

THE AMERICAN ARCHITECT

FOUNDED 1876

ROBERT SWAIN PEABODY—TOWER BUILDER

1845—1917

By J. A. SCHWEINFURTH, F. A. I. A.

THE regular monthly meeting of the Boston Society of Architects, November 1st, 1910, took the form of a dinner in honor of Peabody and Stearns, who had just completed forty years of architectural practice. Among those present were veterans in the profession, ancient and honorable builders, a few seniors of that army of draftsmen who had served this firm in the years long since passed, and humble draftsmen of this day. Orlando W. Norcross, that great master builder, to whom the present age will

never know how much it is indebted, and Neil McNeil, who built well and quickly, each of whom had seen honorable service under this firm, helping them to realize their dreams, were there.

When this firm started in 1870, the professions of architecture and of building (for a real builder is as much a professional man as is an architect) were, in the light of their present development, in their childhood, if not in their infancy. It was the age of cast iron columns; beams were rolled of iron, not



CHARLES RIVER BRIDGE, BOSTON, MASS.

PEABODY & STEARNS, ARCHITECTS

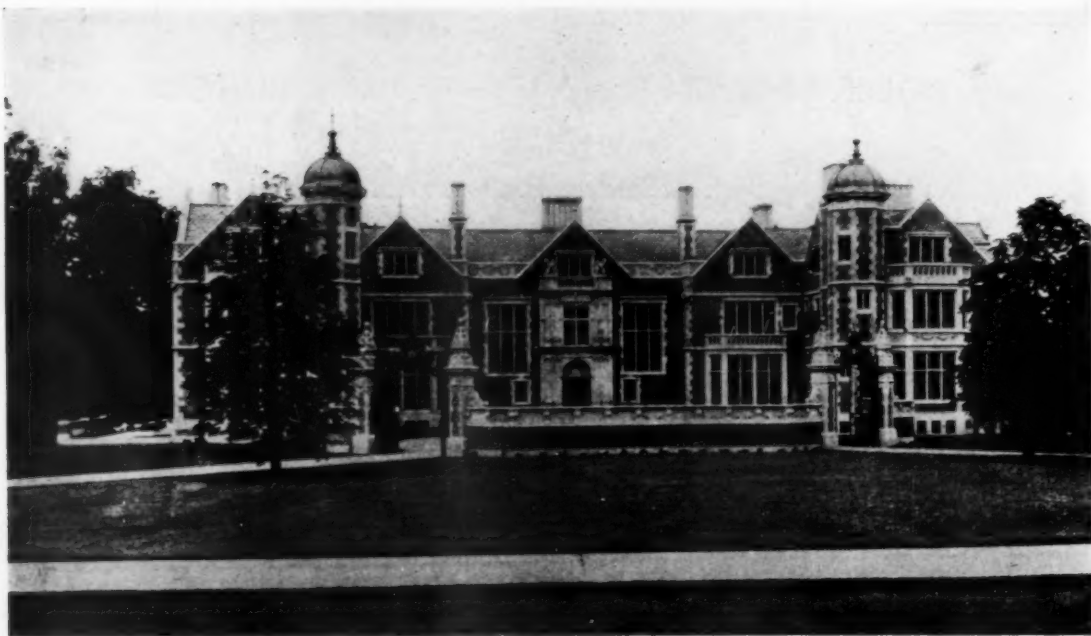
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steel; walls were built of solid masonry, and elevators had not approached their marvelous development. That vast flood of new methods of reinforced concrete and steel construction in its multitudinous forms had not yet rolled in to submerge all previous ideas of construction. Looking back from this age, architecture in those days was a comparatively simple proposition.

The eleven story Exchange Building in Boston by this firm, costing over two and one-half millions, was a large affair. Whereas the cost of building in those days was reckoned in hundreds of thou-

practical common sense could be profitably read and re-read by every architect through all time. So perfectly is this message expressed, and with such a solemn undertone, as were all this man's communications, that the reader may pardon these copious quotations.

"One of the greatest charms of our profession is the joyous atmosphere of youth and buoyancy and hope in which we work. The art itself is young with us. It is only within a few years that architecture has become the lifework of thousands in our country, and if, in establishing the profession, we



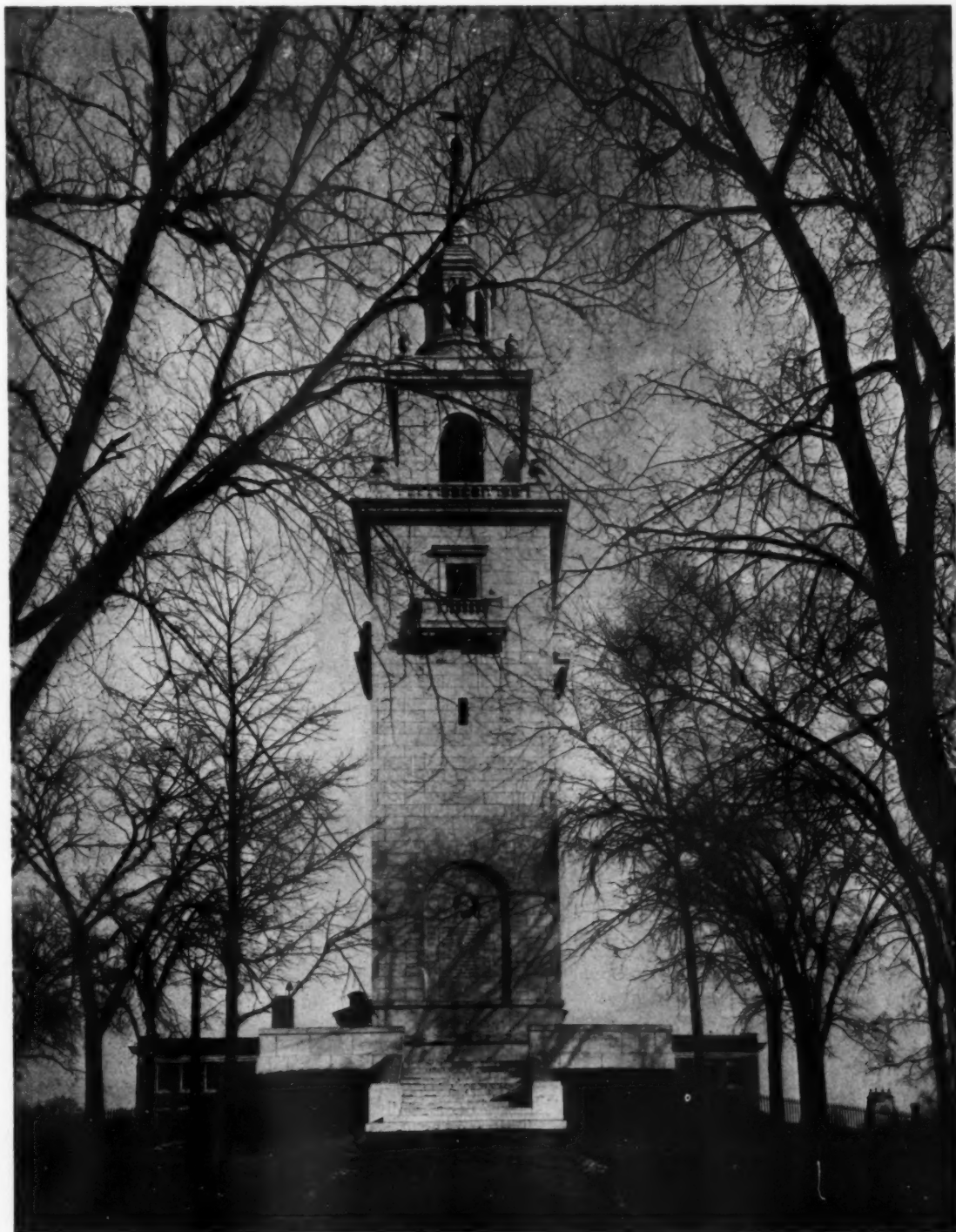
"PENSURST," HOUSE OF PERCIVAL ROBERTS, NARBERTH, PA.

PEABODY & STEARNS, ARCHITECTS

sands of dollars, now buildings costing many millions are commonplace. While architecture is the noblest of all the arts, it has its tragedies. Many of the creations of the past, ranking high in their time, are forgotten or destroyed to make room for others more in keeping with present requirements.

Robert Swain Peabody was the most enthusiastic and indefatigable worker of his time. Favored with a most remarkable ancestral background, he inherited those qualities of charm, of persuasiveness, of good nature, which, reinforced with all that education could do for such a fortunate subject, together with constant never-ending work, made him the gentleman architect that he was. With all his love for his art, he was withal practical—a most unusual combination. His address to The American Institute of Architects, of which he was President in 1900-1901, breathing cheer, hope, and stern

have made halting steps as artists, and if in the swift turn of the wheel of progress a man only too quickly comes to regret his early productions, yet we are all conscious of constant advance and full of faith for the future. We are all looking forward and not back. The assistants who form our office families and in co-operation with whom our work is produced are young. They are ambitious youths who, at home and abroad, have had every advantage of education in art or engineering. They and we work together in full belief that, even if the future of architecture does not lie with us, yet, at least, it is to have a great future here. Everywhere the pace set is that of youth, and the rapidity of our building operations makes our work so arduous and full of strain that the strong and vigorous only survive. There are no old architects among us. If an architect lasts at all, he lasts young."



"DORCHESTER HEIGHTS" MONUMENT, SOUTH BOSTON, MASS.

PEABODY & STEARNS, ARCHITECTS

"Those of us who have had as long a professional life as myself, remember that in our early days the world of architecture was going to be changed by adherence to Mr. Ruskin's formulas, if not by loyalty to mediæval ideas. Since, the pendulum has swung backwards and forwards, until we are coming to think that it does not matter whether the swing is to the right or to the left but only whether the clock thus regulated is true to time. The chief value of any new movement is to be found in what it produces, and I believe that when one produces the interesting results we sometimes see, it will be found that they rest on immutable laws well known and applicable to other and quite different work, and we shall find it passes for new only because of new or enthusiastic methods of presentation."

* * * * *

"Nobody can be found who sees things more simply or says them more squarely than Rudyard Kipling. Though he might not like the statement, he is like an American in his ability to see straight, without prejudice or convention. He has told us Homer's methods of design, and perhaps what was good enough for Homer answers for some of us."

When 'Omer smote 'is blooming lyre,
He'd 'eard men sing by land an' sea,
An' what he thought 'e might require
'E went and took—the same as me.
The market girls an' fishermen,
The shepherds an' the sailors, too,
They 'eard old songs turn up again,
But kep' it quiet—same as you.
They knew 'e stole; 'e knew they knowed,
They didn't tell, nor make a fuss,
But winked at 'Omer down the road,
An' 'e winked back—the same as us.

* * * * *

"Again, although he is not the first or only man to do so, Kipling has imagined the master of all good workmen setting artists at work anew in the life to come. He says the good painter may then 'Splash at a ten-leagued canvas with brushes of comet's hair.' Others have dreamed that in the master's workshop they might be set to design the more modest work of nature. But if it shall ever be the happy lot of one of us to design a white oak tree, we shall find it has to be done with time-worn details, with bark and leaves and twigs and buds and acorns. Yet, the happy adaptation of these to surroundings and circumstances, and their slight but infinite variations, make every white oak an individual, with its own character, and with a beauty that is ever new and fresh. In short, we get no great encouragement to original and fanciful 'motifs' from the works of nature."

In his address he further hopes that the Institute may prove itself worthy of its position as the na-

tional expression of a "hard working, scholarly, hopeful, youthful profession, to whom the necessities of bread winning are made light by love for the art they practice," and there is shown such a mastery of expression, of tact, of severity—a series of gems strung on a thread of steel—a statement of the ideals of one who was first of all a gentleman, then an architect.

With all his devotion to his professional work, he yet found time to enjoy reading besides more serious work of the day, Kipling, Uncle Remus' Tales of Br'er Rabbit and the Tar Baby and similar tales, and to contribute at various times to *Harper's Magazine*, the *Atlantic Monthly*, and other publications, to sail his small yacht, take a few trips abroad during which his pencil was ever busy. On his first trip abroad, made in 1869-1870, then a student, he made, on metallic paper, a large number of small but very charming pencil sketches which he published in 1873 under the name of "Note Book Sketches." This was the first time that an American architectural student had shown evidences of spending his time in making sketches or notes of what he had seen on his trip, and they were remarkable for the quality of line, and as showing his bent for the picturesque, and for all manner of towers, rather than the formal in architecture, a predilection he held through all his life. These sketches were the envy of all architectural students, and he was always helpful to those interested in them and would spend much time showing them "how," discoursing on the qualities of metallic and other papers and various other mediums. His favorite medium was the lead pencil, and in this he excelled, working not in pure, clean, beautiful line only, but often rubbing with his fingers, by which simple means he obtained astonishing results. And at this he was continually engaged as much for recreation as for work, and he would laughingly exhibit a sketch of the sea with a rising full moon, made by laying on the paper a small coin or a patch of paper and rubbing around it; endless Venetian and Mediterranean scenes, boats in Marblehead Harbor, sketches in France, England, Germany, and French Canadian cities, surreptitious sketches he had made on backs of envelopes while attending dull meetings or lectures. When his cuffs were laundered some of his cleverest sketches were lost to the world. A great admirer of Prout, Cotman, and other English painters and draftsmen whose work he constantly studied, tended to make his sketches more painter-like rather than architectural, culminating in his work in the *Ægean* trip referred to below. Some of his ancestors were seafaring men, and he therefore inherited a love for the sea and its atmosphere, and his indications of the sea, its clouds, boats, etc., showed how he reveled in it. There were always picturesque vessels, a rising moon, and clouds made by rubbing with his fingers. An ardent advocate of sketching, he was forever doing it, wherever he happened to be. He believed strongly

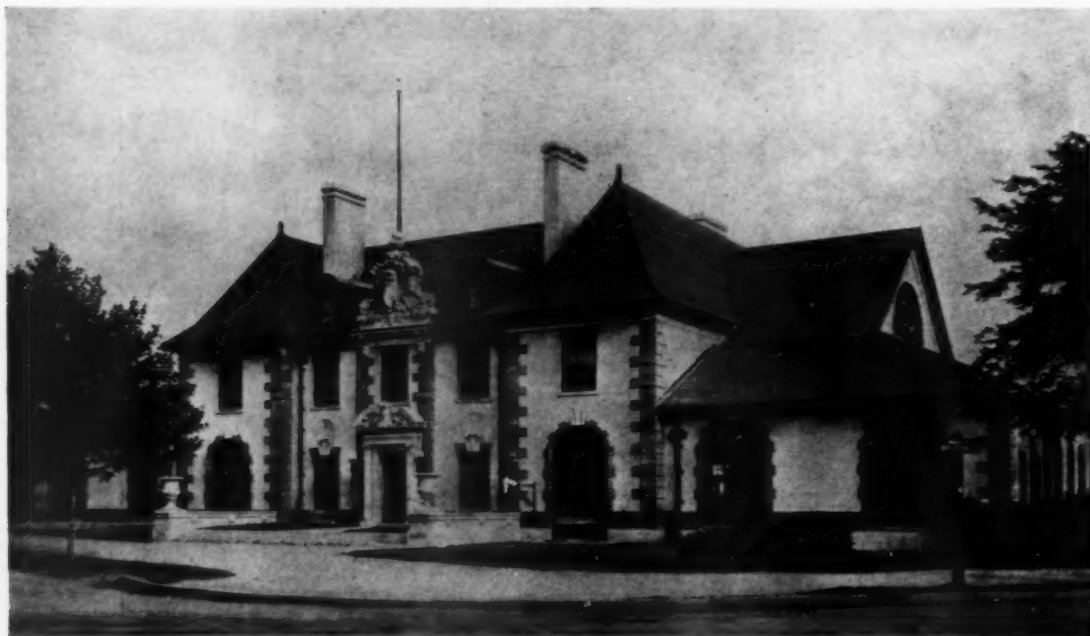


FISKE BUILDING, BOSTON, MASS.
PEABODY & STEARNS, ARCHITECTS

in the value of sketching for students of architecture, often recommending to the student that, "If you can't find anything else to sketch—sketch your boots!" And he was, apparently, the pioneer in this cult in America. In 1912 he published in his "An Architect's Sketch Book" a collection of illustrated essays as contributions to the "papers" read at the Thursday Evening Club, and he says "some of them have reached the dignity of publication in the *Atlantic Monthly*. Some are new, all of them are by-products of an active professional life, recording impressions gained in those portions of an architect's life which are as precious as they are in-

that of a monastery to which he had retired for rest and seclusion, and in the introduction says: "Made in bed or wheel chair and depending on the imagination of an invalid, the sketches are of a necessity crude." Here are the records of what he was privileged to see from the roof-terrace of the hospital. These drawings "will be a reminder that long idle hours can be passed happily even during a long captivity."

Those who have followed the development of architecture in America during the last fifty years will agree that he was ever in the forefront of the advance. At first he was devoted to Gothic, as his



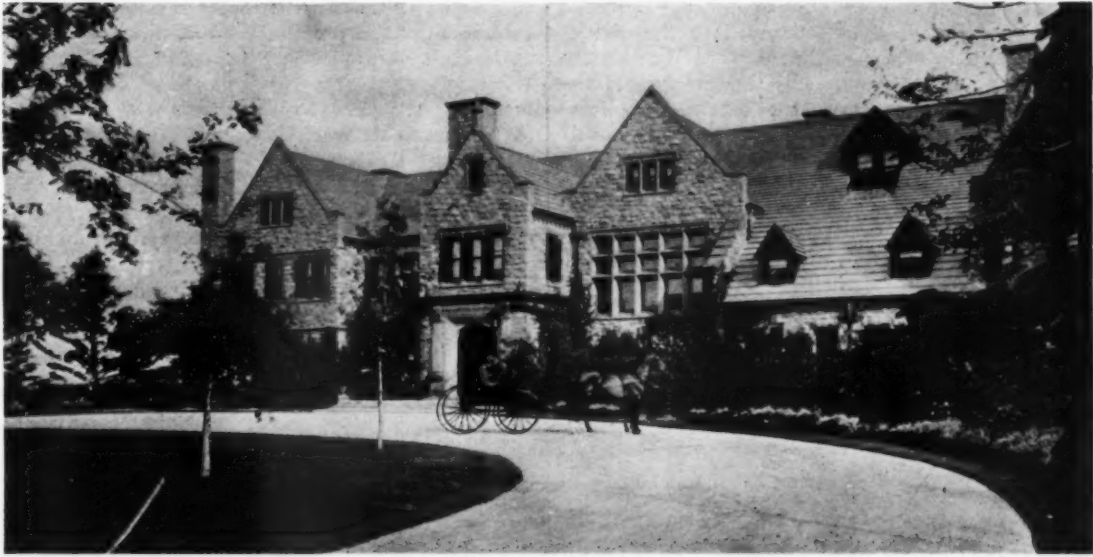
WELD BOAT HOUSE FOR HARVARD UNIVERSITY, CAMBRIDGE, MASS.

PEABODY & STEARNS, ARCHITECTS

frequent—his vacations." In the *Journal of the American Institute of Architects* of July, 1913, there appeared a lively account of the trip to Greece and the Aegean Seas under the auspices of The American Institute of Architects. The illustrations of this amusing and witty essay have a peculiarly fluent and joyous character, showing unmistakably the hand of a rollicking virtuoso of the pencil, out for play and recreation. And he played as hard as he worked.

In 1915 there appeared, with its ominous title, his "Hospital Sketches." Here for observation and treatment, he found his lifelong habit of sketching of superlative value. There are quotations from poets, essayists, novelists, with charming imaginative pencil illustrations of the scenes suggested by the quotations. He likened his isolation here to

early work will show, notably the Boston and Providence Railroad Station, long since demolished, with his first tower, the Hotel Brunswick in Boston, and other important business buildings, most of which have disappeared—but of importance and value in their day. Then came the New York Mutual Life Insurance Building in Post Office Square, Boston, which still remains one of his best works. In the so-called Neo-Grec style which Charles Garnier used in the creation of his Grand Opera in Paris, its principal feature being his second tower, a superb composition, most skilfully growing out of a facade with numerous windows to complicate the problem, it created a distinct impression on the architecture of the day. His first important Newport commission, for Mr. Pierre Lorillard, a great rambling brick and wood mansion in the Queen



HOUSE OF F. W. VANDERBILT, NEWPORT, R. I.



THE GREAT HALL, "PENSURST," HOUSE OF PERCIVAL ROBERTS, NARBERTH, PA.
PEABODY & STEARNS, ARCHITECTS

Anne manner, now long since destroyed, had a striking tower which added much to the picturesque grouping of the various parts, and distinctly "belonged" there. About this time he created the Hemingway Gymnasium for Harvard College, probably the first of the college gymnasium buildings in this country.

His contribution to the Chicago World's Fair, Machinery Hall, among the best and most interesting buildings there, had various towers—the only towers the writer knows of in this vast collection of buildings.

Colonial" here, he renewed it, exemplified its manifold beauties and practical adaptabilities in Boston and vicinity, from whence it spread throughout the whole country. From his smallest cottage at Bar Harbor to the greatest mansion in the Berkshires or at Newport, all were livable, homey homes. His clients liked them to live in, they were practical, and built with a business-like administration. That is, they were built from careful drawings and specifications by good mechanics, properly superintended with all the comforts carefully conserved. His large mansions were not cold palaces unsuitable for



REGISTRY OF DEEDS BUILDING, DEDHAM, MASS.

PEABODY & STEARNS, ARCHITECTS

The Town Halls at Clinton, Mass., and Worcester, Mass., the Dorchester (Mass.) Monument, the City Hall at Chelsea, Mass., the Fiske Building in Boston, practically a tower, and finally his last work, the U. S. Custom House at Boston, all testify to his feeling for towers, which was foreshadowed by his early student day sketches.

His majestic bridge spanning the wide placid reach of the Charles River at Boston, with its eight graceful arches with suitable approaches is, without doubt, the finest of all the bridges now spanning these beautiful waters.

Early in his career he had turned to the study of the Colonial architecture of America, and he and the late Arthur Little may be said to be the pioneers in this field, and Peabody from the first acknowledged as its leading exponent. The Father of "Old

American standards of living. They were cheerful homes. Such a reputation not only attracted clients, but positions in his office as draftsmen, assistants and students were eagerly sought for by young men from all quarters of the country. A list of young men who at various times have had the enviable experience of coming under this master's influence numbers several hundreds. In this list appear the names of many practicing architects of today, some having risen to eminence, but all who ever had this good fortune will remember those golden hours spent in the atelier of a real exponent, of "a hard working, scholarly, hopeful, youthful profession"—and with it all, a gentleman. They gained here an education and experience which could not be obtained at any school of architecture, of the practical operations of a first-class office, run on busi-



GROTON SCHOOL

PEABODY & STEARNS, ARCHITECTS



MACHINERY HALL, WORLD'S FAIR, CHICAGO



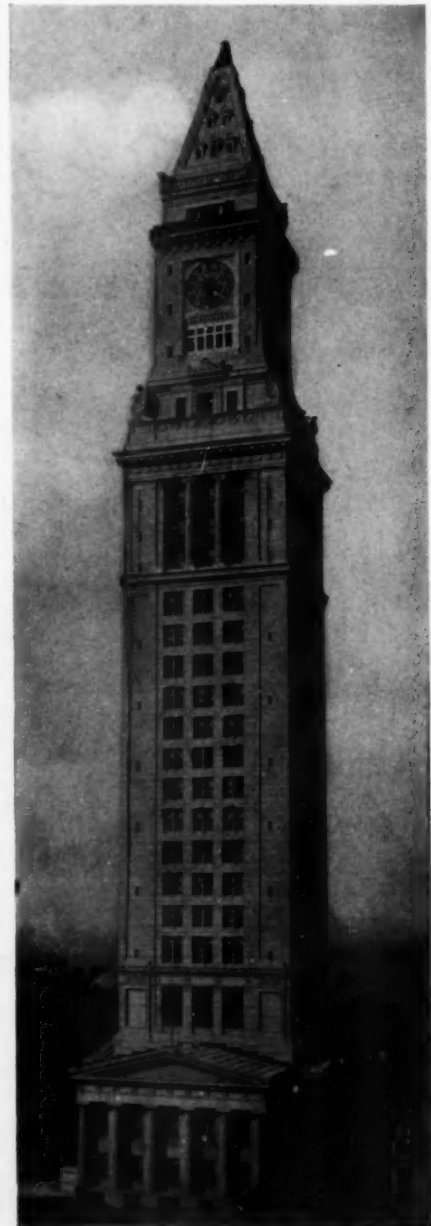
NEW YORK MUTUAL LIFE INSURANCE BUILDING, BOSTON, MASS.

PEABODY & STEARNS, ARCHITECTS

ness principles, led by men of high ideals and the soul of business and professional honor, which has been for them a firm and lasting foundation.

Joseph Wells, lover of the Renaissance all his life, and later a partner of McKim, Mead and White, spent some years here; and George A. Fuller (who later founded the George A. Fuller Construction Company) was chief draftsman here in the early years of the firm.

Mr. Peabody's capacity for concentrated work was unbounded. As an architect he was a master of all the operations in his own domain, only the restraints of the T-square and drawing instruments irking him. He was wont to remark that he had to do all the disagreeable work himself—the agreeable work he could get others to do. His ability was not restricted to design of scheme, of plan, of eleva-



U. S. CUSTOM HOUSE, BOSTON, MASS.

PEABODY & STEARNS, ARCHITECTS

tion, as he could and did write many a specification of a complicated building. And he could stop in the midst of this work and make a water color, or a pencil sketch, or decide the thousand and one questions arising in his office, confer with a client with the greatest affability, direct his assistants, and perform that repugnant surgical operation of cutting down his office force with such consummate tact that the discharged ones felt as if they were the recipients of a favor! He was, in short, the captain of his ship, which he knew intimately. That he was public-spirited, will appear when it is stated that in 1907 he was advisory architect to the Jamestown Exposition, and in 1907-8 he was appointed as the architect member of the Metropolitan Improvement Commission which made a thorough investigation of the possibilities of improving Boston Harbor and the whole metropolitan district, and submitted an elaborate report thereon. In 1910 he was appointed to the Board of Commissioners of the Park Department of the City of Boston, a work in which he was greatly interested, calling for a great amount of time and labor, which he gave freely—and it is well known that the public parks of Boston benefited greatly thereby. Much fine landscape and architectural work was accomplished during his incumbency of office.

The following, one of many examples, will illustrate his charming, tactful persuasiveness which has been previously referred to: The working drawings and specifications were completed for a large Newport "cottage" for a wealthy client of the ancient, historic house of X. Mrs. X did not entirely love these plans, and the whole scheme was in peril. The architect sent for the contractor, and together they attended a final conference at the X mansion in Newport, where Mrs. X in no uncertain manner voiced her objections and would not have the house at any price. A protracted discussion ensued which lasted from seven o'clock in the evening till two o'clock in the morning, at which time Mrs. X was anxious to proceed with the unaltered plans at once. Accordingly, the contractor signed the contract, wired his foreman in Boston to send down ten men

by the first train in the morning—which was done, and a two hundred and fifty thousand dollar "cottage" was launched.

Of those who knew Mr. Peabody, questioned as to their opinion of what constituted his greatest work, some have said it was his influence on the men in his employ; some, his country houses at Lenox and elsewhere, which appear to belong to their location, to grow from the soil, as much as do those baronial halls and manor houses of England, that land of homes; others to his sponsorship of Colonial architecture in this country; and still others say that in the multitude of his activities he produced so much that was far ahead of his time that it is difficult to make comparisons.

His profession recognized his leadership and awarded him its highest honors.

In the brief limits of this article, it is, of course, impossible to do justice to such a career, or to do more than briefly mention John G. Stearns and his part in the success of this firm. His was the responsibility of seeing that those vast building operations were properly carried out, a consideration fully as important as design, and by counsel and criticism fulfil the part of a true partner. The senior partner was wont to call Stearns "another wife," which shows how sacred he regarded a partnership. Future biographers will find a rich mine in the career of both these men. History is said to be, on the whole, blind Justice. But when it has to do with art it becomes more complex and often controversial. We have lived to see how architecture has progressed in this country during the last fifty years. And Robert S. Peabody always led in this advance. His contemporaries, that vast army of former clients, architects, draftsmen, rapidly decreasing with the passing years, have no doubts as to his high place in his profession, or his place in any impartially recorded history of the development of architecture in the past fifty years in this country. It is in the hope of reaching those later men who have not been through these lean years that these few inadequate words are written.



"WHEATLEIGH," HOUSE OF H. H. COOK, LENOX, MASS.



MEMORIAL TO
UNITED STATES NAVAL MEN
LOST AT SEA

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THIS MEMORIAL WILL REPRESENT A HUGE BILLOW OF BRONZE WITH SEVEN GULLS HOVERING OVER ITS CREST, AND WILL REST ON A GREEN GRANITE BASE 138 FEET LONG; THE HEIGHT OVER ALL TO BE FORTY-TWO FEET. CONGRESS HAS ALREADY GRANTED THE NECESSARY LAND ON THE POTOMAC PARK SPEEDWAY, WITH THE POTOMAC RIVER FOR A BACKGROUND.

INLAID IN THE GRANITE STEPS WHICH WILL RISE TEN FEET FROM THE GROUND ARE THE SEALS OF THE FORTY-EIGHT STATES, AND THERE WILL ALSO BE ENORMOUS BRONZE PLAQUES DEDICATED TO VARIOUS FORMS OF MARITIME ACTIVITY.

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BEGNI DEL PIATTA,
SCULPTOR

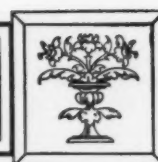
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HARVEY WILEY CORBETT,
ARCHITECT





EDITORIAL COMMENT



ACHIEVING a new high record for 1925, construction of homes, public buildings, railroads, harbor works, and water supply systems, has overtopped the automobile industry, formerly the Nation's largest manufacturing industry, and has become a major factor in its economic life, according to a statement by the Department of Commerce, states the *Monitor Review*.

This statement analyzes reports for the past year compiled by the division of building and housing, and emphasizes the growing importance of the construction industry to every other phase of American industry. "Only recently," it is stated, "has the building of houses and public works been clearly recognized as a single industry."

"The importance of the construction industry is hard to overemphasize," the department declared. "Variations in construction activity from year to year have a large share in determining the prosperity of other major industries, such as railways and lumber mills. Construction affects scores of manufacturing industries and bears some relation to retail trade and to the individual incomes of practically every family in the country."

"Existing construction underlies the whole economic organization of the country. The production of its manufacturing industries is carried on mainly in buildings, of course, but depends even more on the physical network of railways, highways, telephone and telegraph systems, and lines for the transmission of power and water, all of which are in large measure the products of construction. Living standards of the people depend very largely on the character of dwellings."

A notable development in construction noted during 1925 was the willingness of many owners and builders to adjust the rate of building projects to the available supply of labor and materials. The constant reiteration by Government authorities of the advantages of seasonal construction has also had its effect, and the last four years have seen successively larger building programs as a result.

The division of building and housing found that the increased building activities of 1925 were reflected in an 8 per cent increase in lumber production, 8.5 increase in purchase of cement, 13 per cent in shipments of fabricated structural steel, and 7 to 16 per cent in sundries such as tile plumbing fixtures, and architectural terra cotta.

Building material prices and labor costs, after violent fluctuations, have settled to an apparently stable basis and showed less variation for 1925

than at any time since the war, another fortunate result of seasonable building programs.

Contracts awarded for all types of construction in 36 states, according to the Commerce Department, represented a building value of more than \$5,822,000,000, a 30 per cent increase over 1924. The value of building permits in 168 selected cities was 18 per cent. higher than in 1924. It is estimated that total construction contracts for the whole country were valued at more than \$6,600,000,000. Some of this represented work to be carried on in 1926, but the Department of Commerce estimates that construction actually carried out in 1925 amounted to about \$6,500,000,000.

The continued prosperity of the buying public, combined with the movement for better homes within the means of the average citizen, has stimulated residential building. Contracts for home building in 36 states were valued at \$2,672,000,000, a 30 per cent. increase over the previous year.

The housing shortage which became serious in 1921 as a result of cessation of building during the year has not yet been wholly made up, according to the Division of Building and Housing. Commenting on the demand for an improved type of residential construction, the report states:

"The average family now demands better accommodations than it occupied in 1913; perhaps smaller, but containing more expensive features and equipment. The movement of families in moderate circumstances to more attractive surroundings in the outskirts and suburbs of cities, made available by the automobile and various forms of rapid transit, is characteristic."

The zoning idea, an attempt to introduce order into city planning, is taking hold in an encouraging way, and the effort of the division of building and housing, which has for several years conducted special studies on zoning and maintained a central information bureau for municipalities interested in zoning, has paved the way for a general adoption of zoning systems.

The standard state zoning enabling act, prepared by the Department of Commerce, has been used as a model by 19 states, and more than 425 cities, towns and villages have adopted zoning systems, according to reports received at the department. Over 92 new zoning ordinances were adopted in 1925, and important court decisions in New York, Ohio, Illinois, and California upheld the legality of these ordinances.

THE American Construction Council of New York City has recently issued a pamphlet containing suggestions to investors and owners as to the buying of real estate securities. In no field of investment is there needed more caution, or a more conservative point of view than in the purchase of bonds secured by a certain building. The pamphlet very properly places first the injunction to deal only with reliable investment houses or other loaning institution.

While the architect will, or at any rate should, have the knowledge to enable him accurately to estimate the investment value of a building, the general public will not. It can, therefore, only receive information from those directly interested in the building, or better yet, the investment company placing the loan. Reputable houses, with records of years of safeguarding the interests of investors, may be relied on as sources of information, and it is only through the representation of such organizations that the investment public may reach a safe conclusion.

The other points as set forth in the pamphlet are: the purpose of the building, the character of

location, the general type and design, the quality of construction, the earning capacity and finally the building management. These points the American Construction Council correctly sets down as the vital ones in determining investment value.

It is gratifying to note that good architecture and honest construction are stressed in this pamphlet. It indicates that hard-headed business men who, as a rule, are not impressed by art, are today agreed that there is a very measurable asset in good architecture: that there is a certain pride of occupancy on the part of tenants and that good architecture plus honest construction equals a sound investment.

"Certainly," states this pamphlet, "no question is of more far-reaching scope or greater importance to all elements of our citizenship than the question of better buildings."

Let the uninformed investor confine his transactions through reputable investment houses and he may sleep o' nights as to the security of his money. With such assurance, backed by the opinion of his architect, building loans become comparatively safe investments.



TEMPLE OF MEDINET HABOU

(From a photograph contributed by Welles Bosworth)



NOTES ON ILLUSTRATIONS OF

WORK BY W. OLTARGEVSKY, ARCHITECT, MOSCOW, RUSSIA, AND NEW YORK

PINEWALD COUNTRY CLUB. Will be erected near Lakewood, N. J., in the midst of a pine forest. The building is of wood and stucco. The ground floor contains two locker rooms for 250 persons (men and women). On the same floor are the lounge room, grill room for men, toilets, kitchen, boiler, etc. The upper floor is connected with the ground floor by internal staircases and also independent outside staircases leading to an open terrace surrounding the whole building. On the upper floor are situated a restaurant with dancing floor, grill room for women and card room and the necessary auxiliary rooms.

Textile Pavilion: This is one of the fundamental buildings of the International Exposition in Moscow. It is of temporary character, wood, stuccoed. Its external architecture expresses a classical scheme applied to the conditions of modern reinforced concrete construction. The pediment and entrances are embellished by frescoes representing characteristic scenes of the production of textiles.

The building consists of two symmetrical parts connected by a portico serving for communication on the level of the ground floor and the upper floor.

A Hunting Lodge in the Woods: A wooden building erected in a virgin forest far from any human dwelling and intended as place of rest for sportsmen. Similar lodges were erected in Russia on the estates of wealthy noblemen who used to arrange hunting parties at a distance of many miles from home.

On the ground floor are the dining and living room, and on the upper floor the bedrooms.

Grand Stand for Moscow Horse Show: A temporary wooden structure erected inside the existing enormous building of the "Maniege," a military drilling hall near the Kriml.

This structure represents tribunes—seating 6000 people—has an elliptical plan on both ends of which are pavilions for restaurants. The whole structure can be taken apart and requires four days for its erection during the annual horse show.

A country house: This is situated near Moscow on a large estate. It is a stone building, containing 17 large rooms, a winter garden and a private chapel. The owner intended to bequeath the building for an orphanage and therefore the building bears a more monumental character than usual for a country home. The exterior and interior designed in the Russian "Empire" style.



FRONT ELEVATION

TEXTILE PAVILION, ALL RUSSIA AGRICULTURAL AND INDUSTRIAL EXPOSITION, MOSCOW

W. OLTARGEVSKY, ARCHITECT

THE AMERICAN ARCHITECT
September 5, 1926 PLATE 210

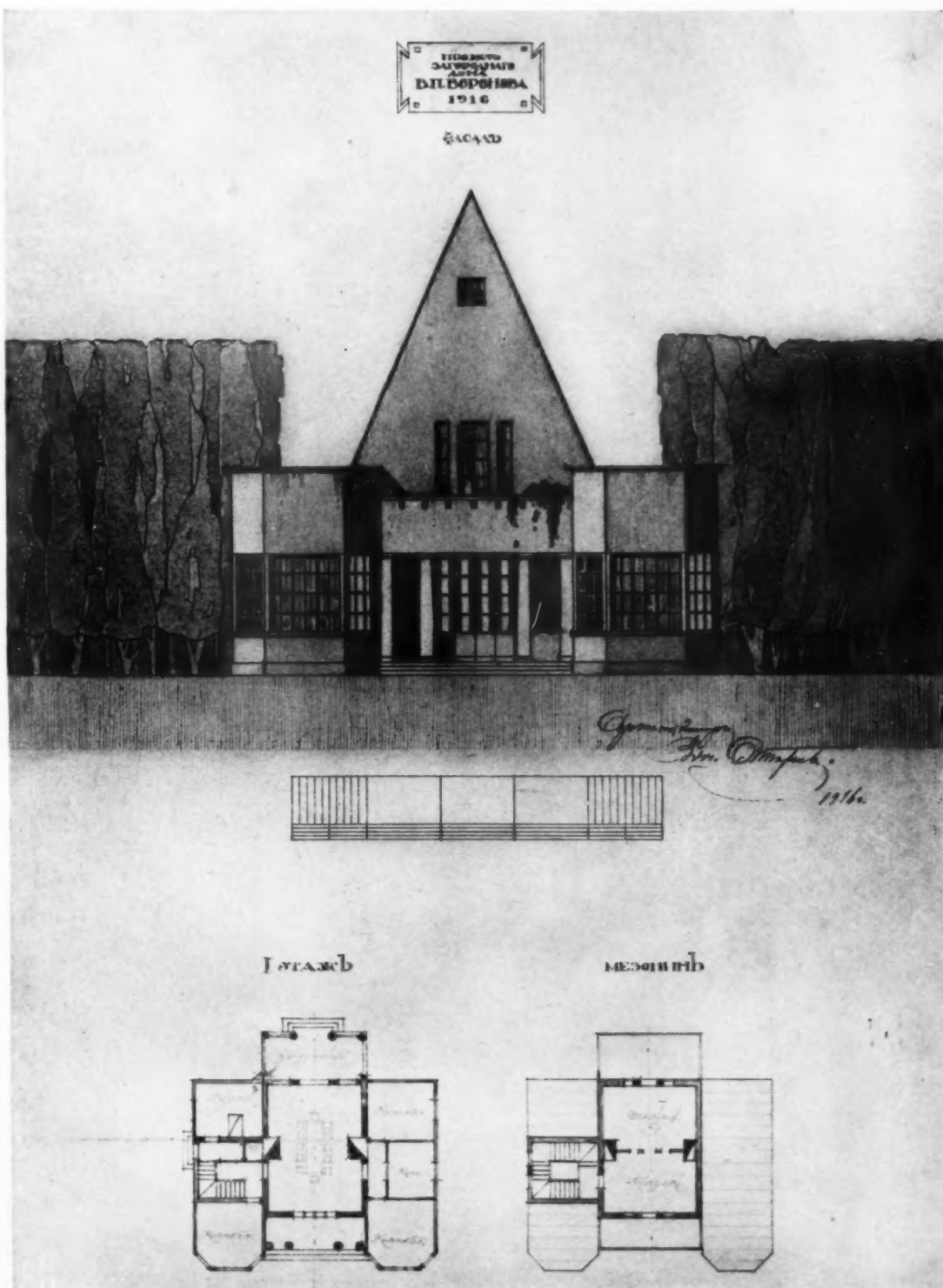


SIDE ELEVATION

TEXTILE PAVILION, ALL RUSSIA AGRICULTURE AND INDUSTRIAL EXPOSITION, MOSCOW

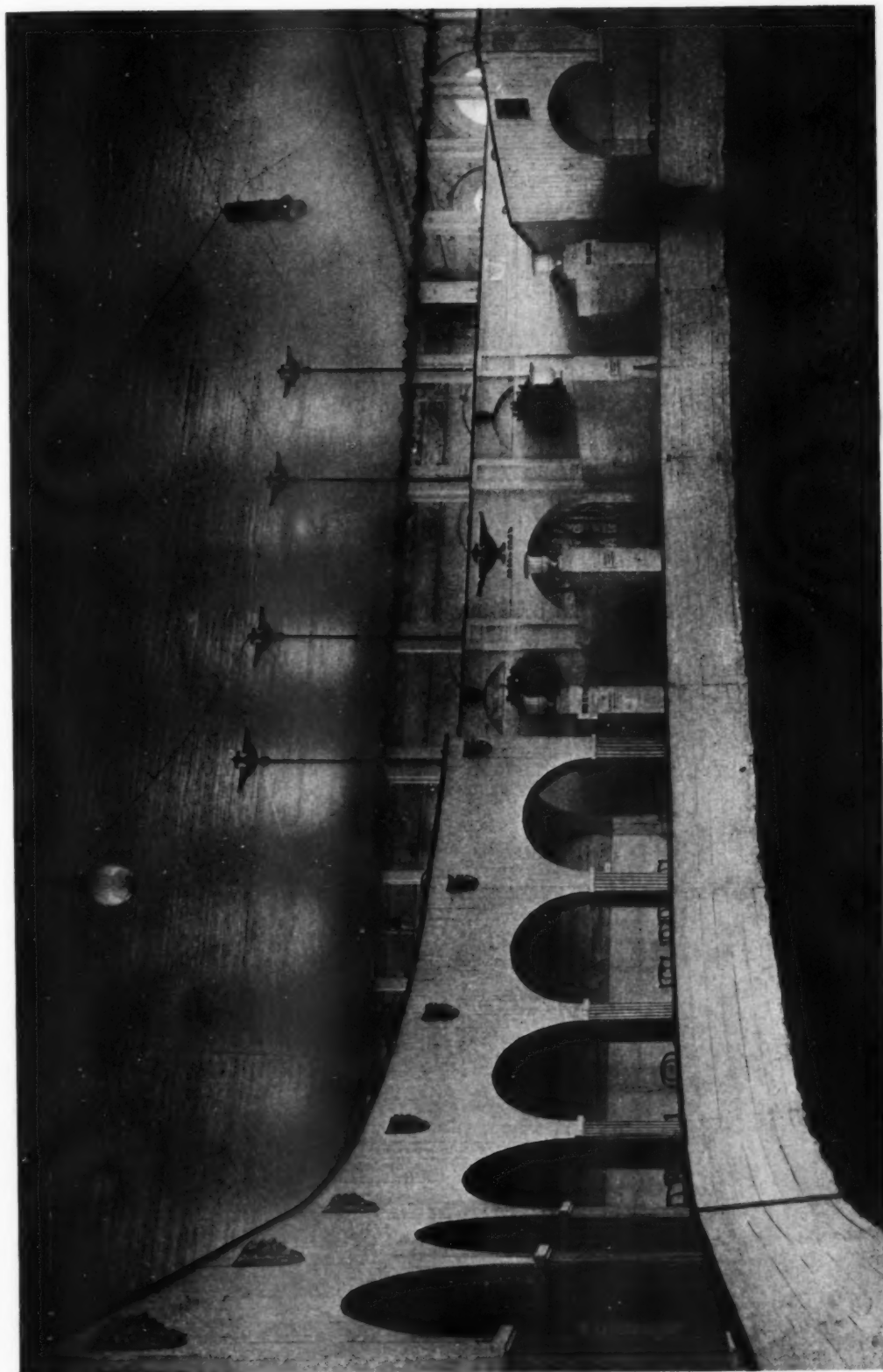
W. OLTARGEVSKY, ARCHITECT

THE AMERICAN ARCHITECT
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A HUNTING LODGE IN THE WOODS

W. OLTARGEVSKY, ARCHITECT



GENERAL VIEW OF GRAND STAND (TEMPORARY STRUCTURE) MOSCOW, RUSSIA. HORSE SHOW

W. OLTARGEVSKY, ARCHITECT

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DETAIL OF GRAND STAND (TEMPORARY STRUCTURE) MOSCOW, RUSSIA. HORSE SHOW

W. OLTARGEVSKY, ARCHITECT

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September 5, 1926 PLATE 214



EXTERIOR OF LIVING QUARTERS, A RUSSIAN COUNTRY HOUSE, WITH CHAPEL

W. OLTARGEVSKY, ARCHITECT

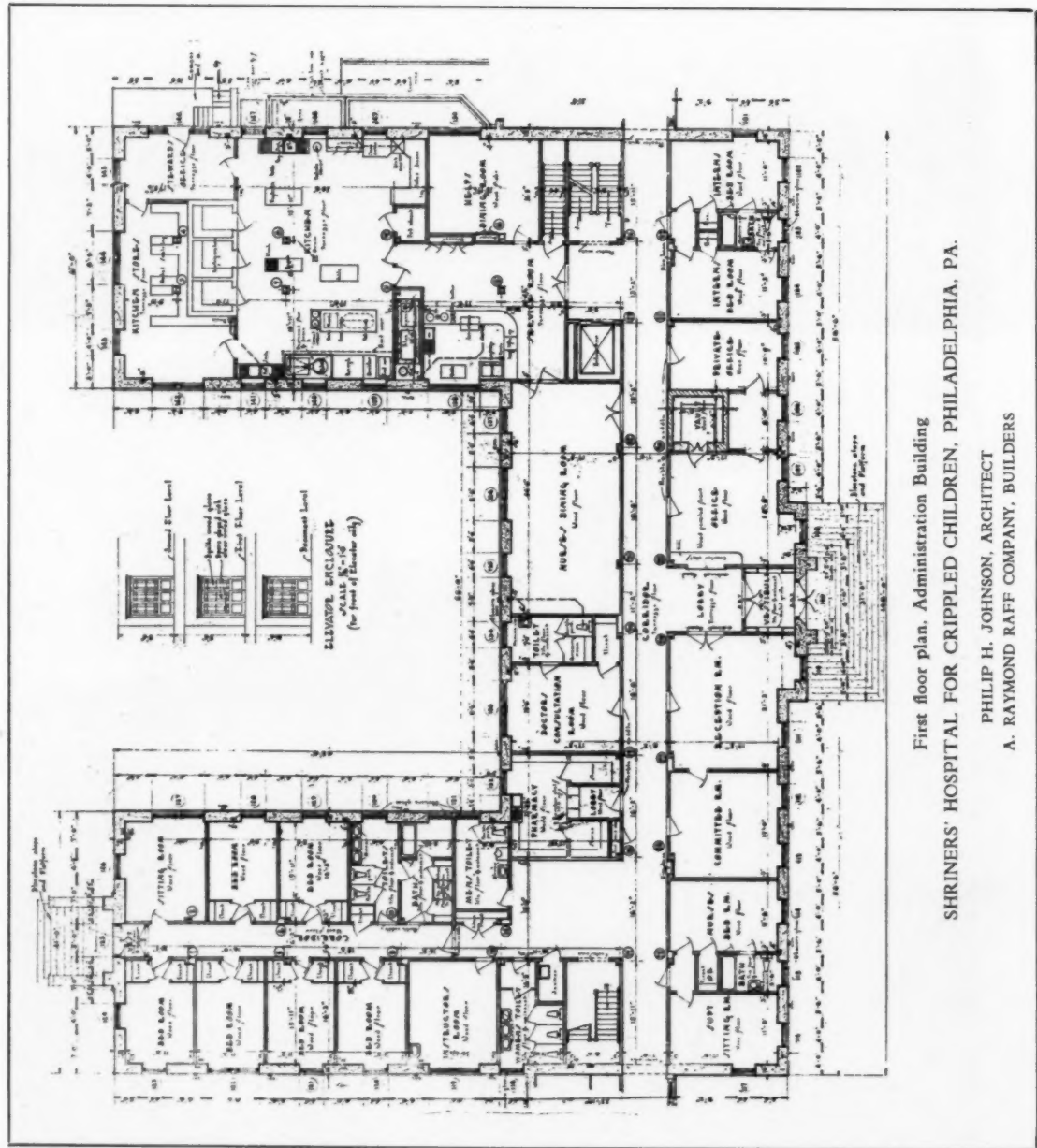
THE AMERICAN ARCHITECT
September 5, 1926 PLATE 215



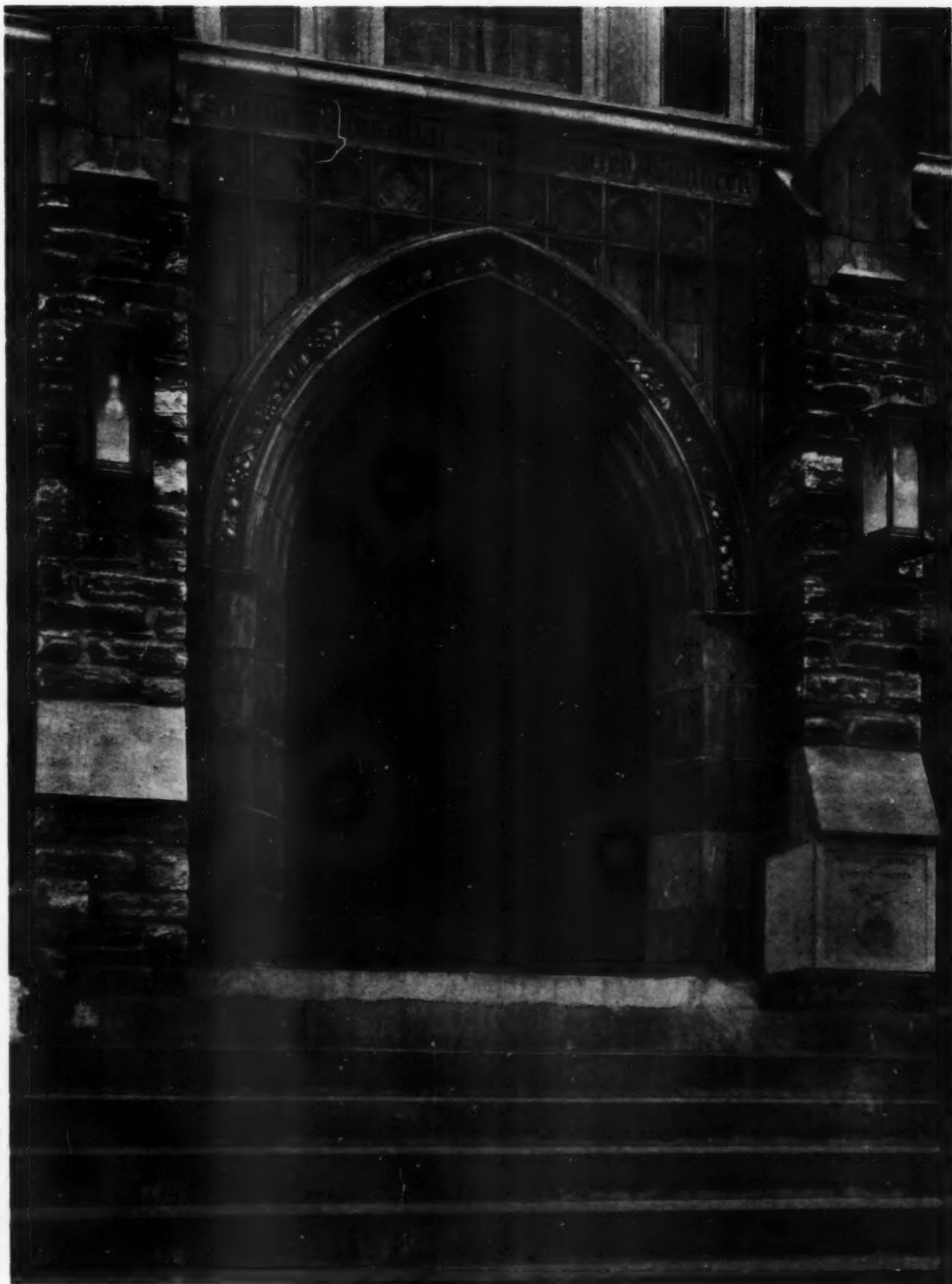
SHRINERS' HOSPITAL FOR CRIPPLED CHILDREN, PHILADELPHIA, PA

PHILIP H. JOHNSON, ARCHITECT
A. RAYMOND RAFF COMPANY, BUILDERS
(See plan on back)

THE AMERICAN ARCHITECT
September 5, 1926 PLATE 216



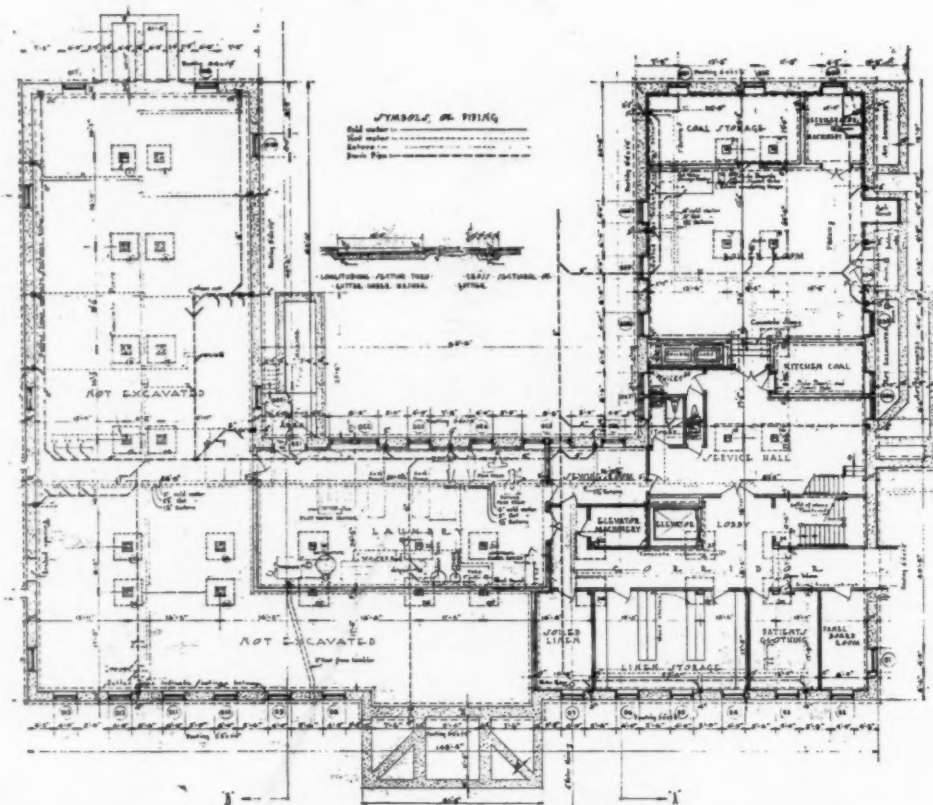
First floor plan, Administration Building
 SHRINERS' HOSPITAL FOR CRIPPLED CHILDREN, PHILADELPHIA, PA.
 PHILIP H. JOHNSON, ARCHITECT
 A. RAYMOND RAFF COMPANY, BUILDERS



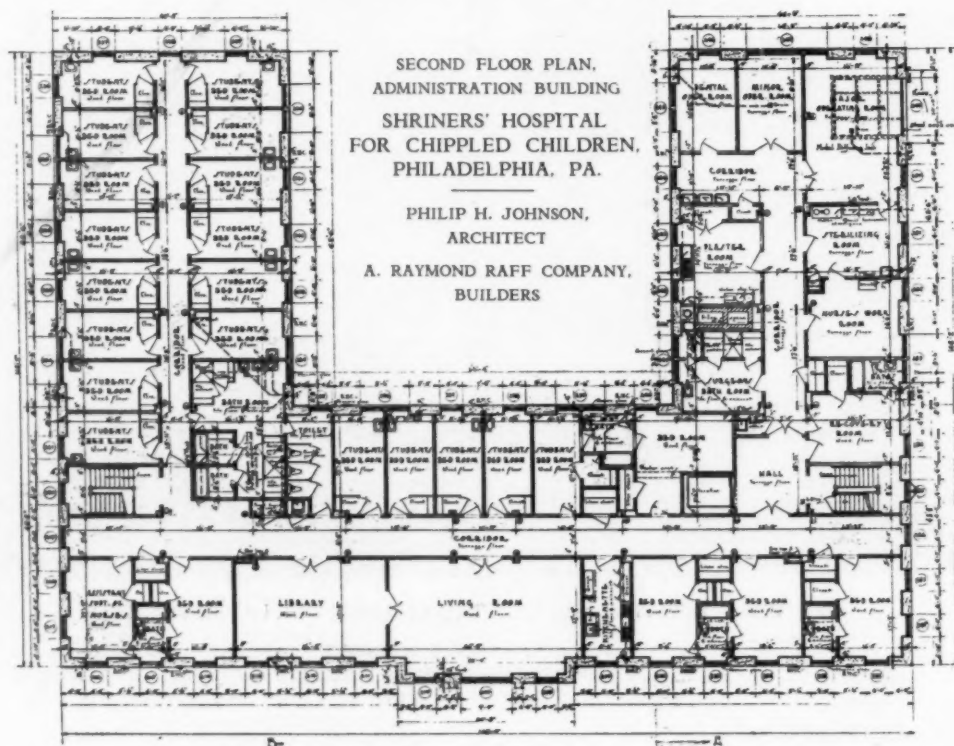
SHRINERS' HOSPITAL FOR CRIPPLED CHILDREN, PHILADELPHIA, PA.

PHILIP H. JOHNSON, ARCHITECT
A. RAYMOND RAFF COMPANY, BUILDERS
(See plans on back)

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BASEMENT PLAN, ADMINISTRATION BUILDING



PHILIP H. JOHNSON,
ARCHITECT

A. RAYMOND RAFF COMPANY,
BUILDERS

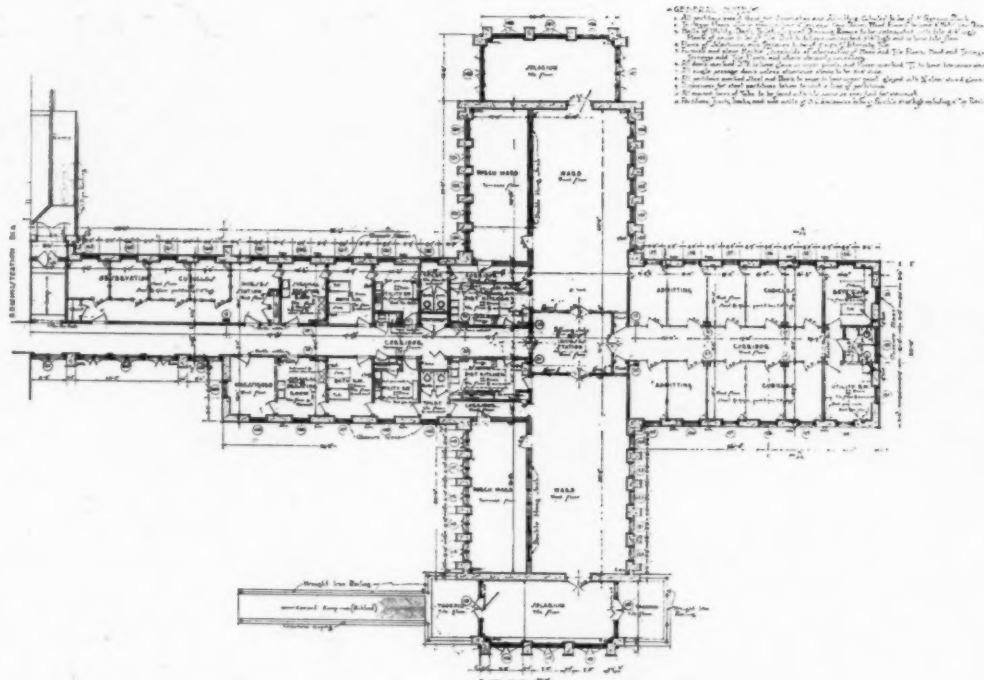
THE AMERICAN ARCHITECT
September 5, 1926 PLATE 218



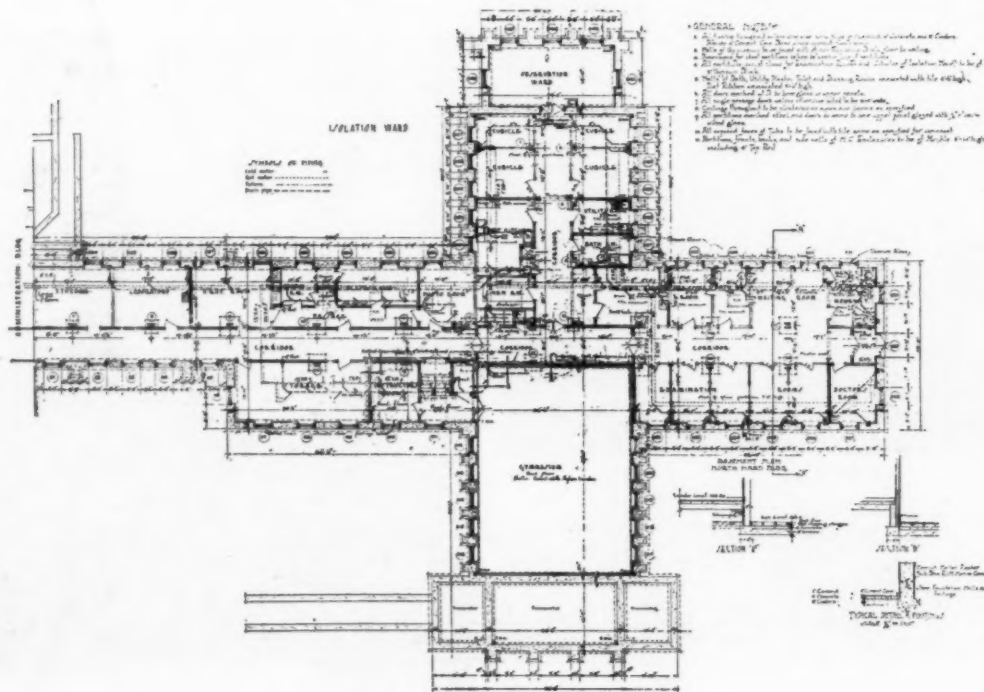
SHRINERS' HOSPITAL
FOR
CRIPPLED CHILDREN

PHILADELPHIA, PA.
(See plans on back)





FIRST FLOOR PLAN, NORTH WARD WING



BASEMENT FLOOR PLAN, NORTH WARD WING

SHRINERS' HOSPITAL FOR CRIPPLED CHILDREN, PHILADELPHIA, PA.

PHILIP H. JOHNSON, ARCHITECT
A. RAYMOND RAFF COMPANY, BUILDERS

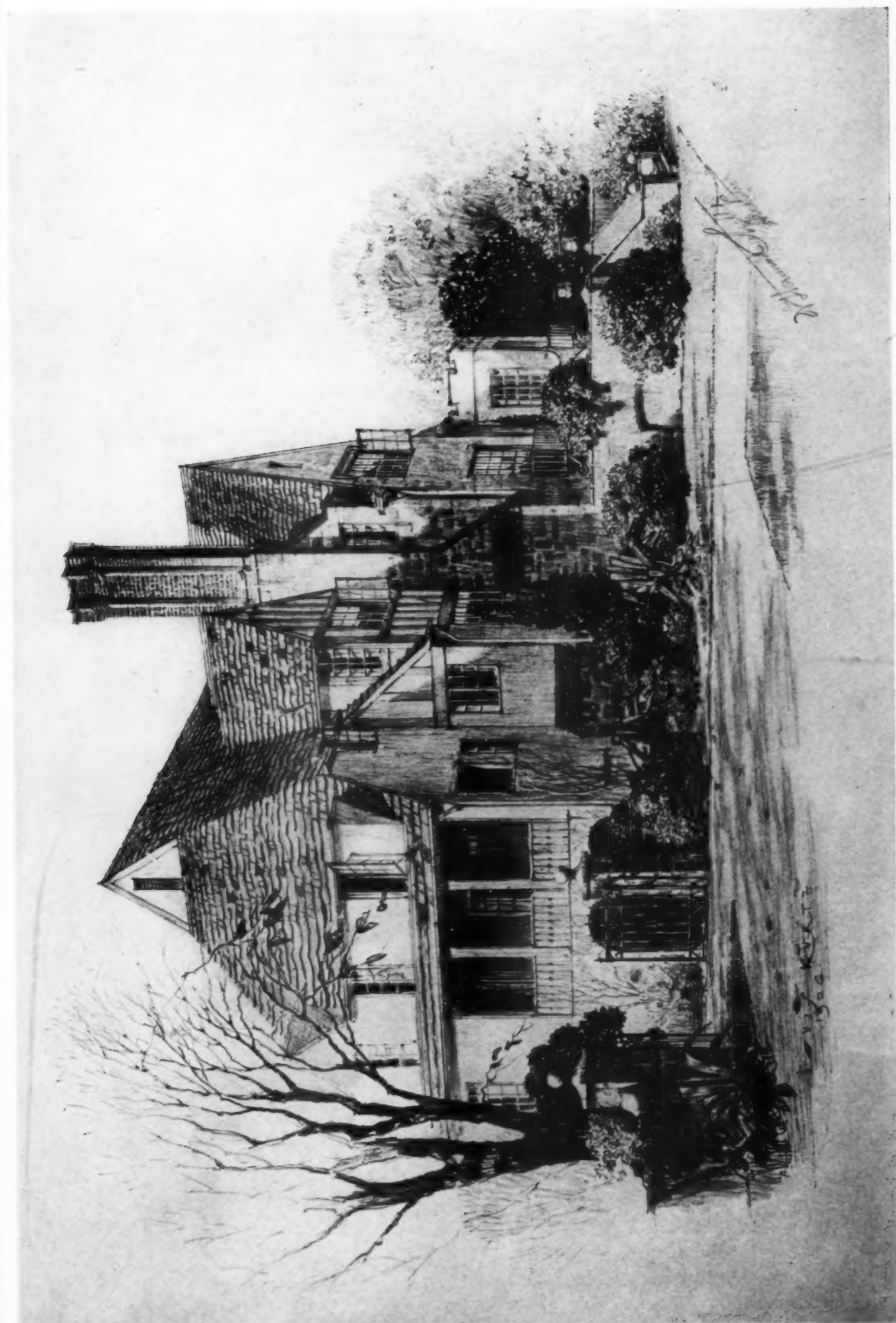


DADE COUNTY COURT HOUSE AND MIAMI CITY HALL, MIAMI, FLA.

A. TEN EYCK BROWN, ARCHITECT—AUGUST GEIGER, ASSOCIATE ARCHITECT

THE AMERICAN ARCHITECT

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HOUSE AT RIVERDALE, N. Y.—W. STANWOOD PHILLIPS, ARCHITECT
FROM THE ORIGINAL DRAWING BY LOUIS KURTZ

THE AMERICAN ARCHITECT
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INTERIOR ARCHITECTURE

THE DECORATIVE QUALITIES OF METALS

THE prevailing interest in the architectural and decorative designs of the old Spanish, in which wrought iron often plays such a prominent part, has resulted in the awakening of modern American designers to the possibilities and opportunities of the metals as a means of structural ornamentation. In fact, a careful and comprehensive study of the methods employed by the old-time craftsman, whose genius gave such character and distinction to Spanish architecture and decoration, has been largely responsible for a renewed interest in the metals and a material aid in the development of the crafts generally in this country. The structural

properties alone of such metals as iron, brass and bronze, would practically insure their frequent use in architectural design, while their decorative value, when used either alone or in conjunction with other materials, is not to be questioned. Walter W. Kan-



BRONZE DOORWAY TO CHILDS' RESTAURANT, FIFTH AVENUE, NEW YORK CITY

WILLIAM VAN ALLEN, ARCHITECT

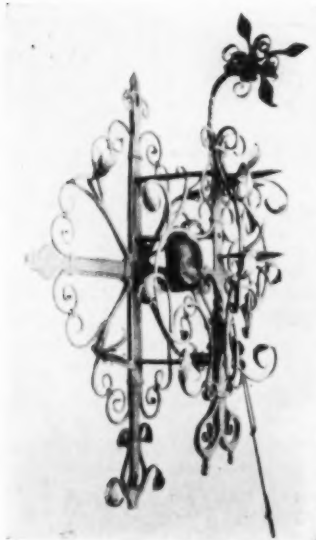
THE DECORATIVE QUALITY OF THE METAL IS EMPHASIZED BY CURTAINS OF A BRONZE COLOR AND APPROPRIATE DESIGN

(Courtesy Copper & Brass Research Association)



CAST BRONZE ELEVATOR DOOR IN AN OFFICE BUILDING IN NEW YORK CITY

BUCHMAN & KAHN, ARCHITECTS



HAND WROUGHT IRON OFFERS OPPORTUNITY FOR EXPRESSION OF THE SKILL OF THE CRAFTSMAN

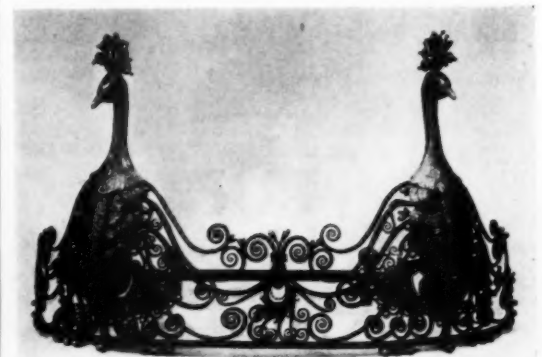
other mediums lack, and which, when used in connection with other materials, help to enhance and bring out their inherent beauty. The varying colors of metals, the fact that metals reflect light, thus giving highlights to our walls and furnishings, the endless possibilities for the expression of refinement and dignity which the various metals present, make them of inestimable value as a component part of our decorative work. It seems hardly neces-

sary to enumerate the many ways in which metals have been employed in the past, but it might well be deplored that in improving the mechanical features of such items as door hinges and kindred objects the decorative possibilities of these fittings have been almost entirely eliminated. I hope we will soon commence to combine such artistry as the past presents with the mechanical progress made in more recent times and thus take fuller advantage of our resources. * * *

tack, in speaking on this very subject before the Art - in - Trades Club of New York City recently,—a subject with which, by experience, he is familiar — said: "I believe we are agreed that beautiful metal objects have great decorative value, both in and of themselves, and in combination with other materials such as wood, glass, marble, plaster, fabrics, etc. Metals have many qualities which these

"It will, no doubt, be agreed that the raw metals have themselves little decorative value; therefore the finished metal object is really an expression of the quality of thought which has entered into the designing and fashioning of it. The symmetry, grace, strength and beauty, expressed by an object, do not inhere in the metal, but in the manner in which it has been handled. * * *

"As regards remembering the nature of the material, this is highly important in the field of decorative metalwork. We all appreciate that the



AN ATTRACTIVE AND UNUSUAL DESIGN FOR ANDIRONS IN WHICH THE DECORATIVE QUALITY OF HAND WROUGHT IRON IS TAKEN ADVANTAGE OF



FURNITURE THAT IS GIVEN SPECIAL CHARM BY THE COMBINATION OF IRON AND WOOD

(In the Landscape Architects' Exhibition at the Arden Gallery)

various metals have their own individual characteristics. Iron and steel, for example, have stood first of all for strength and power. Even when used for jewelry they reflected the financial strength of their owners. Gold and silver, on the other hand, being more rare and less rugged, were used for adornment and such utilitarian purposes as did not call for great strength. Therefore in designing and selecting our decorative metalwork it should always be remembered that the structural portions of our work should be executed in metal which itself possesses and expresses strength and is actually capable of carrying out the purpose for which it is employed, whereas the ornamentation may be of finer metal. For instance, if we are working in a combination of iron and brass, it would seem best to use the iron for the structural parts and relieve it with the brass, instead of reversing this order. In using brass and lead we would use the brass for structure and only employ the lead where

it would not be called upon to withstand a strain which its rather soft and pliable nature could not carry. Another consideration should be the relative values of the metals employed, always using the one of lesser value as a background to offset the beauty and richness of the more valuable one.

"Metals are also susceptible to treatment in color as well as texture. In this case it is important to know how metals act when exposed to climatic and other conditions for a period of time. This is extremely important in our prevalent custom of giving present day manufactured articles an appearance of age. Sometimes we see artificial oxidation and coloring which could never possibly be obtained by natural ageing and is quite contrary to the natural characteristics of a metal. Here, again, it is understanding that is required.

"From the foregoing it will be seen that in our opinion metalwork used in decoration should consist of from two to five per cent metal and the balance an alloy comprised of logic and integrity



IRON WALL BRACKET WHICH CONVEYS THE CHARACTER AND PERSONALITY OF THE CRAFTSMAN IN BOTH ITS DESIGN AND THE MANNER OF ITS EXECUTION

which will bring out appropriateness, strength, beauty and grace. If these are the ingredients, good decorative metalwork must be the result no matter what its nature may be."

The various decorative qualities of the metals have been thoroughly considered in these excerpts from Mr. Kantack's talk. As a medium of decoration, the value of a metal lies primarily in its structural properties. A metal is seldom, if ever, used simply as ornamentation, although metals are often combined with one another, or with some other material, as Mr. Kantack has pointed out, to enhance the value of a design by contrast. But its selection is almost without exception based on its structural properties combined with its numerous decorative qualities. Iron or bronze, for example, is chosen for a lighting fixture, a pair of andirons, or a banking screen, first, on account of its physical properties. Its fireproof qualities, its strength, and, therefore, the protection which it affords, are

considered first, while its decorative value is of secondary importance, although greatly to be desired, and making its selection doubly satisfactory.

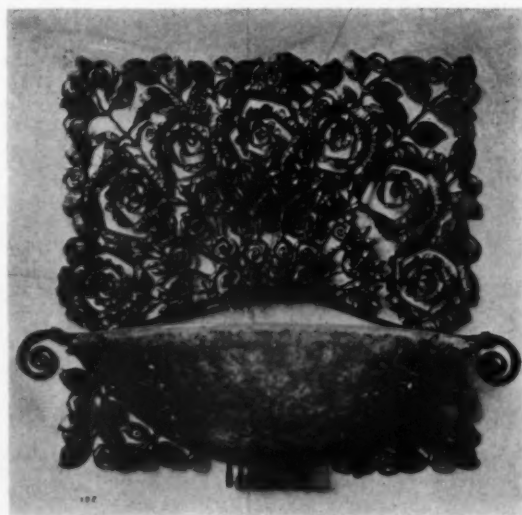
Occasionally, however, a metal is used strictly as decoration. Lead, for example, being very soft and pliable, does not possess the structural qualities that bronze does, and yet its decorative qualities are for this very same reason emphasized. In conjunction with

bronze, it serves admirably as ornament and enhances the design by the contrast that is thus afforded between the two materials and their methods of execution. There are instances where lead has been used as ornament applied to wood. The result is highly satisfactory and unusual.

There are two popular methods employed with equal success in the production of architectural and decorative metalwork, one a forging and one a casting process. The former, a hand wrought



STEEL SHAFT, IRON ARMS, BRASS BASE, CUPS AND SHADES, COMBINED IN ONE FIXTURE



ORNAMENTAL IRON COMBINED WITH ALABASTER FOR A WALL LIGHT, ENHANCING THE DESIGN. THIS PIECE WAS DESIGNED AND EXECUTED IN FRANCE



LAMP WITH SHAFT AND
BASE OF TURNED BRASS,
ORNAMENTED WITH PIERCED
LEAD

method, is especially adaptable to the malleable metals, as iron. It allows for, and, to a certain extent, depends upon the introduction of the character and personality of the craftsman for any success that is accorded the finished product. The casting process is more generally associated with bronze. Its success depends largely on the model from

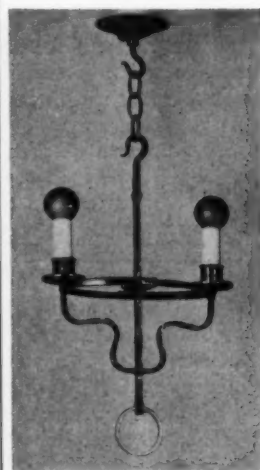
which it is cast. Rodin once compared the various stages of casting in bronze as follows: clay was the birth, plaster the death, and bronze the immortality. In the original model it is necessary always to bear in mind the qualities of the material in which the final casting is to be made,—its texture, its strength, its elasticity; in other words, the character of the design of the model, and the manner or technique in which it is interpreted must be in sympathy with the material in which it is finally to be cast, rather than that in which it is itself modeled. For example, metal has a reflection that plaster has not. Thus, smooth surfaces should feature the plaster model, avoiding confusion in the metal casting. Actually, the model should emphasize more its effect in silhouette, with only a slight



THE DESIGN OF THIS BRONZE DOOR KNOCKER IS APPROPRIATE TO THE CHARACTER OF THE MATERIAL IN WHICH IT IS PRODUCED

binning important structural qualities, lend themselves so successfully to decoration. Metalwork, considered as decoration, has a structural significance. Architectural design, based so firmly, as it is, on structure, depends largely on the selection of materials for its decorative interest. The introduction of metals offers unusual opportunities for visible construction, on which honesty and sincerity in design depend.

Acknowledgment is made to the following firms for their courtesy in supplying illustrative material: Ferrobrandt, Inc.; P. A. Fiebiger; Flour City Ornamental Iron Co.; Fontaine & Co.; Kantack & Co.; Renaissance Bronze & Iron Works, Inc.; J. E. Steinmeier Bronze Works, Inc.; Arthur Todhunter.

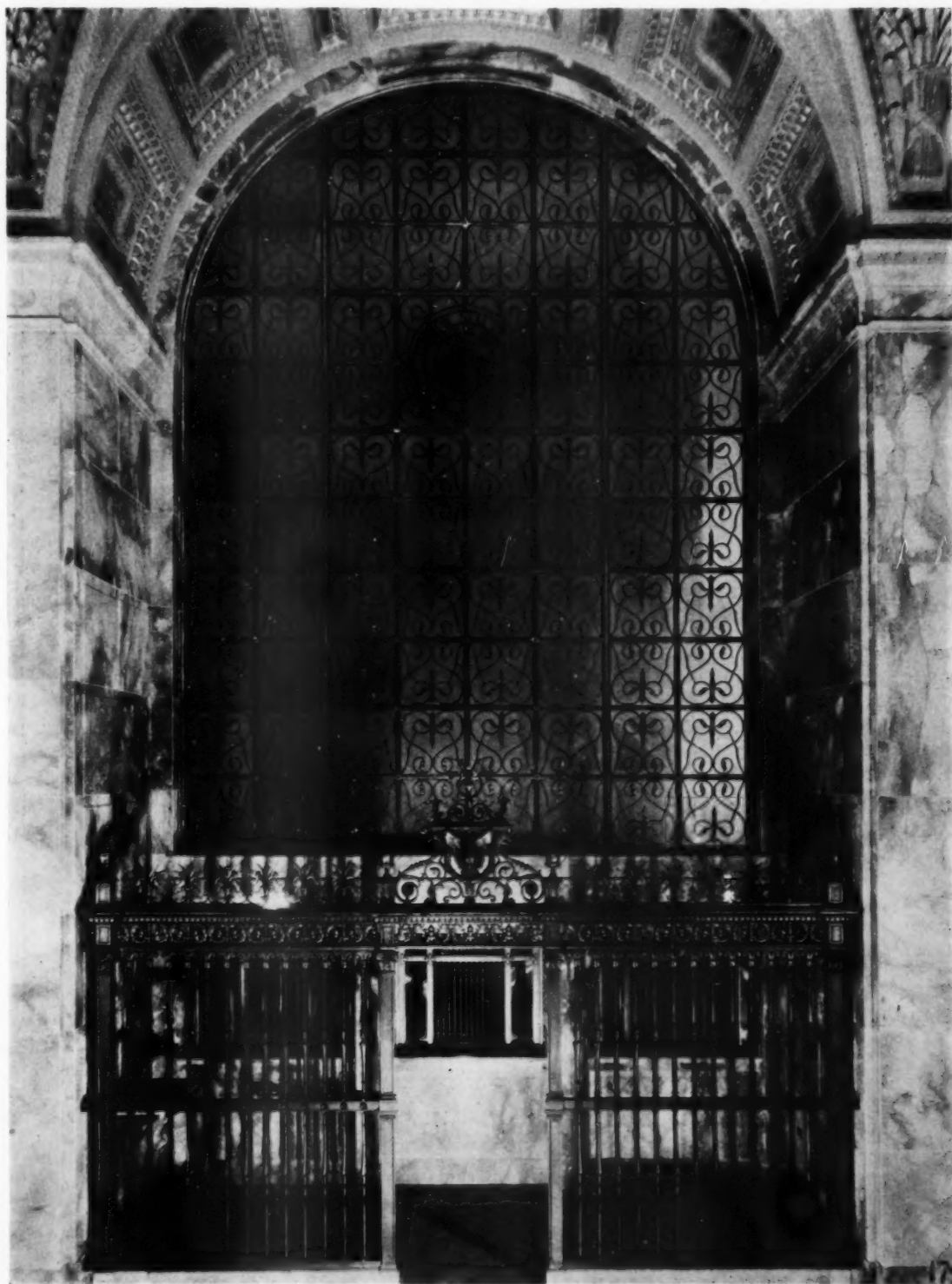


WROUGHT IRON STRUCTURE
AND BRASS ORNAMENT COM-
BINED IN A CHANDELIER

suggestion of modeling. The model-maker is really working in planes within. The casting process is actually hand-finished, and any one that considers a cast product a mechanical affair is greatly mistaken and unfamiliar with the various phases of its production.

As an element of architectural design, the real value of the metals lies in the fact that they, com-





THE ALCOVE SCREEN IN THE CLEVELAND FEDERAL RESERVE BANK, CLEVELAND, OHIO, BUILT IN
A COMBINATION OF WROUGHT AND CAST IRON

WALKER & WEEKS, ARCHITECTS

THE ART-IN-TRADES CLUB EXHIBITION

THE opening of the fifth annual exhibition of the Art-in-Trades Club of New York is announced for September 28th to continue for one month at the Waldorf-Astoria Hotel. The exhibition will consist principally of completely appointed interiors, including such decorations and furnishings as are generally employed in the embellishment of the modern house, together with the allied crafts of

it is unique in conception, as something new and novel, but appears because a use, as well as a demand, has been found for it in present day furnishing treatments. There is to be a Twentieth Century Gallery built around an important tapestry panel designed and made for the Newark Museum that will feature American furniture, leaded glass, lighting fixtures, paintings and wood-carvings in



GRILLE IN FRONT OF SAFE DEPOSIT VAULTS, CITY NATIONAL BANK, GALVESTON, TEXAS

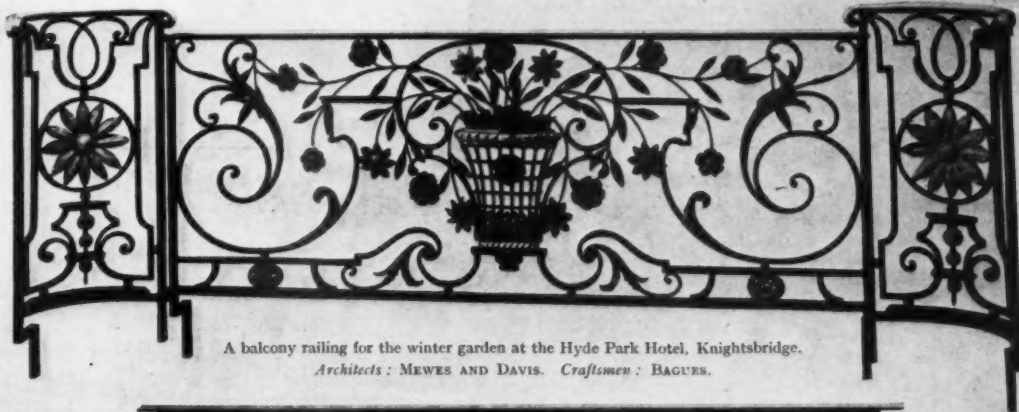
WEARY & ALFORD COMPANY, DESIGNERS

BRONZE SCREEN OF REFINED DESIGN WHICH ADDS TO THE AIR OF SOLIDITY AND SECURITY OF THE BANK AND SERVES A DECORATIVE PURPOSE AS WELL

mural painting, statuary, stained glass, ornamental metal work, etc. The exhibition is designed to make public the great and important steps of advancement taken in the house furnishing arts, and to show, at the same time, the especial work of the professional decorator in America executed under proper conditions and in an approximately ideal environment.

Modern art is to be given a prominent place in this exhibition. It does not appear solely because

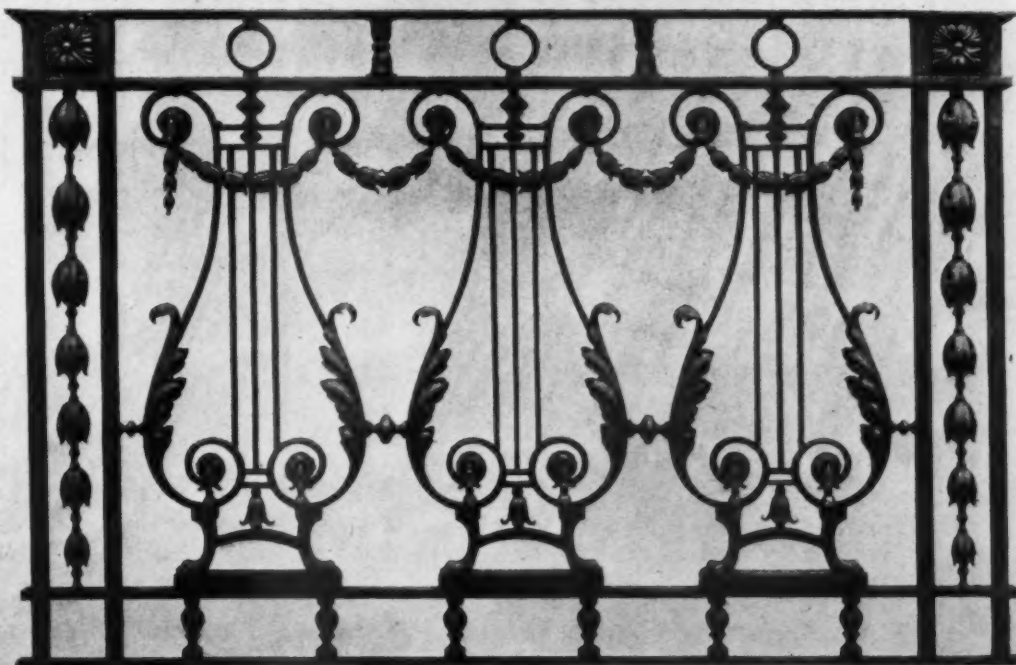
American Indian treatments. A modern note will also be evident in a completely furnished duplex apartment of three rooms, consisting of a studio, boudoir and bath, together with a roof garden; and a foyer similarly treated will be an important feature of the exhibition. This introduction of modern art meets the constructive criticism that heretofore the sponsors of the exhibition have placed too much stress upon antiques and the period styles.



A balcony railing for the winter garden at the Hyde Park Hotel, Knightsbridge.
Architects : MEWES AND DAVIS. Craftsmen : BAGUES.

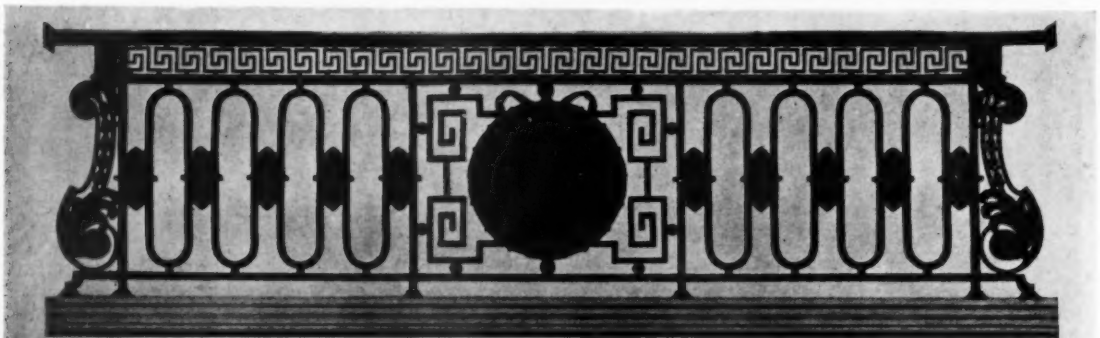


A design for a window grille.
Designers and Craftsmen. BAGUES.



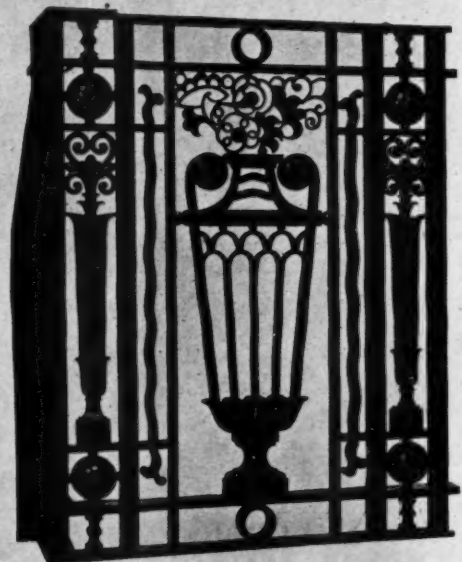
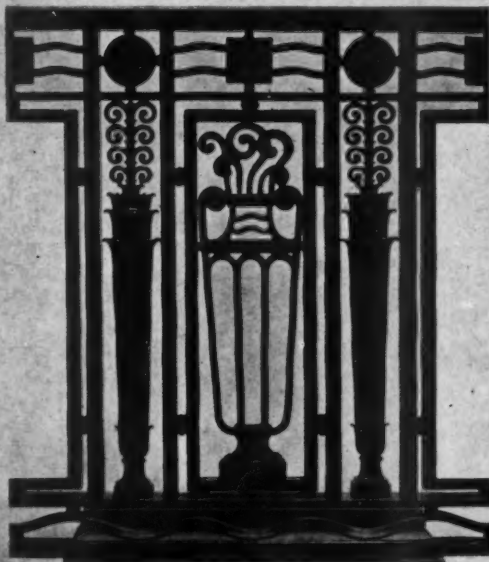
A wrought-iron balustrade in s.s. "Empress of Russia."
Architect : G. A. CRAWLEY. - Craftsmen : H. H. MARTYN.

DETAILS OF IRON CRAFTSMANSHIP FROM "THE ARCHITECTURAL REVIEW," LONDON



A wrought-iron balustrade on the main staircase of the Port of London Authority building. The centre plaque is of cast iron, but the scrolls at either end are of wrought iron.

Architect: SIR EDWIN COOPER. Craftsman: WILLIAM SMITH.



Two panels in wrought iron at Barkers' new premises in Kensington.

Architects: SIR REGINALD BLOMFIELD, R.A., AND H. L. CABOUCHE, O.B.E.
Designer: C. A. L. ROBERTS. Craftsmen: THE BIRMINGHAM GUILD.



"Dance": A wrought-iron balustrade with bronze figures.

Designer and Craftsman: EDGAR BRADBURY.

DETAILS OF IRON CRAFTSMANSHIP FROM "THE ARCHITECTURAL REVIEW," LONDON



ENGINEERING AND CONSTRUCTION



THE OHIO STADIUM, OHIO STATE UNIVERSITY, COLUMBUS, OHIO

HOWARD DWIGHT SMITH, Architect—CLYDE T. MORRIS, Engineer

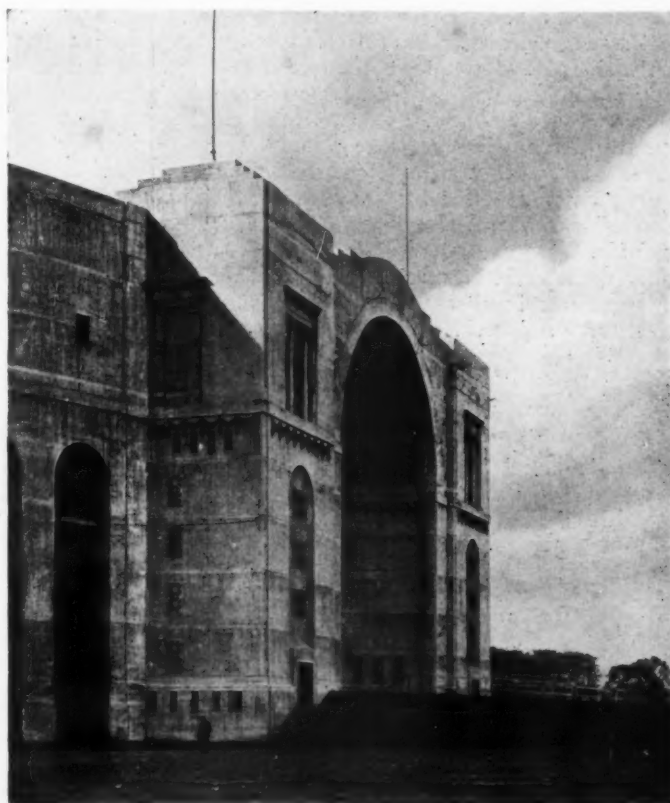
By CHARLES ST. J. CHUBB, A.I.A.

Professor of Architecture, Ohio State University

THE "Ohio Stadium" at the Ohio State University in Columbus was the first of a new generation of stadia. Where utility alone in many stadia has been the governing consideration, the result has been that not even good engineering structures have been built. The Ohio Stadium has been designed as a good engineering structure possessing architecture. The preliminary studies for it were exhibited at the convention of The American Institute of Architects in May, 1921, where the architect, Howard Dwight Smith, was awarded the exhibition medal in the class for "Public Buildings". The following August, construction was started and the completed structure was dedicated on October 21, 1922.

The open and closed types of stadia, as exemplified at Harvard and Yale, with the advantages and disadvantages of each are well known. The former permits of better movement of air or ventilation, and it permits a greater usefulness by the addition of a quarter mile track with 220 yard straight-aways for the dashes. The usual straight sided seat banks are not as desirable for either vision or crowd psychology. The closed type with curved seat banks obviates these faults, and brings the lower seats somewhat closer to the playing field at the expense of the loss of the track and straight-aways and at the expense of ventilation particularly when no breeze is stir.

At Ohio the advantages of both plans were sought in the use of a "horseshoe type" with curved side seat banks. The radii of the sides and closed end were carefully determined. In the early studies three centers of curvature were used.



NORTH ENTRANCE, OHIO STADIUM

HOWARD DWIGHT SMITH, ARCHITECT—CLYDE T. MORRIS, ENGINEER

It was found that at the point of tangency of the long side curve with the sharper curve of the closed end there was an awkward "bump" apparent both in plan and in the plaster model which was prepared for such study. This fault is quite noticeable in the Colosseum at Rome where such centers were used, and it was not until a less abrupt change in the degree of curvature at these points of tangency was adopted that this difficulty was avoided. This was accomplished by the use of a five centered horseshoe with radii of 1352,

500 and 273 feet respectively for sides, intermediate sections and the closed north end, measuring in each case to the outside wall. Experience has proven the curved sides a success. Every person sitting in each row may be seen along the sweeping curve. The vision of the running track is greatly improved by the curve of the seats. This detail of the plan also makes for greater unity as an architectural composition.

Two other features introduced in the Ohio Stadium are the double deck and the greater utilization of the space under the seats. By the former, some 21,000 spectators are brought much closer to the playing field and those seated below the upper deck are sheltered from inclement weather. The Yale Bowl and the Ohio Stadium have nearly equal seating capacity. At Yale the farthest seat on the side is 293 feet from the side line at the center of the field, while at Ohio the corresponding distance is only 207 feet. Taking into consideration the difference in plan, there is an average gain of nearly 70 feet in visual distance from the center of the playing field for 21,000 spectators. The construction cost was also reduced by the double deck plan.

The upper deck, however, brings up contradictory problems in that the desire for its visual architectural support involved visual obstruction

from the seats behind the supports. To meet the latter objection only two columns were used for each structural bay of the deck. They are located close to the end of each bay and behind the second tier of boxes two-thirds up the lower deck. About one-quarter of the deck is cantilevered over the trusses supported by the columns. The truss spans are slightly over fifty feet and as the portals leading to the seats of the covered portion of the lower deck are behind each pair of columns, the vision from these seats is but little obstructed.

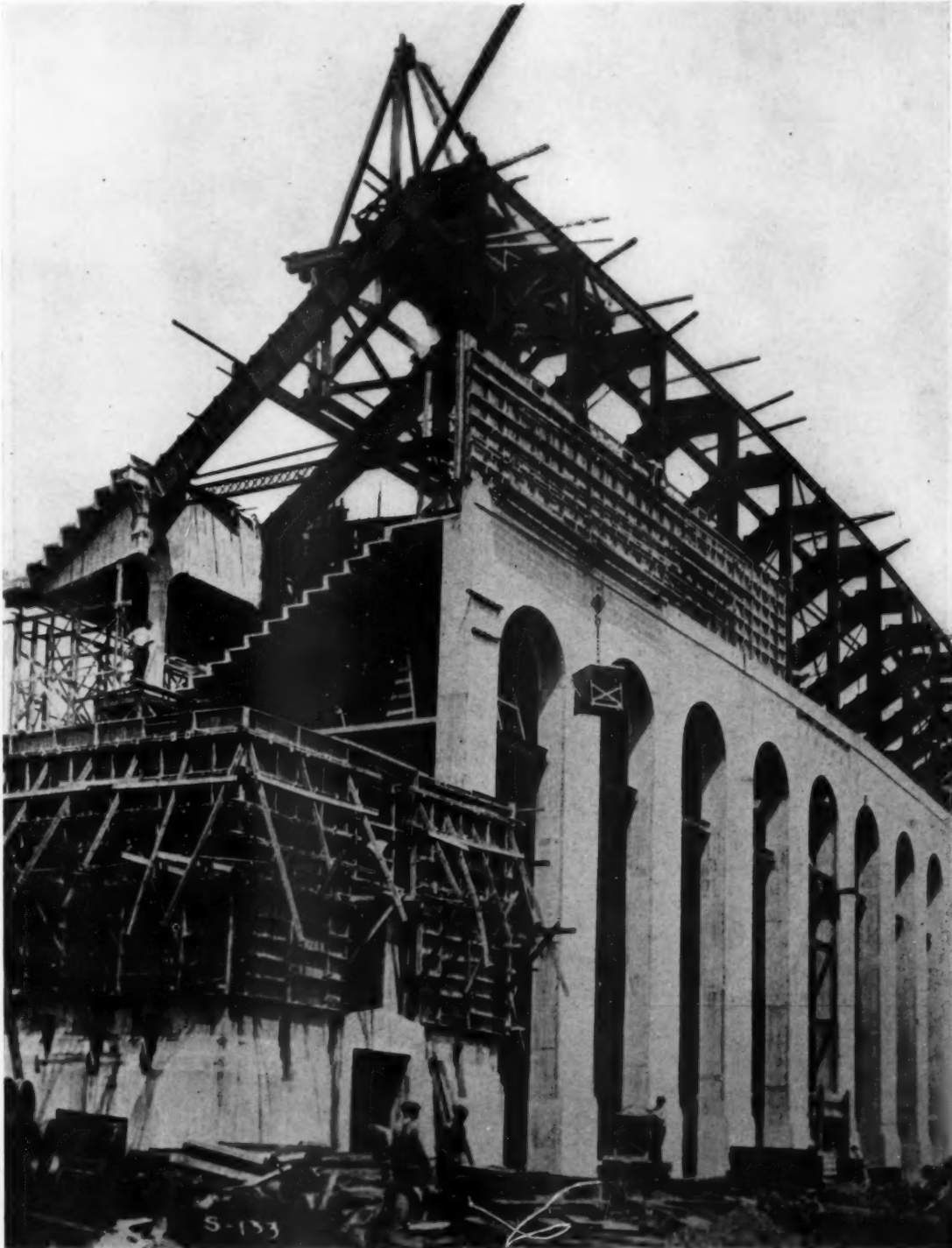
In most stadia the area below the seats becomes a veritable forest of columnar supports. At Ohio the columns are arranged in pairs with the expansion joint of each bay between the columns of a pair. Fourteen floor areas each 55 x 120 and twelve areas slightly smaller, owing to the position in each of the ramps, are provided. Space under the west side of the stadium is utilized as a six-lap mile track, 120 yard straightaway, and other facilities for track team training. On the opposite side semi-indoor facilities are provided for the baseball and tennis teams. This covered space is also of value in handling the crowds at which time it becomes an immense circulation lobby between the entrances and the stands.

The external design of this stadium is a frank expression of the internal seating arrangement.

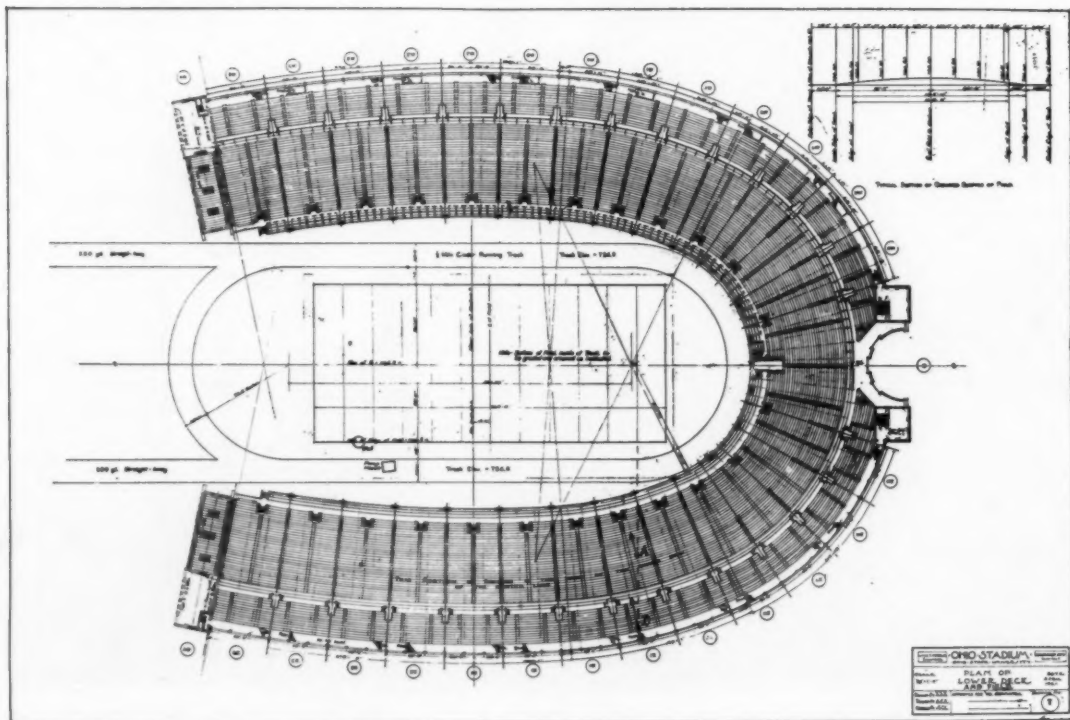
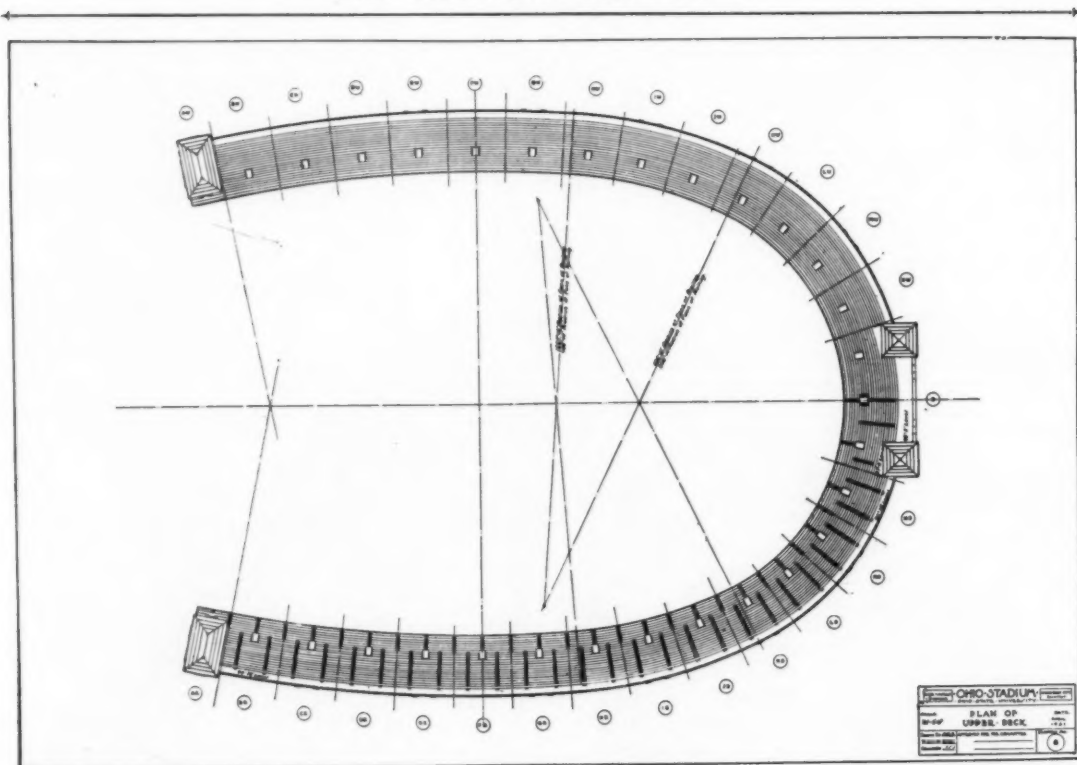


AIRPLANE VIEW OF OHIO STADIUM

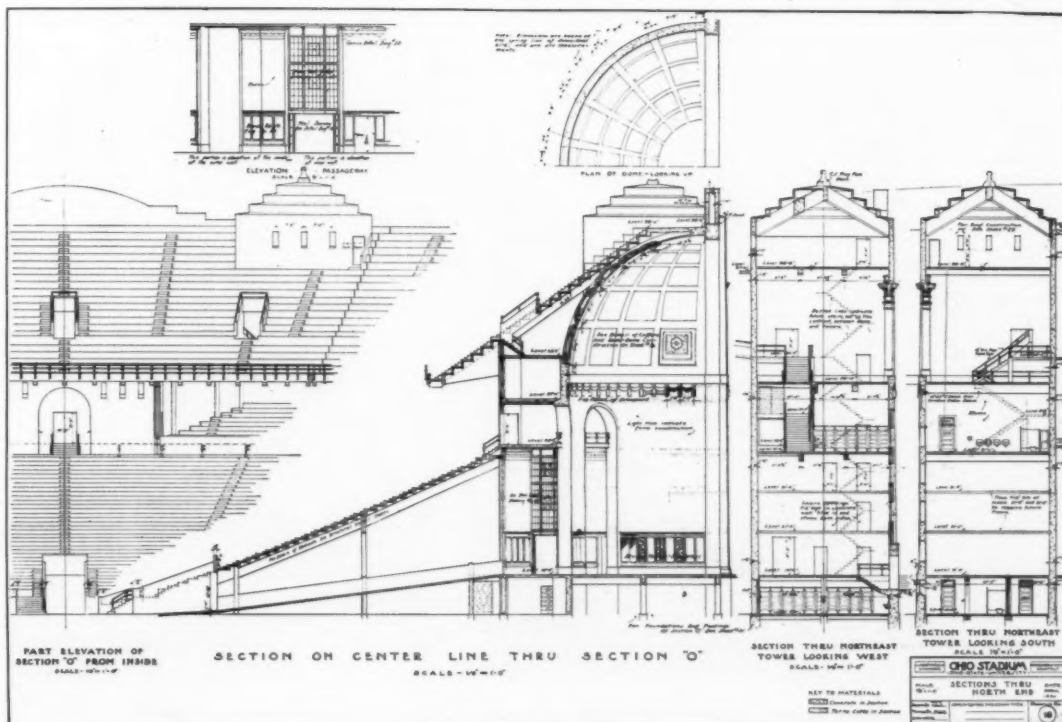
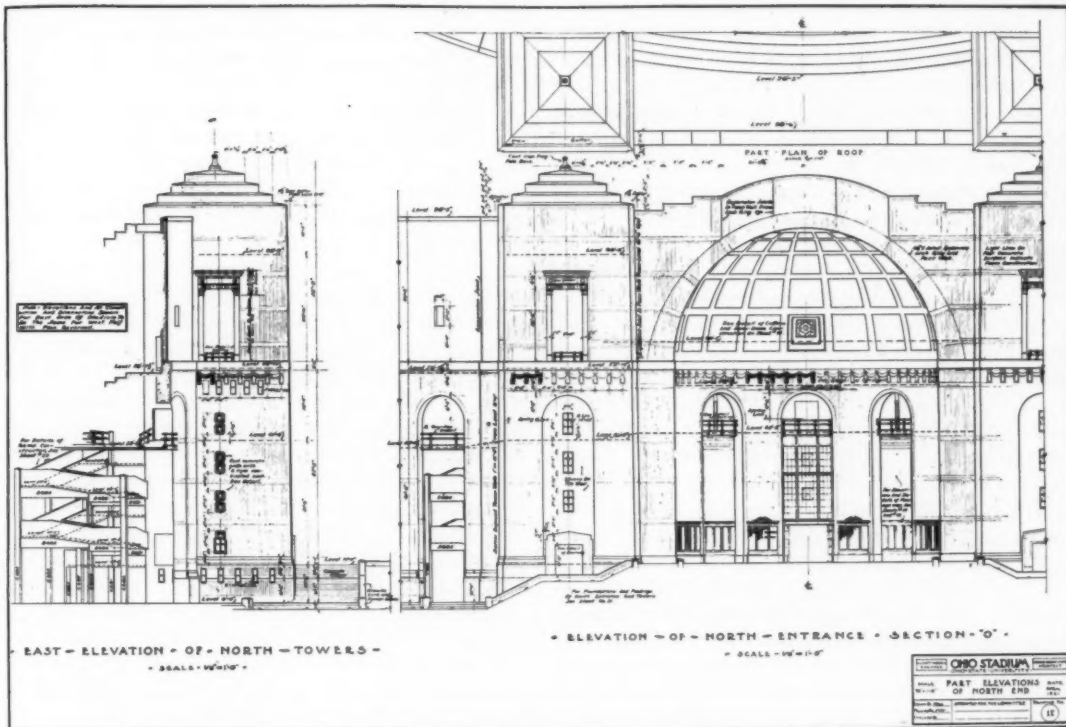
PHOTOGRAPH TAKEN BY HOWARD RINEHART AND DR. H. J. WEAVER AT 11:15 A. M. JUNE 26, 1925, FROM AN ALTITUDE OF 1500 FEET



SOUTHEAST WING OF OHIO STADIUM SHOWING CONSTRUCTION OF THE LOWER PORTION OF THE SOUTHEAST TOWER, PORTION OF THE ARCADE, COVERED PORTION OF LOWER DECK, CONCRETE AND STEEL SUPPORTED PORTIONS OF UPPER DECK, AND PART OF UPPER EXTERIOR SCREEN WALL



UPPER AND LOWER DECK PLANS, OHIO STADIUM
HOWARD DWIGHT SMITH, ARCHITECT—CLYDE T. MORRIS, ENGINEER



DETAILS OF NORTH ENTRANCE, OHIO STADIUM

HOWARD DWIGHT SMITH, ARCHITECT—CLYDE T. MORRIS, ENGINEER

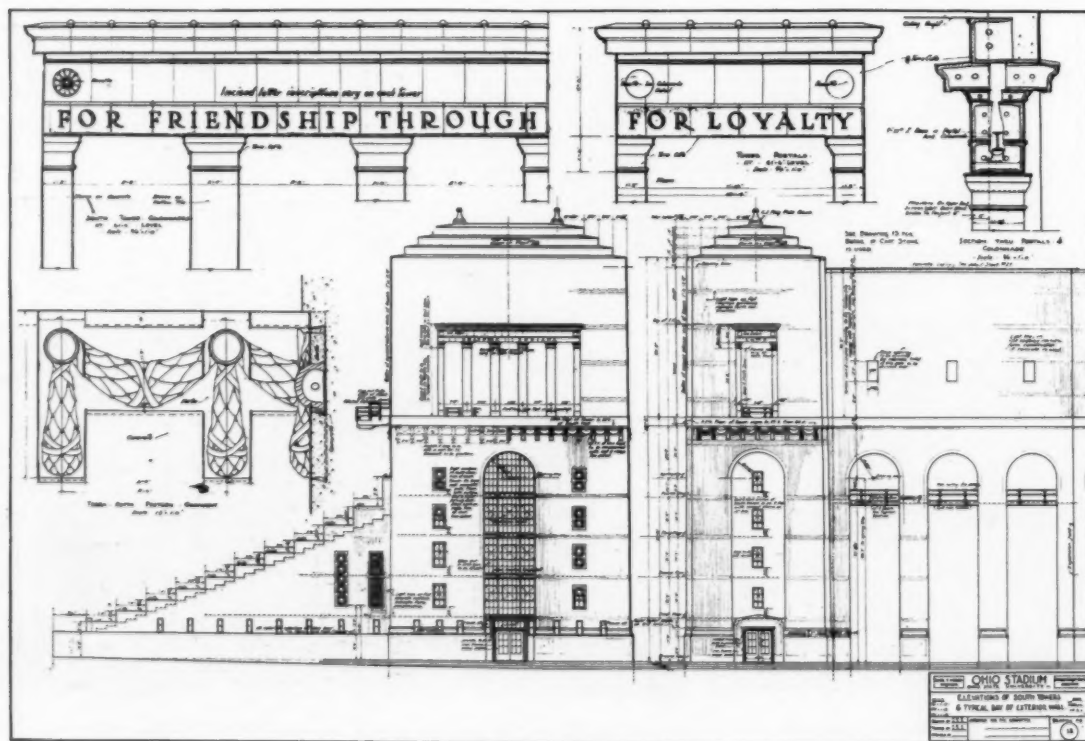
The great arcade of the lower wall provides excellent light for the space under the seats, the upper wall expresses the upper deck and yet conceals its unsightly under surface and at the same time the lower deck is sheltered from the wind. The monotony of a long arcade is avoided by filling every sixth arch with a screen wall in which the windows mark the landings of the ramps which they both express and conceal. These architectural accents are carried up through the upper wall by pilasters carrying flag poles. These in turn give interest to an otherwise uninteresting skyline. Expansion joints divide the wall into sixty-foot structural bays. These joints, which are readily discernible, are accepted and made use of as elements of the design. The piers in which these joints occur are larger than the others. This was done still further to reduce the monotony of the arcade. Further interest is given the concrete walls by frankly expressing the marks of the wooden forms. These have been used to give both texture to the wall and scale to the whole design.

An adequate termination of the seat banks at the open end of the horseshoe and in particular of the upper deck is attained in the use of massive towers of rectangular plan. Five stories of each are used to house the various team facilities, including

offices, locker rooms, lecture rooms, shower rooms, doctors' and coaches' offices, rubbing rooms and equipment storage. The entire east tower is used for the football team, while the west tower houses the track team and all visiting teams. The top floor, treated on the three exposed faces with open colonnades of square piers serve only to give the towers architectural mass and as a termination for the upper deck. The walls of the towers are given a slight entasis to improve their silhouette.

The subtle curve or bow given the ascending tiers of seats gives the grace of elastic strength to the whole interior. This vertical curve was effected in part by changing the slope of the radial girders and also by varying the height of the angle brackets on these girders. These angles provide direct support for the seat risers. This detail also improves the sight lines. The principal architectural feature is the imposing tower flanked semi-dome of the north entrance. The dome is 70 feet in diameter and 85 feet high with deep stepped coffers carrying cream-colored rosettes on a ground of blue tile.

No problem in the design of stadia deserves greater study than that of circulation. Many stadia have points of congested circulation at the too few ticket entrances and at the exits. Congestion



DETAILS OF SOUTH TOWERS, OHIO STADIUM

HOWARD DWIGHT SMITH, ARCHITECT—CLYDE T. MORRIS, ENGINEER

at these points has been successfully eliminated in the Ohio Stadium. All gates in the seventy-eight arches of the outer wall may be used in taking tickets. Experience has shown that not a third of that number is ever necessary even for a capacity crowd. Within the gates, the space under the seats serves as a distribution area from which the lower seats of the first deck are reached through thirty-two portals just behind the side-line boxes. The upper third of this deck and the entire upper deck are reached from this same area by means of twelve ramps suspended from the trusses in alternate structural bays. The ramps lead to the distribution gallery carried around the entire stadium at the spring line of the external arcade. From this gallery twenty-six runways lead to the portals of the covered section of the lower deck, and stairs ascend to a second gallery between decks from which twenty-nine runways lead to the portals of the upper deck. Twenty-four public toilets are distributed under the ramps on the ground floor and at intervals along the circulation gallery above. A women's restroom and first aid room are also provided in the north tower.

The individual seats are of three strips of wood

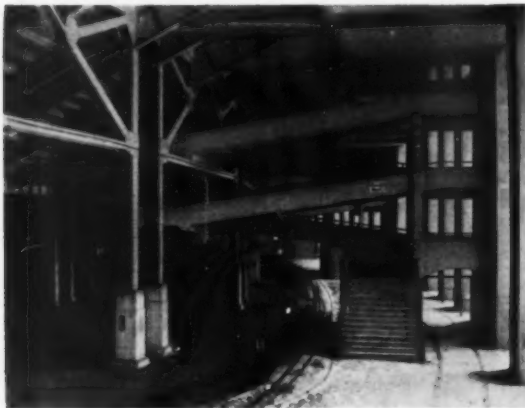
raised above the concrete steps to permit of toe room for the spectator behind a given seat. The tread of the concrete step is 30 inches wide and the riser of variable height in the lower deck to produce the bowed bank. The full seat is 17 inches high in the lower deck and slightly higher in the upper deck. In width each seating varies from 18 to 22 inches. Forty-six rows of such seats are located on the lower deck and twenty-two in the upper deck. In addition there are two hundred and forty-four field level boxes of eight seats each and one hundred and sixteen boxes of twelve seats each located about two-thirds up the lower deck and under the shelter of the cantilevered part of the upper deck. The total seating capacity in permanent seats is 62,110. This can be increased to just under 80,000 by the use of all aisles, the running track and standing room at the open end of the stadium and around the ambulatory at the top of the upper deck.

The constructive system of the Ohio Stadium has been well described by the chief engineer, Professor Clyde T. Morris, in the Proceedings of the American Concrete Institute for 1923. The column spacing was designed quite wide and the neces-



STEEL FRAME OF OHIO STADIUM

CAREFUL ALIGNMENT OF STEELWORK TO PROPER CURVES FACILITATED BUILDING OF FORMS FOR CONCRETE WORK. SAUCER-SHAPE SECTION NECESSARY FOR CORRECT SIGHT LINES WAS OBTAINED PARTLY BY VARYING SLOPES OF LONG GIRDERS AND PARTLY BY VARYING HEIGHTS OF STEEL "CHAIRS" OF STEPS AND SEATS



INTERIOR OF OHIO STADIUM BELOW THE LOWER DECK SHOWING STAIR AND RAMP METHOD OF VERTICAL CIRCULATION; LOWER "AMBULATORY" AND PORTION OF 120 YARD STRAIGHTAWAY TRACK

sary bracing kept high to provide for utilizing the area under the seats. This led to increased cost and made the use of structural steel for these wide spans more economical than reinforced concrete. The towers, and wherever the spans are short, are of reinforced concrete. The seat risers having an aver-

age span of 19 feet were calculated as simple rectangular concrete beams to carry the seat load from girder to girder. Speed of erection was also a factor in the selection of the steel frame in that its use made winter erection possible. Little of the structural steel is visible from the exterior, and none of it is exposed to the weather.

Examination of earlier concrete stadia gave evidence that proper provision had not been made to care for the deformations caused by expansion and contraction due to temperature changes. An interesting feature of the construction of the Ohio Stadium is the method used to avoid serious cracks resulting from this cause. In a structure of curved plan, the expansion is accompanied by lateral movement just as the crown of an arch lifts as it expands. The deformation in the direction of the curves was allowed for by the introduction of radial expansion joints cut clear through the structure at intervals of sixty feet on the outside wall. The lateral movement is taken up in the bending of the very tall columns. The stadium thus becomes a series of independent concrete and steel structures built in juxtaposition. The joint between each was filled with pre-molded asphaltic joint filler with an expansion web of sheet lead where water tightness was required. Observation



OHIO STADIUM

VIEW FROM THE SOUTH SHOWING A RECORD ATTENDANCE OF 79,071—NORMAL SEATING CAPACITY IS 63,285

of the joints during differing conditions of temperature has shown perceptible movement. But, as expected, no structural fractures have occurred in the concrete. The entrance dome and its flanking towers are treated as a single stationary unit. The terminal towers are also separate units.

Another serious defect in concrete structures is the failure of the material itself through disintegration from various causes. Such failures are the result of faulty specifications, materials or superintendence. Here all materials were tested and great care was taken in proportioning the mix by measuring the sand and stone by volume, by weighing the cement and in the use of a proper and constant amount of water. Constant inspection at the central mixing plant assured excellent concrete and the same care was exercised in placing it in the forms. No long chutes were allowed for this purpose. They were avoided by the use of four travelling hoists built on the upper deck which permitted the delivery of concrete into movable hoppers from which it was placed by means of short chutes. Care was also given to curing the concrete after it was placed. These precautions have been justified by the excellent concrete which resulted.

High on the four towers of the Ohio Stadium are carved the following inscriptions: "For



INTERIOR OF OHIO STADIUM DISTRIBUTION GALLERY SHOWING STAIRS AND PORTALS OF "AMBULATORY" ABOUT 40 FEET ABOVE THE GROUND JUST BELOW COVERED PORTION OF LOWER DECK

Health"; "For Strength"; "For Vigor"; "For Spirit"; "For Courage"; "For Loyalty"; "For Concourse and Comradeship" and "For Friendship Through Contest." These purposes express the ideals built into the Ohio Stadium and in them we should seek the true significance of all college stadia.



OHIO STADIUM

SHOWING INTERIOR OF UPPER PART OF LOWER DECK. NOTE DETAIL OF THREE-STRIP OAK SEATS OVER CONCRETE

The following data relative to the Ohio stadium is of interest:

Dimensions over all, 704 ft. by 597 ft.
 Dimensions of arena, 556 ft. by 300 ft.
 Depth of seat banks, 150 ft.
 Height of side walls, 98 ft. 3 in.
 Entrance dome, 70 ft. diameter, 85 ft. high.
 Arches of wall arcade, $12\frac{1}{2}$ ft. by $52\frac{1}{2}$ ft.
 South towers, 36 by 60 ft. and 109 ft. high.
 Materials—26,000 yards of concrete,
 4,050 tons of structural steel,
 1,300 tons of reinforcing steel.

Cost—\$1,500,000.00.

Seating—62,110 permanent seats in 68 rows and 260 boxes.

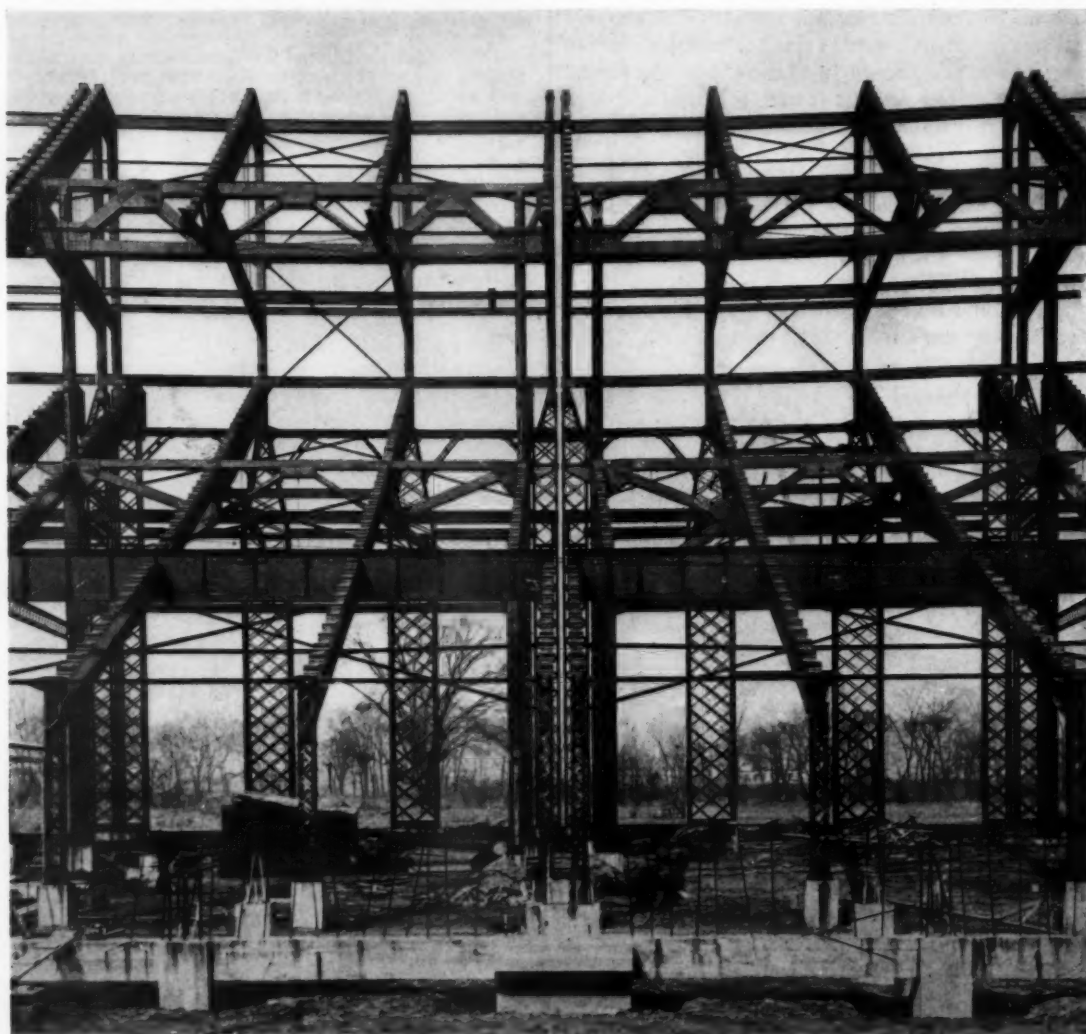
Lower deck and boxes, 41,000. Upper deck, 21,000.

80,000 maximum capacity, using temporary seats and standing room.

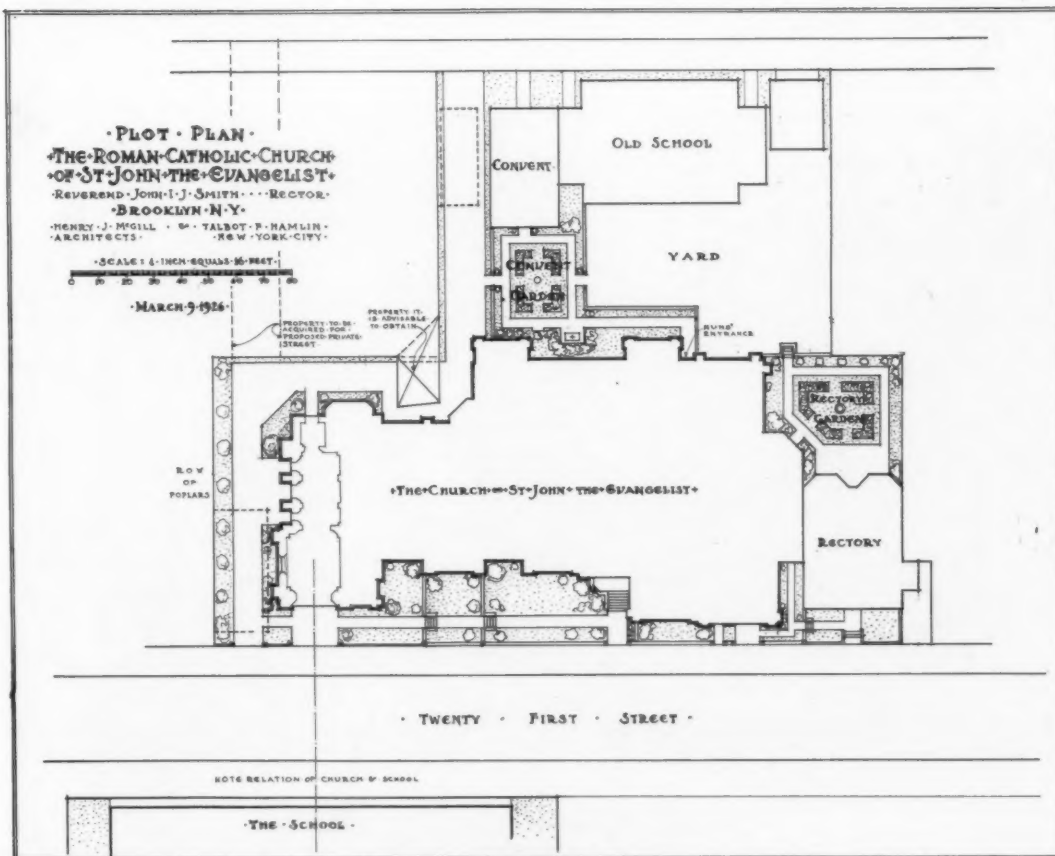
Closest seat, 72 ft. from side line at center of field.

Farthest seat, 207 ft. from side line at center of field.

Construction—Steel frame and concrete.



INTERIOR VIEW OF THE OHIO STADIUM STEEL FRAME SHOWING EXPANSION JOINT BETWEEN STRUCTURAL BAYS. BAYS ARE ABOUT 60 FEET WIDE MEASURED ON THE EXTERIOR WALL. NOTE ABSOLUTE STRUCTURAL SEPARATION BETWEEN BAYS



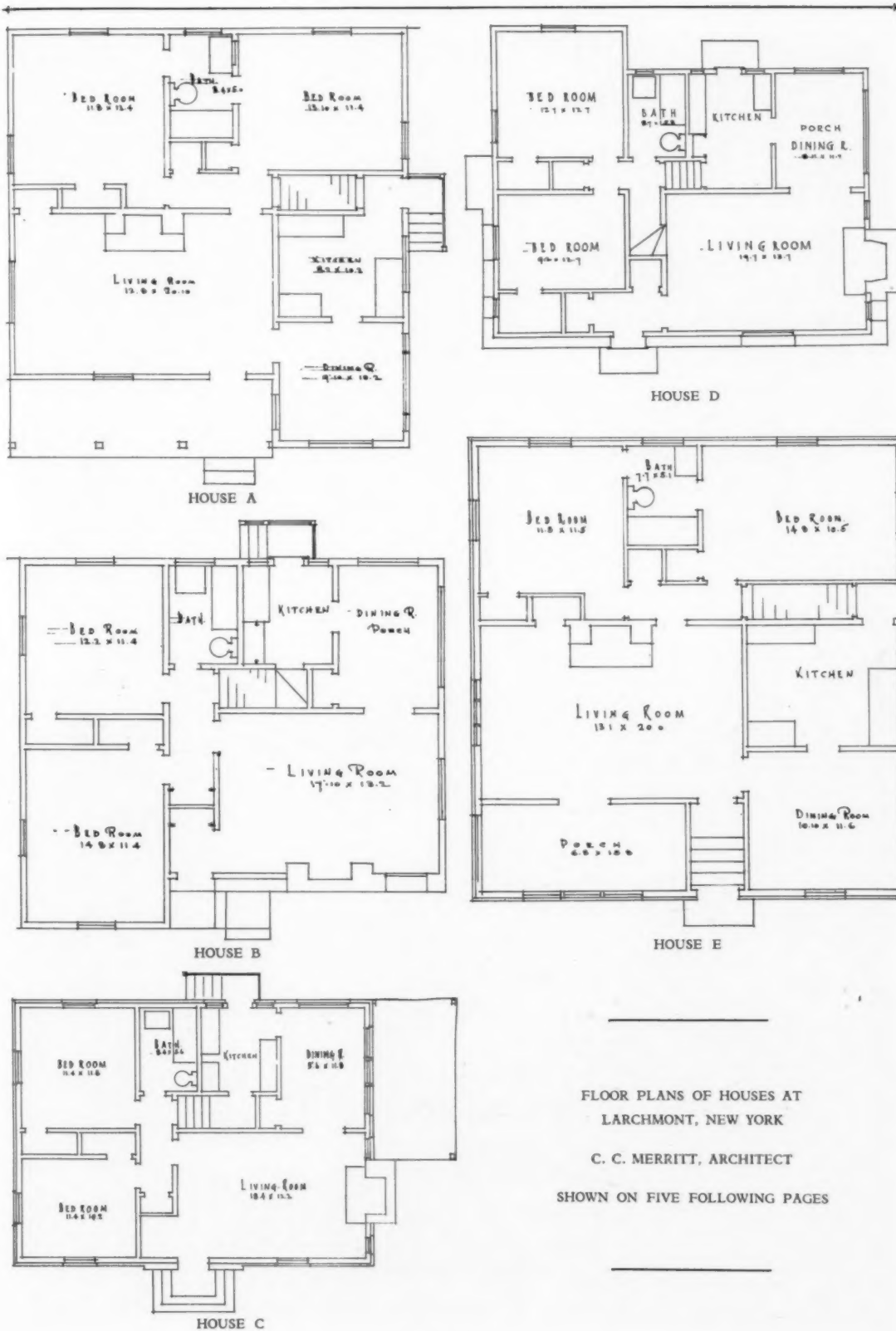
ROMAN CATHOLIC CHURCH OF ST. JOHN THE EVANGELIST, BROOKLYN, NEW YORK

HENRY J. MCGILL & TALBOT F. HAMLIN, ARCHITECTS



ROMAN CATHOLIC CHURCH OF ST. JOHN THE EVANGELIST, BROOKLYN, N. Y.
HENRY J. MCGILL & TALBOT F. HAMLIN, ARCHITECTS

THIS church building has been designed in modified ecclesiastical Gothic with the stonework and elaboration concentrated in the tower to produce the maximum of effect. The interior preserves the atmosphere of the style in simple surfaces, fittingly to express the tendency of the present plastic development based on economy of construction, while providing broad surfaces for effective decorative work. The main structure will be masonry construction with open timber roof, and steel will be introduced only in the floor construction. The arrangement of the other buildings of the Parish Group was unrelated, and the building has been run parallel with the street to bring these isolated units into a closer relation. The grades of the property and the economical use of it and the disposition of the Rectory favored this unusual treatment for a Catholic church. The church will seat over one thousand people, and is expected to cost about \$250,000.



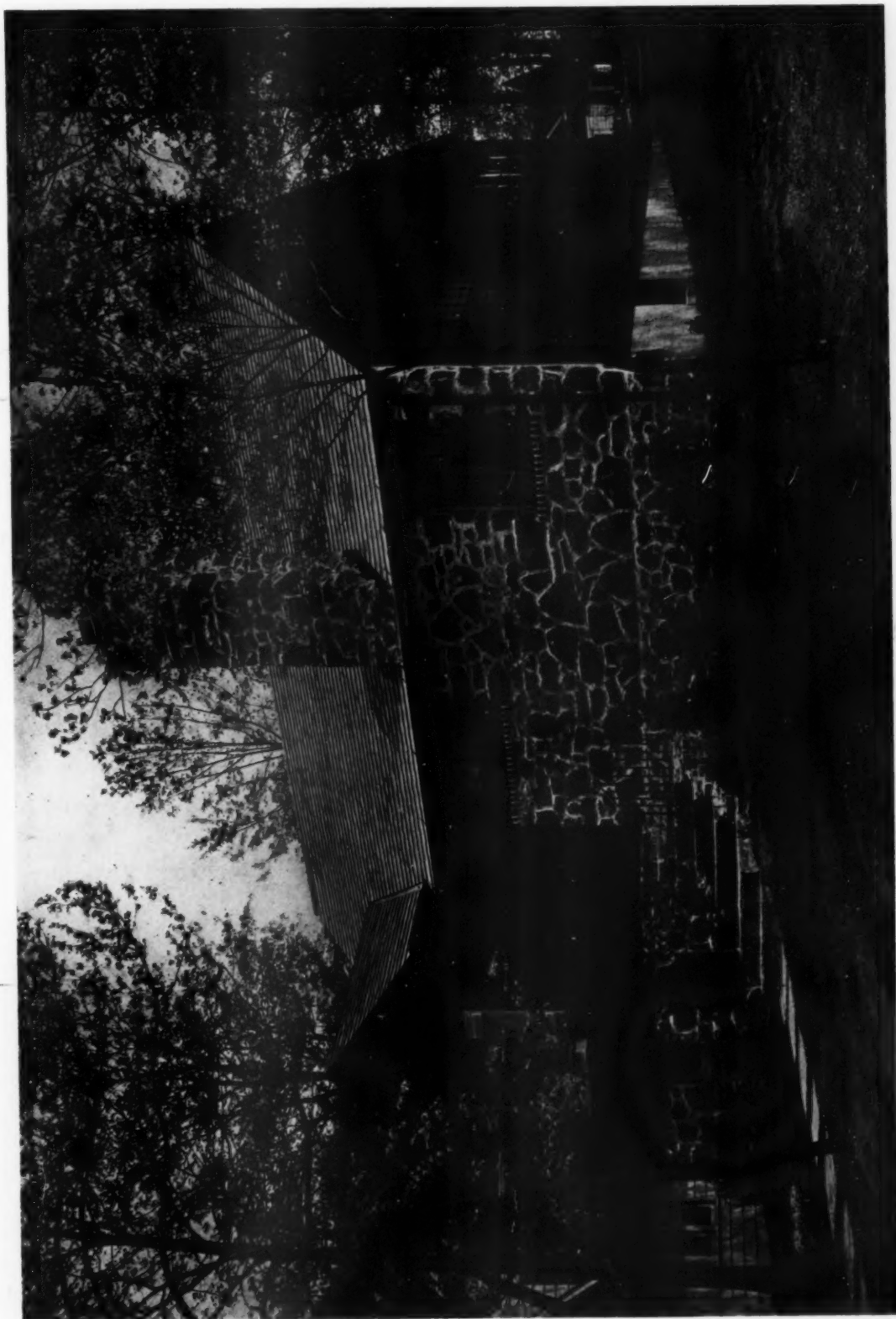
FLOOR PLANS OF HOUSES AT
LARCHMONT, NEW YORK

C. C. MERRITT, ARCHITECT

SHOWN ON FIVE FOLLOWING PAGES



(A) HOUSE AT LARCHMONT, NEW YORK
C. C. MERRITT, ARCHITECT



(B) HOUSE AT LARCHMONT, NEW YORK

C. C. MERRITT, ARCHITECT



(C) HOUSE AT LARCHMONT, NEW YORK
C. C. MERRITT, ARCHITECT



(D) HOUSE AT LARCHMONT, NEW YORK
C. C. MERRITT, ARCHITECT



(E) HOUSE AT LARCHMONT, NEW YORK

C. C. MERRITT, ARCHITECT

THE ARCHITECT AND HIS PROFITS—PART III

By CHARLES KYSON, *President, Architects' League of Hollywood, Calif.*

ARCHITECT'S PRODUCTION COST FOR MAKING PLANS AND SPECIFICATIONS

THE accompanying Table III shows the actual production cost to the architect of making plans and specifications. This, of course, includes no profit to the architect.

In studying Table III, as prepared by the Cost Committee of the Architects' League of Hollywood, your first reaction will probably be that they are all wrong and the cost of preparing plans and specifications as given in this table is too high. However, before you indulge in any snap judgment, take the amount you spend in drafting room salary on some specific jobs, and multiply it by 200% and then add this amount to your drafting room salary. You will then have the cost of producing the plans and specifications. This is what is referred to hereinbefore as the 1-2 Rule. When you have done this, see how your results or cost of production compares with column 3 of Table III. I venture to prophesy that you are liable to be a very pained and surprised individual.

In the study of Table III some interesting facts become apparent in the making of drawings. Considering residence work, for instance, as the cost of a house increases, the cost of the drawings increases. This becomes apparent when one realizes it is possible to incorporate in it more fine architectural detail and special features as the house becomes more expensive. The detailing of these is very costly, as the architect can only employ very high salaried draftsmen to accomplish this result. It can be easily worked out that the drafting room salary can run from forty to fifty per cent of the features detailed. This naturally tends to bring up the percentage cost of residential plans of houses costing above \$20,000.00.

FEES FOR CLUBS AND CHURCHES SHOULD BE INCREASED

Architects who have designed fine club buildings make the claim that this type of work costs as much as fine residences. The examples of club buildings given in Table III were buildings in which the allowance did not permit of any great elaboration of detail. A member of a firm of architects, who have done some of the finest club buildings in America, told me that they simply could not figure on doing club buildings for less than eight to eight and one-half per cent for plans and specifications and supervision, because the cost of getting out the drawings for buildings of this character was practically the same amount as for very fine residences, the reason, of course, being because of the multiplicity of very

fine architectural detail, which can only be illustrated by making a large number of drawings and details necessitating the employment of high-priced designers. The same applies to the design of churches and theatres. Few architects realize this as they should.

THE "GUESSERS" CLUB IS CALLED TO ORDER

Many architects make the mistake, and Yours Truly was one of the joyous throng, of believing they could handle church work and theatre work for a total commission of 6%, that is, 4% for the drawings and 2% for the supervision. If you happen to be one of the multitude, just look over the costs of producing the plans and specifications for churches shown on Table III. Architects do not take the trouble to differentiate carefully enough between the types of the buildings for which they are making plans. If, for instance, they took the contract to make the plans and specifications and supervise the construction of a warehouse at 6%, they would stand a very good chance of making some money out of that contract. If, on the other hand, they took a church or theatre building for 6% for the plans, specifications and supervision, they would probably lose money on the job. Take another example, that of a group plan hotel, where there is a central administration building with cottages and bungalows around this. If the architect is going to make any profit out of this class of work, he cannot afford to do it for the customary 6% for hotel work. This type of building must come under a semi-residential class and must be charged for accordingly, if the architect is to maintain his profit.

DON'T BE BLUFFED

Every architect has to protect himself against the type of client who is the typical well-meaning but hard-headed business man who really knows nothing about the production cost of the architect, and yet who tries to bluff his architect into taking work at fees that will insure the architect taking a loss on his work. This is where the Architects' League of Hollywood is making a strenuous endeavor to help the members of its profession, and the intelligent use of Table III will help you to convince any reasonable client of the validity of your claims for a sufficiently high fee to insure him having the architectural service that he should have and at the same time enabling you to make a net profit on your services. Do not represent the figures in Table III as being merely your opinion of what it costs to produce proper architectural service, for it is the average opinion of a large number of competent architects as to the costs of adequate architectural services to the building public. If you have the courage to stand

right up and demand your profit, at the same time showing that you know your production cost, that very fact will cause your client to respect your business judgment and ability as he would in no other way, because you are talking his language, and showing that you know whereof you speak.

YOU CAN BENEFIT YOUR PROFESSION AND YOURSELF BY DOING THIS

The Architects' League of Hollywood is getting out a final report which is now in process of compilation. It is intended to be an exhaustive report showing the architects how much it will cost to give the building public the service it should have. This report will be more or less along the lines of this article. Table No. III, showing the cost of making plans and specifications, will be one of the principal parts of this report. This table, as published herewith, is not as complete as it should be because the Architects' League of Hollywood was unable to get the cost data on enough buildings, or as great a variety of buildings as it would have liked. For instance, if this report contained the cost of making drawings of forty schools taken from an average of various architects' offices throughout the United States, it would make an absolutely conclusive argument in supporting your contention that you should receive not less than six per cent for making the plans and supervising the construction of a school building. Any intelligent or businesslike school board could not go back on these figures because it would be the average or combined opinion of a large group of architects who run their offices in a businesslike and systematic manner and give adequate service to the building public.

As a selling argument it would be an indisputable piece of evidence in favor of your contention for a fair price for your work. The same would apply to libraries, churches, club buildings, etc. As far as we have been able to ascertain, there is no architectural body in the United States which has approached this problem from precisely this angle, but we feel that this is the most logical and businesslike method of supporting our contention for a fair price.

Now this is where you come into the picture. We want some of your costs of specific buildings. In filling out Column No. 2 if you do not wish to bother about figuring out the percentages, insert the amount of dollars that you have paid out to draftsmen in preparing the plans. This includes no supervision. In filling out Column No. 3, this should be made of the items of overhead as already enumerated in Table No. 1. Check these over very carefully and see if you are actually allowing for all of these items. If you are not doing so, you are presenting your client with something to which he is not entitled. You are not arriving at the production cost to you of your plans and specifications, and above all things do not neglect to figure an administration salary to yourself in this overhead,

otherwise the figures that you turn in will be utterly without value to the Architects' League of Hollywood, or to yourself, because you will not be arriving at your production cost.

Here is the place that most architects fool themselves badly. Again, in filling out Column No. 3, you can use the amount of dollars because the percentages will be figured for you. If you are not clear as to what your overhead is, you can apply the 1-2 Rule, which is described in this article under the heading "Method of Allocating Overhead by the 1-2 Rule."

If the architects of the United States could be persuaded generally to adopt this 1-2 Rule in computing their overhead, there would be a greater comparative value to the data they submitted, as you will see for yourself it is a very simple way of finding out what your overhead actually is. However, I would certainly advise that you check this with the markup system of allocating overhead. You will confer a great favor upon us if you will send this cost data in to the Architects' League of Hollywood at the address herein given. Don't neglect to do this. There is no time that you will ever spend in any activity that will be of greater value to you and to your profession than the time you take to do this. It will mean money in your pocket; it will mean material benefit to your family; it will mean a lasting satisfaction to you to know that you have really done something for your profession; that you will have helped to correct a deplorable condition of affairs now existing, and if you think that this activity is worth while, if you think it will confer a benefit upon yourself as well as your profession, don't fail to avail yourself of the opportunity of joining the Architects' League of Hollywood.

METHOD OF FINDING THE COST OF SUPERVISION

The method of finding out the cost of supervising the construction of a building will be worked out as follows: First it would be necessary to find out the cost of an architect's time per hour for supervising the construction of a building. From Table No. 1 we find there are 2156 productive hours per year. The architect's salary is \$5200.00 per year or \$2.42 per hour. While the architect is supervising building construction the rest of the jobs in the office are taking part of the overhead. Therefore let us assume that the architect's time will take one-half of the office expense per hour. This is determined as follows: From Table No. 1 Column (B) the total overhead is \$14,709.48 per year. Subtract the architect's salary of \$5200.00 from this and we have \$9509.48 office expense per year. Divide this by 2156 productive hours which equals \$4.41 per hour for office expense. Take $\frac{1}{2}$ of this, or \$2.21, and add this to the architect's time per hour, or \$2.42, in supervising a building, which equals \$4.63 per hour.

TABLE No. III
COST OF PRODUCING PLANS AND SPECIFICATIONS WITHOUT SUPERINTENDENCE

COLUMN 1	COLUMN 2			COLUMN 3			COLUMN 4			COLUMN 5		
DESCRIPTION OF THE JOB	DRAFTING ROOM SALARY PER CENT OF COST OF BUILDING			OVERHEAD PER CENT OF COST OF BUILDING (Including the Architect's Salary)			TOTAL COST OF PLANS PER CENT OF COST OF BUILDING COLUMNS 2 + 3			COST OF BUILDING (Not Including Architect's Fee)		
Commercial Hotel			61		1	23		1	84	133	277	00
Group Hotel			92		3	16		4	04	61	849	94
Sub Total		1	53		4	39		5	92			
Average of 2 Hotels			76		2	20		2	96			
Church		1	60		3	00		4	60	190	000	00
Church		1	82		3	65		5	47	80	000	00
Church		2	77		3	00		5	77	121	841	00
Church		3	15		1	67		4	82	189	264	79
Sub Total		9	34		11	32		20	66			
Average of 4 Churches		2	34		2	83		5	17			
Library		1	40		2	52		3	92	75	256	65
Average of—												
10 Houses, \$2,500—10,000		1	53		3	44		4	97			
8 Houses, \$10,000—20,000		1	33		3	44		4	77			
4 Houses, \$20,000—25,000		1	55		4	71		6	26			
4 Houses, \$25,000—30,000		1	71		4	70		6	41			
6 Houses, \$40,000—70,000		2	34		4	79		7	13			
Houses, \$70,000—100,000												
2 Houses, \$100,000—150,000		2	06		4	40		6	46			
School		1	98		2	00		3	98	\$153	172	00
School		2	12		1	53		3	65	56	860	00
School		1	54		1	82		3	36	72	470	00
School		1	60		2	52		4	12	69	724	00
School		1	08		1	67		2	75	75	256	65
School		2	02		1	09		3	11	460	065	28
School		1	74		1	39		3	13	64	505	90
Sub Total		12	08		12	02		24	10			
Average of 7 Schools		1	73		1	72		3	45			
Club		1	25		3	07		4	32	28	219	14
Club		1	40		3	13		4	53	52	037	89
Club		2	85		1	27		4	12	794	338	64
Sub Total		5	50		7	47		12	97			
Average of 3 Clubs		1	83		2	49		4	32			

"THE PLANS AND SPECIFICATIONS ARE MORE THE FOUNDATION OF A BUILDING THAN THE CONCRETE THAT GOES UNDER IT."

RÉSUMÉ SHOWING COSTS OF ARCHITECT'S TIME
PER HOUR IN SUPERVISING CONSTRUCTION
OF A BUILDING

Architect's salary per hour \$2.42
Half of office expense per hour 2.21

Total \$4.63

Or, \$4.63 per hour is the actual cost of the architect's time devoted to supervising the construction work of a building.

COST OF TIME OF THE ARCHITECT'S PAID
SUPERVISOR PER HOUR

Assume that the architect's paid supervisor received \$60.00 a week, or \$1.37 per hour. The overhead to be added to this, according to the 1-2 Rule, is twice \$1.37 or \$2.74.

RÉSUMÉ OF THE COST OF THE PAID
SUPERVISOR'S TIME

Supervisor's salary per hour \$1.37
Overhead 2.74

Total \$4.11

Or, \$4.11 per hour is then the cost of the architect's paid supervisor's time. An application showing how to figure the cost of supervising the construction work of a job can be figured out by an architect as shown in the following example. Of course, any job, whether it be a residence or an office building, could be figured out in the same manner, and you will be amazed to find how much it costs you to supervise the average construction work. Consequently before you make a percentage contract for the supervision of your building, it would be well for you to figure out how much it is actually going to cost you before making this form of contract. It is well for you to define how much actual time you will spend in supervising a job for a given amount of money, and then, if the client wishes to have more of your time, charge him for it at a definite cost per hour, such cost to include a net profit to you. You will find this result will follow—that you will not waste nearly as much time supervising work as you may have in the past, and the client will not demand an unreasonable amount of your time in doing this work. The following example illustrates the method of figuring the cost of supervising the construction work.

Statement of Problem—A building is 14 miles away from the architect's office. The cost of the building is \$35,000. The architect visits the job 1.5 times per week and his paid supervisor of construction makes 2.5 trips per week. It takes 5 months, or 22 weeks, to construct the building. It takes 1.0 hours to make one round trip and ½ hour on the

job. Office time architect devotes to job is 2.5 hours per week and paid supervisor of construction devotes 3.0 hours office time per week to the job. The expense of the automobile is computed as follows:

As the distance is 28 miles per round trip, and the ordinary distance covered in the overhead is 10 miles, then there are 18 miles that have to be charged for each round trip that is not covered in the overhead for the automobile.

Solution of Problem:

Value of Architect's Time

22.0 weeks x 1.5 visits per week x
1.5 hours per visit x \$4.63 per hour \$229.19

Architect's Office Time

22.0 weeks x 2.5 hours per week x
\$4.63 per hour 254.65

Value of Paid Supervisor's Time

22.0 weeks x 2.5 visits per week x
1.5 hours per visit x \$4.11 per hour 339.08

Paid Supervisor's Office Time

22.0 weeks x 2.5 hours per week x
\$4.11 per hour 226.05

Automobile Mileage

22.0 weeks x 4.0 trips per week x
18 miles x 8 cents per mile 126.72

Actual Cost of the Supervision to the
Architect \$1175.69

Method of Adding Profit:

Now we want to add enough to make a 30% profit:—

\$1175.69 equals 70%
70%: 100%: \$1175.69: X:
100% x \$1175.69 equals X or \$1679.56 —
70% Amount of charge to be
added for supervision.

Then, \$1175.69 (cost of supervision)

\$35,000. (cost of building)
equals 3.36%—Actual cost of supervision.

Then, \$1679.56 (Charge to be
made for supervision) equals 4.80%

\$35,000. (cost of building)

Note this carefully: the above method actually gives you a 30% profit. The ordinary method, which is wrong, would be to take 30% of \$1175.69, the actual cost or \$352.71, and add this to \$1175.69, total cost, or—

\$1175.69—Actual Cost

352.71—Supposed 30% profit (which is
incorrect)

\$1528.40

Now, \$1175.69 equals 77.0%, so your actual
\$1528.40 profit by this common, but
incorrect method of figuring
only gives you a 23.0% profit
instead of a 30% profit.

AN ARCHITECT'S AN ARCHITECT FOR A' THAT
AND A' THAT

To those who have a talent for it, the practice of the profession of architecture is very fascinating. In fact, any man who has this gift is not happy in any other kind of work. Good architecture is vital and necessary to the nation, and if a high architectural standard is to be maintained, then the architect must charge enough for his service, so that he can afford to create a creditable building for his client. The fact that architects are not making money out of the practice of their profession is a fault that can only be laid at their doorstep. The public is certainly not to blame because it pays what the architect asks for. If the architect does not know his production costs, then he is the one who will have to suffer, and there is no question but that he is doing it. The only ones who can correct this condition of affairs are the architects and they will have to work individually and collectively through their various architectural organizations to accomplish this result.

In order to do this the first thing they will have to do is to make complete, well studied plans

and specifications—plans that are illustrated with enough details so that the contractor can intelligently figure the job and then construct it, and by well studied plans I mean those in which the plan arrangement has been very carefully analyzed and solved; in which the artistic phase of the building has been carefully considered and enough details made to accomplish this result. In the second place, the architect will have to know how much it will cost him to produce the above mentioned service, and he will have to install a bookkeeping or an accounting system which can be simple but will give him these facts. In the third place, he will have to know what constitutes profit and he will have to develop the moral courage and backbone to fight for it.

The successful architect must generously give of his training and experience and in freely giving will be receive, while courageously demanding his just dues. In the words of James L. Allen—"Whether you be man or woman, you will never do anything in this world without courage. It is the greatest quality of mind next to honor."

(The End)



THE TEMPLE AT EDFU, EGYPT

THE PAVILION AT RIGHT SHOWS EGYPTIAN METHOD OF FORMING A PARAPET AND THE
TREATMENT OF WINDOWS

(From a photograph contributed by Welles Bosworth)

SOME MISTAKEN IDEAS IN THE SELECTION OF AN ARCHITECT

IN our issue of July 20, there was printed a copy of a letter addressed by Wm. Orr Ludlow to a client, setting forth certain phases as to competitions. We have since that date received many letters of approval of the publication of architects' letters to clients of that nature, treating on important matters.

Arthur Woltersdorf, F.A.I.A., of Chicago, sends us the following copy of correspondence with a prospective client, setting forth the mistaken impression that is so often to be found when an architect is to be selected for an important work. Mr. Woltersdorf wrote:

The Chicago Public Library:

IN reply to your letter bearing on the selection of an architect to do a \$50,000.00 branch library for the Chicago Library Board and how to get ideas from various architects without putting the Library Board under obligations to the men submitting these ideas, permit me to say as follows:

An architect, or firm of architects, with reputation and practice is no more anxious to offer his services for nothing in the hope of landing a job than is a doctor or lawyer willing to make experimental cures or write experimental briefs in order to obtain employment. Practitioners in architecture recognize that competitions, particularly for larger public works, are a necessary evil and hence The American Institute of Architects, a national organization commanding respect, has formulated, for the benefit of the public and its building committees as well as practitioners in architecture, a code of ethics, competition code, and such other documents as time has proved a necessity. A copy of these codes has been put in your hands.

The local chapter of The American Institute of Architects, regardless of its location in our country, is always ready to assist in the formulation of a competition program to the end that the program shall be fair to both the client and the competing architect.

I should not like to give the impression that it is impossible for your Honorable Board to have submitted to it sketches and tentative schemes for the proposed building without remuneration, and there are always, in every larger community, young men and older, unattached as to organizations regulating practice, clientless, and ambitious, who to obtain a job will enter a lottery, and it is in the nature of a lottery that the Library Board offers the opportunity to an architect to earn his fee in working out and supervising for the Board a \$50,000.00 building.

For anything further that I am competent to assist in the solution of this old though ever new problem, kindly command me.

(Signed) ARTHUR WOLTERSDOFF.

SECOND ARCHITECTURAL AND ALLIED ARTS EXPOSITION

OFFICIAL announcement of the organization, committees, and scope of the second Architectural and Allied Arts Exposition to be held under the auspices of the Architectural League of New York in the Grand Central Palace, February 21 to March 5, 1927, has been issued by officials of the exposition.

There will be an unusually strong and comprehensive representation of the architectural profession in this country in its directorate and standing committees, as well as in the allied arts, architecture, decorative painting, sculpture, landscape architecture, and crafts.

The management and standing committees have already progressed far in their organized plans and have assurance that the exposition will constitute an unrivaled presentation of the achievements of the professions. Important conferences and meetings in connection with the exhibition will bring delegates from the architectural and kindred professions from all parts of the country and from Europe.

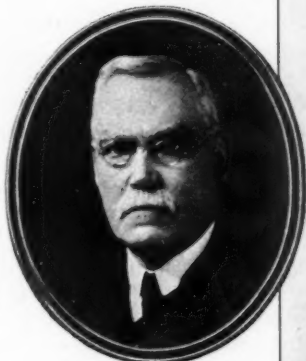
The exhibits will constitute a comprehensive presentation of much that is notable in architecture, sculpture, arts and crafts, decorative material, building materials, utilities and equipment. Great discrimination will be exercised in the selection of exhibits to insure an exposition of historic significance in the progress of American building.

In addition to the carefully selected display of drawings, photographs, models, paintings, and sculptural material, the exposition will include stone, marbles, stuccos, fine woods, mantels, furniture, decorative objects of art, paints, painted finishes, wall coverings, tiles, and floor coverings. In addition space will be set apart for practical accessories such as plumbing fixtures, piping, kitchen and pantry equipment and other necessities in domestic life, structural features, such as columns, girders, beams, movable partitions, metal doors and trim and many other materials entering into building construction will be shown.

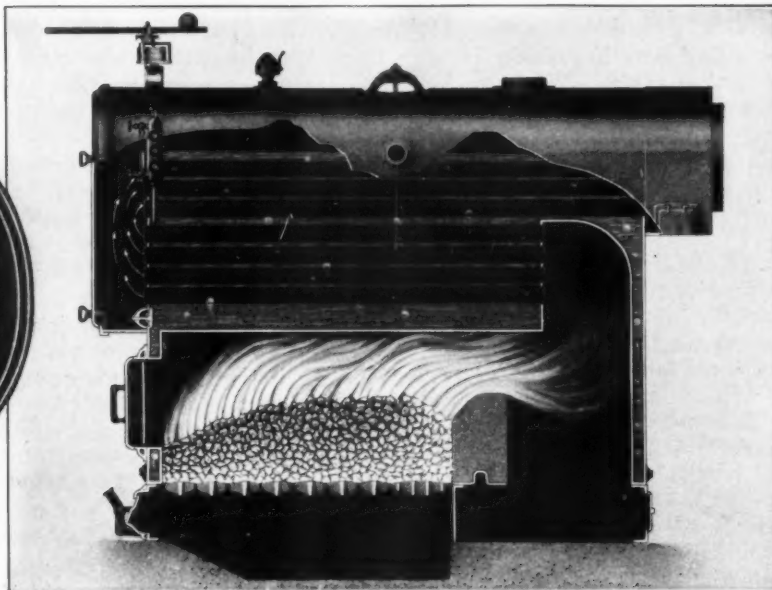
In view of the general interest and educational stimulus which such an exhibition must encourage and foster, representing as it does the superlative expression of the fine arts on the one hand, and their practical application to the every day life of our people on the other, the Architectural and Allied Arts Exposition will be far-reaching in its effects. Charles H. Green, 105 West 40th Street, New York City, is managing director. Harvey W. Corbett is chairman of the General Exposition Committee, other members of which are D. Everett Waid, Alfred C. Bossom, Raymond M. Hood, Julian C. Levi, John Russell Pope, Cass Gilbert, Dwight James Baum, William A. Delano, Leon

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N. Gillette, Joseph H. Freedlander, Charles W. Leavitt, Grant C. LaFarge, Ely Jacques Kahn, C. P. H. Gilbert, Lansing C. Holden, Edward York Palmer and Stephen Francis Voorhees. Howard Greenley, who decorated the 1925 Architectural and Allied Arts Exposition, is again Director of Decorations of the 1927 show. Walter T. Sweatt is director of exhibits.

30

UNIVERSITY OF PENNSYLVANIA ARCHITECTURAL COURSES

A SELECTIVE school of architecture reviving the practice of great masters of the Renaissance in providing for the restriction of advanced courses to students demonstrating special aptitude in architecture, is the innovation which will be instituted at the University of Pennsylvania this month.

"For many years," states Dr. Warren P. Laird, Professor of Architecture, and Dean of the School of Fine Arts of the University, "the University of Pennsylvania has maintained at high standard the traditional method of teaching architecture. At the urgent suggestion of its architectural alumni and to the end of being of greater service both to the profession and to the individual student, the University has decided to undertake a unique step in the history of architectural instruction.

"The vital principle of all teaching of the arts is that of direct, personal contact between pupil and master, notably exemplified in the Renaissance, and faithfully employed in all successful, modern architectural schools. But during the Renaissance the master chose his pupils—as indeed did the late Howard Pyle in forming the small class to which his teaching was confined—whereas the modern architectural school has admitted and promoted, to the limit of its physical capacity, all students who could pass its scholastic requirements. These are admittedly high in our American schools but the process permits the diligent plodder of only fair architectural capacity to earn his diploma and pass into professional ranks.

"But hereafter at the University of Pennsylvania architectural students will be chosen for the upper course rather than promoted to it; chosen after a fair chance has been given them in a lower course to demonstrate clearly a capacity to do well in this study.

"To carry out this step, several things are necessary. Beginning September, 1926, the enrollment of the University of Pennsylvania Department of Architecture will be limited to its present attendance of 350 students. This number is considered the maximum which can be handled under the new plan.

"In addition to limiting the number, the present four year architectural course will be increased in

subject matter and lengthened to five years. The first two years will consist of general college subjects, together with the technical ground work of architecture. This will give both the student and his instructors opportunity to find out whether he possesses those qualities of mind, sensibility and imagination whose later development will be essential to success in architecture.

"Granted this ability, the student will then be admitted to an intensive three year course in architecture which will deal with the advanced subjects relative to that profession. Those who fail to meet the selective test still will be able to complete work in other fields for which they probably are better adapted in the same time as would have been necessary to finish their architectural studies.

"This plan has several marked advantages. It will enable the student to prove to himself that he has the aptitude for architectural work before it is too late to turn to what may be more congenial fields. It will enable the faculty to concentrate on the more gifted individuals, and thus enhance the effect of that personal element and *esprit de corps* which has been so marked a feature of architectural study at the University of Pennsylvania."

Simultaneous with the announcement of the new policy on the part of the architectural school comes word of the appointment of Jean Hebrard as a professor of design, increasing to ten members the staff in architectural design under the leadership of Professor Paul Cret.

The architectural school of the University of Pennsylvania was established in 1890 and in 1920 became the main department of the new School of Fine Arts. Notwithstanding the increased stringency of the requirements, it is said that applications for enrollment this year have been unprecedented, the number actually meeting the school's requirements being largely in excess of its capacity as early as May.

30

A STONE FROM ST. PAUL'S, LONDON

A STONE from St. Paul's Cathedral displaced during recent repairs has been presented to the new School of Journalism in the University of Missouri, says *The Architects' Journal*, London. It is a three-foot cube of Portland stone quarried two centuries ago and carved by Francis Bird. It formed part of one of the statues on the south pediment of the cathedral. In its new home the stone will bear a meridian plate showing the distance and direction to the principal cities of the world, which will doubtless be very helpful to students setting out on their travels. The gift, we understand, was made by Dean Inge in response to a request from Dr. Walter Williams, of Missouri University.

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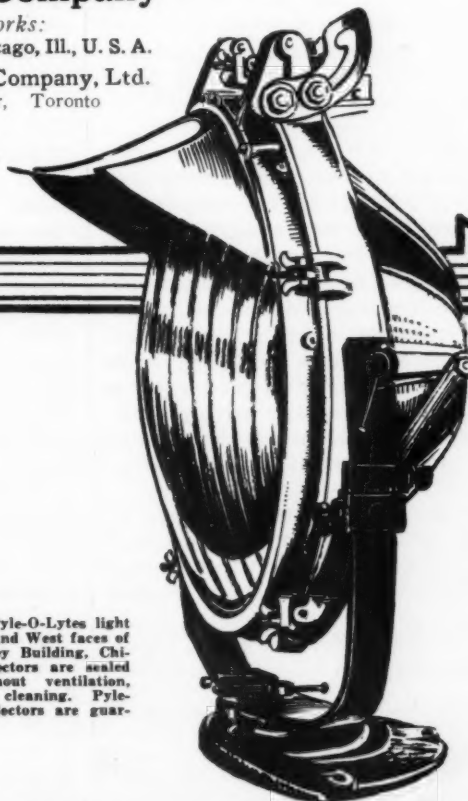
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THE MENACE OF THE MOTOR*

IT is a commonplace that every mechanical invention can be used either for good or for evil, and its place in civilization is determined by the degree in which it can be brought under proper control and made to serve the interests of the average man. Modern philosophers are apt to lay stress upon the weak points in the doctrines of the great utilitarians of the last century, John Stuart Mill and others, who adopted as their slogan the phrase, "The greatest happiness of the greatest number." The critics have pointed out the spiritual mediocrity of those who regarded such a consummation as the highest object of political endeavor, and have even accused the utilitarians of a definite hostility to the claims of genius. The exceptional cultural conditions required for the development of outstanding talent are not necessarily to be found in a civilization expressly designed to meet the needs of the average man, but although it may be true that in spiritual matters the utilitarian creed is apt to break down it forms a very good working philosophy for the guidance of politicians and administrators. The exceptional person ought not, of course, to have his wings unduly clipped, but those responsible are justified in preventing him from becoming a nuisance to others.

The motorist is today still an exceptional person, and he is outnumbered many times by the pedestrians who, though they may enter public conveyances, are not themselves private owners of motor vehicles. Already the motorist is beginning to become a nuisance to the non-motorist, and we are faced with the prospect of this particular trouble becoming very much more acute in the near future. In the big towns especially it has become apparent that the problem of providing parking space for private motor cars is a very difficult one. Various solutions have been suggested, but before examining them it may be well to keep in our minds some general policy by which we may be guided in framing our practical proposals. It is suggested here that administrators and traffic experts, in coming to their decisions with regard to regulations concerning motor traffic, should not, as they are at present a little too apt to do, regard the motorist as a privileged person, but should feel it incumbent upon them to aim at "the greatest happiness of the greatest number."

It may be remembered that some weeks ago we had occasion to comment upon a speech delivered by Sir William Joynson-Hicks, in which he suggested that for the benefit of the tenants of the new Devonshire House a strip of the Green Park should be set aside as parking space for motor cars. This is elevating motorists into a privileged class, indeed,

if on their behalf the public is required to sacrifice a portion of its already insufficient area of recreation ground in the metropolis. Fortunately, this proposal aroused such a storm of protest that it was immediately dropped, but we are still faced with the danger that public squares and other open tracts in our towns may be given over to the use of one particular section of the population without a proper regard being shown to the interest of the remainder.

Writing in the *Sunday Times* recently, Lord Montagu of Beaulieu suggests as the only solution of the problem that there should be large garages near all congested centers, with several lifts and containing possibly ten to fifteen floors. "In addition," he says, "a number of floors below ground should be dug out to accommodate the maximum number of cars possible compared with the ground space occupied. Any car which had to wait more than five minutes outside a shop should be compelled to go to such a center to be called for by telephone when needed." He foresees that in 1927 there will be 2,000,000 users of private motor cars in this country, and that they will cause such congestion of traffic in our great cities that overhead streets will be necessary. The prospect is not a pleasant one, and it appears to us that, instead of encouraging this vast influx of motor cars into the already crowded streets of our towns by providing special parking facilities for them either by skyscraper erections or otherwise, it would be more in the public interest and eventually in the interest of motorists themselves if regulations were made forbidding them to bring their cars within certain prescribed areas of our towns. The parking spaces could then be provided at the outskirts at certain points from which the motorists could proceed to their destinations in the town in the same manner as non-motorists would be obliged to do in similar circumstances. The wisdom of this regulation becomes immediately obvious if we consider the example of New York, which now suffers acutely from the absence of such control of private motor cars. In some of the New York streets the congestion of vehicles is so great that it is far quicker to walk than to ride in a car. Let the apostles of speed think it over.

Unless such a check is placed upon this gigantic increase of vehicular traffic civic architecture is destined to suffer grievous injury, for ever more and more streets will be widened, famous buildings will be sacrificed to the greed of the motorist for more road space. Yet it does not follow that motorists themselves would gain satisfaction thereby, for we may find that even after we have spoilt our towns at their bidding, the traffic problem will be just as far from solution as ever.

*Reprinted from "The Architects' Journal," London, issue of July 14, 1926.

The present-day automobile would be impossible without ball bearings

The smooth and economical transmission of power to the rear wheels of an automobile would be impossible without ball or roller bearings. Ball bearings are now considered essential in reducing the wear caused by friction between moving parts.



S. W. Straus Building
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Graham, Anderson, Probst
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Architects.

Equipped with 4863 pairs of
Stanley Ball Bearing Butts.



Ball Bearing Butts are an investment not an expense

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The Architect's Manual of Stanley Hardware contains information which will aid you in selecting and specifying the correct hardware. We will gladly send you a copy. A description of the Stanley line of butts and hinges can be found in Sweet's Catalogue, pages 1500 to 1503, and 1556 to 1568.

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WORKMEN'S HOMES LACK STANDARD EQUIPMENT

THE Philadelphia Housing Association states that an analysis of about 2,000 properties, well scattered throughout the built-up areas, revealed that only 18 per cent of the houses have complete equipment, and over one-half are furnished with only 80% of the needful equipment. This not only means that they lack the costly equipment found in the houses being built today, as for instance, tiled bathrooms, hardwood floors, mirrored doors, built-in medicine chests, and cedar lined closets, but that they are not equipped with the plain, simple fixtures which sanitary science considers essential to maintain comfort, cleanliness and health in the homes, i. e., bath, furnace, gas or electricity, inside water supply and indoor plumbing facilities.

It was surprising to find that in 305 houses oil lamps were used, as the means of illumination.

On the other hand, there was noted a rather widespread distribution of gas. Indeed, in 85% of the dwellings gas had been installed, although in 120 houses it was piped in only the downstairs rooms for cooking or illumination, and oil lamps were used on the upper floors.

Only 7.7% of the houses covered in the study, were wired for electricity. In the remaining 92% no electric lights, and no modern electrical compliances are installed, although in most cases wires have been strung in the streets.

In 1305 houses there were outdoor fixtures, although 45.7% did have bathtubs. While, in most cases the indifference of the landlord is responsible for this condition, still, in some instances, the houses cannot be properly drained until sewers are laid by the city. It is estimated that in the entire city there are between 10,000 and 12,000 houses on streets where the city has not laid sewers. Further, it is a known fact that today new homes are being built in new areas without sanitary drainage, because the city sewer program does not include these sections.

In many houses where there were baths, there was no bathroom, the tub being placed in a bedroom, or in a section of a room partitioned off for this purpose.

In one section of the city only one-eighth of the houses contained bathtubs, and in another only one-fourth.

The woefully inadequate equipment of some homes is a challenge to the intelligence of the community that permits owners to rent properties of such low standard to tenants. Seventeen per cent of the houses had their only water supply located out-of-doors. Not only is this a hardship and inconvenience to the housewife, but it is a violation of the city's housing law which states that wherever there is a water main in the street there must

be installed within each house at least one spigot and a sink.

In one instance a group of six houses was found with one outdoor hydrant for their common use. In another, the tenants of eight houses depend upon one yard hydrant for water. Here, again, the owner is culpable; but the city itself deserves to be censured, for in some instances it has failed to extend its water pipes so that owners might give tenants the protection of a filtered water supply. In South Philadelphia, near the Schuylkill River, there are thirty-one small frame dwellings with one pump as their only source of water. There is a similar condition in the extreme Northern section, where the tenants of seven houses have one pump for their common use. Again, in the extreme Southeast, the tenants of twelve houses fear to use the polluted water from wells sunk in the swampy land, and so they cart their water from a city fire plug one-half a mile away.

In only 22% of the houses was there a furnace. In 1374 houses, stoves of various kinds were used for heating purposes. Sometimes the kitchen range served to heat the entire dwelling, and often small gas and oil stoves were used in some of the rooms, the other rooms having no heat whatever during even the severe winter months.

The survey shows that a relatively large percentage of the houses occupied by industrial workers and built prior to 1910, do not give the modern aids, even of the simplest character, which sanitary science has demonstrated are essential for the maintenance of hygienic homes. The absence of such equipment to provide the ordinary comforts of living demonstrates that the burden of household labor is unduly heavy upon the housewife.

The seemingly moderate rent for such homes is more than offset by the increased strain attending the performance of household duties. More than shelter from the weather, given by four walls and a roof, should be provided for the rents charged today, if a normal standard of living is to be maintained.

In view of the lack of simple equipment such seemingly moderate rents represent relatively greater charges than the higher rents asked for better equipped houses.—*Housing Betterment.*

30

SUNDAY SCHOOLS

THERE are more than a quarter of a million Sunday schools in active operation in the world, attracting an attendance of more than 30,000,000 pupils. North America is ahead of other continents in this census, with some 150,000 schools and 20,000,000 pupils. Europe has fewer than 70,000 schools and about 8,000,000 pupils. Asia ranks next with 30,000 schools and 1,300,000 pupils.



Kenneth M. Murchison *specifies this insulation*

"Very well pleased indeed with the results" he says. Celotex offers architects advantages found in no other material

IN designing the fashionable Tuxedo Golf Club, Mr. Murchison planned for comfort, as well as beauty. He specified insulation because he realized that the ordinary building materials, alone, do not effectively keep out sun heat in summer or keep in furnace heat in winter.

And he specified Celotex Insulating Lumber as sheathing and as interior finish because it offers unique advantages.

Celotex is made from the long tough fibres of cane into broad, strong boards. Its thermal conductivity is .33 B. t. u. per hour, per square foot, per degree Fahrenheit, per inch thickness. (Gebhardt, Armour Institute of Technology.) It is sound-deadening, vermin-proof and waterproofed. On another of Mr. Murchison's buildings the Celotex was exposed all winter without damage.

Unlike ordinary insulation, Celotex is not an extra item in the building.

It serves as sheathing, replacing wood lumber and building paper, adding nothing to building costs. Numerous tests by Robert W. Hunt and Co., and other authorities prove that the resistance of Celotex to lateral distortion in wall sections is several times that of horizontal wood sheathing.

Celotex is also used to replace lath on inside walls

and ceilings. It bonds perfectly with gypsum plaster, forming stronger walls than lath and plaster, free from lath marks and less apt to crack.

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All of these uses are approved by the Investigating Committees of Architects and Engineers, New York, when Celotex is applied in accordance with our specifications.

Celotex is easily and quickly applied. Robert W. McCreedy, contractor on the Tuxedo Golf Club says, "The use of Celotex on this job helped the speedy progress of the work and gave splendid results as sheathing under the stucco."

We have prepared portfolios of detail sheets in A. I. A. bulletin form which contain specifications and detail drawings for numerous applications. May we send you one?

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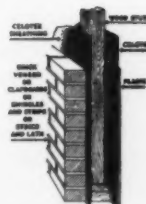
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HOW CELOTEX IS USED

Celotex is used in outside walls as sheathing, replacing wood lumber and eliminating the use of building paper. On inside walls plaster is applied directly to its surface. This eliminates the use of lath. Results: More comfort, greater strength and security, longer life and less upkeep expense.



CELOTEX

INSULATING LUMBER

COLORS IN CONCRETE

VARIOUSLY colored concrete, manufactured by combining certain pigments with the aggregate, seems likely to come into vogue for the walls and roofs of London houses, according to *The Builder*, London. The London County Council has, it appears, decided to build concrete houses in various colors, which will, according to an evening contemporary, remove the reproach so often levelled against the concrete house, that it looks gray and dingy. "It is now possible," remarks our contemporary, "to reproduce all kinds of well-known building stones in the form of concrete, and so satisfactorily that the average man would never know the difference." The eternal use of color for stucco or concrete has not hitherto received the attention it deserves, and architects will doubtless welcome this opportunity to introduce a novel form of decoration. But, in seeking to educate the architectural taste of the average man, let us not encourage him to admire shams that would have enraged Pugin and horrified Ruskin.

THE DANGERS OF ISOLATED SITES

MEN frequently choose sites for building because no other houses adjoin, states *The Architect*, London, forgetting that unless they can control the disposal of adjoining sites they may be infinitely worse off than they would be had they taken a site between other buildings. In the latter case they know the worst, in the former they frequently have reason to regret their decision. The country is often very much disfigured by a scattering of buildings separated by open spaces. The alternative seems to be to select sites which are surrounded by a partially built-up area which usually looks better as it becomes filled up by building. If we could induce the public to fill up certain areas before building on untouched country the whole aspect of districts would be improved. An old village is the result of the utilization of a comparatively limited area which is occupied by buildings often of little marked merit, but which, taken as a whole, are charming and suitable, and as few people now want the trouble and expense of large gardens, much might be done in arranging building sites in such a manner that the houses erected on them in some way suggest the charm of the old villages we so greatly admire.

USE OF WATER POWER

NEW YORK leads the States in utilizing its water power for generating electricity. It produces about 20 per cent. of its electricity by this means. California formerly held the first position, but has now fallen to second place. Washington ranks

next, then Montana, South Carolina, Idaho, Michigan and Iowa. More than 60,000,000 kilowatt hours of electricity are produced in the United States in the course of a year.

PERSONALS

Forrest S. Rusk, architect, has moved his office to 35 East Main Street, Columbus, Ohio.

Benjamin Franklin Olson, architect, announces the removal of his office to Room 12, 19 South La Salle Street, Chicago, Ill.

Electus D. Litchfield, architect, announces the removal of his office from 477 Fifth Avenue to 578 Madison Avenue, New York City.

William R. Ward, Jr., architect, announces the removal of his office to 214 Walker Building, West Washington Street, Greenville, S. C.

Everett H. Merrill, architect, formerly at 3981 West Sixth Street, is now located at 4475 Santa Monica Boulevard, Los Angeles, Calif.

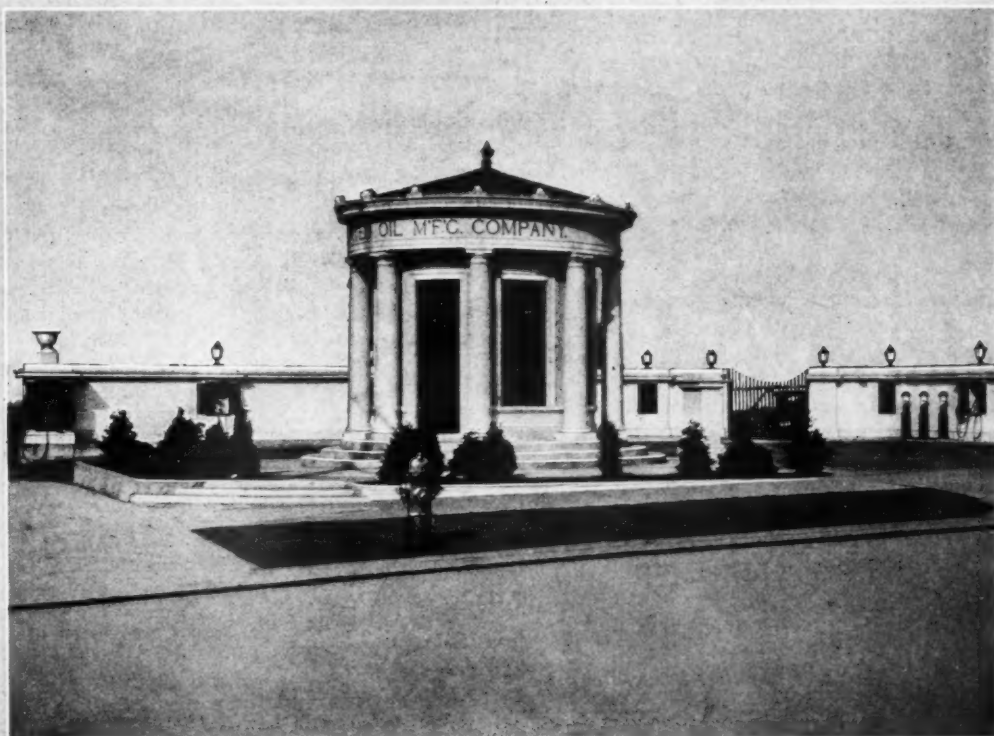
Walter J. Spross, architect, has opened offices for the practice of architecture and building superintendence in Poughkeepsie, N. Y., his address being P. O. Box 306.

Christopher Clift, architect, announces the removal of offices to the Pacific Avenue National Bank Building, Pacific and Mt. Vernon Avenues, Atlantic City, N. J.

Ellerbe & Company, architects, 692 Endicott Building, St. Paul, Minn., have opened a branch office at Rochester, Minn., and would like to have manufacturers' catalogs and samples sent there.

Myron S. Teller, architect, announces that Harry Halverson has become associated with him in the practice of architecture. The firm name will now be known as Myron S. Teller, Harry Halverson, architects, 280 Wall Street, Kingston, N. Y.

Announcement is made of the reorganization of the office of Lee Burns, architect, Indianapolis, Ind., whereby Edward James will be associated with him in the practice of architecture. Mr. James is a graduate of the College of Architecture of Cornell University and a junior member of The American Institute of Architects.



Filling Station for United Oil Manufacturing Company,
Erie, Pa. Cody-Hicks-Davidson, Architects. Executed
in ivory glazed Terra Cotta with green lettering.

THE OPPORTUNITY *in* FILLING STATIONS

Filling Stations are everywhere. They may yet become an important element in civic planning. Why not make them beautiful.

Architects can render the public no greater service than supporting every effort to this end. Popular sentiment has hailed with satisfaction the effort already made by leading oil producers to supplant unsightly structures by something good to look at.

Terra Cotta is the logical medium for this from every angle of practical and aesthetic advantage. Send for list of manufacturers who can estimate your requirement.

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19 West 44th Street New York, N. Y.

FOUR-FIFTHS AS MANY DWELLINGS AS FAMILIES
IN UNITED STATES

ALTHOUGH multiple-family houses, flats and apartments in the United States have increased rapidly of late, there are more than 20,000,000 dwellings to house about 25,000,000 families, according to press reports. A family is defined in the census as a group of people, not necessarily related by blood, who live as one household and eat at the same table. In a great many States throughout the country there is still a separate dwelling for every family, especially in the South and West, on this basis of calculation. Illinois, where conditions are more crowded, is an exception, but even there, there are only about 40 per cent. more families than dwellings. Even in New York State, where living conditions are more crowded than elsewhere, there are only twice as many families as dwellings.

Much is heard of the overcrowded conditions of our cities since the war, but there are few cities in the United States where there are 50 per cent. more families than dwellings. Philadelphia sustains its reputation as the city of homes with only 10 per cent. more families than dwellings. In Boston there are only twice as many families as dwellings. In many sections of New York City the population is the densest in the world, but even in New York there are only four times as many families as dwellings.

The size of the average American family has increased slightly of recent years, but the fact remains that there are only about six persons for every dwelling the country over. This includes the great flat and apartment houses in the cities, so that the average is less than this in the smaller towns and in the country.

THE LOCATION OF FACTORIES

TOWN planners are once again giving special and very earnest attention to the problem of the location of factories, states *The Architects' Journal*, London. Their presence in populous urban centers is undesirable, and the Ministry of Health, replying to a communication from Guy M. Kindersley, asking whether the advantages of the Trade Facilities Act could be extended to owners willing to remove their factories away from crowded districts, states that Government had already given guarantees with respect to the cost of re-erection outside London. Satisfactory as far as it goes, that assurance is but a fragmentary solution of the difficulty. Outstanding factors in the problems are the pollution of the atmosphere by smoke and other agencies of discomfort and ill health; while in addition to the question of abating nuisances and promoting hygienic conditions, there remains to be considered a social problem of serious import-

ance. Segregation of factories involves a separation of classes which there is a growing disposition to regard as undesirable from a sociological point of view. In considering this aspect of the matter, it is by no means to be overlooked that town planning has a strongly sociological side. Some of the most powerful elements and personalities in the movement regard the ethical aspects as being of supreme importance. These are the so-called "visionaries and dreamers," to whom, however, we owe so much of practical suggestion that their counsels cannot be safely or profitably disregarded. These excellent folk bear in mind, no doubt, the dangers which inevitably arise from sundering the classes by too wide and too obvious a gulf. However this may be, there seems much truth in the contention that the classes would understand each other better if they mingled more freely. And, further, there is a question of the wisdom of creating congested factory areas. But the whole matter has never been sufficiently debated from a comprehensive point of view.

Failure to seriously consider these problems as relating to the industrial center has already resulted in costly errors.



DETAIL OF SIXTEENTH CENTURY WINDOW, ALENÇON, SHOWING ATTEMPTS AT PERSPECTIVE AND REALISM.



Solves the Problem

THE Fifth Avenue Building, New York City, uses Celestialite as a "trouble-shooter" for tenant's lighting complaints. During the past two years the Fifth Avenue Building has made 65 installations of Celestialite to satisfy tenants demanding more light.

Celestialite from Miniature Suns

ILLUMINATION by Celestialite is next to daylight because Celestialite is so constructed that each Mazda lamp acts as a miniature sun shining on a miniature world.

The rays of light from the electric lamp pass through the patented three layers of strong, heat-resisting glass call "Celestialite." These three layers serve as atmospheric diffusers and refractors. The clear outer layer as the air; the white middle layer as the clouds, and the blue inner layer as the rectifying blue of the sky. The result is a brilliant white glareless light almost like daylight.

Send for a free fragment showing the unique three-layer construction of Celestialite Glass.



Light good enough to satisfy every tenant?

(another acid test)

CHOOSING the correct lighting glass for a great office building is one of the most difficult problems the specification writer has.

On completion of the building, hundreds of tenants move in—workers in dozens of industries. Artificial light that satisfies the office clerk seldom proves satisfactory to the printer and the tailor. They immediately set up a clamor for better illumination; light that will not strain their eyes. And the business manager, realizing for the first time, that the light installed with the building is not adequate for all of his tenants, sets to work to find a light that will satisfy everybody.

Does the lighting equipment you specify please every tenant? *There's the acid test!*

Thousands of Celestialite units have been installed to satisfy tenants displeased with the original lighting equipment. Building managers are rapidly coming to the conclusion that installing Celestialite when the building is built is much the simpler and least expensive way.

We will gladly send you complete information about Celestialite in easily filed data form. Write us. See the "American Architect Specification Manual" (1926 Edition).

GLEASON - TIEBOUT GLASS COMPANY

200 FIFTH AVENUE

NEW YORK CITY

CELESTIALITE
(PATENTED)
NEXT TO DAYLIGHT

CORK AND STEEL INSULATED HOUSES BUILT
FOR ENGLISH AIR MINISTRY

HOUSES with a steel framework and an insulation core of cork covered with cement concrete applied under pressure by a cement gun are being built for the Air Ministry, writes *The Architects' Journal*, London. A contract has been placed for the erection of forty houses designed for the accommodation of married airmen at one of the larger aerodromes near London.

The house itself is a concrete house of special design. The insulation core is composed of cork boards, such as have been used for the past twenty years for the insulation of cold storage buildings and in the construction of powder magazines on board ship. This board, composed of granulated cork compressed in moulds and baked, is enclosed in the solid concrete of the wall. The cement concrete is applied under pressure by a cement gun—a method that has been developed to a high degree in recent years in the United States and has been for a long while familiar in Great Britain.

Houses erected on this system have been completed in 1925 at Betteshanger, near Deal, in Kent. These have been carefully inspected by the officials of the Ministry of Health, by experts of the Government Building Research Board, and by representatives of the Office of Works, the Air Ministry, the London County Council, and other public bodies.



FARMHILL, ESTATE OF HENRY R. REA,
SEWICKLEY, PA.

LONGEST TELEPHONE CABLE CONNECTS
NEW YORK AND CHICAGO

THE telephone cable recently completed from New York to Chicago—861 miles—is the longest in the world and cost \$25,000,000.

Some five hundred to six hundred fine copper wires went into its construction, each wrapped with dry paper for insulation. The wires are arranged in concentric layers, then covered with a lead-antimony sheath. More than two hundred and fifty telephone circuits are provided by the cable and more than five hundred telegraph messages can be sent at the same time as the telephone messages. The cable is carried across the country on poles, but in the cities it is laid underground.



FARMHILL, ESTATE OF HENRY R. REA,
SEWICKLEY, PA.

BUILDING IN INDIA

THERE is nothing more indicative of the progressiveness of any country than the dwellings in which its people are content to live, says the *Straus Investors Magazine*. In this connection it is significant to note that the housing conditions of the workmen in India are being studied.

Municipal authorities have already erected enough concrete houses with running water and modern improvements to accommodate 20,000 people. As 79 per cent. of the population of Bombay were living in one-room tenements of the poorest grade, it is evident that there was opportunity for widespread improvement along these lines.

It is by reason of such carefully planned and executed feats of electrical engineering that we are enabled today to communicate with distant cities with increasing expedition and comfort.

THE PUBLISHERS' PAGE

WHAT is meant when it is said that an architectural magazine is "well rounded" in its contents? Undoubtedly the intention is to emphasize that it presents material that will have the largest and most valuable suggestive value—the greatest service to the largest number of subscribers.

Thus far in 1926, or up to and including our issue of August 20, sixteen issues have been published, or four more than any other architectural journal publishes for an entire year. In these sixteen issues there was presented a total of approximately 585 full pages of illustrations. Compare that total with other architectural journals and you will learn how much more, per year, you get in real suggestive material from the twenty-four issues of THE AMERICAN ARCHITECT at the same price of other publications, issued monthly.

The well rounded character of these illustrations is shown by the following analysis:

Apartment Houses	32 pages
Banks	10 pages
Commercial Buildings	90 pages
Churches	53 pages
Competition Drawings	36 pages
Relating to the Fine Arts	12 pages
Hotels	14 pages
Country and Suburban Houses, including low cost houses as a special feature	83 pages
City Houses	7 pages
Hospitals	10 pages
Industrial Buildings	16 pages
Landscape Architecture	8 pages
Monumental Buildings	10 pages
Office Sketches	17 pages
Schools and Educational Buildings	47 pages
Theatres	14 pages
Measured Drawings	11 pages
Engineering Department	52 pages
Interior Architecture	62 pages

This, we believe, presents a "well rounded" selection, and in about the proportion that will have the largest interest to the average subscriber. It is significant of the trend of modern living that there are few city houses available for illustration. Contemplating this fact, and contrasting the increasing number of apartment buildings, the moralist may find a text from which to preach a sermon

on "the passing of the home." Mrs. Partington said—or was it Mrs. Malaprop—that comparisons are "odorous," so we will not stress too strongly the fact that in the manner of presentation of this large amount of carefully selected material, the publishers have aimed to dignify it with the finest effort possible.

In the matter of text, in the twenty-four issues presented by this journal during a year, the same effort toward a "well rounded" treatment of live features is observed. Architects will read their architectural journals, provided, of course, they are worth while reading. Every mail that reaches this office contains letters addressed to the editors, discussing the articles presented, and they all indicate that the profession is deeply interested when the subject matter warrants it.

Announcement has been made in earlier issues of the many good things both as to text and illustrations, that will find space in these pages during the balance of this year. We aim to present throughout the year the same "well rounded" feature in every department of this journal. We'll not say much about the Specification Manual, as that will soon be in your hands, and we believe will speak for itself. The increasing demand for this manual of the best forms of specification, proves that it is an indispensable guide in the specification department. Some new features, and some added mention of the unusual in specification, will, we believe, give increased value to the work.

The Department of Interior Architecture will carry forward the valuable work of placing before subscribers in a thoroughly satisfactory way, features of design and decoration that will be helpful.

In the Department of Engineering and Construction, there are in preparation a number of special features that will be of value particularly to the men in the smaller communities, where access to the many technical details of practice is not as easy as it is to men in larger cities.

In short, to emphasize the real interest of a magazine that aims to be "well rounded," there will be constant effort to give to the largest number of subscribers the things that will be of greatest service in the daily work of their offices.



THE CATHEDRAL, LE NEUBOURG
REPRODUCED FROM THE ORIGINAL DRAWING BY SAMUEL CHAMBERLAIN

THE AMERICAN ARCHITECT