

THE AMERICAN ARCHITECT

VOL. CX

WEDNESDAY, JULY 26, 1916

NUMBER 2118



THE GROUP AS SEEN FROM THE CHARLES RIVER

NEW GROUP FOR MASSACHUSETTS INSTITUTE OF TECHNOLOGY, CAMBRIDGE, MASS.

By WILLIAM WELLES BOSWORTH, Architect

THE program for the architect of the "New Technology" was to accommodate with conveniently inter-related departments two thousand students, with a scheme of plan adapted to a possible expansion to at least double that number, without disturbing the accessibility of one department from another.

The site paralleled the Charles River Basin, and the main façades of the buildings bordering it naturally face South. The Harvard Bridge, from which the first view of the buildings is obtained by the greatest number of people, reaches the Cambridge shore at the western extremity of the site.

Having determined on the single-building "parti," with a unit spacing of façades and openings adaptable to internal uses, as to light, and susceptible of shifting of partitions between departments since interior posts were avoided

thus permitting future expansion;—it was considered more visually effective to place the main educational group at that side of the site nearest to the Bridge and to locate the Students' group at the eastern side of the plot, where access to the subway was most direct. This placing of the Central group also accommodated the required areas for future expansion to the north.

Grouping the buildings about one symmetrical axis, with dormitories, students' social center, gymnasium, athletic field, etc., separated by the academic group was found to be undesirable.

Therefore, as a type of composition, a Court scheme, with thin sections of buildings for light and air, was adopted, with one chief Court of Honor, and two smaller lateral courts in the front plane, and an indefinite number of minor interior courts in the rear. The exterior lateral courts contain an order two-thirds

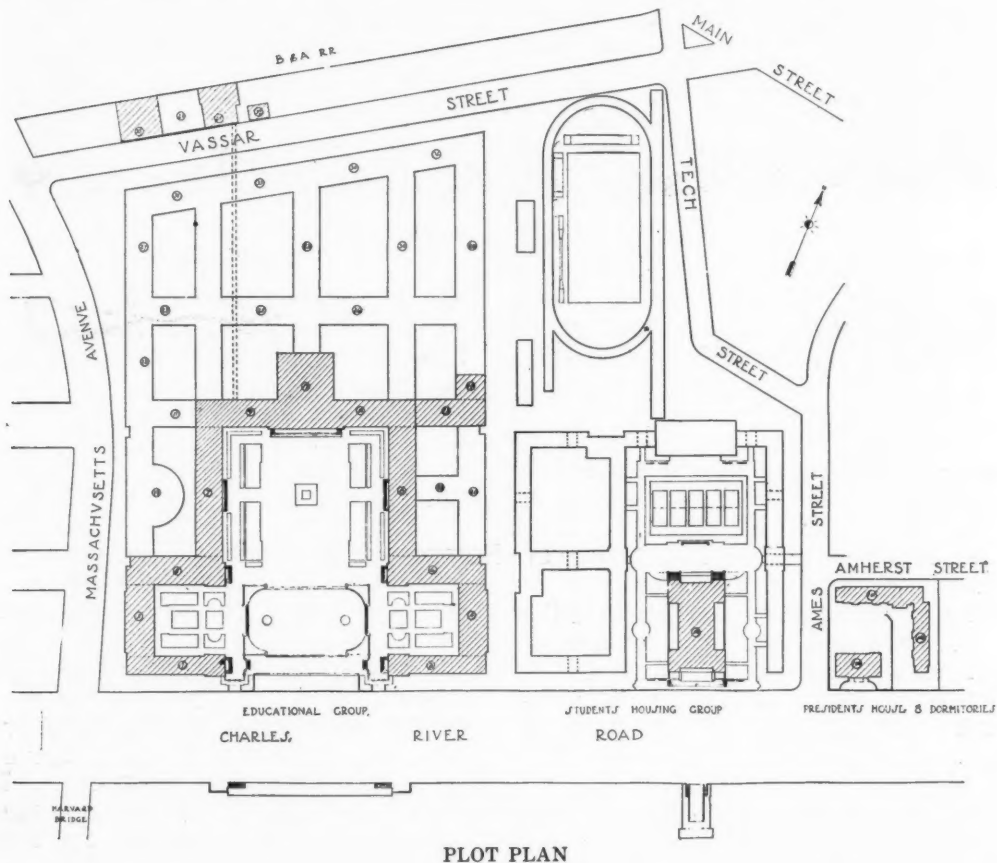
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the height of the main order in the entrance portico beneath the dome. It is believed that these courts when finally completed, with correct planting, fountains, benches and other accessories will present an atmosphere of academic life and counterbalance to some degree the sterner phases which are so strongly impressed upon the student in the field of

affecting the solution of the problem such as the character of grounds at foundation levels, etc., were investigated by experts.

It was learned that the angle of exposure towards the sun produced shadows on the façades of about the standard forty-five degrees of conventional architectural renderings, and studies were therefore greatly facilitated. It also happens that



applied science, especially in this institution.

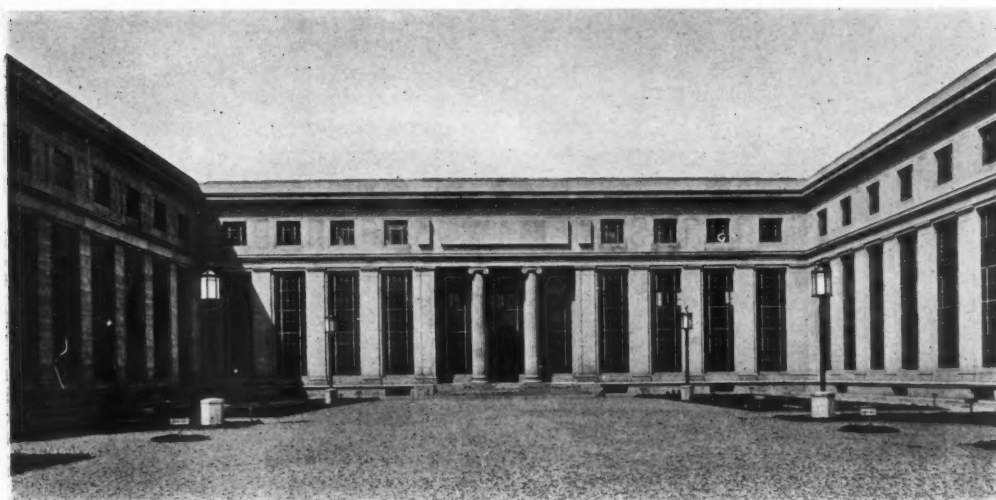
The southern frontage on a broad expanse of water imparts to this group an advantage which is shared by few academic institutions. The question of orientation was subjected to careful study and experiment. A record of shadows, cast by a pole erected for the purpose, was compiled and the results considered in determining the areas of the Courts. All questions relating to engineering, and

the drum of the dome is in its best light during the principal part of the day.

The reveals of the main façade openings, as seen from the river-front, were made shallow, while those of the main court were deepened for stronger effect and continuity of composition toward the deepest shadows, which occur in the central portico.

The architectural scheme of façades may be summed up as consisting of two orders—a minor and a major order in

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A MINOR COURT

Greek Ionic style. The minor order on the river front and in the lateral courts leads up to the major order which is one-third taller, in the main court. It is also carried through in the reveals of the main court openings, to unify the composition. The points of transition, at the intersection of the courts, are accented by pavilions with stepped roofs. These corner motives are enriched with columned porticos on their main court façades—the columns being recalled at the entrances of the minor courts on the principal transverse axis.

An attic story, of square windows, which surmounts the minor order ties

through into the upper story of the main court order, while the cornice and skylines lift the effect toward the attic above the central portico beneath the dome. These skylines are all curved, or “cambered,” to produce freedom of line and to correct aerial perspective, following out the theories revived so vigorously by Prof. William H. Goodyear of the Brooklyn Institute. The columns of the main portico are also set on a forward curve in plan, as may be seen in one of the illustrations.

There are no arches in the architectural scheme. Many studies were made with arches in the pavilions and entrances, but



MINOR COURT WITH PAVILIONS

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they were abandoned as being out of value with the column and lintel type, as well as with the spirit of the style of column in its application to these buildings. The intention was to adhere to a character of detail so permanent in type that a few years of existence would not suffice to definitely identify it with this day and thus appear "out of date" with a subsequent epoch. The Greek Ionic seemed most likely to realize this ideal.

The uses of the interior were expressed

(see illustration) these windows occur in the same room.

As to ornamentation, it was deemed appropriate to omit all carving, excepting only the cyma over the main portico, and to rely upon the effect of lettering, dentils, moldings and the volutes of capitals to refine the scale.

Concrete for exterior wall surfaces as well as constructive framing was considered at the outset but the material used was Indiana blue limestone, including the entire dome.



VIEW SHOWING CORRIDOR TREATMENT IN MAIN BUILDING

upon the façades as far as seemed possible to harmonize them with unity of composition.

The window openings in relation to the lighting of the rooms were studied to bring them close to the ceilings. This requisite made it desirable for the sake of simplification of spots and greater scale, to group the first-and second-story windows into one. Blackened glass was carried across the intervening floor thicknesses. In some cases, as, for instance, in the two-storied mechanical laboratory,

The dome was originally planned to cover a large assembly hall, but investigation disclosed the fact that such a hall would only be required once or twice a year and a proper economy of space demanded that this area should be made to serve in part for the library, with lecture halls and laboratories beneath. Hence the absence of the traditional grand staircase and lobby treatment in the plan.

The lobby was calculated as to size to satisfy the various uses it is to accom-

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modate. Elevators serve the library and its stacks around the dome, while inconspicuous staircases of purely practical nature give access to the minor services on upper floors. A circular skylight, more than twenty feet in diameter, lights the reading room, just as the interior of the Pantheon in Rome is lighted. Windows were by this means avoided in the visible part of the drum of the dome, thus preserving the desired austere and scholastic effect of the exterior.

A statue of Learning, of heroic size, has been planned for the center of the main court, and panels, designed for sculptural treatment, have been left over the columned entrances to the minor courts.

The circulations are continuous on every floor, with stairs and elevators at corner intersections.

The buildings were studied from small wax models in movable sections, and later, models of larger scale in plaster, while full-sized models of the two orders were erected on the site before final drawings were issued.

Enforced economy necessitated the elimination of all architectural treatment on the secondary courts and until these are built around by the sections planned for future extensions the lateral and rear views of the present group must suffer the fate attendant on similar undertakings.

Naval architecture appears likely to come first to the rescue with a new school already designed for the space on Massachusetts Avenue, immediately adjoining the corner group.

A monumental approach from the water, with ramps and landings is projected as a part of the architectural scheme. Boat houses and moorings, floats, etc., will be located farther to the east, opposite the Walker Memo-

rial and dormitories. These features, together with the president's residence, the gymnasium and athletic field will be presented in a future issue of THE AMERICAN ARCHITECT.

The buildings are being built on a cost and percentage basis. The physical undertaking was large. Forty thousand cubic yards of concrete have been used in the footings and frame, one million six hundred thousand square feet of wood forms have been required to mold it. Two hundred and fifty thousand cubic feet of limestone were required for the exterior facing.

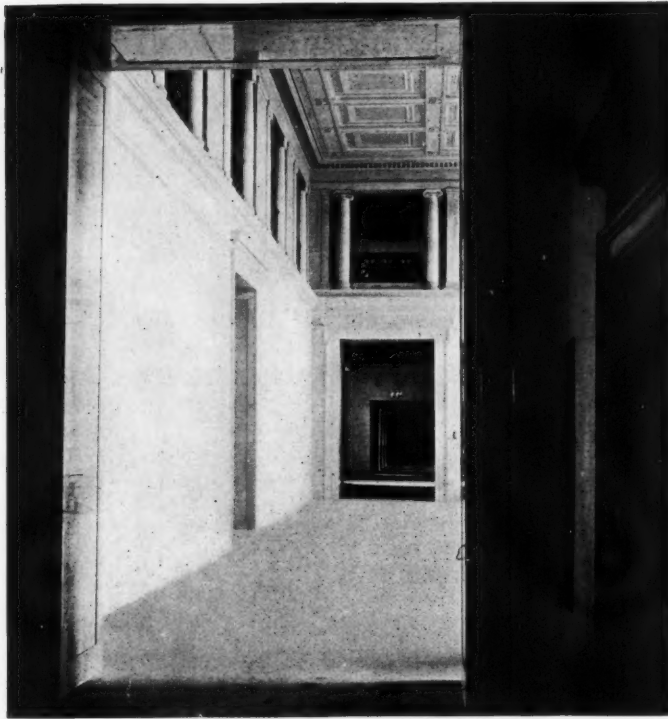
During working hours material has been delivered at the site at the average rate of one ton per minute.

Mr. Charles A. Platt, Mr. William M. Kendall, Mr. Henry Bacon, Mr. John Russell Pope, Mr. William Simms Richardson,



MANTEL IN PRESIDENT'S PRIVATE OFFICE

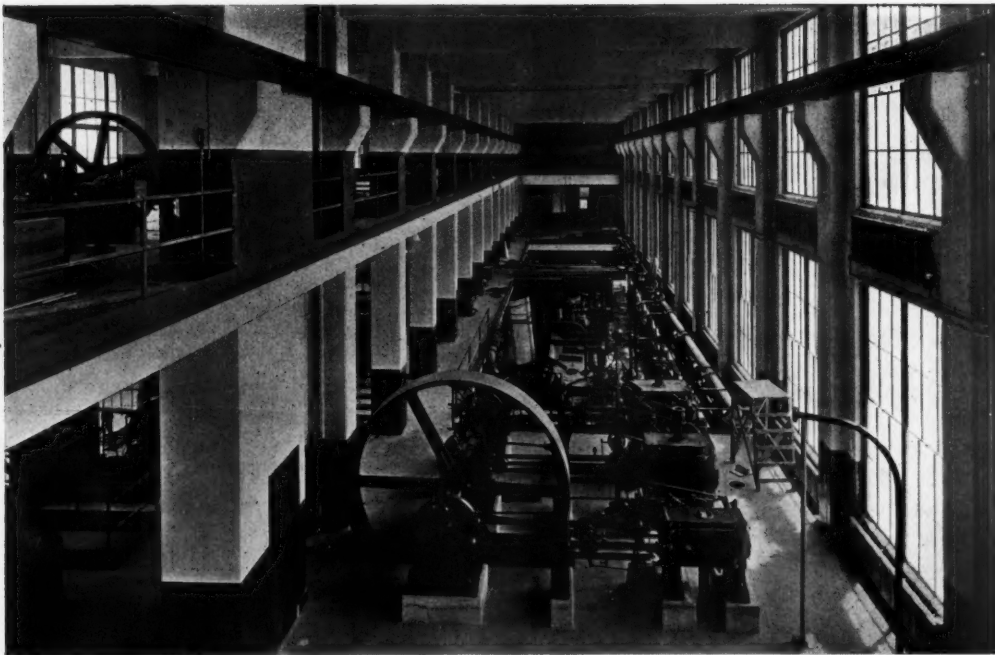
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DETAIL OF MAIN VESTIBULE

Mr. Henry Hornbostel, Mr. Lloyd Warren, Mr. Breck Trowbridge and others gave generously and disinterestedly of their advice from time to time at various stages of the work.

No statement of the undertaking from the architect could be complete without mention of at least the most prominent members of the office staff who produced the drawings and supervised the execution, notably Mr. Robert Cowie, Mr. Joseph H. Clarke, Mr. J. H. Phillips and Mr. Harold E. Ketton, who not only conducted the Boston office, but also met the representatives of all the departments to satisfy their special requirements and accommodate them to the restrictions imposed by the spaces available.



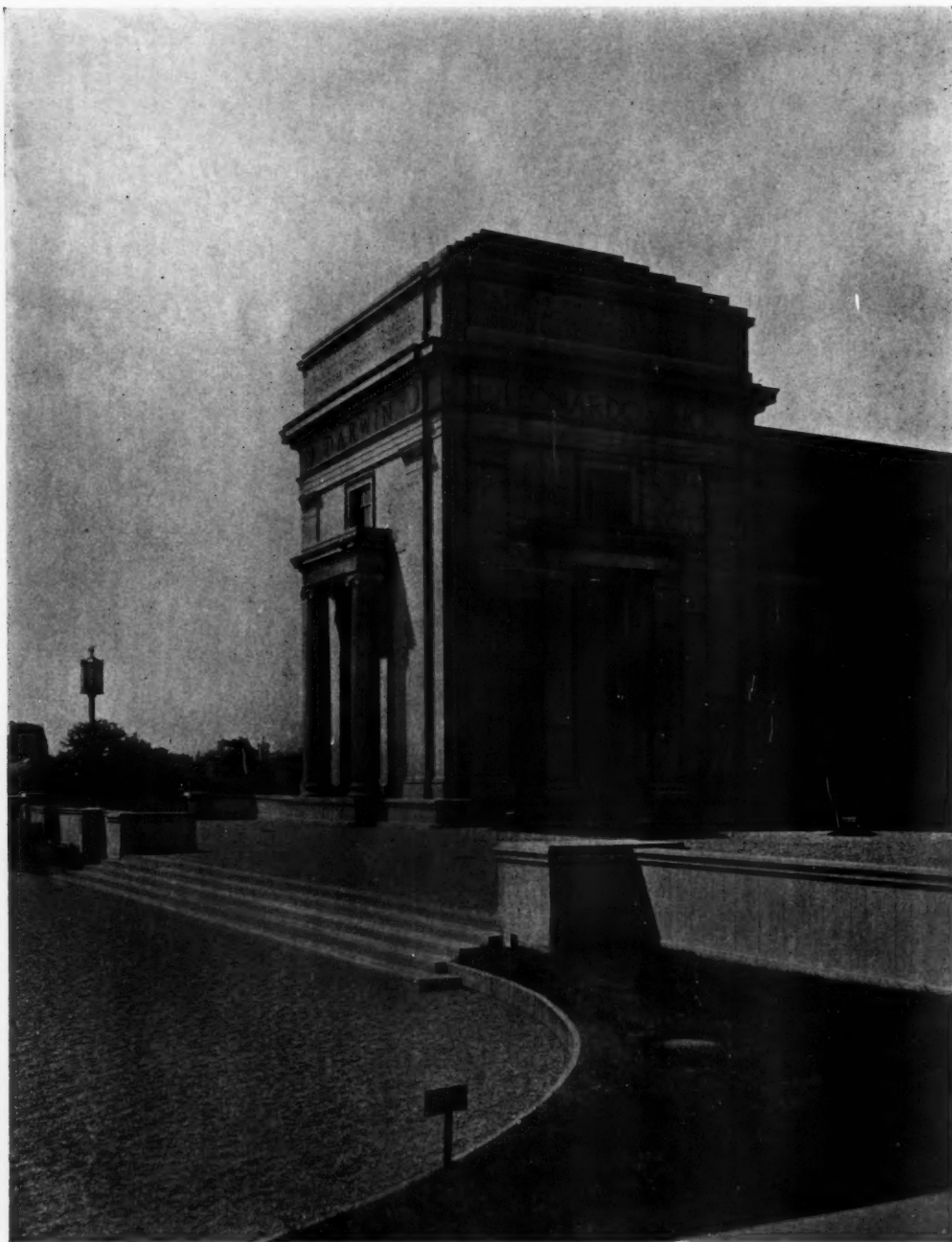
ONE OF THE LABORATORIES



ENTRANCE PORTICO AND DOME

NEW BUILDINGS, MASSACHUSETTS INSTITUTE OF TECHNOLOGY, CAMBRIDGE, MASS.

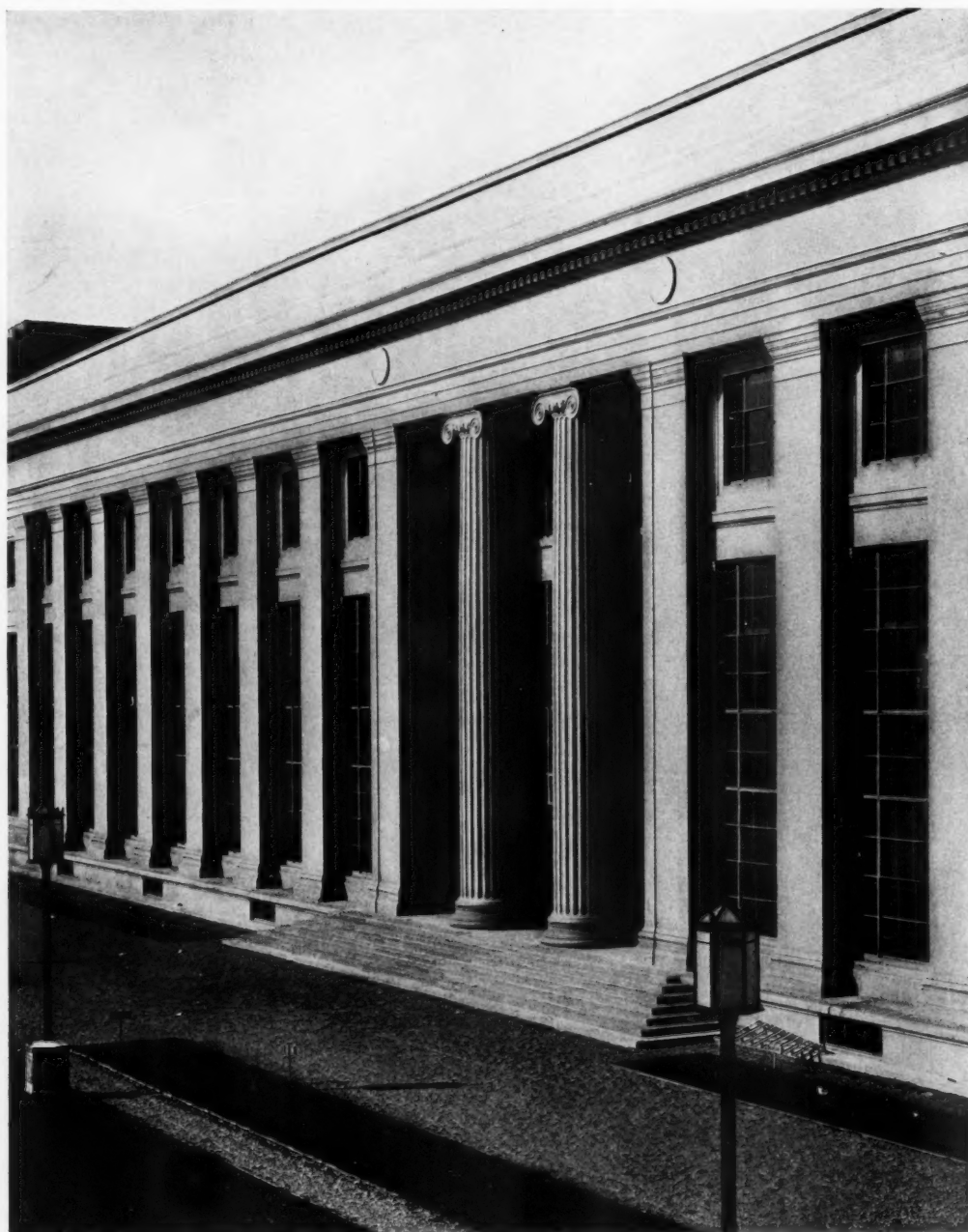
MR. WILLIAM WELLES BOSWORTH, ARCHITECT



CORNER PAVILION ON ESPLANADE

NEW BUILDINGS, MASSACHUSETTS INSTITUTE OF TECHNOLOGY,
CAMBRIDGE, MASS.

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DETAIL OF ENTRANCES ON LATERAL AXIS OF MAIN COURT

NEW BUILDINGS, MASSACHUSETTS INSTITUTE OF TECHNOLOGY,
CAMBRIDGE, MASS.

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DETAIL OF PAVILION AT CORNER BETWEEN MAIN COURT AND MINOR COURT
NEW BUILDINGS, MASSACHUSETTS INSTITUTE OF TECHNOLOGY,
CAMBRIDGE, MASS.

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DETAIL OF COLUMNS, ENTRANCE PORTICO

NEW BUILDINGS, MASSACHUSETTS INSTITUTE OF TECHNOLOGY,
CAMBRIDGE, MASS.

MR. WILLIAM WELLES BOSWORTH, ARCHITECT



LOOKING ALONG ENTRANCE PORTICO SHOWING CURVE IN PLAN

NEW BUILDINGS, MASSACHUSETTS INSTITUTE OF TECHNOLOGY,
CAMBRIDGE, MASS.

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CORNER PAVILIONS AND MINOR COURT

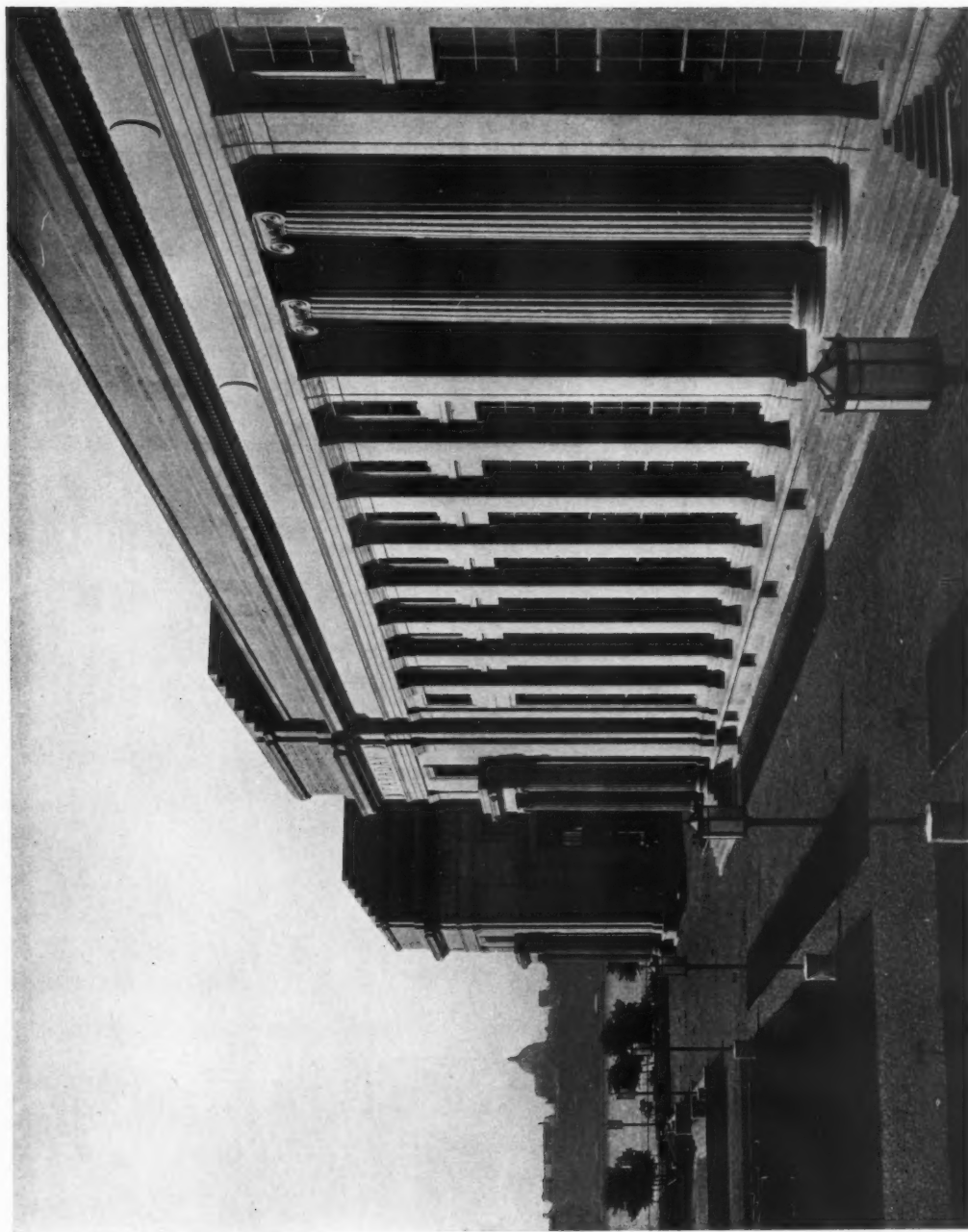
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MR. WILLIAM WELLES BOSWORTH, ARCHITECT

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ELEVATION ON MAIN COURT

NEW BUILDINGS, MASSACHUSETTS INSTITUTE OF TECHNOLOGY, CAMBRIDGE, MASS.

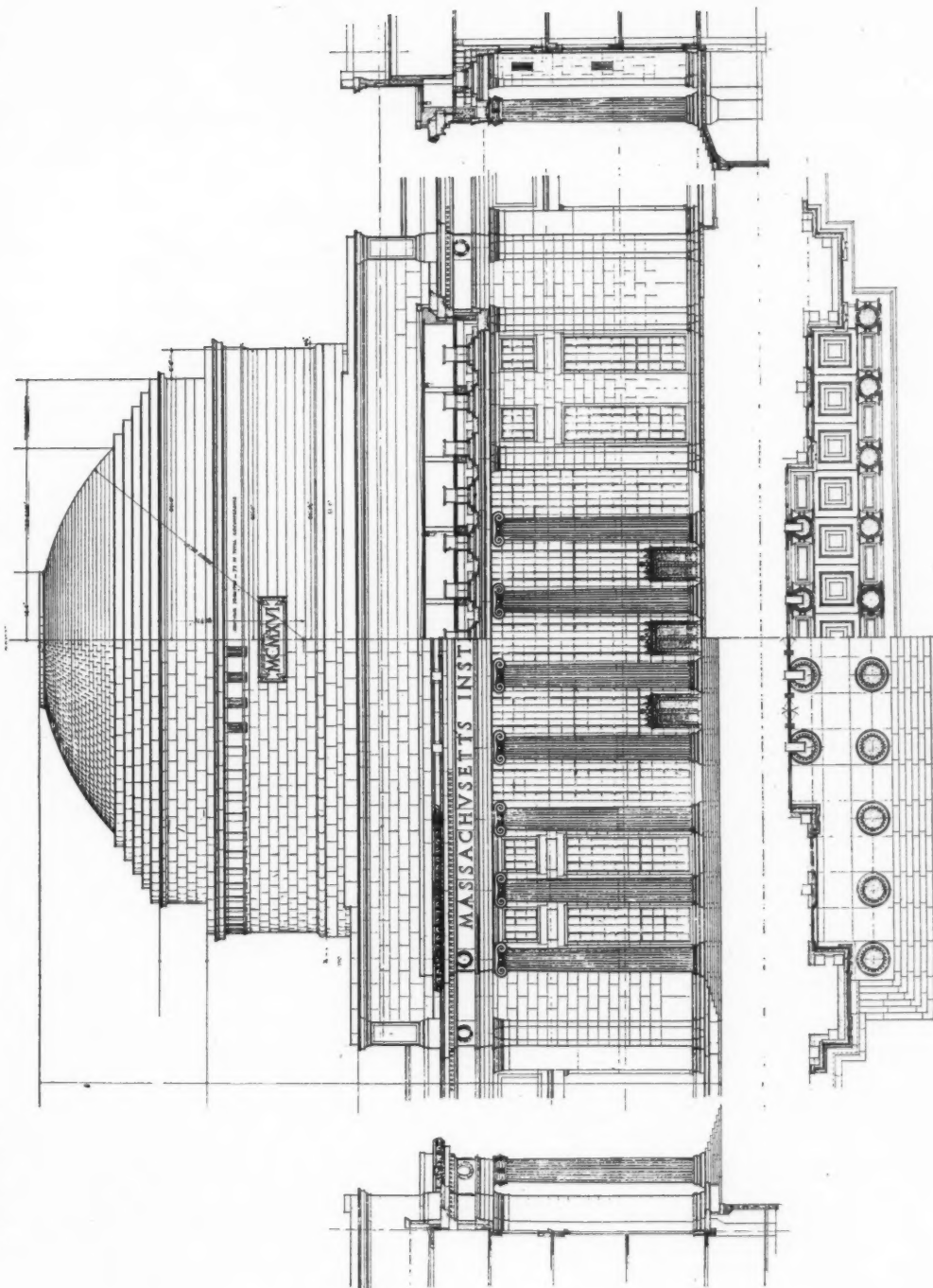
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MAIN BUILDING FACING COURT

NEW BUILDINGS, MASSACHUSETTS INSTITUTE OF TECHNOLOGY, CAMBRIDGE, MASS.

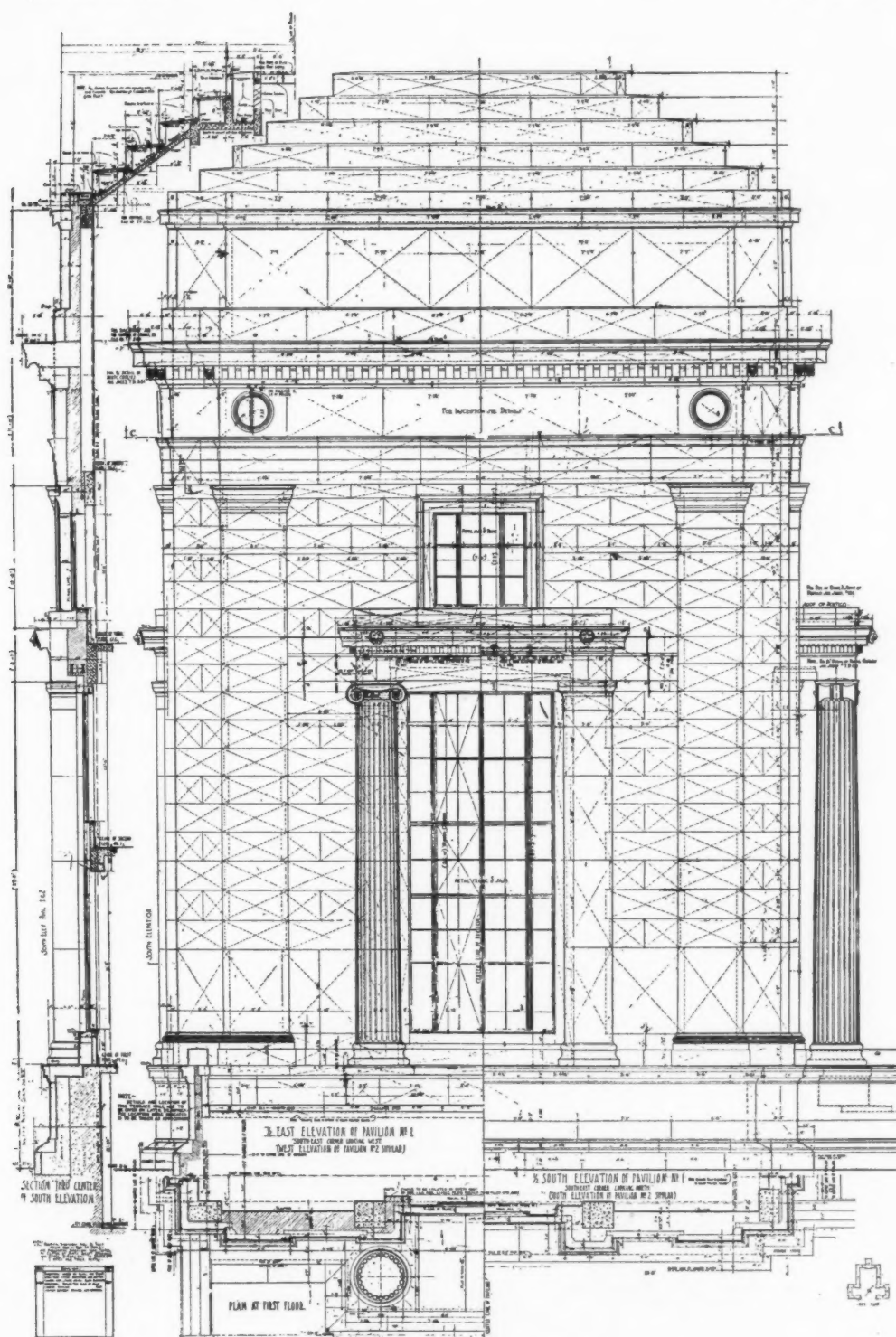
MR. WILLIAM WELLES BOSWORTH, ARCHITECT



ELEVATION OF MAIN PORTICO, ENTRANCE AND DOME

NEW BUILDINGS, MASSACHUSETTS INSTITUTE OF TECHNOLOGY, CAMBRIDGE, MASS.
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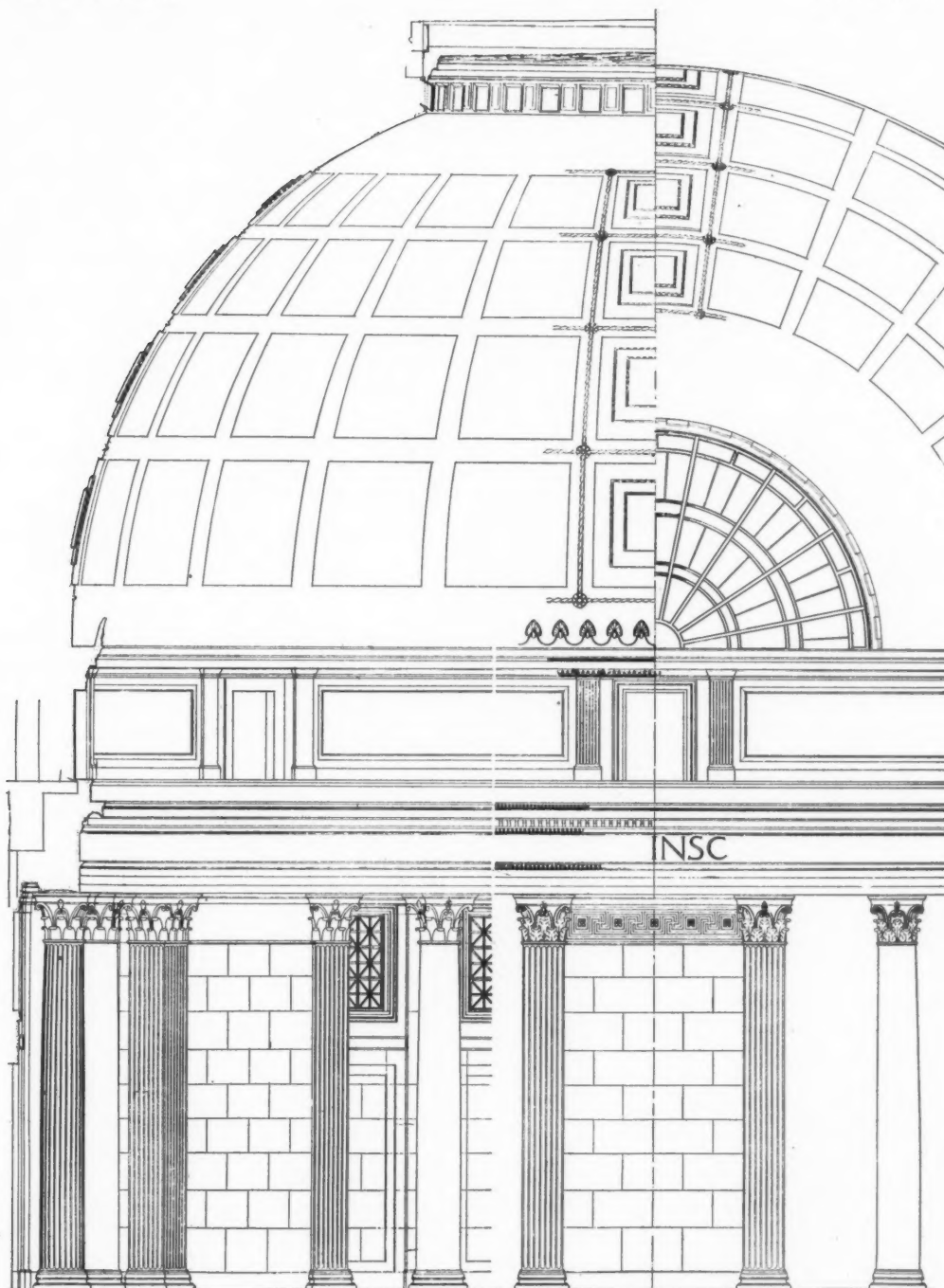
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DETAILS OF CORNER PAVILION

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CAMBRIDGE, MASS.

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DETAIL OF LIBRARY

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CAMBRIDGE, MASS.

MR. WILLIAM WELLES BOSWORTH, ARCHITECT

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THE AMERICAN ARCHITECT

Founded 1876

PUBLISHED EVERY WEDNESDAY BY

THE AMERICAN ARCHITECT (INC.)

No. 50 Union Square, New York
(Fourth Avenue and 17th Street)

G. E. SLY, PRESIDENT

E. J. ROSENCRANS, SECRETARY AND TREASURER

Address all communications to "THE AMERICAN
ARCHITECT"

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TEN DOLLARS PER YEAR, POSTAGE PAID
ALL OTHER COUNTRIES . . \$12.00 PER YEAR
SINGLE COPIES (Regular Issues), 25 CENTS

CHICAGO OFFICE, *Insurance Exchange*

Page A. Robinson, *Western Manager*

Entered at the Post-office, New York, as Second-class
Matter

VOL. CX JULY 26, 1916 No. 2118

BUILDING DISTRICTS AND RESTRICTIONS

INFORMATION secured through the study which has been given the subject by the New York City Commission on Building Districts and Restrictions seems to indicate conclusively that it is not reasonable to expect to be able to preserve a city and provide for its future development along proper lines without intelligent control over private building. We have had sufficient experience in this country with unregulated building development, and aside from its entire lack of esthetic qualities, it has produced disease, led to crime, made intolerable the congestion of street traffic—resulting in an unwarranted number of street accidents—and has generally impaired the safety of life and property.

Careful study has also led to the conclusion that community control over private building will inevitably result in as great advantage to individual owners as to the community. To mention but one phase of this advantage, it is reported from Kansas City that larger building loans can be secured on property where

building restrictions have been established, and the values thus stabilized, than can be negotiated elsewhere. It seems, for example, that before this plan had been put in effect, in a certain district of that city property owners were able to secure on an average but forty per cent of the appraised value of their property in the form of a mortgage loan. Since the restrictions have been imposed it is possible to secure a sixty per cent loan on the same property.

The practical absence of objections or protest against the imposition of the proposed restrictions in this city gives proof of their popularity and the favor in which they are held by those who are in positions to understand their probable effects. Under the circumstances, it is hoped that early and favorable action will be taken on the Commission's report, in order to forestall invasion of districts already unspoiled by inappropriate buildings.

ILL-ADVISED EXPENDITURES OF PUBLIC FUNDS

THE natural hesitation which individuals possess toward the destruction of property, even though its ownership or continued operation means further loss, seems to exist in even greater degree in the case of municipalities. This tendency is well exemplified by their frequent efforts to patch up, reconstruct or rehabilitate a building which was ill-advised and inappropriate in the first instance, and has become infinitely worse by decay and the changed requirements brought about by time. There are so many instances of this unfortunate practice that we have become in a measure indifferent to them, and only in exceptional cases are we aroused to any degree of effective protest. It is therefore of interest to note that an English architect of prominence, Sir Aston Webb, has set a worthy example by giving expression to a vigorous protest against what is to him, and probably to the majority of the profession in England, which he so ably represents, a most unwise action. The case in point is the proposed appropriation of £170,000 to alter and repair the Charing Cross Railway

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bridge and station. As a matter of fact, this bridge has always constituted an eyesore, and occupies what is generally considered a poorly chosen site. Probably every person of artistic perception in London would welcome its removal. To expend so large an amount in an effort to rehabilitate or redeem the bridge and station would, it is urged, be a woeful waste of public funds. A new bridge and station in a new and better suited location would, regardless of increased initial cost, be infinitely better economy.

It is to be hoped that the opinion of the large and intelligent body represented by Sir Aston Webb will receive the careful consideration to which it is entitled. We have so many examples of similar nature in this country—some of which are before us at the present time—that the subject seems to demand the attention of all those who understand and appreciate architecture,—here as well as abroad.

THE RESTORATION OF ARCHITECTURAL MONUMENTS DAMAGED BY WAR

A QUESTION of vital concern to the French people, and one which is now being discussed by architects, officials of the Ministry of Fine Arts, and the public in general, is whether or not to restore the many historic monuments damaged or destroyed during the present invasion of France. Shall the ruins be left as they are, or shall they be restored so far as is possible to the condition in which they were originally?

There are many reasons being advanced both for and against a general policy of restoration. Those in favor of permitting the ruins to stand after the war, untouched by the hand of the restorer, advance arguments involving both national patriotism and reverence to the consummate art displayed in the design and construction of these monuments. They believe that the spectacle of the present devastation must be allowed to remain for the instruction of future generations; further, that no matter how sadly mutilated it may be the damaged structure

preserves and exemplifies an art which a brutal restoration will inevitably destroy.

It would seem that neither a "do nothing" policy nor one of complete restoration and rebuilding can be followed unerringly, and it is probable that the true course lies somewhere between them. Many of the churches and other ancient buildings are so mutilated that they cannot stand for long in their present condition, and will require a certain amount of rebuilding in order to prevent collapse or decay; also, the majority of the structures damaged served a utilitarian purpose for which they are unfitted in their present condition, and unless partial restoration is effected other structures must take their place. Such wholesale rebuilding as would result from adopting a plan of erecting new buildings to meet utilitarian demands, and preserving the old for their art and for the purpose of arousing national patriotism could hardly be indulged, in the present financial condition of the countries at war. It would seem, therefore, that partial restoration and rebuilding must be accomplished to meet both the necessities of structure and the demands of utility. In fact, the condition of each building and the purpose which it formerly served will practically determine the proper and necessary course to pursue in the case of the structure under consideration, and no unalterable policy to either leave the buildings as they are or to entirely obliterate, so far as possible, evidences of invasion and siege can be definitely adopted. It is hoped, however, that in this difficult undertaking the Ministry of Fine Arts will proceed with greatest reverence for the work of the masters, wherever and in whatever form encountered, and will preserve in every instance where it is possible to do so the original structures in bulk, detail and embellishment. It is unquestionably the duty of those directing the work to conserve the patrimony of art which the past has bequeathed to France and for which it is responsible to the future generations both of that country and of the world.

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The Economic Importance of American Forests

The wholesale destruction of the forest resources of the nations engaged in the European conflict at the present time, says *The St. Louis Lumberman*, has called attention anew to the importance of conservation of the forest resources on this side of the water.

No more saddening tale could be told than that which is involved in the wholesale destruction of the forests of France and Germany and others of the nations now so deeply involved in the bloody conflict being waged between the European nations. The destruction of timber in some of the recent great battles is said to have been indescribable, and in order to meet the conditions conservation has been forgotten by those who were its most eloquent advocates on the other side of the Atlantic up to even a very recent period.

This fact was well brought out by Charles Lathrop Pack, the president of the American Forestry Association, in a recent statement made by him in which he sounded a warning that the forest and forest products of this country will play a large part in our economic preparedness as a result of the war. President Pack is one of the closest students of forest problems, not only in this country but in the entire world at the present time.

In sounding this note of warning he stated that England is now cutting down her old and famous woodlands and forests to provide for her immediate and pressing timber needs, and is already planning to acquire millions of acres of forest lands in Russia to supply her demands after the war.

What is true of England is likewise true of France, and the same statement applies with a certain measure of truth to Belgium, in which country the German occupants have cut out a large proportion of the forest land for utilization in their military operations in addition to large quantities shipped to Germany since the time of their occupation of that country.

Depletion of these forests of Europe accentuates the necessity for preparedness on the part of the American people

in conserving their great national timber resources. Now more than ever we must insist upon checking wanton and needless destruction of our timber and must leave no stone unturned in the way of providing legislation which will deter the ruthless hand of the vandal and precipitate greed of the unthinking from wasting on a prodigious scale the great patrimony which we possess in our immense timber holdings. Unless we rise to the occasion it will be altogether too late. Now is the time to be active in the passing of such legislation as will successfully prevent the further demolition or destruction, even by fire, of the great forest resources of which Americans are so justly proud.

There is additional force given to this note of warning by reason of the fact that at the conclusion of the European war larger drafts than ever before will be made upon us to supply the urgent lumber and timber needs of the countries beyond the sea. Our ability to meet that need will be in proportion to the faithfulness with which we rise to the occasion in our present measure of preparedness, and in the manner with which we now conserve that which is so extremely valuable to meet the needs of our common humanity.

In this as in many other things the United States occupies a critical position at the present time. Our reputation as a nation is at stake. We can earn the respect of the entire world by the manner in which we meet the problems now confronting us in the conservation of our forest resources, as well as in many other ways, and it is to be hoped that every American who takes an interest in the conservation of our natural resources will lose no time in urging upon the legislators in his district the absolute necessity that now exists for leaving nothing undone which will conduce to the complete conservation of the forest resources of the nation on a scale commensurate with their importance. To quote President Pack in conclusion, "this is our part, and if we properly read the signs of the times we will fully realize the great value of our forest inheritance and prepare to use it with economic foresight and not abuse it, as has been our wont."

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The Church of Brou

IT was only yesterday that we were in Bourg, yet beyond the church of Brou and a garage, I remember nothing of the place. The garage was like other garages; but the church of Brou is like no other church in the world. In the first place, instead of dragging through centuries of building, and never quite reaching completion, it was begun and finished in the space of twenty-five years—from 1511 to 1536—and it was supervised and paid for by a single person, Margaret of Austria, who built it in fulfilment of a vow made by her mother-in-law, Margaret of Bourbon. The last Margaret died before she could undertake her project, and her son, Philibert II., Duke of Savoy, called "The Handsome," followed before he could carry out her wishes. So his duchess, the other Margaret, undertook the work, and here on this plain, between the Juras and the Saone, she wrought a marvel in exquisite churchbuilding which still remains a marvel almost untouched by any blight after four hundred turbulent years. Matthew Arnold wrote a poem on the church of Brou, which may convey the wonder of its beauty. I shall read it some day, and if it is as beautiful as the church I shall commit it to memory, and on days when things seem rather ugly and harsh and rasping I will find some quiet corner and shut my eyes and say the lines and picture a sunlit May afternoon and the church of Brou. Then perhaps I shall not remember any more the little mean things of the moment, but only the architectural shrine which one woman reared in honor of another.

It is not a great cathedral, but it is by no means a little church. Its lofty nave is bare of furnishings, which perhaps lends to its impression of bigness. But then you pass through the carved doors of a magnificent "jubé" or screen, and the bareness disappears. The oaken choir-seats are carved with the richness of embroidery, and beyond them are the tombs

—those of the two Margarets and of Philibert, husband and son. I suppose there are no more elaborately wrought tombs in the world than these. Perhaps their very richness detracts from their artistic value, but I would rather have them so, for it shows somehow the thoroughness and sincerity of Margaret's intent—her determination to fulfil to the final letter every imagined possibility in that other's vow. The mother's tomb is a sort of bower—a marble alcove of great splendor within and without. Philibert's tomb, which stands in the center of the church, between the other two, is a bier supported by female figures and fluted columns and interwoven decorations, exquisitely chiselled. Six cherubs and a crouching lion guard the royal figure above, and the whole, in spite of its richness, is of great dignity. The tomb of the Duchess Margaret herself is a lofty canopy of marble incrustations, the gorgeousness of which no words can tell. It is the superlative of Gothic decoration at a period when Gothic extravagance was supreme.—*Harper's Magazine.*

Curious Church Architecture

The parish church of Ormskirk, in Lancashire, England, has a tower and a spire side by side. The tower is built over the porch at the west end, and the spire is placed as closely as possible to it. The origin of this architectural freak has not been ascertained, but there is a tradition to the effect that when Orme, the Saxon pirate from whom the town derives its name, decided to construct a kirk, or church, as an expiatory offering for his evil deeds his two daughters quarreled over the design for the structure. One determined to have a tower; the other was equally resolved to have a steeple. As neither of them would give way the pirate chief acceded to both their wishes, and the curious may see the tower and spire still keeping watch side by side on the surrounding country.—*Exchange.*

An Architect's Views on Art

Sir Ernest George, A.R.A., past president of the R.I.B.A., in a short address before the Royal Amateur Art Society, gave expression to his views on art, as influenced by his training as an architect. While much that he said was purely of local interest, he also gave expression to certain ideas and ideals that are worth consideration. The following, clipped from this address, indicate their character:

"I may be regarded as old fashioned if I insist on the first importance of drawing. There is often the temptation to break out in color, and to talk of 'tone values,' before the elementary knowledge of drawing is acquired. That knowledge mastered, all future work is simplified, whether in color, by the etching needle, or by any other medium. It is as an Architect I feel this most strongly, for no beauty of color will justify a building that seems tottering and without construction, or the presentment of human

form without indication of bone and muscle. Imagination and sentiment will be wasted on a work that lacks the fundamental qualities. * * *

“The attempt to bring in a ‘New Art’ is too often made by those who have not learned the grammar of the old; who think to avoid serious study and the drudgery of taking pains.

“In Architecture we sometimes meet the attempt to shirk the careful study of what has been done, substituting the preposterous for the reasonable methods. * * *

“It seems presumptuous for an architect to offer advice to painters, many of them accomplished; yet the same laws apply to the work of the Painter, the Sculptor, and the Architect.

“The mind and the eye must be trained to a fine perception of those qualities that distinguish great work from that which is common; the knowledge of when to be broad and massive, and when delicacy and refinement are called for.”



DETAILS OF CRAFTSMANSHIP. CARVED ENRICHMENT ON STONE PLINTH. CHURCH
OF ST. JOHN LATERAN, ROME

(From *Architects and Builders Journal*, London)

THE AMERICAN ARCHITECT

Binghamton, N. Y., Architects Organize

Certificate of incorporation has been issued to the Binghamton Society of Architects.

The charter members signing the papers as incorporators are: C. Edward Vosbury, Harry R. Tiffany, G. Edmund Tupper, Walter H. Whitlock, Edwin D. Dickerman, Charles H. Conrad, H. Sumner Gardner, Carey M. Carlton, Arthur T. Lacey, Sanford O. Lacey, Elfred H. Bartoo and Norton I. Mather. The directors chosen to serve until the first annual meeting are Arthur T. Lacey, C. Edward Vosbury and Charles H. Conrad.

RECENT LEGAL DECISIONS

ARCHITECT ISSUES CERTIFICATES TO SELF

New York.—The situation of an architect as such issuing building certificates to himself as contractor is presented in the New York case of *Witt vs. Gilmour*.

The plaintiff, an architect, furnished designs for a country house and garage at Riverview Manor, Dobbs Ferry, on the Hudson. Eventually he undertook, as contractor, to build the same for \$8,000, less \$600, allowed defendant for plumbing fixtures, which, however, plaintiff was to install. There was an alternative agreement on the basis of cost by the subcontractors with ten per cent architect's commissions, if such result should be under \$8,000.

Plaintiff sublet the work to various contractors. As architect, he signed two certificates of performance, upon which he was paid \$4,000. Mrs. Gilmour claimed defects and omissions. Plaintiff, as architect, issued to himself a final certificate, and then brought a mechanic's lien suit for \$5,123.15, alleging due performance. Defects and deficiencies appeared, especially in the chimney, foundations, and other matters of structure. In the decision made, the court held plaintiff for defects in footings, omissions of piers in cellar, defects in chimney, absence of clean-out doors in flue bottom, replacing window glass, completing the

plumbing and heating, repairing porch ceiling, omission of book shelves and partition in the garage, for all which he allowed \$793. He found plaintiff entitled to \$140 for extra work. On this basis he decreed \$2,747, with interest and costs, against the owner. Mrs. Gilmour appealed, claiming other defects and denying performance.

Plaintiff's contention was that there had been a substantial performance of the contract entitling him to receive his compensation in full. He admitted that the house was not constructed in strict accordance with the contract, but claimed that regarding strength, durability and attractiveness it was equal to the one contracted for.

The Supreme Court held that plaintiff had no right to substitute his judgment for that of the owner.

The court said: "If the owner, having regard to strength and durability, has contracted for a building of specified materials to be laid in a particular manner, or for a given number of joists and beams, the builder has no right to substitute his own judgment or that of others. Having departed from the agreement, if performance has not been waived by the other party, the law will not allow him to allege that he has made as good a building as the one he engaged to erect. He can demand payment only upon and according to the terms of his contract, and if the conditions on which payment is due have not been performed, then the right to demand it does not exist."—*Witt vs. Gilmour*, 158 N. Y. S. 41.

OWNER'S LIABILITY

(California.)—If the general contractor for construction of a building was under the direction of the owner as to the manner and means by and with which the work should be prosecuted, he would occupy the ordinary relation of a servant toward the owner, as regards the owner's liability for injury to a third person from negligence of the contractor and his servants. (*Gordon v. Roberts*, 157 Pac., 15.)

INDUSTRIAL INFORMATION

Veneered Wood

The Hyde-Murphy Company, with main office and factory at Ridgeway, Pa., has issued an attractive folder, which is designated as Number 22, illustrating a variety of designs of veneered doors. The woods used are birch, gum, and oak, and the folder is printed in colors resembling various finishes using these woods.

In connection with the different doors is appended a general description and price list which will enable the prospective customer to make selections within a stipulated limit of cost.

It is stated that for half a century, Hyde-Murphy Company doors have been used with satisfaction in all classes of buildings throughout the East.

This company is the sole manufacturer of the "No-Warp" Sanitary Flush Doors and Sectionfold Partitions. A copy of this folder or any desired information will be furnished upon request.

Vacuum Cleaners

Messrs. Hanlon & Wilson, Wilkesburg, Pa., have issued a folder illustrating and describing the Vak Klean Portable Vacuum Cleaner, which is designed especially for the factory. The problem of cleanliness in manufacturing establishments has been one that has received a great deal of study during recent years, and it is claimed that this portable vacuum cleaner finally and effectually solves it.

It is now generally conceded that the health and efficiency of employees, the protection of fine machinery, and the preservation of stock from injury, all demand cleanliness, and it is obvious that methods of half a century ago are not adapted to present requirements. It is claimed that the Vak Klean will gather up dirt that could not be swept, and would have to be picked up by hand at great expense of time and trouble; that it will gather up dust, litterage, powdered metals, etc., that can be reclaimed at a very satisfactory profit; furthermore, that it will remove all particles and dust

where deadly chemicals assemble, and thus prevent injurious effects upon workers. The use of this cleaner prevents the soiling of fine materials or goods in stock or process of manufacture, such as clothing, hats, etc.

There are many other duties that this device performs satisfactorily, and the fact that it can be readily wheeled to any part of the building adds much to its usefulness.

The mechanism consists of a rotary positive pump, a double tank dirt separator and an electric motor. It is mounted on a substantial truck with iron wheels, and is equipped with electric cable, hose and necessary tools.

The folder referred to or any further data desired will be gladly furnished upon application.

Fire Door Hardware

The Richard - Wilcox Manufacturing Company, Aurora, Ill., has recently issued Catalog Number 14 devoted to Fire Door Hardware. This catalog fully illustrates the greatest variety of this special product and with descriptions, instructions, and price lists that are included, the catalog becomes of much practical value to architects or others confronted with the problem of equipping fire doors with proper hardware to accomplish the desired results under all conditions of service.

A large part of the hardware listed has been approved by the Underwriters' Laboratories, Inc., and bears the Underwriters label. In addition to the various door hangers, operators, brackets, etc., shown, this company is prepared to furnish hardware for all special requirements, prices of which will be quoted on application. Copy of this catalog can be had by those desiring it upon request.

Electrical Specialties

The Chelton Electric Company, with general offices and factory in Philadelphia, has issued a catalog of Chelton Electrical Specialties and dependable wiring devices. All specialties listed in this

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catalog have, it is stated, been approved by the Underwriters' Laboratories, Inc. Devices shown consist of switches of various types, face plates, receptacles, plugs, fuses, switch boxes, and other products of similar character. Included in the catalog are illustrations of a number of prominent buildings, throughout the country, in which these electrical specialties have been installed.

Copy of the catalog can be obtained upon application.

Pyrobar Gypsum Tile Roofing System

The United States Gypsum Company, with principal offices in Chicago and branches in the larger cities of this country, has issued a booklet of thirty-odd pages, describing the Pyrobar Gypsum Tile Roofing System. It is stated that this system of roofing provides an efficient and economical roof, light in weight, fire-resisting, and non-condensing, the latter feature giving it conspicuous distinction. Pyrobar roof decks consist of Pyrobar Reinforced Gypsum Roof Tile laid on tee iron purlins. The spaces between the tile at and above the flanges of the tee irons are filled with stucco grout that bind the tile together and form a homogeneous deck. It has an even surface to which any style of composition roofing, baked clay, slate, Spanish or roll tile can be cemented or directly nailed.

These tile, it is stated, are made from pure calcined gypsum hydrated with water and mixed with a small percentage of wood fiber. The mixing and molding are done by automatic machinery, insuring, it is claimed, tile uniform in size, with true surfaces, and the same quality and density.

The properties of these tile are given as follows: Face dimensions, 12 x 30 in. Solid tile are 3 in. thick. Hollow tile are

4 in. thick. Weight 13 lb. per square foot.

Tile are reinforced with special wire fabric and are furnished white or water-proofed black. The booklet referred to, which may be had upon request, shows a number of examples of roofs covered with Pyrobar Gypsum Tile, contains a record of laboratory experiments to show the comparative conductivity of this material, gives a list of buildings where Pyrobar decks have been installed, and presents a number of testimonials from users. Eight pages of construction details giving proper construction of various roofs where it is desired to use these tile, complete the booklet.

Home Comfort

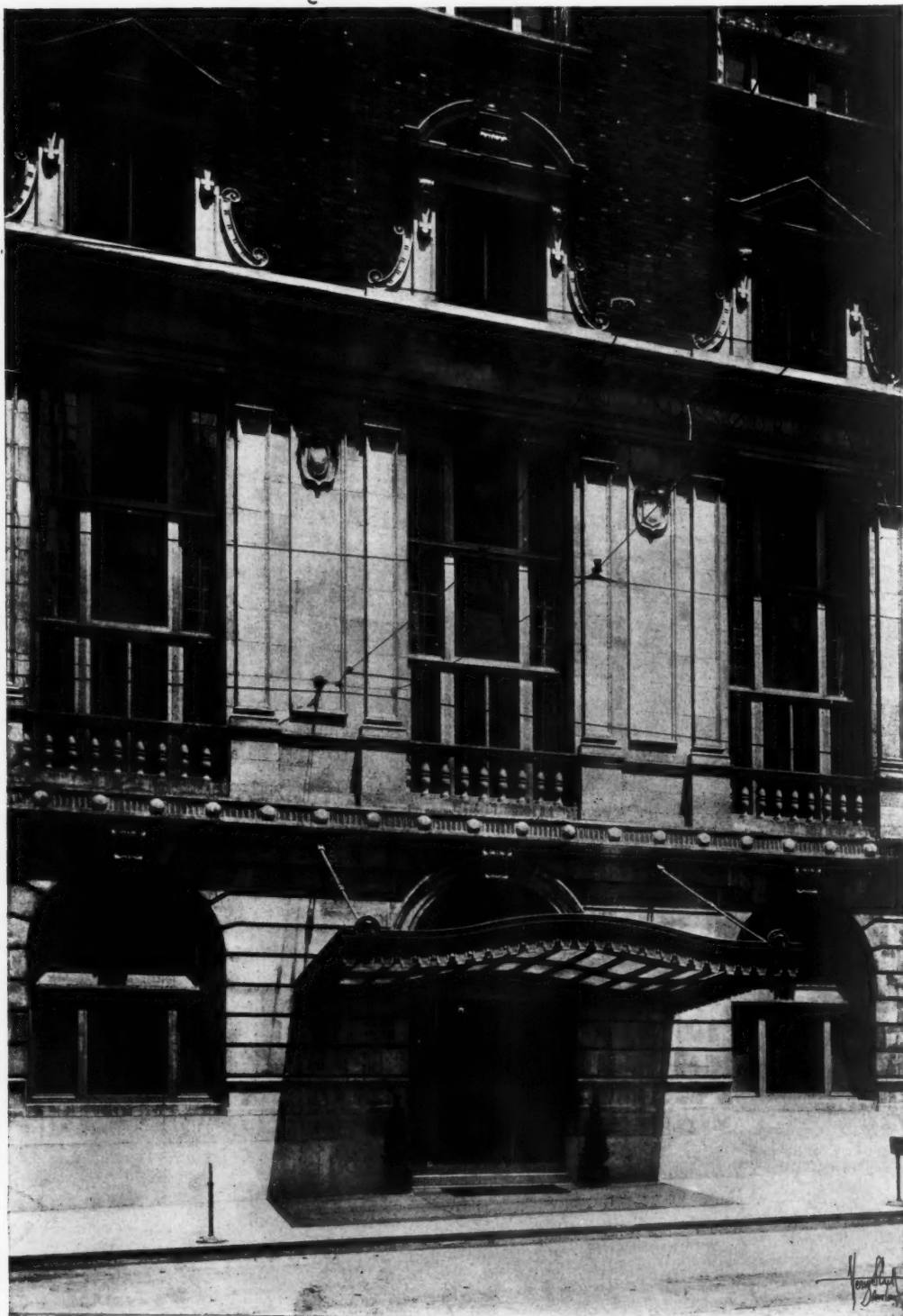
American District Steam Company, North Tonawanda, N. Y., has issued booklet "H," on modern methods for residence heating. These consist, according to this booklet, of heating from a central station. The advantages to be derived from central station heating, as tabulated, are as follows:

No heater required; no coal, ashes, smoke or soot to contend with; no danger from frost or fire; no care of a heating plant; lower insurance rates; more satisfactory service; more uniform temperatures and other incidental benefits, such as increased amount of useful space in basement; the cost of heating divided into monthly bills while heat is required; increased cleanliness, etc.

While the central heating station plan has been in effect for some years in connection with office buildings and large groups, the plan of heating residences from a central station, as discussed and illustrated in this booklet, is comparatively new, although it seems it has been long enough in practice to demonstrate its advantages.

Any information desired on this subject can be had upon request.

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