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Ernest R. Graham

1868-1936

When in the early part of December, Howard J. White suggested that I write the appreciation of Ernest Robert Graham for the Bulletin, I pictured with considerable pleasure, notwithstanding the responsibility, our sitting in front of the blazing logs at the Cliff Dwellers and unrolling together some of the dusty blue prints of time and bringing to light after thirty-eight years our earliest memories of Ernest Graham. Now that Howard is gone, I am peering over them myself, but it takes two really to remember things.

In 1897, while an undergraduate of Boston Tech, I spent a summer's vacation in the office of D. H. Burnham and Company. We were working on the Pittsburgh Station, the Ellicott Square building in Buffalo, and the Fisher building in Chicago. Mr. Graham could not have been more than twenty-nine. It seems unbelievable, as he looked to me only a year or so ago just about as he did then, except that his white hair had once been red and his still alert step had once been a trot.

It was only four years after the World's Fair and in the old offices in 1142, The Rookery, my irrepressible, picturesque friend Paul Lauthrop, hunched over his huge perspective, surrounded by half-smoked cigarettes and a pile of coffee by his side, would regale me with great stories of "E. R." Galloping around the Court of Honor in a brown derby hat and on a white horse, keeping several thousand workmen, sculptors, and architects on their toes, E. R. could not have been more than twenty-four at that time. The story, as Paul told me, was that Mr. Burnham in his extremity, had gone to William Holabird and asked him where under heaven he could get a superintendent that could get the Fair done in time and Holabird had told him he had a blankety blank red-headed young demon who would do it or die trying—so he sent him around.

In the summer of 1898 I became a draftsman in the famous firm of D. H. Burnham and Company to remain eight years. That fall Edward Probst and Howard White both came and a few months later Pierce Anderson, his leonine head crowned with the halo of the Beaux Arts. Curiously, though it has nothing to do with the story, these three men—afterward to become partners—were all born in the same year, in the same month, and in the same week!

One night last June I dined at Mr. Graham's and the theater was to follow. After dinner, over our—or rather—his excellent cigars and in his own sitting room filled with fascinating mementos of his distinguished career, I reminded him that he was the only one left in the huge organization as it was when I first entered it. We named over a few, Charles B. Atwood, Peter J. Weber—the Chief Designer, Willis Polk, Bill Fellows, Oscar Rixson, Boari who designed the Opera House in Mexico City, John Hamilton, Ed and Ralph Shankland—the structural engineers, and Wilkes—the mechanical expert. Then there was Reuben Denell, the foreman who wrote in his specifications the famous clause: "Everything omitted is hereby included."

And we didn't forget Montgomery, the bookkeeper, or Bill Kelley, the office boy. Of course, above all loomed the giant figure of Daniel Burnham, a veritable God of the Mountain. Finally, as we threw away our butts and put on our coats, he put his arm around my shoulder and said, "Tom, I'd a damn sight rather sit here and talk over old times than go to this blamed show." It was this very human kindness, affection would not be too strong a word, that he showed to all of us that is my most treasured memory of Mr. Graham.

One last instance. When I left the office with Vernon Watson to start a partnership of our own, Mr. Burnham called me in and told me that he and Mr. Graham would pay our office expenses for a year, and it was not to be a loan either. I think he was actually disappointed that we didn't call on him to make good. Through the years though, there were many practical good turns from the big office that any architect will understand, all of which taught me that aside from paying wages, there is a responsibility on every architect to help an ambitious draftsman get started as a practitioner.

The several excellent accounts of the work of this great firm in its varied phases recently published in the newspapers make it, it seems to me, unnecessary to list buildings or other statistics—save perhaps a few of those buildings that were in the office when I was there and on which I came into personal contact with Ernest Graham. Trusting to memory, here are a few besides those already mentioned: in Chicago, Marshall Field Annex and main store, Merchants Loan and Trust, Illinois Trust, Railway Exchange, First National Bank, Orchestra Hall Building, Heyworth Block, Stewart Building, Reid Murdoch, Booth Fisheries; in New York, Flat Iron Building; in Philadelphia, Land Title and Trust Building, Wanamaker Stores in both New York and Philadelphia; Frick Building, Pittsburgh; Continental Bank, Baltimore; Traction Building and Schmidlap Memorial, Cincinnati; Frisco Terminal and Hibernia Bank, New Orleans; Memphis Trust, Memphis; Mills Building and Merchants Exchange, San Francisco; and my last job, the Union Station in Washington. There were also the great projects—plans for Baguio in the Philippines, San Francisco, Cleveland, Washington, and the first stirrings of the Chicago Plan, but they were done by the Beaux Arts crowd—Pierce Anderson, Theodore Lescher, Georges Robard, and Jules Guerin—secreted in mysterious ateliers away from the main drafting room. I did not have much to do with any of them and I don't think Mr. Graham did either.

Nobody claims that Mr. Graham was a designer in the aesthetic sense, but he was the greatest builder of his day. After the World's Fair, from the year 1894 to the day of his death in 1936, he was actively associated with the preparation of the plans and erection of 500 buildings which cost over 500 million dollars. An analogy, not perhaps entirely in order but certainly eloquent of the vast scale of

modern achievement, is the work of Sir Christopher Wren who has stood as the arch-architect of all time. Wren built 103 buildings in a practice of about fifty-five years which at present valuation would be, at a guess, around 28 million dollars. In other words, about 1/16th of the amount done by the great architectural office during Mr. Graham's association with it in a period of forty-three years.

Ernest Graham's contribution to the nation, in my opinion, is that with his partners he put the practice of architecture into the category of "Big Business." One must realize that the period of the development of the skyscraper, say from 1893 to 1928, which coincides exactly with Mr. Graham's active professional life, is the most brilliant thirty-five years in the history of architectural-engineering, and that Graham was one of the principal actors of this drama. To him, more than to any other, is

due the science of great building consummation and by that is meant promotion, design, and construction.

His opinion on the financial soundness of a building program was the best in the country. He often rejected commissions for buildings which, while they might have been profitable to the architects, would not have been to the owners. Very soon, the reputation of the firm for creating profitable buildings became nationwide. After the deaths of both Daniel Burnham and Pierce Anderson, the aesthetic treatment of the skyscraper was revolutionized. Mr. Graham was quick to accept "clean architecture" and the last skyscraper he built, the Marshall Field office building, is one of the greatest in the country, in its size, in its scientific perfection, and in its prophetic beauty. I shall always regard it as his monument.—*Thomas E. Tallmadge.*

Howard J. White

1870-1936

It is hard to realize that my friend and partner, Howard J. White, is no longer with us reporting to the office regularly. His passing is a serious loss to the architectural profession and to his many friends, and to me a tremendous shock. We had discussed some business matter in the office less than an hour before I received the message from St. Lukes Hospital that he had been brought there. He passed away the next morning, December 18.

Howard Judson White was born in Chicago February 21, 1870. He was a product of Chicago's public and manual training schools. He married here, became a draftsman for Chicago architects, entering the employ as draftsman and later superintendent of D. H. Burnham & Company in 1898. My acquaintance with Howard dates back to April 1899 when we met in the office of D. H. Burnham & Company in the Rookery Building. We worked on adjacent boards and on the same job, which happened to be the Illinois Trust and Savings Bank. Then came the Merchants Loan and Trust Building—a twelve story structure located at Clark and Adams streets. Dear old Reuben S. Denell was chief draftsman and the versatile Peter J. Weber, chief designer.

Howard and I were the only two new men among the lot of old-timers and a mutual friendship sprang up between us that lasted until his death. He made good drawings, had enviable knowledge of construction and details, with an unflagging interest in whatever he worked on. Always on the job, quiet and dignified, he never talked out of turn. These qualities won him deserved recognition when he was sent to Pittsburg to superintend the eighteen story H. C. Frick Building, designed by Mr. Burnham. It was sheathed with granite from sidewalk to roof. Coming into the office on December 24, 1900, this job was a welcome and needed Christmas present. Mr. Burnham ordered a celebration at which Howard proved his preference for water over champagne.

Howard went to Pittsburgh to superintend the Frick Building and became the firm's Pittsburgh representative, having supervision likewise of Highland Office Building, McCreary Department Store, and Pennsylvania Union Station. Through these structures, Howard obtained wonderful experience, a host of loyal friends and a crown of glory.

The time was 1905 and the Chicago office moved from the Rookery to the Railway Exchange. There was much new work and Howard was made assistant to Mr. Graham

and given charge of letting contracts and supervision of construction. The stalwart Pierce Anderson had been in the office since 1901 and was now in charge of design under Mr. Burnham. With much work in the office, Howard's job was a trying one.

Following the death of Mr. Burnham, the firm Graham, Anderson, Probst & White was formed in 1912. From 1924 to 1928, Howard handled the letting of contracts, the supervision of construction, together with numerous and complicated details for about thirty important buildings, including the Cleveland Terminal group; Chase National Bank, New York; Pennsylvania R. R. Station, Philadelphia; Coppers Building, Pittsburgh; Merchandise Mart, Civic Opera House, Continental Illinois Bank Building, State Bank Building, Foreman Bank Building, all of Chicago, and other structures of similar magnitude. Under him worked forty-odd superintendents, requiring much travel on his part over the country. His calculations showed that during this strenuous period he slept at home less than half the time. With Howard White personal and social engagements were always subordinate to business and eight o'clock in the morning saw him at his desk.

I have lost a sincere and faithful partner and many there are who feel they have lost a dependable and loyal friend.—*Edward Probst.*

Edward Probst, surviving partner of Graham, Anderson, Probst & White, Architects, has taken with him as partners his two sons, Marvin G. and Edward E. Probst, William E. Graham, son of the late Ernest R. Graham, and Wellington J. Schaefer, designer. The old firm name will be retained.

In American architecture it seems quite clear that the poetic gift, still common at the end of the eighteenth century was less fine-grained by 1820, in 1840 had fairly set out upon the primrose path and by 1860 had reached everlasting bonfire. This sudden falling off in quality I have been inclined to blame upon the introduction of machinery, with which it was co-incident. The machine produced closer societal organization and this it was that affected adversely the artistic impulse. The devastation was felt in architecture more completely and sooner than in the other arts, because architecture is more completely the off-spring of the age and less easily saved by the superior genius of one man.—*A. Kingsley Porter.*

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Editor Monthly Bulletin

ARTHUR WOLTERS DORF, 520 NORTH MICHIGAN AVE., CHICAGO

The architectural press keeps its readers on the qui vive over the two world's fairs to be held in the United States in 1939—one in New York, the other in San Francisco. While many of the projects for these two undertakings may never materialize, the general plan of each has been fixed and the sites determined upon.

The New York fair has one advantage in that New York is the home of nearly all the journals and publicity and propaganda come to it as a matter of course. Its site is in the Flatbush section of Brooklyn on Long Island, a low, swampy section that has been used as an ash and refuse dump for generations. Its new name is Flushing Meadow Park. The exposition plan suggests an airplane in general outline. All sorts of new ideas in planning and in theme are proposed. Competitions are held among the talented but untried with promises for the design of at least one building to each of the successful competitors. Buildings will all be temporary since the site is to become a park under the New York system after the fair.

As to the theme, let us quote Wallace K. Harrison of the architectural firm Harrison and Foulhoux, selected to design the Theme Building: "The essence of the Fair is the expression of the life of the future and that is the idea that we will try to develop in the most modern way, with the added consideration that, after all, this is a show and must be made thrilling."

The San Francisco show will call itself Golden Gate International Exposition and will be located on a man-made island in the center of San Francisco bay. It will celebrate the completion of the world's two greatest bridges across San Francisco bay, the inauguration of trans-Pacific air service, and the progress of nations bordering the Pacific. After the exposition, the island will be used for a modern community airport and seaplane base owned and operated by the city and county of San Francisco. It is proposed to spend \$40,000,000 on the Golden Gate show.

The interest maintained by the architectural press through articles and pictures is excellent. If this interest and enthusiasm could be injected into the public press, it

might redound to the interest of architecture and architects. We shall continue to read and observe as long as this material is fed us, and in 1939 we shall see what we shall see.

The burning of London's Crystal Palace on November 30, 1936 is cause for pause and reflection by architects. Here was modern architecture breaking from tradition in 1851, more violently perhaps than has occurred since that day. The Crystal Palace was a great exposition building, constructed of iron and glass like a huge greenhouse, first erected in Hyde Park, London and re-erected at Sydenham near London in 1854. Sir Joseph Paxton was its architect. It was in truth a huge greenhouse construction with a nave 1600 feet long and central transept 390 by 120 feet and 175 feet high. The north transept burned in 1866.

Today we have glass bricks laid like masonry for wall surfaces which is not nearly so far a cry as metamorphosing a 1600-foot long building from masonry as of old, to sheet glass set in light metal and supported by cast iron with wrought iron bracing. It is like writing an obituary on the life and achievements of a great personality to review the creation and the influence on modern design of this London Exposition Building of the 1850's.

Another Crystal Palace Exposition soon followed the London structure in New York in 1853. It was, however, much smaller and stood on the site of the present New York City public library and Bryant Park.

The Pennsylvania Association of Architects, one of the younger state associations, presents in its current Bulletin the aims of the association. These aims, of course, are no different than those of any other state organization of architects. Let us hope that Pennsylvania's activities will remain unflagging and that it may succeed in making the architect as a professional man respected and looked up to; that the architect will be deserving of this public respect.

The architects of Maryland are now in the process of forming a state society of the profession.

The monthly Bulletin of the Washington State Chapter, A. I. A. has resumed publication with the December number after a lapse of two or three years. Sincere good wishes are extended to our Washington confrères by the I. S. A. Bulletin.

Using local clay, scientists at Tennessey Valley Authority laid the foundations of a ceramic industry in the South and applied electrically heated kilns to pottery-making for the first time.

The serious thought and intense interest manifest at the January meeting of the Illinois Society of Architects in the proposed building ordinance for Chicago, bodes well for some action by the Chicago Common Council in enacting into law within 1937 sections on construction, plumbing, and fire-prevention. Architects and engineers have been saying "How long, O Lord, how long!" Hope springs eternal in the human breast.

Capt. Richard L. Reiss of London, recognized authority on British and European housing who is touring the principal cities of the eastern half of the U. S. under the auspices of National Public Housing Conference, will speak at a luncheon sponsored by the Metropolitan Housing Council and State Housing Board on Monday, Feb. 8, 12:30 o'clock, in the Crystal Room, Sherman Hotel, Chicago. Interested architects are invited. Luncheon \$1.

Illinois Society January Meeting

With seventy men attending, the Illinois Society of Architects' January 26 dinner and meeting was soon brought to the special program of the evening by President Jensen, after dispatching routine business, resolutions on the death of Past President Howard J. White, and the public introduction of Walter Childs, a new member.

The evening's subject for discussion was the new Chicago Building Ordinance whose birth is accompanied with great trials and labor pains. Ten years have passed since conception. In that decade, two mayors, each in his time, appointed a building ordinance commission composed of architects and engineers, tried and proven in their profession, to formulate and arrange in an orderly and workable manner, with the assistance of an Assistant Corporation Counsel, a building ordinance for Chicago that would recognize in their proper places all modern advances in the science of building, its materials and methods.

To mould such a document into law in Chicago, public hearings are held before a sub-committee of the Chicago Common Council and on the sub-committee's recommendation to the Council at large, the matter is voted upon by the Board of Aldermen. The architects' and engineers' commission have been broken on the wheel of the sub-committee's hearings. Before the sub-committee at such hearings come rich man, poor man, beggar man, thief, the lame, the halt and the blind, the intellectually responsible and irresponsible. The aldermen are a body of lay citizens. The sub-committee does not show deference to the technically trained engineers and architects over any voter. For long periods no public hearings are held. At this time one public hearing a week is granted and Alderman McDermott promises two a week.

The first commission, after more than six years of labor, was dismissed by Mayor Kelly when he appointed a new commission with Frederick J. Thielbar as chairman. Three years of incessant, nerve-racking labor on his part are crowned by reading and consideration in the sub-committee of the Council of but thirty-one chapters of this long document which covers many thousand words.

President Jensen stated that the I. S. A. was anxious to assist the sub-committee in the consummation of its task. Chairman James J. McDermott of the aldermanic sub-committee spoke at length with notes before him taken at the hearings. The aldermen have their preconceptions and prejudices. Mr. McDermott said his committee will not accept Gypsum as a structural material. He made clear that fibrous materials would not be recognized for sheathing or outdoor work. He referred to clauses that he thought unconstitutional, notwithstanding the fact that Assistant Corporation Counsel Gorman had drafted the various sections in legal form, incorporating the technician's ideas.

The Alderman expressed his desire to cooperate in the interest of stimulated business and reduction in the cost of building, to hold two public hearings a week except during holiday seasons and mid-summer, in order to expedite the acceptance of a corrected and amended document by the Common Council, but any thought of accomplishing this within three months was out of the question. Their hopes were for a year.

Aldermen Lindell and Terrell of the same sub-committee were introduced. They advanced the suggestion that if certain amendments to the present ordinance could be made and leave the new ordinance for future study and enactment, the building interests might be satisfied and the immediate object accomplished.

Chairman Thielbar of the ordinance commission replied to all three aldermanic minds. He holds tinkering with the old ordinance impossible; to get good results for intelligible working, a complete new building code must be devised. The aldermanic attitude that any man can fill any office, Mr. Thielbar opposes in that he defends the proposed ordinance for demanding either a licensed architect or engineer for the office of building commissioner. The chapter calling for a Bureau of Standards and Tests, the commission and the aldermen disagree on. The commission demands trained, scientific servants or the elimination of the proposed bureau.

Chapter 31, which discusses new materials, is the most controversial. Chairman Thielbar finally recommended that the chapters

on construction be taken out of the mass of chapters and made into law by the Common Council. Then the next group could be taken up likewise on plumbing; then the fire prevention chapters, and so on. A vote of confidence in Chairman Thielbar and his commission was passed with a large majority.

The discussion continued after the aldermen had left. E. Stanford Hall proposed a Board of Appeals for the aldermanic committee. Messrs. W. P. Fox and John Davey moved to amend construction clauses in the present building ordinance and leave the rest for the future. This proposition was spiritedly voted down. Messrs. Ostergren, Holsman, and Stromquist spoke to uphold Mr. Thielbar's committee in their effort to make a complete document of the proposed ordinance. President Jensen will cooperate with the Chicago Chapter, A. I. A. in securing for the commission such cooperation and support by the profession as the commission may need.

President Jensen prophesied that this meeting will bring more speed toward the consummation of a new, modern, scientific and workable Chicago Building Ordinance.

Leo H. Pleins of Springfield, Illinois, is acting for the Board of Directors of the I. S. A. as a committee of one to recommend the course to be pursued for securing an adequate, fitting state building code for Illinois.

A committee of the Illinois Society of Architects is in formation to arrange for regular annual statewide meetings outside of Chicago. This committee has the further function of arranging for regular quarterly regional meetings of the Illinois Society of Architects in different territorial sections.

New I. S. A. Members during 1936

Koener, Uda H., 9908 S. Western Ave., Chicago
 Pipher, W. Vernon, Flossmoor
 Kruegal, Arnold J., Joliet
 Hadley, Bryant E., 1005 S. Fourth St., Springfield
 Macardell, Cornelius W., 606 S. Fourth St., Springfield
 Booton, Joseph F., 1017 W. Edwards St., Springfield
 Henderson, Russell D., 2124 S. Fourth St., Springfield
 Kelley, Joseph, 125 W. Myrtle St., Springfield
 Decker, Daniel W., 1728 S. Spring St., Springfield
 Zimmer, John E., 209 W. Scarett St., Springfield
 Saylor, Raymond Lewis, 106 E. Cook St., Springfield
 Lindblad, Alfred G., 317 S. Seventh St., Springfield
 Garretson, W. Gordon, Girard, Illinois
 Golabowski, Joseph F., 1701 S. Pasfield St., Springfield
 Worthington, Earl Carlton, 900 S. State St., Springfield
 Knox, Robert, 518 E. Capitol Ave., Springfield
 Noble, James, 1829 - 160 N. LaSalle St., Chicago
 Sexton, Frank A., 220 S. W. Thirtieth St., Miami, Fla.

Chicago Housing Commission Appointed

In compliance with the desires of PWA Federal authorities, Mayor Edward J. Kelly of Chicago has appointed a city housing commission to take charge of Federal housing projects in Chicago when completed. The following citizens were appointed members: T. J. Carney, Vice-President, Sears, Roebuck & Co.—one year; Victor A. Olander, Secretary-Treasurer of the Illinois Federation of Labor—two years; Coleman Woodbury, Director, National Association of Housing Officials—three years; John R. Fugard, architect, housing consultant for the state—four years; W. J. Lynch, building contractor—five years.

The commission will select its own officers.

Giant hinges of concrete for use in bridge construction were developed at the University of Illinois.

December and January Chapter Meetings

Forty-odd men and one woman assembled at the Architects Club of Chicago on December 8 for the Chicago Chapter, A. I. A. meeting to hear Walter Blucher, Executive Director of the American Society of Planning Officials, talk on city planning. Mr. Blucher's headquarters now are at the University of Chicago, though his experience as a planner is identified with Detroit and many other cities and he is said to be "in touch with city planning projected in practically every city in the U. S."

There was the usual dinner, the secretary's readings, with few announcements and little or no new business, and the introduction of Miss Elizabeth Wood, statistician and lecturer for the Metropolitan Housing Council of Chicago. President Merrill quickly turned to the subject of the evening in introducing Mr. Blucher.

The speaker began by saying that a city planner was not necessarily an architect, though he might be drawn from that profession. The foremost city planner today, Sir Raymond Unwin, was an architect, and the training in the Liverpool school of architects did produce good city planners. In the speaker's seventeen years experience, he had employed many architects in different cities and his conclusion was that architects as planners were good, mediocre, and worse. Mr. Blucher enumerated very many qualifications and abilities needed to make an A-1 city planner, with three qualifications outstanding—planner, reformer, missionary.

Modern city planning in this country began with the Columbian Exposition of 1893. Architects are given credit for that plan, though they are not entitled to it since it was made by the landscape architects. And then came the plan of Chicago adopted in 1908, he said, as a plan of the City Beautiful. Since then planning studies have gone far beyond merely the City Beautiful. They recognize now that giving decent, healthful housing with fresh air and sanitation and never more than two occupants per room is fundamental.

Before the general discussion began, Henry K. Holsman said he would "stick out his neck." He had attended a housing conference in Philadelphia where he had heard Mr. Blucher. Holsman endorsed Blucher's criticism of zoning as it exists in American cities and called zoning "the dead hand of city planning." To Mr. Holsman, any city planner to qualify must be a sociologist, a psychologist, a financier, and something of a lawyer.

Now came a general discussion. Ralph Gross got the floor first and stated all our lack of progress in city planning was to be attributed to the nefarious influence of politics. George C. Nimmons testified that after long and conscientious study of housing problems, he had come to the conclusion that private investment in the small house or in multiple housing for the lower income group was hopeless since decent returns on the investment could not be produced. Thomas E. Tallmadge attributed the lack of adequate revival in building to the unreasonable, high-handed exactions of labor unions. Arthur Woltersdorf asked for the speaker's opinion of the three suburban resettlement projects the Federal Government is now carrying out. Blucher replied that they were a necessary experiment, that no one knew yet what they would cost, though it was known that because of the cost the low income element for whom these towns were planned will not be able to occupy the homes since they cannot be rented for less than \$7, \$8 or \$9 per room.

Elmer Roberts asked whether the active cooperation of the American Institute of Architects would not help in more rapidly solving city slum evils. Elmer Jensen deplored that politics was a stumbling block for all progress in city planning and hoped for the early coming of a city manager whose functioning would be free from politics. Miss Wood referred to the great number of planning agencies existing in Chicago, each with diverse ends and purposes and none of these organizations cooperating with one another. Henry K. Holsman rose as a final beacon light, recommending not only the introduction of the city manager but insisting that a city planner be a regular municipal cabinet officer with authority as far reaching as that of the health commissioner.

One more matter was taken up, namely, the Federal project to erect in St. Louis, Mo., a museum of architecture. After a brief

discussion, a motion was put and unanimously carried to approve and endorse the idea of this Federal project.

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The Chicago Chapter assembled for its monthly meeting on January 12 at the Architects Club of Chicago. President Merrill introduced the subject of the evening arranged by the program committee. This program was the presentation of paintings of the World's Columbian Exposition from the collection of the late Daniel H. Burnham. These works are a permanent loan, not from the sons—Hubert and Daniel Burnham—as the invitation stated, but from the widow of Daniel H. Burnham, as Hubert Burnham corrected during the evening.

The following canvases were presented: A bird's eye view of the Fair grounds with all the important buildings, the lake and the lagoons shown, painted by Charles Graham; a view looking north along the strand of Lake Michigan with the Manufactures and Liberal Arts Building on the left, the battleship "Illinois" straight ahead in the distance and behind this the buildings of Great Britain and Germany, painted by de Thulstrup; a painting by Rasmussen of the Golden Doorway, designed by Louis Sullivan; and most important of all, two semi-circular lunettes which, when enlarged, decorated an entrance way to the Manufactures Building. These two lunettes in oil are masterly murals by Walter McEwen. Also included in the collection is a bronze about two feet high of a seated, Moses-like bearded figure, carrying a youth on his knee. This sculpture is by Leonard Crunelle, done years after the Columbian Exposition.

The president called Arthur Woltersdorf to preside during the presentation. The latter introduced his subject by drawing a word picture of conditions in different countries of the Western world from about 1860 to the late 1880's, when Congress decided that the four hundredth anniversary of the discovery of America by Columbus should be celebrated by a World's Fair.

Hubert Burnham and, after him, Daniel Burnham, representing the donor—their mother—spoke briefly. Richard E. Schmidt was called upon to point out on the bird's eye view important buildings and their architects. Irving K. Pond reminisced, touching on incidents and scenes in Chicago immediately before the Fair and closed with a discussion of the little, chaste, classical Merchant Tailors Building at the Fair designed by S. S. Beman—the building that had great influence on the design of Christian Science temples to be built years after.

Edgar Spier Cameron, collaborating artist in the decoration of the Fair and later art critic on the Chicago Tribune during the Columbian Exposition's life, told in detail of the various mural painters and their work, their assistants, their disappointments and their great achievements. He closed on the note that the Columbian Exposition gave an impetus to mural painting that was reflected in public buildings throughout the land for many years after.

Leonard Crunelle, the sculptor, was prevented from attending through illness. Leo Weissenborn spoke of the Crunelle bronze and told of the sculptor's career and his executed works.

John M. Hoskins, the oldest member of the Chapter, closed the program by stating that after more than sixty years of practice, he had come to the conclusion that nothing had ever happened to architecture in America that had such great and beneficial effect as the World's Columbian Exposition.

A hydro-electric power plant built entirely under water is the new and unique boast of the town of Rostin in Pomerania. There is no powerhouse on the bank, no visible structure anywhere; everything lies in midstream below the dam, and the electricians come and go through tunnels.—*Umschau*.

Grand Coulee engineers, faced with a river of muck that threatened to delay construction of the dam, ingeniously froze the flow into immobility. This ice dam saved \$100,000.

Walter Burley Griffin in India

More than twenty years ago, Walter Burley Griffin, then a young Chicago architect, entered the international architectural competition for a plan of the then proposed capital city of Australia, Canberra. Mr. Griffin won first prize and soon migrated to Australia where he saw his life's work charted.

The following paragraphs are from a letter of September 20, 1936 from Mr. Griffin at Lucknow, British India. He is reported to be architect of the Lucknow Exposition to be held in 1937.—Editor.

The location where we live is near where I boarded just off Station Road at the corner of two old streets in the city and is not particularly attractive because of adjacent temples and mosques with their attendant shops. The house, however, is the right size or shape for our purpose with three large rooms and two smaller ones with three baths, one veranda, sufficient offices, servants' quarters and two garages in a good garden of half an acre with plenty of trees and shrubs and a wall surrounding it beyond which are similar bungalows in all directions except toward the entrance. Apparently it is an Indian district alongside the Anglo-Indian section of Lucknow.

Since the other alternatives of neighborhoods are military or Indian Civil Service, the choice seems to hinge on expensive household without car or less expensive entourage with conveyance, with the object of impressing our clients with an affluence which is non-existent. With regard to our own comfort and enjoyment, it is a matter of indifference.

With only two months left, the Exhibition Construction is not a quarter done at the utmost. Perhaps the Monsoon has ended with the most terrific downpour of all last Sunday, which added several hundred to the 16,000 houses that have crashed in Lucknow this season and accounted for twelve additional deaths. Certainly this deluge, besides filling one half-completed lake, wrought devastation amongst the half-completed walls of the stalls, such as none of the preceding rains had done.

However, it switched the main efforts of the builders off the brickwork onto the bamboo and jafri work at which they have been stalling heretofore, because of lack of experience. The past week the skeletons of the domes have been springing up like bubbles, but the work with clay and ornament which has all along been my chief concern has not yet commenced, nor can it to any great extent until after this month. The huge amusement area is still mostly submerged mud flats but nearly every important structure outside that section has at least been started. Moreover, the exhibitors all over India have begun to waken and the director is more encouraged to go on than to hold back and cut out.

My solitary journey to Malmudabad was another of the novel episodes of India. The roads being impassable for this fifty mile journey, I went by rail accompanied by the young Rajah's younger brother, the only first class passengers in the only first class compartment of the train or trams, for we had one change. The trip out took only the afternoon, but the return trip lasted from 8:30 A. M. to 4 P. M., the delays being at the junction occasioned by the precarious condition of the mile long bridge across the Golga, the most unreliable of Indian rivers in its most erratic season. The altered channel had been cutting down at one pier from 15 feet to 75 feet below water level, i. e., to but 15 feet from the foundation 90 feet deep. Hence all passengers on that section of the Bengal Northwestern had to disembark and walk across this part of the bridge to another train. There is a picturesque sailboat ferry for other kinds of vehicles.

The Mahmudabad railway station is in one of the four villages aggregating 8000 population which surround the palace, separated only by the wide moat on three sides and by the park into which the moat has been converted on the entrance front. It has been too recently extended to be altogether charming and is of the Lucknow version of Mogul architecture with Italian flavoring.

The Rajah Sahab was broadcasting Indian music to the Indian villages as he does every evening from phonograph records, and we viewed the scene from the upper story balconies. For three nights I occupied, as is customary, the best bedroom in the newest wing and commanding the main gateway and finest gardens of the forecourt. Opening off the dining room, the Rajah's own room was

ascetic by comparison with that of his guest opening from the drawing room.

The first morning I selected the site for the new library for 100,000 books, choosing from the three alternatives, one just outside the moat and overlooking a long reach of it. Previously in the evening I had been taken out a mile or two to a spot alongside a tank where I am to build a modest cottage for the two brothers, converting the pond into a "paka" swimming pool at the same time. This is so that the Rajah may have a place he "can call his own," escaping from an existence for all the world like that of Henry VIII as characterized in the film where Charles Laughton was unable to escape from his courtiers by any strategy.

For the Mosque for the family, which I am to build, I selected an angle in the wall between the main compound and the Zenana Court yard for a hexagonal "bastion" mosque which, with its mihrat properly pointed toward Mecca, will not clash in its grouping with the surroundings, as does practically every mosque I have seen including those adjoining the exhibition I am building and that with which I have planned the Pioneer Building to parallel. It is intended that this new small mosque shall be as "modern" as was the first mosque whenever that was built. Its ornament shall be as fresh as the first that was worked out in the terms of the Koran and its one minaret shall be equipped with a loud speaker for muezzin!

I agreed to remain a second day for an inspection of the Belahra Palace, eleven miles distant, founded by one of the Rajah's ancestors who was sent by the Mogul Emperor to subdue this unruly outpost and did so. His final heirs are the two sisters to whom the two Mahmudabad brothers are now married and the estates henceforth are merged. The original brothers agreed so well on most everything that they had the same architect for their forts and chose almost identical furnishing, bric-a-brac, paintings, etc. but Belahra has been much less added to and has an elevated site and is on that account more picturesque, especially on the side of its ramp approaches. It took half a day to traverse the various rooms and courts and appraise the repairs and alterations necessary to convert this into a Durban building, which we are commissioned to do at the same time giving to it something more of old-time character of fortress than it now has. Can you imagine any task more congenial to me?

We had expected to have to make this little journey by elephant, but couriers brought word that the road was possible for car, which proved to be precisely right. Possibly to preclude any disappointment on my part, an elephant followed on in the afternoon and we set out in a shikar into the surrounding meadows and marshes, seven of us on the elephant's back, with an ox cart load of "monskere" jesters, four footmen and four horsemen—and one bicyclist.

—Walter Burley Griffin.

From the Plym Traveling Scholar

My plans originally had been to stay only one month in England. These have been gradually expanded to close to two months. I landed in Plymouth September 15 and began my study of England immediately. I was very much interested in Smeaton's lighthouse, now re-erected on the famous Hoc. This was the lighthouse for which Smeaton developed the cement which withstood the ravages of salty sea water. At Plymouth I met a young British architect who gave me a letter of introduction to the clerk in the library of the new R. I. B. A. building, London.

Through a series of introductions, I finally came to the London County Council where I was very kindly received. They showed me plans of schools and housing blocks, over which I avidly poured. I was shown through a completed school and housing block in various stages of construction.

Both are built on the same principle. Economy of construction is ever kept in mind. The buildings are usually wall-bearing brick construction. The floors are built of 4" x 3" to 3½" I beams, 12" to 15" on centers with 13' to 15' spans. Between these is filled concrete without reinforcing. The partitions are of 2" to 3" thick cinder concrete blocks set in place with two coats of plaster on

(Continued on Page 8, Column 2)

Early Architecture in Wisconsin

Some months ago there appeared in the Bulletin an article on "Early Buildings in Northern Illinois" by Earl H. Reed. It is intended that this article be not on a comparative basis, but rather a continuation of what has been started by Mr. Reed. The writer, too, has for many years been making a hobby of these old structures and for the last three years has headed the Historic American Building Survey in Wisconsin.

The interesting and worth-while structures in Wisconsin are those found to the south of a line drawn east and westward through the section where Green Bay is located. Above this line and to the north, there is a rough country, good only for a sportsman's paradise. Leading out of the city of Milwaukee are a number of highways which in days of yore were used by the stage coach lines. On these highways are situated a number of interesting inns of another day. In some respects these structures are very much alike. Practically all are three stories in height. They contain on the first floor a tap room, a large dining room, and an oversized kitchen. The second floor is taken up with a myriad of bedrooms with nary a closet or bathroom. The third floor is usually occupied by a ballroom. The ceilings of these latter rooms extend up into the roofs and are vaulted. At the low portion of the vault on either side, there are a number of squatty bedrooms just large enough to contain a bed and chair. Frequently there are eight or ten of these small rooms.

On Highway A, which is a continuation of Highway 15 out of Milwaukee and near to the village of Mukwonago, is located the Martin Inn. This is typical of the structures just described. There is in this old inn a piece of craftsmanship which defies description. It is a circular staircase which winds its way up to the ballroom floor in beautiful graceful curves. It is constructed entirely of black walnut and is by far one of the most beautiful pieces of workmanship to be found anywhere in the state.

A little farther along on this highway is the Jesse Smith Cobblestone Inn. This looms up like a southern mansion with its high columns on the front and interesting balcony. As its name implies, the structure is built of cobblestone. The walls are 26" thick and the windows set way out, which permits deep reveals on the inside. These are beautifully panelled including the tops in just the right way, as an architect would do. The top or ballroom floor contains about the most interesting piece of workmanship one could expect to find. This is a spring dance floor. The construction of this is about 36" in height. It is built up of struts, braces and timbering, all held together with wooden dowels and constructed independently of the rest of the building. The ends merely rest on the outside walls. The floor has a decided swing to it and must have been a boon to those who indulged in the terpsichorian art. It is worth anyone's while to make a pilgrimage to see this building. It dates from 1848.

Again back to Milwaukee, then traveling westward on Highway 19 one passes the Dunkel Inn. This is typical of the other structures except for one or two reasons. The exterior is exceptionally well designed. The building is constructed of black walnut timbers beautifully framed together. The timbers were all squared with an adze. On this same highway and in the village of Okauchee is another inn which again is typical of the others mentioned. The interesting thing about this latter inn is that from the base or sill to the uppermost part where the wall joins the roof, the outside walls are a solid mass of woodwork. Instead of the usual placing of studs, the exterior walls are constructed of 3 x 6" material placed flatwise, one piece on another, the entire height of the building. A few years ago an attempt was made to install a concealed electric conduit system, but it was soon found that this was practically impossible because of the great amount of labor involved in cutting the grooves. The electric lighting system is consequently all exposed.

On the main highway extending from Sheboygan to Fond du Lac, exactly at the half-way point, is located the settlement of Greenbush. Amongst the buildings here is the Wade Inn (1849), which every architect should visit. It is typical of some of those thus far described, but the interesting feature of this building is its mouldings. Nowhere in the entire state of Wisconsin has there been found a building with such an array of beautiful mouldings.

In the survey entire sheets were literally covered with graceful contours.

So much for the inns of Wisconsin. There are many more of these structures, but space will not permit even the mention of them.

In Iowa County Court House located in Dodgeville, is a splendid example of Greek Revival work. It is a simple structure with four columns on the street front and an interesting cupola on the roof. A noteworthy optical illusion has been constructed in this building. It is a well-known fact that the Greeks tipped their corner columns inward at the top. This forms an illusion for the base of the building. It seems almost uncanny to believe that in this backwoods town of Dodgeville in the early 40's when this court house was built, that the builders should be able to resort to such an optical trick. The main doorway appears to be taken directly out of a book. Was Asher Benjamin's work at hand? There is a feeling that this might have been the case.

In the city of Green Bay is located a Moravian church. This interesting structure is typically Colonial. The doorway and cornices are excellent examples of this work. Incorporated in the building is a different style. It has been explained that these early-day builders endeavored to inject an ecclesiastical feeling into their buildings. They found this could be done by giving a Gothic treatment to the windows. The cupola was also given this feeling. This building is almost a replica of one standing in Sleepy Hollow Cemetery in Tarrytown, N. Y. Here is a similar intermingling of two styles.

Immediately outside of Milwaukee stands an old homestead which bears close examination and study. It is the Bonniwell House (1839). The exterior walls of this old structure are constructed of fieldstone and are about 26" thick. They were then plastered over on the outside and this material in turn was scored with lines 18" apart horizontally and 30" apart vertically. The exterior trim around the windows is extremely wide and moulded. The cornices are cleverly conceived. A visitor to this building might incline to the belief that Charles A. Platt, the renowned architect, used this building as a precedent for some of his interesting Italian work. Alas, this building is a derelict, a crumbling ruin today.

In the southwestern part of the state in the vicinity of Platteville and near the border line, there are an interesting lot of structures of yesterday. The Mitchell-Rountree House in Platteville is one of these. It is a low, rambling structure. The first story contains three rooms as does the second story and each of these has a huge fireplace. The house proper was without kitchen. About 50 feet away from the house the kitchen was located, connected with the house by means of a covered passageway. The food was carried back and forth on large platters. In the wall of the dining room there was a slide through which the platters were passed.

In the settlement of New Diggings near the borderline, there is an old church structure. This is St. Augustines Church, built in 1844. It is constructed entirely of wood with a peculiar Gothic feeling injected into the details. The exterior covering is a wide boarding which has been scored to imitate stone. The elements have been good to the material and as a result it looks very like a stone structure.

Covered bridges are getting to be a rare occurrence in the state. Two are left; one, located at Boscobel, crosses the Wisconsin River. This is not a typical or interesting example, but driving north out of Milwaukee through to Cedarburg and beyond, one encounters a covered bridge which is worth a pilgrimage to see. It is a lattice type truss structure held together with wooden pegs. The exterior of these trusses is covered with boarding. From abutment to abutment, this bridge represents a single span with a gentle crown in the center. Due to automobiles, it has been found necessary to add additional reinforcing to the center. This is a mighty interesting bridge and a real heritage of yesterday.

Immediately to the west of the intersection of Highway 100 and 41, the latter being the direct route to Chicago, there is located the Paynesville Cemetery Chapel. This is as typical a Colonial structure as may be found anywhere in the state. It is simple and dignified in line and represents the better Colonial work. A fence

extends along the street front and besides the chapel it also encloses an age old cemetery where lie buried many old-time settlers from this section of the country. Some of the headstones indicate that the settlers were born in the 1700's. Near Hales Corners, which is still in Milwaukee County and on the Grange Road, to be exact, is located the Jeremiah Curtin homestead. This is a little picturesque structure, reminiscent of some of the work in sunny France. Here was born in 1837 a man who was destined to be one of the world's greatest linguists, whose greatest accomplishment was translating from the Polish the immortal story "Quo Vadis." This house, with its splendid historical background, warrants the visit of every architect.

In the city of Elkhorn is located an octagonal house. Many cities in southern Wisconsin have amongst their collection of structures, a house of this type. Just why men decided to build such a domicile is a question in the writer's mind. This home at Elkhorn is one of the most interesting of this type. It is constructed of salmon colored brick and is two stories in height. It has an 8-foot porch extending all around. The chimney is exactly in the center of the house and extends up through the cupola. The details of the house are pure Greek. The cornice is of the jig saw type of work. Though the plan is octagonal, the arrangement of rooms is exceedingly clever. The house dates from the late 40's.

In Racine, on the main highway leading through the city, are two outstanding examples of houses carried out consistently in the true Greek Revival spirit. At one of them the Doric order has been used, and in the other the Ionic. They are beautiful in mass and excellent in detail. It seems unbelievable that these houses are not the product of a trained architect; any member of the profession could well be proud of having designed either one of them. It is a matter of record that the millwork was made in Buffalo and shipped by boat on the Great Lakes to Racine where it was incorporated in these houses. In this same city is a Presbyterian Church situated directly across from the Court House. Any architect who is familiar with Sir Christopher Wren's London churches will look with amazement at this church. Surely the architect of this structure of the early 50's, though he had no camera shots or architectural periodical to guide him, must have had access to some material to direct him in designing this structure.

Milwaukee is unusually barren of architectural works of yesterday. This is because the hand of the wrecking crew and the work of the remodeler have made great inroads. There are few structures standing today in this city that are worth perpetuating. Here and there one finds a good doorway, cornice or porch, but a complete unit is not to be found anywhere. The march of progress has indeed been thorough.

Finally, let it be said that in this brief resume only a few of the interesting and worth-while structures have been mentioned. Practically every town of any size in the entire state has some architectural relic of the past. We are wont to speak in glowing terms of the builders of yesterday. In only one or two instances was there an architect employed to design these structures. The others were all creations which grew out of the minds of the early-day builders who had been trained in the states along the Atlantic seaboard. Here they absorbed their appreciation for the best of Colonial work and then migrated to the new Northwest state. In their new wilderness homes they endeavored to carry on as they were accustomed to doing. How well they build is a matter of record.

This article presents a few of the discovered examples. There are many more. Visit the state yourself and try to find some of them. You will derive much pleasure in doing so.

—Alexander Carl Guth.

John Todd Hetherington, architect, member of the Illinois Society of Architects, died December 26 in his home in Beverly Hills, Chicago, age 78 years. Born in Canada and reared in Scotland, Mr. Hetherington returned to America in the early 80's and for the last 45 years practiced architecture in Chicago. To his credit stand ecclesiastical and private work.

(Continued from Page 6, Column 2)

each side. The stairs serve six or more families per floor and are fireproof throughout. Tenants, however, must come out on balconies at the rear of the building to get to their flats. The flats are cut to the minimum for economy's sake.

Heating is done entirely by fireplaces. That of the living room is even utilized for cooking purposes. It was impressed on me, however, that these are strictly slum clearance and in that respect a great betterment of what the cleared areas contained. These flats rent from 7s 6d to 12s 6d (\$2.00—\$3.00) per week for two room plus kitchen to five room plus kitchen apartments respectively. Although they are built to serve about eighty years, the government subsidizes with £5 (\$25.00) per year per apartment.

Some fine new schools are being built in conjunction with the housing developments.—Eugene Stoyke.

Air Conditioning Strains Water and Sewer Systems

The 398 air conditioning installations now operating in Chicago's Loop area require about 26,000,000 gallons of water per day and the Loop area is now about 16% air conditioned. "How is the city to provide enough water when the area is 100% air conditioned?" asks Loren D. Gayton, acting engineer for the City of Chicago, "or even when the area is 30% to 40% air conditioned?"

When the Loop area is 100% air conditioned, assumably in twenty years, 295,000,000 gallons of water per day would be needed. The city's capacity for the Loop now is 240,000,000 gallons per day.

But the sewer situation is even more trying since with the 16% air conditioning, the sewer system is already overtaxed. The system is seventy-five years old and by general agreement should be rebuilt. Uncertainty regarding a subway has delayed the reconstruction since special assessments would have to be levied.

On a hot summer day, Mr. Gayton pointed out, the discharge into sewers from condensers far exceeds the volume from the heaviest rainfall in the history of the city. Mr. Gayton held that an air conditioning system more economical in the use of water was an imperative need. By using cooling towers, 95% of the water requirements might be saved, but with the low cost of water to users in Chicago, there was little incentive for the expenditure for cooling towers. He pleaded that designing engineers should at least install condensers with minimum water requirements.

Pre-Shrunk Paint to Prevent Surface Weathering

In a recent report in "Science News Letter," pre-shrunk paint is referred to as an accidental discovery by research chemists. With the help of soybeans and tung nuts, paint can be made that solves the problem of weathering. Chemist Taggart found that a mixture of 45% soybean oil with 55% tung oil was the best combination to prevent solidification in the high temperature treatment to make tung oil usable in paint. An oil mixture of 775 pounds is equivalent to 100 gallons. Raising the temperature, the 775 pounds produced 97 gallons of liquid, hence a shrinkage of 3 gallons, an increase in specific gravity exactly equivalent to the seemingly missing portion. Inasmuch as raw oils shrink during weathering, this pre-shrinking contributes to a longer life of the paint.

Contributors to this Issue

Thomas E. Tallmadge, I. S. A., F. A. I. A., practicing architect and author, big game hunter, writes from intimate contact with the late Ernest R. Graham.

Edward Probst, Sr., surviving partner of the great architectural firm Graham, Anderson, Probst & White, pays his tribute to his deceased partner and friend.

Alexander Carl Guth, practicing architect in Milwaukee, is Secretary of the Wisconsin Chapter, A. I. A. and District Officer for Wisconsin H. A. B. S.