be laid a Coal Tar Pitch, Felt, and Gravel or Slag Roof.

There shall be used one (1) thickness of sheathing-paper or unsaturated felt, five (5) thicknesses of Barrett Specification Felt weighing not less than fourteen (14) pounds per hundred (100) square feet, single thickness, not less than one hundred and twenty (120) pounds of Barrett Specification Pitch, and not less than four hundred (400) pounds of gravel or three hundred (300) pounds of slag from ¼ to ⅝ in. in size, and free from dirt, per one hundred (100) square feet of completed roof.

The material shall be applied as follows: First, lay the sheathing or unsaturated felt (A), lapping each sheet one (1) inch over the preceding one. Second, lay two full thicknesses of tarred felt (B), lapping each sheet seventeen (17) inches over the preceding one, and nailing as often as may be necessary to hold the sheets in place until remaining felt is applied. Third, coat the entire surface of this two-ply with hot pitch (C) mopped on uniformly. Fourth, lay three (3) full thicknesses of felt (D), lapping each sheet twenty-two (22) inches over the preceding one, mopping with hot pitch (E) the full width of the twenty-two (22) inch lap between the plies, so that in no case in the last three plies shall felt touch felt. Such nailing as is necessary shall be done so that all nails will be covered by not less than two (2) plies of felt. Fifth, spread over the entire surface of the roof a uniform coating of pitch into which, while hot, imbed the gravel or slag (F). In cold weather the gravel or slag shall be heated immediately before using.



The above Specification is designed for roofs having a pitch not exceeding three (3) inches to the foot. For steeper surfaces we will submit special Specifications upon request.

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TRADE B MARK

Building-Materials

(Continued from Vol. II, No. 1)

Limes, Cements, Mortars, and Concretes

[These notes were prepared for the students in the Department of Architecture, to serve as a text in a short course of instruction in the classroom. Many authors have been consulted and often copied literally; and as a list of the most important will be given at the end of this article, it has not seemed necessary always to make direct mention of them in the text. — ED.]

LIME AND CEMENT TESTS

TESTS OF LIME. Lime must be free from cinders and clinkers, and with not more than ten per cent of impurities, as silica, alumina, etc. It should be in large lumps with but little dust, and should slake readily in water and form a rich, smooth paste without any residue. It should dissolve in soft water.

TESTS OF CEMENTS. A very slight difference in the manufacture may make a great difference in the character of the material, and rigid testing is necessary to ensure the best cement. A perfect system of cement tests has not yet been devised. So many factors must enter into such a system, which again will change under different conditions, that it is extremely difficult to lay down well-defined rules.

The tests are to determine:

(1) The fineness to which the cement is ground.
(2) Its specific gravity or true density.
(3) Its soundness or constancy of volume in setting.
(4) Its time of setting.
(5) Its tensile strength.

(1) The fineness of grinding is, perhaps, the most important factor. Yet there are qualities of fineness which are of very important consideration. Two cements of the same grade may be ground to leave the same residue on the sieve, but one mill grinds a gritty feeling powder, while the other grinds a flour-like powder. The best results will always be obtained from a cement which has the most flour-like texture, as giving a larger area of enveloping film. Experience has shown that grains having more than one two-hundredth of an inch have but little practical value, decreasing in proportion as the diameter of the grain increases, till when a diameter of one-fiftieth of an inch is reached the grains become practically inert. It is not known at what point of fineness grains of cement begin to have cementitious value. Fineness is no sure indication of the value of a cement, but the finer it is, if otherwise good, the greater will be its sand-carrying capacity, and hence its value for use in making mortar.

The Committee of the American Society of Civil Engineers, in their report presented at the annual meeting on Jan. 20, 1904, recommended two sizes of sieves for cement,— those known as No. 100, within the limit of ninety-six to one hundred meshes to the linear inch, or ten thousand meshes to the square inch; and No. 200, within the limit of one hundred and eighty-eight to two hundred meshes to the linear inch, or forty thousand meshes to the square inch, the sieves to be circular and the wire cloth to be woven from brass wire having a diameter for the No. 100 sieve of 0.0045 inch, and for the No. 200 sieve, of 0.0024 inch. The degree of final pulverization which the cement receives at the place of manufacture is ascertained by measuring the residue retained on the sieves. The quantity of cement to be tested is thoroughly dried and placed on the No. 200 sieve, which is operated until not more than one-tenth of one per cent passes through after one minute of continuous sifting. The residue is weighed, and then placed on the No. 100 sieve, and the operation is continued.

The use of the comparatively coarse sieve in connection with the fine one is to guard against the danger of overburned lime, which is likely to be found in Portland cement. This lime is more dangerous in the form

of coarse particles, because they slake much more slowly than an equal quantity finely ground. Expansion, if to occur at all, should take place early in the process of hardening; also, the same cement that might be refused because unsound normally, might be made less dangerous by regrinding. The American Society for Testing Materials, in their specification of natural cement, demand that it shall leave by weight a residue of not more than ten per cent on the No. 100 sieve and thirty per cent on the No. 200 sieve; and for a Portland cement, not more than eight per cent on the No. 100 sieve and not more than twenty-five per cent on the No. 200 sieve.

(2) The specific gravity, or true density, of cement is the only real test of the thoroughness of burning or adulteration, and when properly made affords a quick check for these faults. The determination is made by immersing a known weight of cement in a liquid which will not act upon it,— benzine, or kerosene free from water,— and obtaining the volume of the liquid displaced. There are a variety of forms of apparatus on the market for making this test, but which need not be described here.

(3) The tests for soundness, or constancy of volume in setting, are to develop those qualities which tend to destroy the strength and durability of mortar. Failure may show itself by the cement cracking, checking, or swelling, or disintegrating, or all these phenomena. The most frequent cause of these faults is considered to be the presence of free lime or magnesia, and the trouble may arise by the use of too high a proportion of lime in the raw materials from which the cement is made, or by underburning the cement, or by too coarse grinding. Magnesia in excess in a thoroughly burned cement may produce a gradual expansion, which will disintegrate the mortar or concrete after several years.

Several methods of testing soundness have been recommended, and these tests are divided into two classes: the one, normal, or cold, tests, since the mortar is tested at ordinary temperatures; and the other, accelerated, or hot, tests. The normal, or cold, tests, extending over a reasonable period, sometimes fail to detect unsoundness. This fact led to many efforts to utilize heat to accelerate the action, with a view of determining by this means in a few hours what under ordinary conditions require several days, or even months. Engineers are by no means agreed as to the value of the hot, or accelerated, tests, because it is not unusual to have a cement satisfactory in construction which has failed to pass these tests. In the report of the Committee on Uniform Tests of Cements, it says: "In the present state of our knowledge it cannot be said cement should necessarily be condemned simply for failure to pass the accelerated tests; nor can a cement be considered entirely satisfactory simply because it has passed these tests."

Hot-water tests are only applied to Portland cements. Very little is known concerning the value of these tests for natural cements; the one fact made certain through experiments is that these natural cements must not be expected to withstand boiling water.

In making tests for constancy of volume, pats are made, about three inches in diameter and about half an inch thick and tapering to a thin edge, from cement paste of normal consistency. They should be kept twenty-four hours in moist air before immersion in water or steam or preservation in air.

The normal test requires the water in which the pat is to be immersed to be kept as near as possible to 70° Fahr. during twenty-eight days. The pat is to be observed at intervals. A similar pat is maintained in air at ordinary temperature, and also observed at intervals.

The accelerated test requires (Uniform Tests of Cement) the pat to be exposed in any convenient way in an atmosphere of steam, above boiling water in a loosely closed vessel, for three hours. To pass the tests satisfactorily the pats should remain firm and hard, and show no signs of cracking, distortion, or disintegration.

It may be seen by this what an enormous saving of time there would be if some reliable method could be discovered of quickly and accurately ascertaining the strength and quality of a sample, instead of having to wait the usual periods of seven and twenty-eight days to allow the test pieces to set and harden before being tested.

(4) TIME OF SETTING. The object of this test is to determine the time which elapsed from the moment water is added until the paste ceases to be fluid and plastic (called the "initial set"), and also the time necessary for it to acquire a certain degree of hardness (called the "final" or "hard set"). The former of these is the more important, since with the commencement of setting the process of crystallization or hardening is said to begin. As a disturbance of this process may produce a loss of strength, it is desirable to complete the operation of mixing and moulding or incorporating the mortar into the work before the cement begins to set.

(5) TESTS OF THE STRENGTH OF CEMENT. The tensile test is the one most frequently used, although in practically all forms of masonry-construction cement has to resist compression. The reason for using the tensile rather than the compressive test is because the former is easier to make, and there are less variations in the result; also, as mortar is eight or ten times stronger in compression than in tension, when failures occur they are likely to be due to other forms of stress. Thus while the compressive test may be of interest from a scientific point of view, it is not considered to give any surer indications than the tensile, and is seldom if ever required in acceptance tests.

The tensile test is theoretically a perfect index of the quality of the cement at the periods of test, and a comparison at different periods gives the best obtainable indication of what its subsequent conduct will be. It has come to be accepted that the two periods most generally adopted, seven and twenty-eight days after moulding, are the best, the test pieces to be kept the first days of each period in moist air and the remaining days in water.

To arrive at a quicker knowledge of the quality of the cement, standard specifications require one-day tests, the briquettes being broken after twenty-four hours in moist air. Longer periods than twenty-eight days are useful in determining the rate of permanent hardening, although the rate of growth is different in neat cements, mortars, and concretes.

Tests are made both of neat cement and of cement mixed with sand in varying proportion. The former test gives perhaps the best idea of the reliability of the cement, but the latter shows the strength and value of the mortar in actual work. The principal objection to the sand test is that another cause of variation is introduced, because of the impossibility of finding in widely separated localities sand of the same quality and composition. Important facts to be remembered are that a coarsely ground cement shows greater strength when tested neat than a finely ground cement; but that a finely ground cement when mixed with sand in the usual proportions gives the greater strength. On the other hand, more skill is required to secure uniform results with sand than with neat cement.

The standard sand recommended by the American Society of Engineers is the natural sand from Ottawa, Ill., prepared by the Sandusky Portland Cement Company, of Sandusky, Ohio. But valuable results may be obtained by using in test the sand with which the working mortar is to be made. The only point to be insisted on is that a cement should not be rejected because of the poor quality of sand used in testing.

The form of briquette has been the subject of much discussion and experiment. That recommended by the Committee of the American Society of Civil Engineers is the form ordinarily used in this country and in England. The cross-sectional area at the centre is one inch square, with gradual increase of section towards the ends. There are various methods of moulding briquettes, which vary widely, and therefore effect the results obtained, and the personal equation of the tester presents further difficulties. Every standard specification demands cement tests, and they usually require them to be made in accordance with the methods proposed by the Committee on Uniform Tests of Cement of the American Society of Engineers, presented to the society on Jan. 20, 1904, with all subsequent amendments thereto. The preparations for the tensile test are described as follows:

MOULDS. The moulds should be made of brass, bronze, or some equally non-corrodible material, having sufficient metal in the sides to

prevent spreading during moulding. Gang moulds, which permit moulding a number of briquettes at one time, are preferred by many to single moulds, since the greater quantity of mortar that can be mixed tends to produce greater uniformity in the results. The moulds should be wiped with an oily cloth before using.

MIXING. All proportions should be stated by weight; the quantity of water to be used should be stated as a percentage of the dry material. The temperature of the room and the mixing-water should be as near 21° Cent. (70° Fahr.) as it is practicable to maintain it. The sand and cement should be thoroughly mixed dry. The mixing should be done on some non-absorbing surface, preferably plate-glass. If the mixing must be done on an absorbing surface it should be thoroughly dampened prior to use. The quantity of material to be mixed at one time depends on the number of test pieces to be made; about one thousand grains (35.28 ounces) makes a convenient quantity to mix, especially by hand methods.

METHOD. The material is weighed and placed on the mixing-table, and a crater formed in the centre, into which the proper percentage of clean water is poured; the material on the outer edge is turned into the crater by the aid of a trowel. As soon as the water has been absorbed, which should not require more than one minute, the operation is completed by vigorously kneading with the hands for an additional one and one-half minutes, the process being similar to that used in kneading dough. A sand-glass affords a convenient guide for the time of kneading. During the operation of mixing, the hands should be protected by gloves, preferably of rubber.

MOULDING. Having worked the paste or mortar to the proper consistency, it is at once placed in the moulds by hand. The committee has been unable to secure satisfactory results with the present moulding-machines; the operation of machine moulding is very slow, and the present types permit of moulding but one briquette at a time, and are not practicable with the pastes or mortars herein recommended.

METHOD. The moulds should be filled at once, the material pressed in firmly with the fingers, and smoothed off with a trowel without ramming; the material should be heaped up on the upper surface of the mould, and in smoothing off, the trowel should be drawn over the mould in such a manner as to exert a moderate pressure on the excess material. The mould should be turned over and the operation repeated. A check upon the uniformity of the mixing and moulding is afforded by weighing the briquettes just prior to immersion, or upon removal from the moist closet. Briquettes which vary in weight more than three per cent from the average should not be tested.

STORAGE OF THE TEST PIECES. During the first twenty-four hours after moulding the test pieces should be kept in moist air, to prevent them from drying out. A moist closet, or chamber, is so easily devised that the use of the damp cloth should be abandoned if possible. Covering the test pieces with a damp cloth is objectionable, as commonly used, because the cloth may dry out unequally, and in consequence the test pieces are not all maintained under the same condition. Where a moist closet is not available a cloth may be used, and kept uniformly wet by immersing the ends in water. It should be kept from direct contact with the test pieces by means of a wire screen or some similar arrangement.

A moist closet consists of a soapstone or slate box, or a metal-lined wooden box, the metal lining being covered with felt and this felt kept wet. The bottom of the box is so constructed as to hold water, and the sides are provided with cleats for holding glass shelves on which to place the briquettes. Care should be taken to keep the air in the closet uniformly moist. After twenty-four hours in moist air the test pieces for longer periods of time should be immersed in water maintained as near 21° Cent. (70° Fahr.) as practicable; they may be stored in tanks or pans, which should be of non-corrodible material.

TENSILE STRENGTH. The tests may be made on any standard machine. A solid metal clip is recommended. This clip is to be used without cushioning at the points of contact with the test specimen. The bearing at each point of contact should be one-quarter inch wide, and

the distance between the centre of contact on the same clip should be one and one-quarter inches.

Test pieces should be broken as soon as they are removed from the water. Care should be observed in centring the briquettes in the testing-machine, as cross-strains, produced by improper centring, tend to lower the breaking-strength. The load should not be applied too suddenly, as it may produce vibration, the shock from which often breaks the briquette before the ultimate strength is reached. Care must be taken that the clips and the sides of the briquette be clean and free from grains of sand or dirt, which would prevent a good bearing. The load should be applied at the rate of six hundred pounds per minute. The average of the briquettes of each sample tested should be taken as the test, excluding any results which are manifestly faulty.

The report of the Committee on Standard Specification of Cement adapted by the society on Nov. 14, 1904, is as follows:

General Conditions.

All cement shall be inspected.

Cement may be inspected either at the place of manufacture or on the work.

In order to allow ample time for inspecting and testing, the cement should be stored in a suitable weather-tight building having the floor properly blocked or raised from the ground.

The cement shall be stored in such a manner as to permit easy access for proper inspection and identification of each shipment.

Every facility shall be provided by the contractor, and a period of at least twelve days allowed for the inspection and necessary tests.

Cement shall be delivered in suitable packages, with the brand and name of manufacturer plainly marked thereon.

A bag of cement shall contain ninety-four pounds of cement, net. Each barrel of Portland cement shall contain four bags, and each barrel of natural cement shall contain three bags of the above net weight.

Cement failing to meet the seven-day requirements may be held awaiting the results of the twenty-eight day tests before rejection.

All tests shall be made in accordance with the methods proposed by the Committee on Uniform Tests of Cement of the American Society of Civil Engineers, presented to the society on Jan. 21, 1903, and amended on Jan. 20, 1904, with all subsequent amendments thereto.

The acceptance or rejection shall be based on the following requirements:

Natural Cement.

Definition. This term shall be applied to the finely pulverized product resulting from the calcination of an argillaceous limestone at a temperature only sufficient to drive off the carbonic-acid gas.

Specific Gravity. The specific gravity of the cement thoroughly dried at 100° Cent. shall be not less than 2.8.

Fineness. It shall leave by weight a residue of not more than ten per cent on the No. 100, and thirty per cent on the No. 200, sieve.

Time of Setting. It shall develop initial set in not less than ten minutes, and hard set in not less than thirty minutes nor more than three hours.

Tensile Strength. The minimum requirements for tensile strength for briquettes one inch square in cross-section shall be within the following limits, and shall show no retrogression in strength within the periods specified:

Neat Cement.

Age.	*Strength.*
24 hours in moist air	50–100 lbs.
7 days (1 day in moist air, 6 days in water)	100–200 "
28 days (1 day in moist air, 27 days in water)	200–300 "

One Part Cement, Three Parts Standard Sand.

7 days (1 day in moist air, 6 days in water)	25–75 "
28 days (1 day in moist air, 27 days in water)	75–150 "

Constancy of Volume. Pats of neat cement about three inches in diam-

eter, one-half inch thick at centre, tapering to a thin edge, shall be kept in moist air for a period of twenty-four hours.

(*a*) A pat is then kept in air at normal temperature.

(*b*) Another is kept in water maintained as near 70° Fahr. as practicable.

These pats are observed at intervals for at least twenty-eight days, and, to satisfactorily pass the tests, should remain firm and hard and show no signs of distortion, checking, cracking, or disintegrating.

PORTLAND CEMENT.

Definition. This term is applied to the finely pulverized product resulting from the calcination to incipient fusion of an intimate mixture of properly proportioned argillaceous and calcareous materials, and to which no addition greater than three per cent has been made subsequent to calcination.

Specific Gravity. The specific gravity of the cement, thoroughly dried at 100° Cent., shall be not less than 3.10.

Fineness. It shall leave by weight a residue of not more than eight per cent on the No. 100, and not more than twenty-five per cent on the No. 200, sieve.

Time of Setting. It shall develop initial set in not less than thirty minutes, but must develop hard set in not less than one hour nor more than ten hours.

Tensile Strength. The minimum requirements for tensile strength for briquettes one inch square in section shall be within the following limits, and shall show no retrogression in strength within the periods specified.

Neat Cement.

Age.	*Strength.*
24 hours in moist air	150–200 lbs.
7 days (1 day in moist air, 6 days in water)	450–550 "
28 days (1 day in moist air, 27 days in water)	550–650 "

One Part Cement, Three Parts Sand.

7 days (1 day in moist air, 6 days in water)	150–200 "
28 days (1 day in moist air, 27 days in water)	200–300 "

Constancy of Volume. Pats of neat cement about three inches in diameter, one-half inch thick at the centre, and tapering to a thin edge, shall be kept in moist air for a period of twenty-four hours.

(*a*) A pat is then kept in air at normal temperature and observed at intervals for at least twenty-eight days.

(*b*) Another pat is kept in water maintained as near 70° Fahr. as practicable, and observed at intervals for at least twenty-eight days.

(*c*) A third pat is exposed in any convenient way in an atmosphere of steam, above boiling water, in a loosely closed vessel, for five hours.

These pats, to pass satisfactorily the requirements, shall remain firm and hard and show no signs of distortion, checking, cracking, or disintegrating.

The whole matter of this cement-testing demands the most scrupulous care in the manipulation. Not only this, but the tester should possess natural aptitude for such work. It is rare to find two testers, or even two laboratories, working by the same methods and on the same materials, accomplishing like results. Mr. Sabin says, "The correctness of one's conclusions concerning the value of a sample is likely to depend very much upon his knowledge of the behaviour of that particular brand, and the beginner in cement-testing should not have too great confidence in his early conclusions. Samples under inspection should be tested in comparison with other samples of known quality, and the results of the strength tests studied in connection with all the information obtainable from the other tests of quality already outlined."

In the next and final article will be given in more detail the preparation of the materials used in making the briquettes when dealing with different kinds of cements, and also the proportioning of the ingredients in mortar and concrete mixing, as occurs in ordinary practice.

Alumni Notes

The department is in receipt of many applications from architects and others for assistants. We have no information as to whether our alumni are satisfied with their present positions and prospects, consequently many opportunities for Institute men are doubtless lost.

The Secretary of the Institute will send application blanks to any of our former students who wish to register their names with the view of making a change whenever a suitable opportunity occurs.

Of the class of 1908, Miss Babcock, Batchelder, Chandler, Dolke, Ford, Kibbey, McGinniss, and Williams have returned for the advanced work of the fifth year.

H. F. Kuehne, '08, is with Henri Desmond, Boston, Mass.

C. H. Preston, '08, is in Paris, and has been admitted to the École des Beaux-Arts.

F. J. Robinson, '08, and J. H. Hatton, '08, are in the office of Guy Lowell, Boston, Mass.

C. Youngerman, '08, is in the office of C. A. Tinker, Springfield, Mass.

J. R. Thorndike, '08, is with Wheelwright & Haven, Boston, Mass.

Aram Torossian, '08, is in the office of C. W. Fisher, Worcester, Mass.

F. O. Adams, '07, is with McKenzie & Biggs, '05, in New Orleans, La. That firm has under way the erection of fire-proof buildings for an experimental colony for the Insane Asylum of the State of Louisiana.

New Year's greetings were received from R. B. Barnes, '07, who was at that time in Rome, and from K. Vonnegut, '08, who is living in Germany.

V. J. Blackwell, '07, is at present with Winslow, Bigelow & Wadsworth, Boston, Mass. He spent the past summer and fall in Europe.

E. W. Bonta, '07, is head draughtsman in the office of Alfred M. Taylor, '95, Syracuse, N. Y.

Riggin Buckler, '07, is with McKim, Mead & White, New York City.

The engagement is announced of W. B. Coffin, '07, to Miss Dorothy Winsor Soule, of Brookline, Mass. Mr. Coffin is with Mr. R. Clipston Sturgis, working at present on the plans for the new Brookline Public Library.

F. G. Dempwolf, J. A. Kane, and A. N. Rebori, of the class of 1907, are in Paris.

J. T. Fallon, '07, has returned from his trip abroad, and is now with Hinchmann, Pilat & Tooker, New York City.

P. R. L. Hogner, '07, has spent the past year travelling in Sweden, Norway, Denmark, France, and Germany. He announces his marriage to Miss Christine Abersoln, of Stockholm.

S. A. Marx, '07, and A. S. Kendall, '07, are with the firm of Kilham, '89, & Hopkins, '96, Boston, Mass.

J. T. Mohn, '07, after a year in the office of Lord & Hewlett, New York City, has returned to the Institute for advanced work.

F. A. Naramore, '07, has been appointed chairman of the committee in charge of the Concrete House Competition offered by the Universal Portland Cement Company, of Chicago, Ill.

A. T. Remick, '07, has returned from abroad and reopened his office at 5 West 31st St., New York City.

The marriage is announced of H. A. Sullwold, '07, and Miss Bertha Hale, on Nov. 16, 1908, at Roxbury, Mass. Sullwold is in the office of the Supervising Architect at Washington, D. C.

Winsor Soule, '07, received the commission for the new gymnasium for Bryn Mawr College. It is now nearly completed, and Mr. Soule has returned to Boston, and is with the firm of Allen & Collens. He has in preparation plans for another college building for Bryn Mawr, and for other work in that locality.

E. Stanley Wires, '07, has given up the practice of architecture and is now the treasurer of the Wires-Hoffman Company. This new company succeeds the general tile business of William H. Smith, 9 Park St., Boston, Mass.

J. H. Cady, '06, after five months abroad, spent in the Atelier Duquesne in Paris and in travelling in France and Italy, has opened an office at 1019 Bannigan Building, Providence, R. I. Cady has recently been elected a member of the Rhode Island Chapter of the A. I. A.

J. J. Donovan, '06, was in Boston recently. He has been assistant superintendent on the Singer Building, New York, for Ernest Flagg.

W. C. Furer, '06, writes from Honolulu, where he is engaged on the new work at Pearl Harbor, "Everybody here is anxious to devise means for keeping the Japs from stealing these islands,— and the rest of the United States,— but the people back in the States don't seem to be worrying a great deal. There will be some interesting times out here soon, and I'm glad to be here."

S. E. Gideon, '06, is an instructor at the Institute, having charge of the course in first-year freehand drawing. Mr. Gideon is also giving instruction in elementary design in the evening classes of the Boston Architectural Club.

R. T. C. Jackson, '06, has opened an office in Fall River, Mass. He supervised the construction of the recently completed Union Hospital in that city.

F. C. Lebenbaum, '06, after two years abroad, spent at the École des Beaux-Arts and travelling in England, France, Spain, and Italy, has returned to Chicago, Ill., and is now with Marshall & Fox.

C. G. Loring, '06, recently returned from two years' study abroad, is now in the office of Cass Gilbert, New York City.

P. F. Mann, '06, is in the office of Holabird & Roche, Chicago, Ill. L. C. Clarke, Jr., '04, and E. H. Reed, '07, are also in the same office.

Miss Eleanor Manning, '06, formerly with Miss Lois L. Howe, has opened an office in Lynn, Mass., at 26 Beacon Hill Ave. Miss Manning has under way at the present time plans for a boat-house for Smith College.

G. P. Carmichael, '05, who has recently passed successfully the examination for senior architectural draughtsman in the United States Navy Department and also for the Supervising Architect's office in Washington, has received his appointment to the latter office.

A. H. Howland, '05, has just accepted an appointment to the office of the Supervising Architect at Washington, D. C.

Elmo C. Lowe, '05, reports his new address as 1612 Corn Exchange Bank Building, Chicago, Ill.

The State has recently awarded to A. J. Scholtes, '05, associated with James Wilson, a Boston sculptor, the commission for a monument commemorative of the Massachusetts soldiers who fell at Baton Rouge. It is the first monument to be erected on the battle-field, and takes the form of a granite obelisk thirty-eight feet high, with an eagle and panel of bronze on the pedestal.

The marriage is announced of Alfred H. Jacobs, '04, and Miss Lillian Wollenberg, on December 24, at San Francisco, Cal.

H. W. Rowe, '04, and H. F. Keyes, '04, announce that they have formed a partnership for the practice of architecture under the firm name of Rowe & Keyes, with offices at 161 Devonshire St., Boston.

G. Neville Wheat, '04, has removed from Houston, Tex., to San Antonio, Tex.

O. M. Wiard, '04, is still abroad, and will probably spend most of the winter in Rome.

E. F. Ricker, '03, is a member of the firm of E. Ricker, Son & Co., contractors for cut granite, with office and works at 92–114 First St., East Cambridge, Mass.

H. T. Blanchard and F. A. Colby, '01, are with Carrère & Hastings, New York City.

The marriage is announced of W. G. Holford, '01, with Miss Florence Grace Fowler, on Oct. 28, 1908. Mr. Holford is with the firm of Palmer & Hornbostel, New York City.

At the request of E. F. Lawrence, '01, chairman of the Exhibition Committee, the department has contributed some of the recent work in design for the exhibition of the Portland Architectural Club.

An article on "The Drainage of South Dakota" by Prof. A. B. McDaniel, '01, is included in the recent report of the State Engineer. McDaniel, in addition to his duties at the State University at Vermilion, is engaged in the practice of architecture in that city.

A. P. Merrill, '01, and R. F. Jackson, '03, have formed a partnership for the practice of architecture, with offices at 6 Beacon St., Boston, Mass.

W. J. Sayward, '01, is a member of the firm of Wilcox & Sayward, with offices in the Arcade Annex, Seattle, Wash.

Whidden & Co., Inc., announce that John V. Beekman, Jr., '00, formerly the head of the Boston office of Purdy & Henderson, Engineers, has associated himself with this concern and becomes the general manager.

George B. Ford, '00, has an illustrated article in the July number of *The Architectural Review*, on the Pré Catelan in Paris.

Walter B. Kattelle, '00, and Miss Nellie Jameson Feagles, daughter of the late Pierson J. Feagles, were married, on October 1, at Toledo, O. Mr. Kattelle is in the office of the Charles River Basin Commission, Boston, Mass.

Harry Leslie Walker, '00, announces the removal of his offices to the second floor of the Studio Building, Atlanta, Ga.

J. Howard Adams, '99, has recently opened an office at 72 Weybosset St., Providence, R. I.

J. W. Bailey, '99, who is now in Oklahoma City, has become associated with L. H. Bailey, with offices at 220½ West Main St. This firm succeeds Mathews & Bailey, Architects.

Leonard H. Field, Jr., '99, is in business for himself in Jackson, Mich.

Gardner M. Gale, '99, is the office manager and designer for Patterson & Doyle, Portland, Ore.

E. L. Gerber, '99, is established in Dayton, O., where he has built up a very successful practice.

H. S. Graves, '99, has become associated with J. T. Kelley, with offices at 57 Mt. Vernon St., Boston, Mass.

H. H. Hewitt, '99, Architecte Diplomé, has opened offices in Denver.

L. R. Leonard, '99, Architecte Diplomé, is chief designer for R. F. Almirall, New York City.

A. W. McCrea, '99, has offices at 107 East 27th St., New York City, and makes a specialty of bank alterations and interiors.

Worthington Palmer, '99, is in the office of Marcus Reynolds, at Albany, N. Y.

W. H. Sutliff, '99, is the manager of the Kahn Construction Company's offices in Jackson, Mich.

H. K. White, '99, of the firm Wilder & White, 156 Fifth Ave., New York City, has just returned from a three months' trip abroad, most of the time being spent in Italy.

R. S. De Golyer, '98, is head draughtsman for Marshall & Fox, Chicago, Ill.

A. S. Keene, '98, announces that he has become associated with L. B. Simpson, under the firm name of Keene & Simpson, 204 Reliance Building, Kansas City, Mo.

Philip Richardson, '98, Chauncey E. Barott, and Frederick L. W. Richardson, '03, announce that they have opened an office at 31 State St., Boston, for the general practice of architecture under the firm name of Richardson, Barott & Richardson.

Gorham P. Stevens, '98, has an article entitled "The Sincerity of Greek Architecture" in the June number of *The Architectural Review*. Also in the October-December number of *The American Journal of Archæology* he has an article on "The Cornice of the Temple of Athena Nike."

Thomas E. Tallmadge, '98, has an interesting article on "The Chicago School" in the April *Architectural Review*. Mr. Tallmadge is a member of the firm of Tallmadge & Watson, of Chicago, Ill., and he is also an instructor in architecture at the Art Institute.

Alfred M. Brooks, '97, was given the full title of "Professor of the Fine Arts" at the State University of Indiana last June. He is to lecture regularly, and in addition give some public lectures, before the University of Chicago next summer, on "The Theory and Development of Architectural Styles, Classic and Mediæval." Messrs. Swan, Sonnenschein & Co., of London, will publish a new novel of his during the early spring.

The Western Architect for December, 1908, devoted mainly to civic development, contains among its illustrations a suggestive plan for Gateway Park at Minneapolis, by E. H. Hewitt, '97; also another plan for the same park by Jacob Stone, '99.

M. Francis Oliver, '97, of New York, has been appointed Deputy State Architect, this position having been created by the Legislature of 1908, with a salary of $5,000 per annum. Mr. Oliver was previously a member of the firm of Butler, Rodman & Oliver.

A. E. Robinson, '97, has been established in business for the past eight years in Chicago, with offices at 84 La Salle St.

House and Garden for November, 1908, contains an interesting and fully illustrated article on the country seat of Frederick Pabst, on Lake Oconomowoc, Wis., Fernekes & Cramer, '96, being the architects. All the buildings, which are numerous and varied in type, have been skilfully designed in reinforced concrete construction.

Meyer J. Sturm, '96, now confines his practice to hospital architecture. He recently read before the International Congress on Tuberculosis in Washington a paper on "The Construction of Hospitals for Tuberculosis Patients." He also read before the American Hospital Association a paper entitled "The Planning and Construction of Hospitals for Smaller Cities and Towns."

William E. Davis, Jr., '95, announces that he has opened an office for the practice of architecture at 12 Bosworth St., Boston, Mass.

H. E. Davis, '94, and Dudley McGrath beg to announce that B. H. Shepard, '97, has retired from the firm of Davis, McGrath & Shepard, and that they have formed a new co-partnership to continue the practice of architecture with Mr. Calvin Kiessling, under the firm name of Davis, McGrath & Kiessling, with offices at 1 Madison Ave., New York City, and 8 Beacon St., Boston, Mass.

F. C. Baldwin, '92, has been elected president of the Architectural League of America. The next convention of the league will be held in Boston, Mass. Mr. Baldwin is a member of the firm of Stratton & Baldwin, Detroit, Mich.

C. W. Dickey, '94, announces the opening of an office in San Francisco, Cal., Room 1014 Balboa Building. He also has an Oakland office in the Oakland Bank of Savings Building.

Prescott A. Hopkins, '92, has been engaged by the Georgia School of Technology at Atlanta to establish there a Department of Architecture. This adds one more to the comparatively long list of Tech men who are now identified with the numerous schools of architecture in the country.

Louis Boynton, '91, is in business for himself at 1170 Broadway, New York City.

H. B. Pennell, '91, who for many years has been of the firm of L. Haberstroh & Son, Interior Decorators, is now president of the Pennell, Gibbs & Quiring Company, Decorators and Painters, 601 Boylston St., Boston, Mass.

Kilham, '89, & Hopkins, '96, recently won the competition for the Massachusetts Industrial School for Boys at Shirley, Mass.

John Lawrence Mauran, '89, has an article on "Department-Store Planning" in the November *Brickbuilder*, illustrated by plans of a store recently designed by Mauran, Russell & Garden, St. Louis, Mo.

Winslow & Bigelow, '88, architects in Boston, announce that Philip Wadsworth, '04, has become a partner, under the firm name of Winslow, Bigelow & Wadsworth.

Thomas W. Kellogg, '87, has an article on "Court-house Planning" in the November *Brickbuilder*. The article is illustrated with plans and views of court-houses designed by the firm of Rankin, '90, Kellogg, '87, & Crane, '90, of Philadelphia, Penn.

J. W. Lavalle, '87, has moved his office from 85 Devonshire St. to 7 Water St., Boston, Mass.

Emil Schwab, '71, is now New England manager for *The Chronicle*, a weekly review of insurance.

(*Continued from page 50*)

fession in the eyes of the public, which does not respect the true position of the architect but always discredits the value of his services. There is some reason for this, perhaps, in the many untrained men who disgrace the profession. This matter cannot be regulated by law, but results must be obtained by proper coöperation and honest endeavor to proclaim a high standard and to live up to it.

L. H. K.

The Trustees of the scholarship fund of the Architectural Society report that the fund now amounts to $792.33, which will be increased this year by $60 at least. Inasmuch as this fund can be added to only by proceeds from the TECHNOLOGY ARCHITECTURAL RECORD and from other activities of the society, we want to call the attention of former students of the department to the fact that their subscriptions to the RECORD will increase the sum to $1,000, which must be obtained before the fund becomes available for the benefit of the students in the department.

The Tracing Committee has under way a new plan by which any one may secure blue-prints of a hundred of the best photographs in the library of the department. Such a possession will be of the greatest value to students who after leaving the Institute always miss so greatly the opportunities that the library has afforded them. It will, besides, be a valuable nucleus in the building-up of a collection of one's own.

Current Work of the Alumni Illustrated in the Magazines

AMERICAN ARCHITECT.

August	5,	Snelling, '82, & Potter, Ferry Terminal, New York City.
"	12,	Alden, '79, & Harlow, '78, House in Sewickley, Penn.
"	19,	Oswald C. Hering, '97, House in Lexington, Mass.
September	2,	A. W. Brunner, '79, Synagogue, New York.
"	16,	G. B. Ford, '00, Illustrated Article on Rational Iron-work for Store and Loft Building.
October	7,	G. T. Tilden, '70, Blue Hill Observatory, Readville, Mass.
November	11,	Howard, '86, & Galloway, Buildings at Alaska-Yukon-Pacific Exposition.
"	18,	O. C. Hering, '97, Work of.
"	25,	Frost, '79, & Granger, New Terminal Station, Chicago, Ill.
"	25,	Little, '75, & Browne, House Interiors.
"	25,	G. Lowell, '94, Carrie Tower, Providence, R. I.
December	2,	Wilson Eyre, '79, House in Germantown, Penn.
"	23,	Clarke, '94, Howe, '92, & Homer, '85, Graded School, San Juan, P. R.
January	13,	Ewing, '97, & Chappell, Gymnasium, Georgetown University, Washington, D. C.
"	13,	Ewing, '97, & Chappell, House at Cedarhurst, L. I., N. Y.

INLAND ARCHITECT.

June,	Heins, '82, & La Farge, '83, Cathedral, Seattle, Wash.
"	Ferry, '74, & Clas, Insurance Co.'s Building, Milwaukee, Wis.
July,	Hill & Woltersdorf, '94, Office Building, Chicago, Ill.
"	D. H. Perkins, '89, Public School Building, Chicago, Ill.
"	H. V. Shaw, '94, Warehouse, Chicago, Ill.
"	Tietig, '98, & Lee, '98, House in Rose Hill, O.
August,	Patton, '75, & Miller, James Milliken University Buildings, Decatur, Ill.
September,	M. Hunt, '94, & E. Grey, House, Pasadena, Cal.
"	Rogers, '94, & Woodyatt, '97, Y. M. C. A. Building, Ishpeming, Mich.
"	Shepley, '82, Rutan & Coolidge, '83, Bank Building, Chicago, Ill.
October,	Chapman & Frazer, '87, House in Newton, Mass.
"	Wilson Eyre, '79, House in Ardmore, Penn.
"	Frost, '79, & Granger, Railway-station, Chicago, Ill.
"	Patton, '75, & Miller, Y. M. C. A., Aurora, Ill.
"	L. H. Sullivan, '74, Design for Island City Buildings, Philadelphia, Penn.
November,	Frost, '79, & Granger, St. Luke's Hospital, Chicago, Ill.
"	Frost, '79, & Granger, Railway-station, Lake Bluff, Ill.
"	Hill & Woltersdorf, '94, Factory Building, Chicago, Ill.
"	M. Hunt, '94, & E. Grey, Houses in Hollywood and Los Angeles, Cal.
"	D. H. Perkins, '89, Technical High School, Chicago, Ill.
"	J. K. Taylor, '79, Supervising Architect of United States Post-office, St. Louis, Mo.

ARCHITECTURE.

June,	Chapman & Frazer, '87, House in Westwood, Mass.
"	Kilham, '89, & Hopkins, '96, Houses in Brookline, Mass.
"	J. L. Little, Jr., '01, House in Brookline, Mass.
"	J. E. Purdon, '98, House in Westwood, Mass.
"	Shepley, Rutan & Coolidge, '83, House in Brookline, Mass.
"	Winslow & Bigelow, '88, Houses in Bristol, R. I., Pride's Crossing and Readville, Mass.
July,	Clarke, '94, Howe, '92, & Homer, '85, Associate Architects, Competitive Design for County Courthouse, Schenectady, N. Y.
"	Winslow & Bigelow, '88, House in Brookline, Mass.
September,	J. H. Freedlander, '91, Importers' and Traders' National Bank, New York City.
"	M. Hunt, '94, & E. Grey, House in Los Angeles, Cal.
"	Little, '75, & Browne, English Garden in Pride's Crossing, Mass.
"	Lord, '88, & Hewlett, House in New London, Conn.
"	H. V. Shaw, '94, Houses in Lake Forest, Ill., and Lake Geneva, Wis.
October,	Parker, '94, & Thomas, '96, Houses in Ipswich and Nahant, Mass.
"	J. E. Purdon, '98, House in Needham, Mass.
"	Winslow & Bigelow, '88, House in Bristol, R. I.
November,	H. E. Bartlett, '02, Measured Drawing, Petit Trianon, Versailles.
January,	Wood, Donn, '91, & Deeming, Accepted Competitive Design, National Bureau of Standards, Washington, D. C.

ARCHITECTURAL RECORD.

July,	W. W. Bosworth, '89, & F. H. Bosworth, Asylum at Inwood, N. Y.
"	Chapman & Frazer, '87, House in Chestnut Hill, Mass.
"	A. W. Jackson, '97, House in Boston, Mass.
"	Parker, '94, Thomas, '96, & Rice, '91, House in Pride's Crossing, Mass.
"	Putnam, '98, & Cox, '99, House in Marion, Mass.
"	Schmidt, '87, Garden & Martin, Park Buildings in Chicago, Ill.
August,	Heins, '82, & La Farge, '83, Metropolitan Club, Washington, D. C.
September,	Rankin, '90, Kellogg, '87, & Crane, '90, Department of Agriculture Building, Washington, D. C.
October,	Mauran, '89, Russell & Garden, Churches in St. Louis, Mo.
"	Ross, '02, & Macfarlane, '98, Station and Hotel in Ottawa, Can.
"	L. H. Sullivan, '74, Bank in Owatonna, Minn.
November,	J. H. Freedlander, '91, Importers' and Traders' National Bank, New York City.
December,	Frost, '79, & Granger, New Terminal Station, Chicago, Ill.
"	Cass Gilbert, '80, Railroad-stations along "Harlem River Branch."
January,	Alden, '79, & Harlow, '78, Mechanics' National Bank, Pittsburg, Penn.
"	J. H. Freedlander, '91, Importers' and Traders' National Bank, New York City.
"	Frost, '79, & Granger, Northern Trust Co., Chicago, Ill.

January,	Gay, '87, & Proctor, '88, North Cambridge Savings Bank, Cambridge, Mass.
"	Cass Gilbert, '80, Suffolk Savings Bank, Boston, Mass.
"	Newman, '92, & Harris, Union National Bank, Philadelphia, Penn.
"	Parker, '94, Thomas, '96, & Rice, '91, Savings Bank of Baltimore.
"	Parker, '94, Thomas, '96, & Rice, '91, Metropolitan Savings Bank of Baltimore.
"	Parker, '94, Thomas, '96, & Rice, '91, Commonwealth Trust Co., Boston, Mass.
"	Shepley, '82, Rutan & Coolidge, '83, Corn Exchange National Bank, Chicago, Ill.
"	L. H. Sullivan, '74, National Farmers' Bank, Owatonna, Minn.
"	Wood, Donn, '91, & Deeming, Union Trust and Savings Bank, Washington, D. C.

BRICKBUILDER.

June,	Boswick & Holden, '94, Church, New York City.
"	Hunt & Hunt, '82, Armory, New York City.
"	H. V. Shaw, '94, Commercial Building, Chicago, Ill.
July,	Andrews, '76, Jaques & Rantoul, Armories in Charlestown and Haverhill, Mass.
"	Hartwell, Richardson, '75, & Driver, Armory, Cambridge, Mass.
"	O. C. Hering, '97, House in Lexington, Mass.
"	Little, '75, & Browne, House in Pride's Crossing, Mass.
"	Lord, '88, & Hewlett, Armory in Brooklyn, N. Y.
"	Lord, '88, & Hewlett, House in New York City.
"	Page & Frothingham, '99, House in Lexington, Mass.
"	Spofford & Eastman, '94, Armory in Chelsea, Mass.
"	Winslow & Bigelow, '88, House in Dover, Mass.
"	Wyatt, '72, & Nolting, Armory in Baltimore, Md.
October,	L. H. Sullivan, '74, Bank in Owatonna, Minn.
November,	Mauran, '89, Russell & Garden, Department Store, St. Louis, Mo.
"	Mauran, '89, Russell & Garden, Racquet Club, St. Louis, Mo.
"	Rankin, '90, Kellogg, '87, & Crane, '90, County Court-house, Camden, N. J.
"	Rankin, '90, Kellogg, '87, & Crane, '90, United States Court-house, Indianapolis, Ind.
December,	Wilson Eyre, '79, House in Chestnut Hill, Penn.
"	Frost, '79, & Granger, Church, Chicago, Ill.
"	A. W. Longfellow, '78, Town Hall, Lancaster, Mass.
"	Mauran, '89, Russell & Garden, Churches, St. Louis, Mo.
"	H. V. Shaw, '94, Church, Chicago, Ill.
"	Shepley, '82, Rutan & Coolidge, '83, House in Brookline, Mass.
"	Wood, Donn, '91, & Deeming, House in Washington, D. C.

ARCHITECTURAL REVIEW.

August,	Cass Gilbert, '80, First Prize Design, Competition for Rearrangement of University of Minnesota Campus.
"	E. H. Hewitt, '97, & F. C. Brown, Third Prize Design in above Competition.
September,	Ferry, '74, & Clas, Insurance Co.'s Building, Milwaukee, Wis.
October,	H. G. Simpson, '03, Study for a New York Hotel.