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Some Residential Characteristics of Chicago

By T. T. McCrosky and Harold M. Mayer, Chicago Plan Commission

Over thirty percent of all dwelling units in the city are in 120,000 structures which were built before 1895, and a quarter of these are in poor physical condition. These starting indications of the magnitude of the post-war rebuilding task, facing the architects of our city, are among the thousands of facts revealed by *Residential Chicago,* the first volume of the Land Use Survey, recently released by the Chicago Plan Commission. In this book, the result of over three years' work, are mapped and tabulated many characteristics of residential structures and housing conditions in the City of Chicago. *Residential Chicago* contains maps and tabulations showing, block by block and community by community, such factors as number of converted structures; age, condition, and sanitary facilities of all residential buildings; encumbrance status; rental; percentage of and median duration of owner occupancy; duration of tenant occupancy; number of dwellings with roomers; percent of dwelling units vacant; race and nationality of occupants; and percent of structures which are substandard.

The volume records that there were in the city 377,854 residential structures containing 985,528 dwelling units. Forty-one percent of all residential structures are single-family detached dwellings, and twenty-five percent are two-family two-deckers. Thirty-two percent of all dwelling units are in apartment buildings containing five or more units each.

Residential Chicago is the first of three volumes which have been planned to cover all aspects of land use and structural growth in the city. The next volume will contain detailed statistics on the quantitative aspects of land use, structural coverage and volume, as well as a series of detailed maps showing the character of land use on every parcel in Chicago. A third volume will treat the characteristics and patterns of commercial and industrial properties.

The Chicago Land Use Survey, a W.P.A. project under the sponsorship and technical supervision of the Chicago Plan Commission, was directed by Hugh E. Young, Chief Engineer of the Commission and Robert B. Filley, Technical Director of the Survey. George T. Horton is Chairman of the Plan Commission, and T. T. McCrosky is Executive Director. The Commission is charged with the responsibility for developing a master plan for the future growth of the city. The information gathered by the survey is one of the major tools for an analysis of the present structure of the city, upon which the master plan will be predicated. It will be of equal value to architects, who will be concerned with the actual planning design and construction of whole neighborhoods along lines indicated in the master plan.

Past trends in design and construction are reflected by the data on the exterior material of buildings. In Chicago the predominant kind of exterior material used on residential structures is brick, which was used in over 61 percent of all buildings containing dwelling units. There are about 232,000 brick residential structures. Thirty-four percent, or approximately 129,000 of the residential structures have exteriors of wood. Stucco and stone are relatively little used as exterior material, being found in only 1.4 and 0.2 percent of the city's residential structures, respectively. All other kinds of exterior materials were used in only 2.7 percent of the buildings.

Unlike most real property inventories and similar projects, the Chicago Land Use Survey was not confined to a cataloguing of facts; it also includes a study of many of the inter-relationships between the various structural and housing characteristics.

As an example, *Residential Chicago* presents a series of eight "type-of-housing areas," based upon the coincidence or lack of coincidence of selected statistical indices, as shown on the accompanying map and table, reprinted from the book.

The geographical units into which the city was divided for this purpose are the "community areas", of which there are seventy-five. Practically all data gathered by the Survey and tabulated by blocks were also summarized for each of the community areas as a whole. Some of these data are presented in tables in *Residential Chicago,* and a more detailed tabular analysis of each community is available at the office of the Chicago Plan Commission. The boundaries of the communities had previously been determined by the Local Community Research Committee at the University of Chicago, based upon dividing lines recognized by local residents and organizations, and by distribution of memberships in community groups. Consequently, the areas do not necessarily imply homogeneity in residential and structural characteristics, being originally delimited on the basis of other than these factors.

Three groups of factors were found to have a high order of significance for determining "type-of-housing areas." These were (a) type-of-structure factors, (b) rental factors, and (c) condition or adequacy factors. Representative of each group of factors were, respectively, the following indices: (a) percentage of the total number of residential structures which were single-family, (b) median rental of all dwelling units, and (c) percentage of all residential structures in good condition or needing only minor repairs.

Analysis revealed that the average Chicago community had the following characteristics:

50% of residential structures were single-family,
The median rental was $34 per month,
96% of residential structures were in "better condition" (i.e. good condition or needing only minor repairs).

In order to classify communities in terms of similarity of

characteristics, six different categories were established as follows:

1. Over 50% of residential structures, single-family.
2. Under 50% of residential structures, single-family.
3. Median rental above $34.
4. Median rental below $34.
5. Over 96% of residential structures in "better condition".
6. Under 96% of residential structures in "better condition".

There are eight possible combinations of the above categories. Each of these defined a separate housing classification, and the communities corresponding to these 8 classifications were designated "type-of-housing areas" identified as Type A to H inclusive.

The accompanying map shows eight "type-of-housing areas" based upon the various permutations of these factors. Wherever a community had a higher percentage of single-family homes, and a higher percentage of structures in good condition, and a higher median rental than the city-wide median, this determines one particular "type-of-housing area", shown on the map as Type A. The other seven possible combinations of the three factors, each of which may be above or below average, are also indicated on the map by appropriate color symbols.

Type H, presenting the least favorable combination of conditions, extends over an area of about 45 square miles surrounding the central business district, reaching Diversey on the north, Lake Michigan on the east, 51st Street on the south and the city limits on the west. It is in parts of this area that rebuilding and rehabilitation must have first consideration after the war. Because of the lack of homogeneity of housing conditions within each community, not all blocks within this Type H area present the same combination of unfavorable conditions. Some districts of distinctly better quality, but less than a community area in size, are included, because of the large size of the geographic unit used in setting up the type-of-housing areas. Conversely, in the better areas, some poorer blocks are inevitably included. In general, however, the map indicates the distribution of housing factors and their combination throughout the city.

The table which accompanies the enclosed map reveals several factors which are of particular interest to architects. The percentage of converted structures (Line 5) is highest in Type C area, which has a low percentage of single family dwellings and a relatively large number of structures in poor condition, but higher than median rental. This indicates that conversion is apparently a factor in increasing rental.

The distribution of structures with wood exteriors forms another significant pattern revealed by the table. It indicates the city-wide pattern of types of construction used by architects in the past. Of the single-family structures, the highest precentage of wood exteriors (Line 6) is found in the Type D area, which contains more than the average percentage of single-family homes, but where rentals and condition of structures are below average. The lowest percentage of single-family structures with wood exteriors, as might be expected, is in area Type A, which contains above the average percentage of single-family structures, above average number of structures in good condition and higher than median rental. The two, three and four family structures with wood exteriors have a somewhat different distribution (Line 7), the lowest percentage being in area Type E, where there are few single-family structures, but residential buildings are above average in condition and rental.

Age of structures shows an interesting relationship to the three factors which were used in delimiting the eight type-of-housing areas (Line 8). As might be expected, the oldest structures are in the Type H area with low percentage of single-family, poor condition, and low rental; and conversely, the newest structures are in Type A area with high percentage of single-family, high percentage of structures in good condition, and higher than median rental.

The relationship between physical adequacy and other factors is very significant (Line 20). The Land Use Survey defined a dwelling unit physically inadequate if it was in a structure needing major repairs or unfit for use, or if it lacked one or more of the following facilities: (a) installed heating equipment, (b) gas or electric lighting equipment, (c) private indoor flush toilet, or (d) private bath. The higher percentages of physically inadequate dwelling units are found, of course, in those areas—Types C, D, G and H, where there are a greater than average number of structures in poor condition.

When poor condition, low rental, and low percentage of single-family structures exist in combination, as in Type H, the highest incidence of physical inadequacy is found.

The extent of over-crowding is an index of the need for additional dwelling units. A unit was defined by the Survey as overcrowded if it had over 1.5 persons per room — three persons in two rooms. The highest percentages of overcrowded units are in Type G and H areas, with 7.7 and 6.2 percent respectively. By contrast, the least percentage of overcrowded units is in Type A area — an area high in proportion of single-family structures, in structures in good condition and in dwelling units renting above the city wide-wide median. In the Type A area only 1.7 percent of the occupied dwelling units were overcrowded.

The above relationships between certain housing-type areas and other conditions are cited as examples of the use which may be made of the data gathered by the Land Use Survey and published in *Residential Chicago*. The volume contains over 500 pages of maps, charts, tables and explanatory text giving in considerable detail the housing characteristics of Chicago as a whole; of each of the 75 community areas; and of each block for certain selected factors. A series of detailed tables show the relationships and correlations which exist among the various factors for the city as a whole. Other tables not published in the book, but available for consideration by interested architects at the office of the Chicago Plan Commission, give these relationships for each of the 75 local communities. A series of over 20,000 block tabulations likewise available, present full information concerning the characteristics of housing and of residential structures in each city block. By the use of these data, studies may be made of any area a block or larger in extent, in any part of Chicago.

The Chicago Plan Commission is using the data contained in *Residential Chicago* and the supplementary tabulations as the basis for the development of a long-range master plan for the residential areas of the city. This plan, to be

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Probably it is only by extended study and use of Volume I "Residential Chicago," Chicago Land Use Survey that its full value can be appreciated. But, even a short examination discloses that it is an inventory of the economic and social characteristics of every use of land in the City, and as such its value to those interested and able to grasp its significance is enormous.

This volume deals with residential use; succeeding volumes now in process of completion will cover Industrial and Commercial property and Quantitative Characteristics of Land Use.

It is hard to see how the Chicago Plan Commission could possibly complete their task of producing a really competent plan for Chicago without this reservoir of facts upon which to base their conclusions.

Architects contributing to the study of the Chicago Plan by designing definite tracts devoted to housing will find it most useful and instructive.

The report presents conditions as they existed in 1939 at the time the Survey was undertaken, and states that it is to be kept up to date by periodical surveys of changes. An instance of such changes is the large volume of conversion of single dwelling houses and large apartment buildings into small apartments, thus multiplying the total number of living units. Following a short historical background, is presented an inventory of housing characteristics classified under geographic distribution, age of structures, material and type, condition, facilities, value, etc., all reduced to percentages.

It is found that there were, at the time of the survey, 337,854 residential structures containing 985,528 dwelling units. Median rental of all dwelling units was found to be $34.00 per month. Occupied by white was 92%, and by negroes over 7%. Evolution of the residential pattern of the City is illustrated by maps, and trends of intensity of use, values, rentals, etc., are stated.

The Survey represents a colossal work employing as many as 3,000 persons at one time.

The information was gathered block by block and was recorded on cards, exceeding a million in number, graphs, charts and maps. The value of the Survey to the Chicago Plan Commission is obvious, as also to the Housing and Home Loan Authorities.

In the study of transportation needs and trends, public parks, schools, public health, tax assessment, fire and police services, relief agencies, etc., it may well be a "Bible" of guidance for neighborhood and other civic groups, public utility corporations, realtors, lenders, and property owners.

The summer of '42 brought to the attention of architects three discussions on the "new architecture." Strangely enough the two most vocal men on this subject, Walter Gropious and Le Corbusier were not audible at this time. Alan K. Laing, Professor of Architecture, University of Illinois, expressed his views in the June-July I. S. A. Bulletin. Charles D. Maginnis past president of the A. I. A. read his paper from the podium of the Greek theater in Cranbook, Michigan, June 25, before the annual meeting of the A. I. A. George Fred Keck, architect in the Chicago territory breaks into print with his views accompanied by illustrations of five of his country houses in the August '42 Architectural Forum.

Mr. Laing says all architects are "modern"! He believes the new architecture is evolutionary—not revolutionary. After reciting the history of architecture in this country and in Europe covering the better part of a century, he says that the modern architecture of Europe in the twenties does represent a marked departure from the eclectic architecture current at the time and particularly that of the United States. He thinks it feasible that regional modernism may evolve from the conjunction of this modern architecture with the older traditions of America. He ends his paper saying "we need to be constantly on guard against the delusion that evolution guarantees progress."

Mr. Maginnis, cultured, scholarly gentleman with much important architecture to his credit, master of pungent English, says: "The fates have been kind to the cult of the arid, for war has now dramatically carried to it a plausibility for which it might have waited long." He says further "simplicity might well have been its largest gift, but it comes to us, a by-product of its biting logic, not as gracious excellence but as harsh and defiant emptiness . . . It has no language for our dreams, for those higher flights of the spirit that are the signs of eternal striving. Architecture has been freed from the tyranny of history to find another tyranny in the passing hour."

D'Artagnan Fred Keck, who is remembered by his tree house and crystal house, passing fancies that appeared and disappeared with the Century of Progress, comes next. In his Forum article he says: "No intelligent person would build in the traditional manner today; it is only the badly trained architect who still harps on traditional at all. Houses, like religion, are bound up with emotion and tradition, both obscure and vague and indefinable terms. Get rid of emotion and tradition and get to the facts and needs of contemporary construction, and you get good results. Young men learning architecture today are not interested in tradition, and they will be the architects of tomorrow. The old crop must die off, and I hope it will die off soon, for there has been too much muddled thinking in architecture."

Mr. Keck thinks and achieves in terms of temporary war building such as is produced in the Great Lakes Naval Training Station under the able direction of Captain R. D. Spaulding, C. E. C. These, no doubt, are excellent solutions for temporary structures.

A scholar, not an architect, George de Santillana, addressing the general public says: "The brave new world of magnesium and glass and high octane numbers, of high-powered experts and global planning, has begun, even before it starts, to be the incubator of a new conflagration."

Illinois Society's Testimonial to Richard E. Schmidt

The Illinois Society of Architects' testimonial luncheon to Richard Ernst Schmidt, recently retired from the office of Chicago's Commissioner of Buildings, took place in the Union League Club on August 4 with an attendance of 80, representing not only architects but elements of the community from various fields of endeavor. President William J. Ryan had been unexpectedly called to Washington, D. C. and the chairmanship of the meeting fell to Arthur Woltersdorf.

It was planned to have four speakers representing elements of the community other than architects and to this number was added one who took the occasion to present to Mr. Schmidt a handsome volume by Mendelsohn carrying a fine portrait of the late Dr. Ernst Schmidt, Mr. Schmidt's father, and reproductions of Chicago's prominent buildings among which were works by Mr. Schmidt's firm.

The first speaker was Lessing Rosenthal, a distinguished member of the bar. Schmidt and Rosenthal had become friends as boys and this friendship and mutual interest has continued through life, a span of more than 70 years. In mentioning incidents in Schmidt's career, ability, honor and integrity, and courage were outstanding qualifications.

The second speaker was Dr. Irving S. Cutter, Dean of Northwestern University's School of Medicine through many years, a writer on medical and other subjects, and active in hospital work. His theme was "Hospitals and Hospital Architects" and he showed Mr. Schmidt's intimate connection with hospital design and progress.

Thomas E. Donnelly, industrialist and public-spirited citizen, a patron of architecture and the arts, spoke next on "Commerce and Industry as Expressed by their Handmaiden, Architecture," with particular reference to Richard E. Schmidt's work as an architect.

Mr. Donnelly was followed by Fred Bulley, prominent builder through many years, who, after paying his respects to Mr. Schmidt as an architect and as Building Commissioner, dwelt upon city building laws and their enforcement. He cited delinquencies in Chicago's early history in the enforcement of such laws, dwelling at some length on the Iroquois theatre fire of 1903 where 596 lives were lost. He closed with a note of admiration and respect for Mr. Schmidt's strict and impartial enforcement of building laws while serving Chicago as Commissioner of Buildings.

The presentation of a handsomely engrossed, illuminated, and framed citation, which citation was the resolution passed by the Society's Board of Directors on July 14, was formally made to Mr. Schmidt by Victor A. Matteson representing the Board of Directors. Then came the unexpected presentation by Harold H. Egan of the Mendelsohn volume, referred to earlier in this report. Mr. Schmidt now had an opportunity of expressing his gratitude to the Society and the speakers, which he did feelingly in a few short words while the entire company stood at attention.

Abolition of the office of the Illinois Bureau of Highways architect has been announced by Walter A. Rosenfield, director of public works and buildings. Elimination of the office, which had operated since 1934, dispenses with the services of about twenty employees, including Ralph C. Harris, highway architect.

Future similar construction as may be needed will be handled by the regular division of architecture and engineering in the Department of Public Works and Buildings.

The Chicago Auditorium Building, whose theatre ranks as the most perfect acoustically, in the country, has been threatened with elimination for the past two years. It is saved from this fate by the municipality taking over the structure and remodeling it into a recreation center for the armed forces quartered in the Congress and Stevens Hotels.

In the first three stories of the Auditorium Hotel, workmen are knocking out walls, and in the theater the floor is being repaired. A new heating system is being installed. The dining room and bar are being consolidated into a canteen, and recreation rooms are being built in the upper stories.

A new development in precast reinforced concrete joists is the substitution of wire of higher unit stresses in place of steel bars. Lower cost of the finished joist is claimed, a cost lower than wood construction.

Illinois Society September Meeting

The first regular monthly meeting of the Illinois Society of Architects, falling on September 22 at Northwestern Technological Institute, Evanston, drew an attendance of ninety architects. Of these twenty-five had registered with the Chicago Chapter A.I.A., the Chapter having been invited by the Society to participate in this meeting. The session began at 4 P.M. as an inspection with student guides, one student to every fifteen architects.

The Institution, with courts and wings, measures approximately 500 feet from north to south and about 350 feet from east to west. In outline the plan may be described as two capital E's back to back, the backs joined by buildings housing eight lecture halls, the largest seating 774, the smallest 52. From the stems of the E's project three wings to the north and three to the south. The north wings are devoted, respectively, to electrical, mechanical, and civil engineering while the south are given over to chemistry, chemical engineering, and physics. The structure houses 350 rooms in more than ten acres of floor space including the basements which are lighted by large windows giving on to wide moats. The wings are three stories in height while the central portion is four.

The construction for floors and columns is reinforced concrete with bearing walls of masonry faced with Lanin stone. The roof construction is framed with steel beams on which rest steel pans filled with Waylite or some other forms of lightweight concrete. In laboratories and workshops the concrete floors and ceilings are left exposed, treated only with paint. Corridors and offices have asphalt tile floors with plastered walls. The whole appears an excellent piece of construction with intelligent application of modern devices and methods. The architectural high spot, or pièce de resistance, is the faculty lounge in the third story north wing. Room proportions, color-harmony, furnishings, etc., are a complete symphony.

Dinner was served in Scott Hall, two long blocks distant from the Technological Institute. Men found their way to it early, welcoming the rest after their long tramp. Before dinner service the Chicago Chapter held a short business meeting in Scott Hall. This meeting is treated elsewhere in this issue.

After the repast, President Ryan of the Society, in welcoming all, introduced Mr. Sweeney, an architect from Alabama, and Mr. A. J. Thomas of New York, architect of the Marshall Field Garden Homes in Chicago. Society members Ernest L. Stouffer of Urbana and Gilbert Johnson of Rockford were also introduced. The President called upon Dean Ovid W. Eshbach of the Technological Institute to take the floor. The Dean first of all asked for questions that the company desired him to answer before he started his talk, and then he talked. We learned that the creation of the Technological Institute of Northwestern was made possible through the gift of nearly $7,000,000 from Walter P. Murphy; that the building itself cost something in excess of $4,500,000, the remainder going toward paying for equipment. The Dean paid his compliments to Holabird & Root, architects of the building. McKim, Mead & White were architectural consultants for Mr. Murphy, Mr. T. Smith acting for the McKim firm. The University's consulting architect was James Gamble Rogers. So the Institute, in its building, was implemented by the most distinguished architectural talent that the country affords.

Some outstanding features of the Institute are: an artificial river for testing ship models and wave action; a 1,000,000 lb. transverse universal testing machine two and a half stories high; a pulverizing pressure machine of 5,000,000 lbs. for testing the effect of strain on building materials; a room where temperatures may be driven to 75° below zero; a room where it always rains; a room where lightning crashes on order.

Dean Eshbach dwelt long on the selection of students for calibre so that later disappointment and failure in human material should be minimal. He repeated what Professor Watson had made clear at the Society's June meeting, namely, that the curricula in school are alternated with shop work in great industrial plants where engineering skill and understanding are a requisite. Professor Clarence E. Watson followed the Dean, supplementing what the Dean had said and answering some of the questions that the Dean had gathered before speaking and had left for Professor Watson to treat.

And now came a short business meeting of the Society. Reading of minutes was dispensed with. There was very little new correspondence so the discussion centered on a post-war program for

he Society and for other architects in the Chicago territory.

President Ryan reported that after his five visits, during the past summer, to Washington on behalf of jobs for architects that the outlook was none too cheering. Federal post-war programs were discussed but Mr. Ryan was told by practically all the heads of bureaus and departments he consulted that post-war progress in planning would have to be deferred for the duration. Turning to local hoped-for projects, the plans and ideas of the Chicago Plan Commission, with the possible hope of architects planning, with the help of the Commission's staff, certain quarter mile sections of land under the Redevelopment Act, were the closing thought of the meeting.

Chicago Chapter September Meeting

New President Nathaniel A. Owings, Chicago Chapter A.I.A., presided at the September 22 business meeting in Scott Hall, Evanston. In the absence of Secretary Suter, L. Morgan Yost read briefed minutes of the June meeting.

President Owings announced his intention to appoint a post-war committee to plan for work that might be obtained by Chapter members. He further announced that a survey was in preparation by the Chapter of men in Government service who are Chapter members serving in both military and civil capacities. The Chapter, he said, would be active in furthering subscriptions to the Community Fund. This fund is an annual affair in Chicago. Mr. Owings announced that a committee has been appointed to formulate changes in the by-laws creating two tickets for election of officers and Executive Committee members who conduct the Chapter. Heretofore, there has been but one ticket with privilege granted members to nominate from the floor at the time of election. The election, up to now, has always been a voice vote. It is planned to have printed tickets and mailed-in votes.

Louis A. Simon, lately retired from the office of Supervising Architect of the Treasury, Washington, D. C., will have a thousand or more buildings throughout the land, some bearing his name, some not, which are tokens of his architectural ability. Words concerning that ability are relatively ineffectual. It is the buildings themselves which are the best commentary of his judgment and his service to the country.

The War Department Office Building, now going up in Arlington, Va., will be known, when completed, as the "Pentagon." A five sided structure nearly a mile around with each exterior wall 921.6 feet long and a pentagon shaped inner court with each side 360.8 feet long will be three and four stories high. Besides its 4,000,000 square feet of office space, there is also 600,000 square feet of storage area provided. A lagoon is being dredged to permit water delivery of aggregates. Concrete mixing is done in transit. The building when completed will have cost about $50,000,000.

An egg-shaped windowless structure of reinforced concrete gives the greatest strength with the least material and saves 60% of the steel ordinarily used, said George H. A. Parkman, Westinghouse construction expert, in presenting his ideas for the ideal war factory. Such construction would be bomb-resistant and fireproof, he added.

The Von Duprin house organ devotes considerable space to telling the doings of "Mr. Osgood." "Mr. Osgood" is a silent man that walks through an industrial plant to see where waste may be eliminated and time-saving may be introduced.

The writer of the article observes that jobs like "Mr. Osgood's" offer opportunities of employment to jobless architects. We have long heard of efficiency engineers. These engineers, it is assumed, do just what "Mr. Osgood" is described as doing. Plainly stated, the architect is advised to seek a job as an efficiency engineer.

Professor Jean Labatut of the architectural department, Princeton University, says: "I wrote the following definition of architecture in a prescription form, for my students: 'Organization of space limited by matter in equilibrium, expressed by the precise relation of form and color in light. (Shake well before using.)' "

The New Architecture—Maginnis

. . . One is appalled at the variety of the scientific efficiencies that are to constitute the endowment of the new architect. If these are all expected to reside under one hat, to be brought into veritable exercise, I suggest that the public is not entitled to this encyclopedic talent for six percent. Certain faculties of the spirit, it is true, are not in the equipment. These must languish till the time when the modern world tires of machinery and looks about illogical satisfactions . . .

The fates have been kind to the cult of the arid, for war has now dramatically carried to it a plausibility for which it might have waited long. Even the traditionalist has been forced in the extremity to take shelter in the camp of his enemies . . .

Should something not be done to keep modernism in its place so we can detect the true from the false? Once legitimacy is conceded to the sloping roof, and I can see it insiduously spreading, who is to say what flambuoyances may not follow? Before we know it, imagination will have crept back into architecture and then there will be the devil to pay. The danger of relapse into decadent ways should be perceived as a moral problem that may not be completely overlooked . . .

I was never unconscious of the stultifying conditions that provoked modernism, for my earliest public discourse forty years ago was a satire on our architectural wistfulness with a plea for patience till the coming of conviction. The developing world, even at that time, no longer held the promise of a national vernacular but we were unprepared for a system which denied as completely as it satisfied the implications of geography. Simplicity might well have been its largest gift, but it comes to us, a by-product of its biting logic, not as gracious excellence but as harsh and defiant emptiness . . . It has no language for our dreams, for those higher flights of the spirit that are the signs of our eternal striving. Architecture has been freed from the tyranny of history to find another tyranny in the passing hour.

—From the address at Cranbrook, Mich. June 25, 1942 "Education and the New Architecture" by Charles D. Maginnis, F.A.I.A.

Pres. E. I. Williams, N. Y. Chapter, A. I. A. Says

No generation of architects ever forgot they were builders. There were times not so long ago when architectural education became lopsided, stimulating the imaginative faculties and veering toward the conception of monumental forms and the continuation of a classic heredity almost to the complete exclusion of the fundamental needs of a builder's training. In those purple and gold times the lust of proud youth to seek his own architectural destiny was too often suppressed by olympian condescension but firm guidance in the good and tried old formulas. One had to be strong to survive the impact of such imponderables. But lest some of our smarties both young and old seek to pour ridicule upon the architecture of those times, let them stand on Fifth Avenue and 36th Street in New York and contemplate the old and the new buildings about them. The old are at least harmonious and elegant. In the new, one senses a vain effort to be clever. One senses that the death knell is ringing over this part of one of the finest streets in the world.

An educational campaign with courses in camouflage is being conducted by the Engineer Board of the Corps of Engineers at Fort Belvoir, Va. It comprises an intensive two weeks of camouflage training.

Engineers of the War Department stress the importance of not making commitments for the camouflage of manufacturing plants or other structures without first consulting locally the Civilian Defense Office or the district engineer of the Army. At the present time the Board's camouflage studies are concentrated largely on airport work and on combat problems.

The new war workers' Cabrini Homes in Chicago are each equipped with a bath; a modern kitchen with electric refrigerator, gas stove, and sink; and a modern hot air heating system with a furnace to be operated by the tenant with fuel furnished by the Chicago Housing Authority.

Craft Guilds and Craftsmen

With the thirteenth century the guilds dealing with the various branches of building begin to show signs of definite organization. A craft guild was an association of those engaged in the same kind of work; and its primary object was the protection of members of the guild, preservation of trade-secrets and the "misteries"; the training of apprentices, and the safeguarding of the trade or craft for the benefit of guild members only. Allied with these was a religious side, which undoubtedly exercised considerable influence in the early days, but with the growth of commercialism and the contract system the guilds tended increasingly to become mere corporations of craftsmen and traders, the religious aspect only being accentuated when it might prove useful. As with many modern trade unions, membership of the guild became compulsory upon those who engaged in the work it controlled; and in some guilds heavy payments were required by the guild from apprentices before they were allowed to set up for themselves, and the period of apprenticeship was often purposely long continued.

Journeymen were not taught the essential processes of an art like glass-painting, nor were they encouraged to improve their status. Not always was the formation of a guild the action of those who were to compose it; in some cases this was enforced by the municipality, who also framed regulations controlling the guild and providing for the inspection of their products. This was particularly the case where the glass-painters were concerned, who seem to have found the temptations offered by the nature of their work too subtle to be resisted. Much has been written, even recently, about the "ancient guild idea," assuming that all the work on a great building was done in workshops and studios grouped about the site by enthusiastic guilds who worked as a body, whose sole aim was to vie with each other in beauty of work, and whose members participated in a profit-sharing scheme; that "unemployment was unknown," and that the craft guilds worked with "unabated delight" for years at a time.

Such a theory cannot for a moment be sustained if facts are referred to. No guild undertook work as a corporate body, any more than a trade union as a whole could execute a contract today. But for the absence of the "general contractor" and his organization, work was carried out much as it would be now. Work on the fabric was organized and supervised by the authorities of the abbey or cathedral, who paid the cost of materials and the wages of their workpeople.

—From "English Monasteries in the Middle Ages," by R. Liddesdale Palmer

Assembly Line Bathing for Industrial Workers

At Manvers Main Colliery in England there has been introduced a method of sun bathing for the workers designed by Dr. William Beaumont of London, England. This method holds out hope for industrial workers in American plants for similar sun baths, particularly when the workers are confined for hours.

"The miners after their shower bath pass through a door and step onto a conveyor belt which carries them along a corridor which has mercury vapor arc lamps along its walls to deliver ultra-violet light. At the end of the corridor the men step off the conveyor and pass through a door to their clean clothes locker."

The assembly line bath is capable of providing sun baths for 50 workers every five minutes. It provides a minimal dose of artificial sunshine, designed not as a treatment but as a prophylactic measure to keep the men in good health in spite of lack of exposure to natural sunlight.

According to Dr. Beaumont, Germany and Russia faced this situation long before the war. The Krupps at Essen have a splendid installation built in the early 1930's. Russia recognized the value of sun baths in factories years ago. American architects may look forward to incorporating sun bath systems in industrial plants after the war.

Russian scientists have developed a *heliorefrigerator* which converts solar heat into low temperatures by means of ammonia coils.

A Tribute to the Memory of H. W. Tomlinson

Few men leave a finer set of memorials when they pass from this life than did Henry Webster Tomlinson. In the memory of the community there remains a deep respect for him as a man of the highest type of character. There remains a multitude here and elsewhere who came within the range of his friendship and valued it. Governors, high state officials, top rank men in business and industry were his friends. Also valuing a sincere interest he felt in their welfare as human beings were felons released from their cells and needing kindly advice and a helping hand to steady them back on the right path while they sought to regain the place in life they had forfeited. Between these extremes were friends and neighbors in various walks of life. He had the confidence of all.

In a professional way, he left many monuments to his skill and judgment as an architect and builder, here and elsewhere. The First Presbyterian church is a local example of his ability as a designer of buildings. He had charge of the construction of Joliet business buildings, including that which houses the Herald-News.

When the state sought a man of outstanding ability, and who was thoroughly trustworthy to take charge of the construction of the penitentiary at Stateville, it chose Mr. Tomlinson. He lived fully up to the expectation of those who put him in charge and he met every responsibility.

He was of an inventive turn of mind. When the construction of a concrete wall, 33 feet high, around Stateville challenged the then known methods of construction, and in the opinion of able builders could not successfully be built, he designed a new type of wall with an anchored foundation that met every requirement and combined economical use of materials with stability of structure. On this design he obtained a patent and saw the principles he worked out used on other structures of the kind.

Building is one of the great arts of civilization. To it he long and successfully devoted a well trained mind and a skilled hand. He built honestly and well. There was no fraud, no deception in anything he constructed. He built his life on the same high plane. He yielded to partial retirement only when his health no longer would sustain the effort his profession demanded.

In the good influence that was his and in the works of his professional skill, he lives on.

—Editorial in Joilet Herald-News, July 14

Wayne University Competition Awards

In July the Jury of Award for the Wayne University group plan and architectural scheme for that University's new location in the Art Center of Detroit rendered its judgment. There were eleven competitors, all registered from Michigan. First prize went to Suren Pilafian; Second, Saarinen and Swanson; Third, Malcolm R. Stirton.

The jurymen were John H. Webster, President Detroit Board of Education; Dr. David B. Henry, executive vice-president of Wayne University; Walter R. McCornack, Dean, School of Architecture, M.I.T.; Joseph Hudnut, head of Harvard School of Architecture; F. R. Walker, architect of Cleveland. The building project is contemplated for after the war construction.

Suren Pilafian, 32-year-old Turkish-born Detroit architect, first prize winner, provides for eight major buildings. The jury was particularly impressed with Mr. Pilafian's excellent plan and organization of buildings around two open spaces. The exterior design they found less good. The jury recommends a restudy of his design and advises the Board of Education that the prize winner collaborate with other architects in the further development of his design.

The Cranbrook Academy of Arts, in Bloomfield Hills, Mich., realizing that advanced architectural students are going to be practically non-existent for Eliel Saarinen's department of architecture for the duration of the war, has announced that funds for a few scholarships will be awarded to mature and draft-exempt architects who wish to study civic design under Mr. Saarinen's direction. Further information and details concerning the scholarships may be had from Richard P. Raseman, Executive Secretary of the Academy.

What is Foamglas?

Foamglas is a glass product of a honey-combed or cellular tructure with a density less than ordinary glass and with greater olume for the same weight. It is opaque, at present black in color, nd weighs 10½ lbs. per cubic foot as compared to 150 lbs. for solid lass.

It can be sawed, drilled, or shaped without breaking. It floats! ts insulating qualities are about the same as cork and is resistant to ne entrance of moisture. Slightly greater thickness of Foamglas is ecessary for equivalent insulation compared with dry cork. Its esistance to compression is about 150 lbs. per square inch.

Foamglas is a development by the Pittsburgh Corning Cor- oration. The product is marketed by Armstrong Cork Company.

A robot fireman that automatically discovers and puts out fires as been developed by research engineers of the Westinghouse Elec- ric and Manufacturing Company. It features an "electric eye" photo-electric tube) installed in a small mobile brass dome with a nout that is connected with a fire extinguisher by means of a tube.

Driven by an electric motor, the dome moves back and forth nd up and down. When the "eye" catches the light from a fire it ctuates a relay that stops the dome, opens the valve of the ex- inguisher, points the snout at the blaze and sprays it with water.

The Illinois State Geological Survey has ready for distribution o interested persons, circular No. 78. This is a directory of Illinois lay and clay products producers. It is a contribution by the Indus- rial Minerals Division. In its 35 pages are included six maps, the irst being the entire state divided into sections, A, B., C, D and E. Then follow the five section maps with locations of plants marked vith designations for clays, refractories, structural clay products, and vhite wares and pottery. There is an index of producers accompanied >y letter indications giving locations on the maps.

The National Bureau of Standards in coöperation with the Commission on Fine Arts have developed rigid specifications to insure hat all government and military flags shall henceforth be alike. Flags or civilian use do not come under this requirement, though manu- acturers are applying these specifications. The Federal Specifications Executive Committee function in the application of these specifica- ions for all government work.

Pressed wood hardboards are replacing aluminum and non- ferrous alloys in the manufacture of fan blades, gears, grilles, and notor housings.

City Planning Notes

On August 20, Doctor Homer Hoyt, director of research for the Chicago Plan Commission stated to the Commission: "Scores of small industries now located in the heart of the city will occupy the buildings now housing war industries. This will result in the re- habilitation of thousands of workers who will move into surrounding areas now vacant."

By 1965, the 23.8 square miles of blighted and near blighted area surrounding the loop would be rebuilt to house office workers that now travel long distances to work. According to Dr. Hoyt this territory beginning at the outskirts of the loop, continues north to Belmont Avenue, south to 55th Street, and west to Kedzie Avenue. In this area there are more than 900,000 people living in sub- standard dwellings.

The Chicago Plan Commission invited architects in the city to submit sketches and studies for rebuilding the blighted areas in which a seventh of the city's population is said to live. T. T. Mc- Crosky, executive director of the commission, said the group will welcome the ideas of every practical builder and planner for recon- struction. "We desire the architects to select specific areas with which each is familiar, and to give us concrete ideas of how he thinks each area can be rebuilt."

If Washington, Jefferson and L'Enfant could rise from their graves and see what has become of their fond dream of the Federal City, Washington, D. C., they would lie down again with open-mouth astonishment in eternal sleep. In their day there were no rapid transportation systems, there was not even a steam railway locomo- tive!

Today Washington is crowded to suffocation and the Union Rail- way Station of about 1900 accommodates, according to the Associa- tion of American Railroads, a daily flow of from 70,000 to 100,000 people. Within the past 18 months the ticket windows have in- creased from 15 to 51; trunk telephone lines from 30 to 50; informa- tion clerks from 69 to 266.

Frederic A. Delano, chairman of the Washington, D. C. Planning Commission since 1929, has resigned his position. Brig. Gen. U. S. Grant III has been appointed his successor. General Grant, a West Point graduate, class of 1903, has been a member of the Corps of Engineers since graduation and has served as Director of Public Buildings and Grounds of the national capital from 1926 to 1933.

The Urban Land Institute reports that London's Modern Archi- tectural Research Group have made a master plan for the post war rebuilding of London. For years the late Sir Raymond Unwin preached decentralization of cities, and this research group apparently is following his advice in their proposed master plan.

Many plans to rebuild London have been proposed before and since the great fire of 1666; but after that fire the city was rebuilt practically on the old lines. The new plan proposes a decrease in density population within a fifteen mile radius of London's center. In this area 900,000 houses were built in the twenty years preceding 1939. A new feature of the proposed plan, not considered in its pre- decessors, is provision for a great central airport.

Chicago Housing Authority reports that of the various housing projects now building under its direction, there will be ready for occupancy by December 1, 1942, 1800 units. Of these 286 will be ready by July 31, 681 by August 31, 1117 by September 30, 1412 by October 31, 1666 by November 30.

In northeastern Texas there is a great deposit of iron ore that has not been worked hitherto because it is too remote from supplies of coking coal. But all over the region there are forests of post oak, of little value for lumber but very good for wood distillation, and of course yielding high-grade charcoal.

(Continued from Page 2, Column 2)

published upon completion, will suggest the ways in which each part of the city may be developed, redeveloped or conserved, in accordance with the particular problems and needs of each neighborhood. It will also present the relative urgency of planning in each part of the city, and will sug- gest a logical time sequence for aggressive post-war action.

The publication of *Residential Chicago* marks the com- pletion of the first phase of the Land Use Survey. Studies of commercial and industrial data are now being pursued. The first part of any planning job is to prepare a factual inventory of existing conditions. With the assembly of such a wealth of information concerning where and how Chi- cagoans live, the Plan Commission staff is well equipped to offer constructive assistance in meeting many war time problems, as well as to provide the ground work for post- war construction and rehabilitation. The use of the survey data should provide the basis for establishing a closer and more understanding liaison between architects and the activi- ties of the Commission to the end that the future of Chi- cago—which begins today—may be directed along the road of improved living and working conditions and increased importance among great cities of the world.

Wanted—Birth Certificate for the Onion Dome

The Editor: Whence came the onion or bulbous dome to western Europe and when? What were the circumstances? I know many examples in Sweden, in the Baltic states of Germany, in Dresden, and in Bavaria it is quite common. It appears in secular as well as in ecclesiastical architecture. Doubtless France can show instances of this roof.

Avid Bulletin-Reader, Chicago

Answer: In searching for the origin of the bulbous dome certain aspects find parallels in the quest for the origin of the hole in the doughnut. In both cases there are several claims, and in both cases intermediate examples have not been preserved. Functionalism likewise seems to have played a part in the evolution of both dome and doughnut, for Captain Gregory of doughnut fame (whose claim was sponsored by the national doughnut committee) found the doughnut a heavy holeless mass of dough well described by its name "sinker." Perceiving the monotony of unrelieved dough he lightened the composition by formula alteration, and the shape by adding the hole, leaving the doughnut a tasty and shapely culinary halo.

The pictures which rise to mind at mention of the bulbous or onion dome may be those of examples in central Europe of the Baroque and Rococo periods or the more dramatic examples of Russia so common in the seventeenth century.

Both Ward[1] and Buxton[2] contend that the bulbous dome made its appearance in Novgorod during the twelfth century. This early appearance withdraws support from the theory of Tartar introduction, as those eastern hordes only swept into Russia about 1235.

Of course, the reverse curve such as is employed in the bulbous dome was very prevalent in the early Buddhist art of Asia, but any line of continuity between this curve and the Russian type of dome seems untraceable.

Persia has also been suggested as a possible source from which the bulbous dome may have been derived. The helmet type of dome is found in the Shrine of Duvazdah Imam in Yazd (1037) and probably elsewhere in central Persia, but the Persian dome of this period is supported so directly on a thick mass of masonry that it seems entirely unrelated to the Russian dome which rests on a drum. The fact that examples which might be classed as intermediary are found neither in the Caucasus region nor in the boundaries of the Byzantine empire of that time, reduces the possibility of Persian origin to a very minor position.

It seems reasonable to recognize the importance of the Varangian link between Constantinople and Russia which established Byzantine influence as predominant in Russian ecclesiastical architecture. By 988 when Vladimir, the Prince of Kiev, ordered his people forcibly baptized in the Dnieper River, the Byzantine church had already elevated the dome to its climactic position on top of a cylindrical drum. This type of Byzantine saucer-shaped dome was well known in Russia. From the addition of the cross it would have been an easy step to draw the apex of the dome into the pinnacle supporting the cross, thereby achieving the helmet shape.

The severe winters of Russia necessitated a type of dome which would deflect the heavy snows. The bulbous shape performs this function and it is generally believed that the bulbous dome evolved from the helmet dome in response to the demands of the Russian climate. Of course, the possibility of an origin in the wooden architecture of Russia remains, though the clues will probably never be found as the oldest extant wooden church in Russia dates from about 1600.

With the advent of the Baroque spirit, multiplication and accentuation ensued, until by the nineteenth century, one traveller (Robert Johnson) speaks of sixteen hundred churches in Moscow, each church bearing five to nine domes. These domes were of wood and painted—white, yellow, green—or covered with copper, gold, silver or even sheet iron. One can imagine the sight of these thousand or more domes in winter, their upper surfaces white with snow, their bulbous lower edges gleaming with color or exposing glistening metal curves to the reflected light from the snow covered earth. Add to this the sound of thousands of bells jingling throughout the day and a large part of the night and the esthetic effect must have been such as to profoundly stir the emotions, fantastic though the forms of the churches may have seemed.

From the Russia of Peter the Great and Catherine the Great the bulbous dome probably travelled westward, resulting in such designs as are to be seen in Prague, Salzburg, Dresden, Gotland, and other European centers—exotic notes domesticated by Baroque associations.

—Alan K. Laing, A.I.A.
Professor of Architecture, University of Illinois

[1]*Ward, W. H. Russian Architecture. R.I.B.A. Journal. Vol. 29 pp. 261-268.*

[2]*Buxton, David R. Russian Mediaeval Architecture. Cambridge, 1934*

Changing Times, Changing Philosophies

In the fourteenth century and even in the beginning of the fifteenth, sculpture and painting had dutifully been governed by architecture. The vigorous oncoming new world philosophy exploded this unity; the Gothic ensemble disappeared; unity of the arts became severed. One tie, however, remained, a tie of all-embracing silent will; these silent wills were, however, more external, the penetrating organic unity was destroyed.

The heroic youth of the Northern peoples was passed in which a single life-experience had grown. An age of consciousness, of thought, of reflection appeared, one of analyzing rather than naive synthetizing, one that must follow its creation and its will. Painting must now become the important art because it can more directly portray appearances and adventures. The new painting was no longer primarily mural-painting, altar-painting, or glass-painting but rather easel-painting. To be specific, painting swerved from religious subjects to those of the private individual and his intimate surroundings. It aimed to carry out to the end its inner laws of effect. Wherever painting works and blossoms in this wise bourgeois or citizenship feeling prevails. History has proved this a-plenty; think only of the names of cities like Venice, Antwerp, Amsterdam, Nuremburg, Cologne, Paris and others. Wherever the burgher fixes the point of view naturalism prevails because the burgher lives and breathes actualities rather than symbols. Wherever imagination is colored naturalistically, architecture, in its higher flights, cannot exist because all architecture functions indirectly and allegorically. With Durer's birth, the spirit of Gothic already belonged to the past. Whatever had been gained in diversity in ensemble of the arts became lost in the oneness of each.

What was happening in the arts was again mirrored in the fate of the times. In the fifteenth century there arose everywhere in government and society elements out of unities; as if following a plan because the consequence, following these divisions, was the creation of new lines of strength. It is interesting to see a transplantation through division. The church sacrificed much of her dominance; and the highest worldly power could not force a single dominating idea. All the elements strove for autonomy. Religion, science, and art, till now a unity with the church as conceived from the convent or monastery, fell into disunity. They developed, in the meantime, a new unity and followed only new covenants. Even the individual wanted to make his own laws. Here begins modern specialization. To the extent that the feeling of collectivism was weakened, a feeling of personal spiritual strength grew; its aims, however, were focused on what we are pleased to call progress, a hopeful view toward all departments of knowledge. There began a general decentralization.

—Karl Scheffler. Translation by A.W.

Alfred C. Clas, prominent Milwaukee architect, died there July 8, age 82. Mr. Clas was born in Sauk City, Wisconsin. In the last two decades of the nineteenth century his firm was Ferry & Clas, Architects, Milwaukee. They were very prominent and their work includes Milwaukee Auditorium, Public Library and Museum, Plankington Hotel, and Wisconsin State Historical Library and Museum building at Madison. Mr. Clas was also architect of the Tripoli Temple and many other buildings in the state of Wisconsin. From his office came such prominent architects as Peter Brust, Richard Philipp, Elmer Grey and others. Mr. Clas served as a member of the first County Park Board. He joined the Western Association of Architects in 1884, was made a Fellow of the A.I.A. in 1889, and at his death was an emeritus member of the A.I.A. In recent years his firm was Clas & Clas, Inc., an association with his sons.