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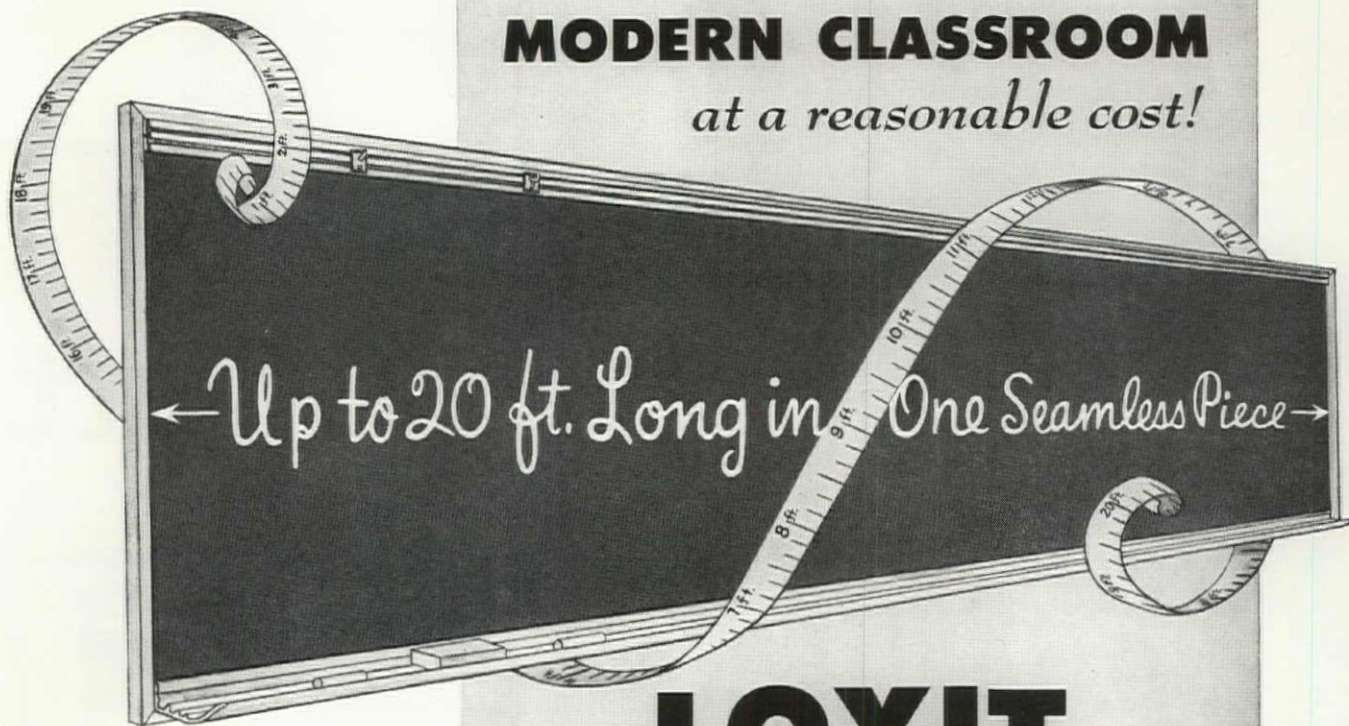
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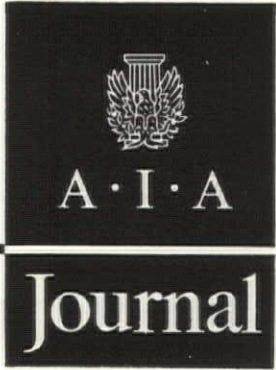
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VOLUME XXXIV, NO. 5

NOVEMBER 1960

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**THE COVER**

A print of a centuries-old bookmaker's shop, some modern typography and a splash of color gave Maria L. Biganzoli her cover design for this month's issue.

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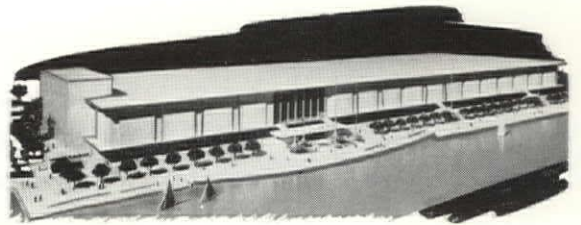
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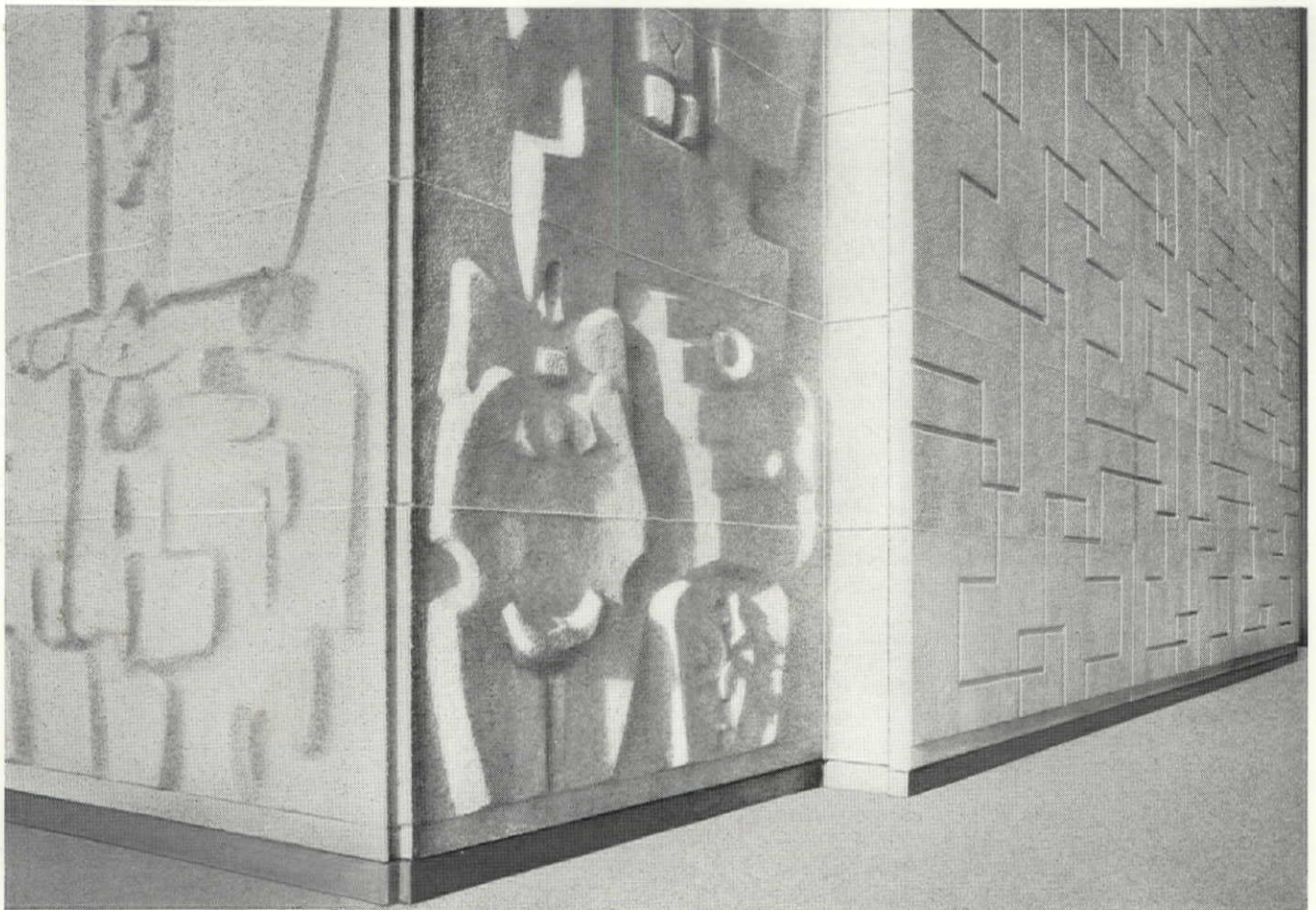


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## CURTAIN WALLS

*of McCormick Place—new \$34,000,000 exposition center on Chicago's lakefront—were made of Trinity White portland cement and exposed white aggregate*



*(Top) Model of McCormick Place as seen from Lake Michigan. (Above) Close-up of the sculptured concrete panels*

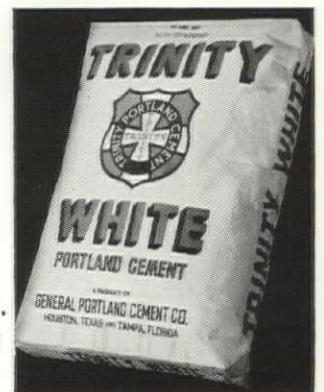
McCormick Place is one of the largest concrete structures in the world—three blocks long by a block wide and high as a ten-story building . . . 2,010 curtain wall panels made of Trinity White and white aggregate were used. Sculptured panel designs by Constantine Nivola.

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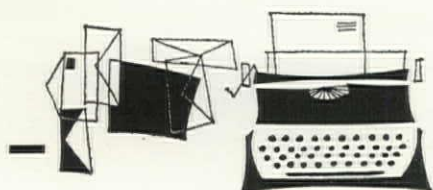
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## L E T T E R S

### Land Use

EDITOR, *Journal of the AIA*:

It is common knowledge today that before long our countryside will become one large suburbia, perhaps with patches of civilized landscape here and there, but predominantly a network of roads, cities and suburbs unless we take some kind of action. The perplexing factor is the rather uncontrolled expansion, or as it has often been termed, "explosion," of our cities. This uncontrolled expansion is inherent in our free enterprise system and stems back to the pioneer days of unlimited expansion west. Now that open spaces are becoming rare and we resort to reclaiming slums within urban centers to gain new areas, it is time to stop and reconsider where we are heading and what are our alternatives.

One of the major restrictions in regional and city planning has been the fear of government planning, bringing too much government control. I feel that organized planning of land use can be successfully conducted only by the government, without any danger of creeping socialism. The state schools, for instance, have not in any way inhibited the progress of private institutions . . . similarly, big business may have to be channeled in certain directions without the least danger of changing the essence of the principle of free enterprise. I am convinced that a private organization has neither the authority or the impartiality to make decisions affecting the public, such as determining areas for parks, industrial areas, residential districts and so on.

This of course, has been a controversial subject for a long time. We cannot expect the small builder to be concerned with such problems as land use in relation to regional planning. He will always buy the cheapest available land and with a motive of speculation, usually develop it without any regard to sound principals of city and regional planning. Neither can we expect the other extreme—the government to enforce any such planning without a lengthy legislative action. It is somewhere between the two extremes that we can expect action; from the wealthy real estate men, such as Zeckendorf, Stevens, from the large universities privately endowed, from the giant industrial concerns and from the large foundations.

If we can take such a direction and create nuclei of dense urban centers, thus increasing the areas where not to build, and if we can start on a small scale, perhaps this is one way to avoid the nightmare of one vast city resembling Los Angeles today, but multiplied by millions.

GEORGE ALEXANDER HARTMAN  
Bainbridge Island, Washington

### Home Sweet Home

EDITOR, *Journal of the AIA*:

Occasionally I wander into the architectural office of a friend of mine and, while waiting for him to finish some business, I glance through the *AIA Journal*. Often, since my friend maintains a "one-man" practice, I have time to read your magazine. Such was the case with the September issue and the article by Richard D. Cramer, "Images of Home."

It seems to me (a Southerner), that in tracing the development of the American house Mr Cramer skipped over the Jamestown-Williamsburg, Virginia, area much too quickly. In fact he did it with but one mention of the Colonial Capital of the Colonies.

Jamestown, the first permanent English settlement in America, the place where the first homes of the colonists were built a full thirteen years before colonists put foot on New England soil, is not mentioned at all—yet there exists throughout the area some of the finest examples of early American and colonial homes to be found in this country. Many of them are maintained and preserved for posterity by numerous historical societies, and I would venture to say that their design has influenced American house design much more than Mr Cramer gives them credit for.

J. R. COOPER  
Richmond, Virginia

### We Take A Bow

EDITOR, *Journal of the AIA*:

May I extend a pat on the back to Harley J. McKee for his excellent and truthful article in the September *Journal* of the AIA.

ELLIOTT L. CHISLING  
Hollywood, Florida

### Committee Work Praised

EDITOR, *Journal of the AIA*:

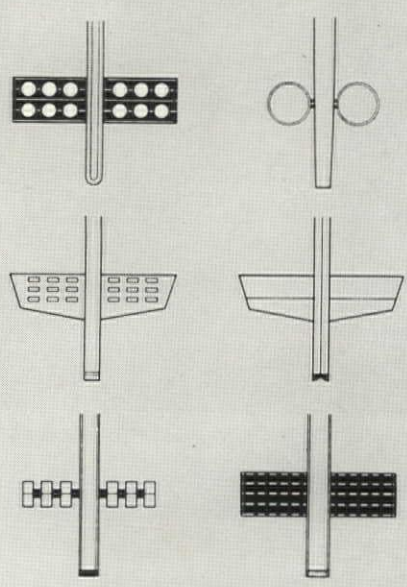
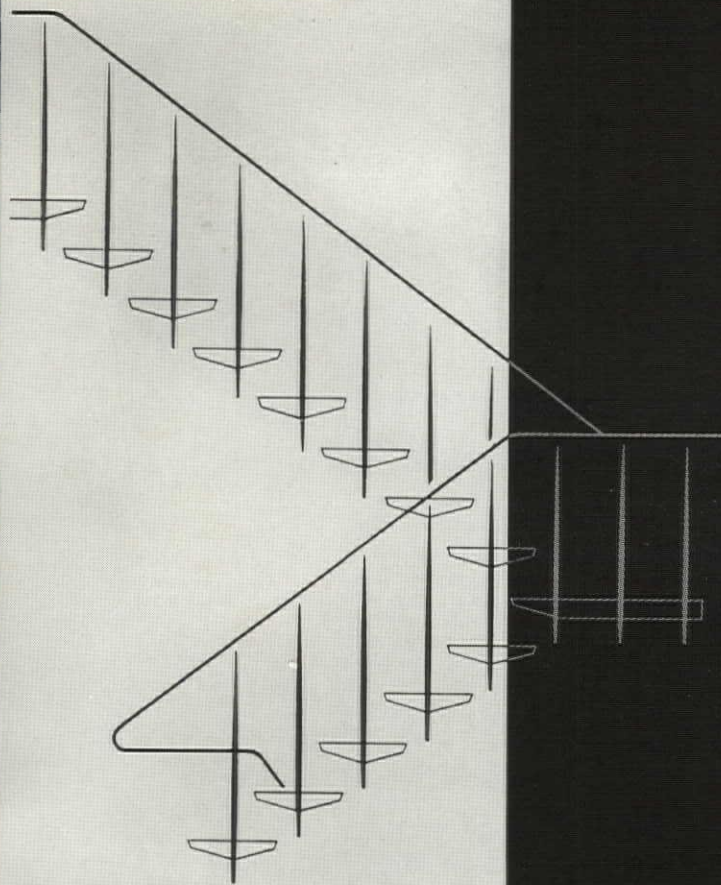
We are most grateful for your cooperation in providing us with copies of the reprint "Tornadoes" (AIA Technical Reference Guide (TRG) 13-2). We have furnished a copy to each Weather Bureau office east of the Rockies for reference use.

N. A. MATSON, CHIEF  
Emergency Warning Section  
US Weather Bureau

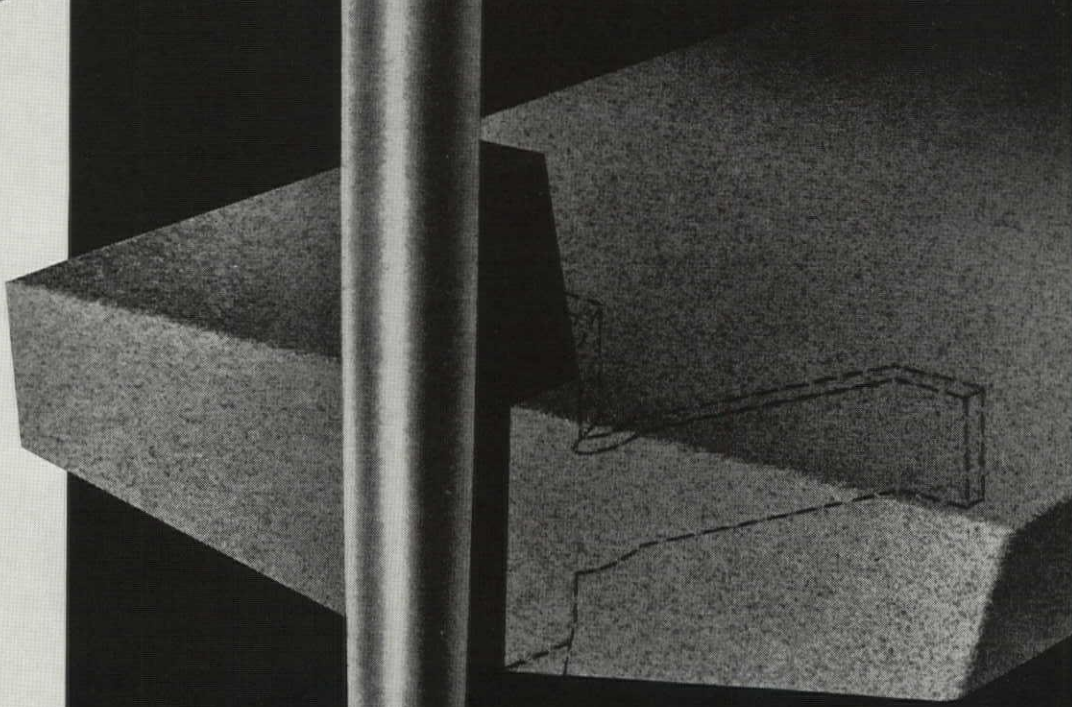
(Editor's Note: The Institute's active Committee on Disaster Control Studies was responsible for this Technical Reference Guide which was published in the May *Journal*.)



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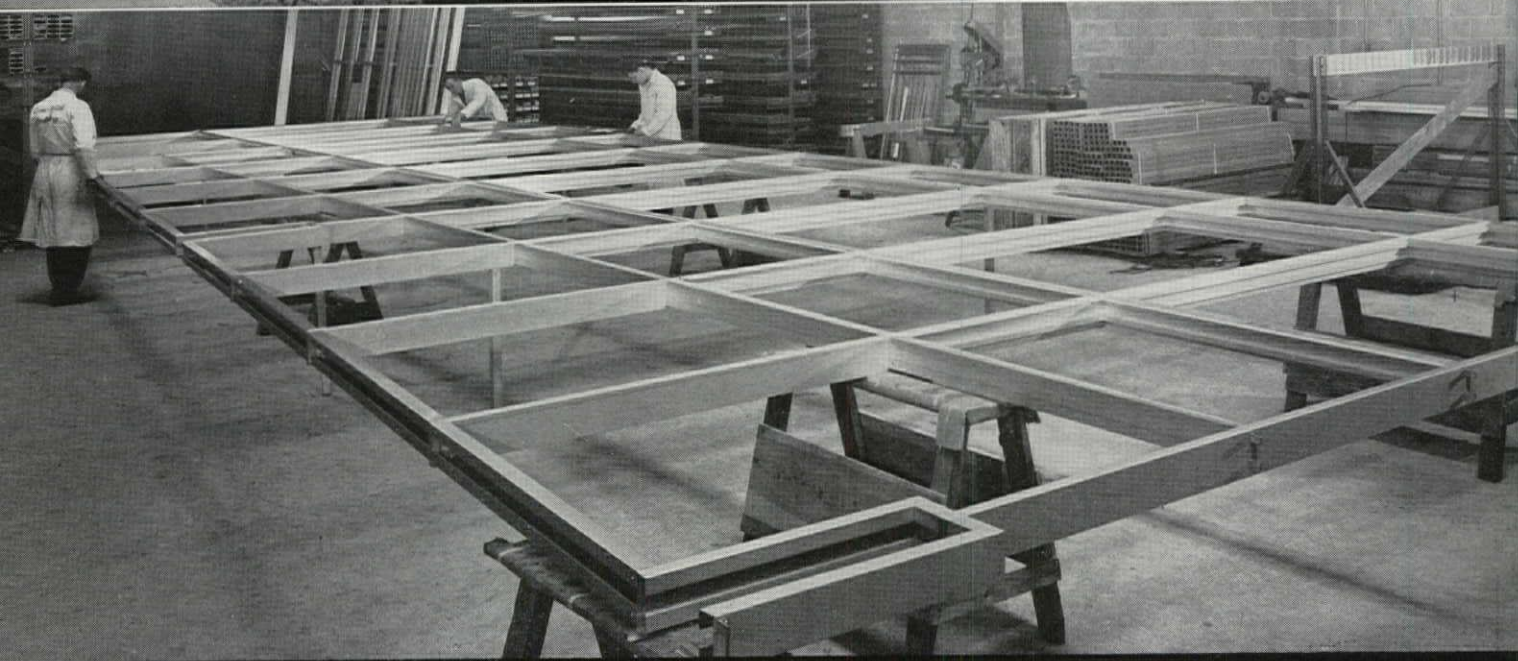
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TOP: PALM SPRINGS SPA William F. Cody, Wexler & Harrison, Phillip Koenig

BOTTOM: PREFABRICATION OF SAFEWAY STOREFRONT FOR DOUBLE GLAZED, SEALED UNITS

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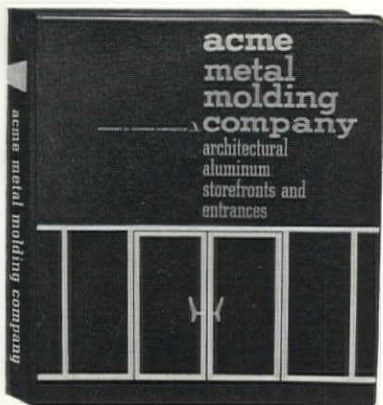




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## The Editor Takes A Trip

European tours don't usually make the *Journal's* headlines, but since ye editor and his family were members of this one, it's news! The New York Chapter, AIA, sponsored a four-week quickie tour for members of chapters in the New York area, in cooperation with Sir Henry Lunn, Ltd. There were twenty-nine in the group—just a comfortable bus-load. They flew to Glasgow, and then toured Scotland, England, Belgium, France, Switzerland and Italy, with stop-overs in London, Venice, Rome, Florence, Nice and Paris—all by motor-bus, flying back from Luxembourg. It was a whirlwind trip, and of course suffered from the effort to take in too much territory, but on the other hand it afforded an intimate view of the lands and their people, such as one could only get otherwise by private automobile, plus such



thrills as driving over the Simplon Pass and climbing and winding through the countless hair-pin turns and magnificent scenery of the Apennines between San Marino and Rome.

The photograph shows all but three of the weary but happy travellers—three of the young fellows had taken off on their own that morning—standing in the Borghese Gardens with all Rome at their feet. In case anybody wants to know, ye editor and wife stand at the right of the front row, son stands directly under St. Peter's. The bulky fellow kneeling is the fearless Belgian driver, Georget, and to the right of him the vivacious British courier and the local Roman guide.

It was the first time just such a junket had been tried, and with a few changes, there is no reason why there shouldn't be many more.

## Will Invites FPAA to Washington

Speaking in Spanish before more than 400 delegates to the Tenth Congress of The Federation of Pan-American Architects in Buenos Aires last month, AIA President Philip Will, Jr, invited the organization to hold its Eleventh Congress in Washington, DC, in conjunction with the Annual Convention of the AIA in 1965. The invitation was unanimously accepted, and will mark the first time that the Congress has held a meeting in the United States.

Speaking fluently, Will stated that "my government and my countrymen will be happy to welcome the architects of Latin America whom we know as the leading citizens of their respective countries. Your visit to the United States and the joint FPAA Congress and AIA Convention we propose cannot fail to further strengthen Pan-American friendship and understanding."

In his invitation, Will recalled that the first official delegate of the AIA to the Pan-American Congress was Louis Newberry Thomas, a delegate in 1920. "Like all his successors, he was high in his praise, not only of the serious and stimulating work done at the Pan-American Congress of Architects, but also of the gracious and heart-warming hospitality he received," he stated.

The invitation followed a brief message of greetings to the delegates in which he called for a new International Architecture, with each country of the world sharing its accomplishments and knowledge with other peoples. "International Architecture," he declared, "will mean a more comprehensive and a more knowledgeable approach to the solution of specific nation and regional problems."

## Industrial Building Exposition

The most extensive conference ever arranged on construction of new industrial buildings and modernization of old ones will take place in New York December 12 through 15.

The conference will be a feature of the first Industrial Building Exposition and Congress at the New York Coliseum. Both events are under the sponsorship of a board composed of twenty-eight architects, builders, engineers and industrial executives.



Nineteen basic topics dealing with virtually every major aspect of new construction and modernization are scheduled, including types of plants to meet specific needs, financing, expansion, site selection, trends in plant design and other subjects.

Highlighting a discussion on "New Dimensions in Plant Design" will be panelist Eero Saarinen, FAIA.

Visitors who plan to attend the conference may obtain information about hotel reservations, conference attendance and rapid registration cards by writing Clapp & Poliak, Inc, 431 Madison Avenue, New York 17, N.Y.

### FDR Memorial Competition

The six winners of the first stage of the Franklin Delano Roosevelt Memorial Competition have been announced by Edmund N. Bacon, Professional Adviser. The successful competitors among the 574 from all parts of the country who submitted designs were: Abraham W. Geller, architect of New York City associated with Douglas Gordon, Diana Kirsch, and Claude Samton; Tasso Katselas, architect of Pittsburgh; Rolf Myller, architect of New York City; William F. Pedersen and Bradford S. Tilney, architects of Boston associated with Joseph Wasserman, David Beer, and Norman Hoberman, sculptor; J. Edward Luders, architect, Hideo Sasaki, Don Olson and Robert J. Reilly associated as Sasaki-Walker-Luders Associates of Watertown, Massachusetts; and Joseph J. Wehrer, architect of the University of Michigan associated with Harold J. Borkin.

The selection was made by a professional jury headed by Pietro Belluschi, Dean of the School of Architecture and Planning, Massachusetts Institute of Technology after a three-day judging period. In its report the jury stated: "The six contestants chosen to prepare the final drawings represent widely differing solutions; some leaving the park-like character of the site untouched, others remodeling the topography to suit their particular ideas. The jury feels all the premiated designs, when studied further and if developed competently, will result in a group from which a really fine memorial to Franklin Delano Roosevelt may be developed." The jury further noted that "the present project has not only been worthwhile, but has also become a significant index of contemporary American culture."

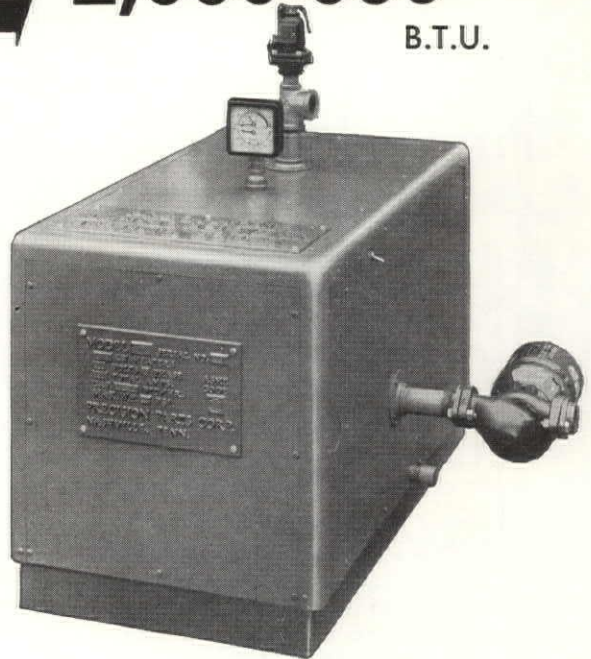
The winners will be awarded \$10,000 each and will prepare detailed drawings and models for submission in the final stage. The winner of the second stage will be awarded \$50,000. After

*(Continued on page 18)*

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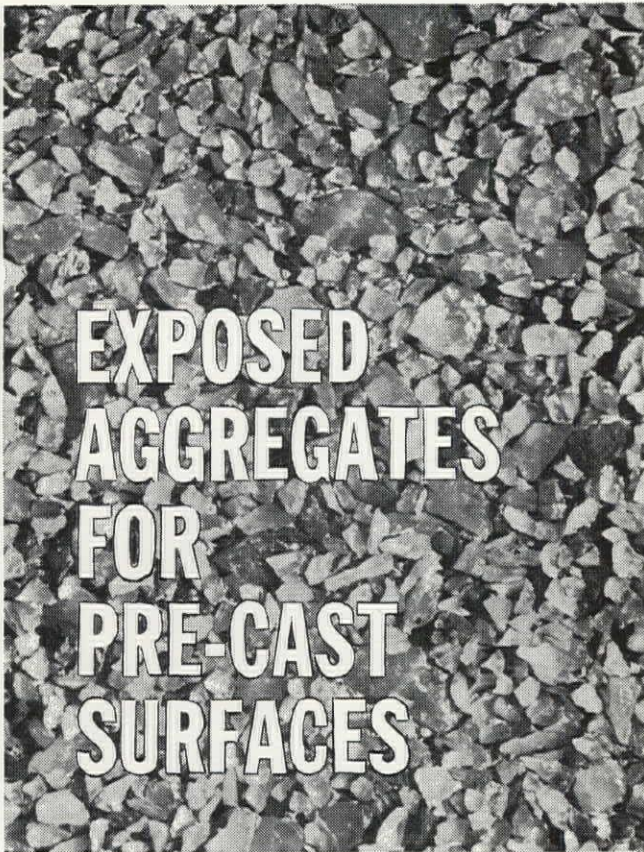
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## NEWS

the final judging on December 29-30, there will be an exhibition of winning and honorable mention designs.

In addition to Mr Belluschi, the jury consists of: Thomas D. Church, Landscape Architect of San Francisco; Bartlett Hayes, Jr, Director of the Addison Gallery of American Art, Phillips Academy, Andover Massachusetts; Joseph Hudnut, Professor of Architecture Emeritus, Harvard University; and Paul Marvin Rudolph, Chairman of the Department of Architecture, Yale University.

A portion of the Report of the Jury follows:

"The jury was impressed by the number of ideas submitted and by the seriousness of the majority of entrants in exploring the very difficult tasks of creating a suitable memorial in the idiom of the present age. Many contestants exhibited the great stimulation arising from the memory of a great president. Therefore, the jury felt that the present project has not only been worthwhile, but has also become a significant index of contemporary American culture.

"In its final deliberations the jury will expect a high level of professional competence in all phases, including landscape design, structural engineering, painting and sculpture wherever these features are an integral part of the design. Thus, it may be important for the contestants to seek competent specialists in whatever fields are deemed necessary. The jury will also examine the structural stability of each design. Some of the more complex submissions should perhaps be developed in collaboration with a competent structural engineer. Final submissions should include evidence that they will be structurally practicable. In connection with these submissions, there should be an indication of the materials to be used and the way they are put together.

"The jury noted with satisfaction that a number of designs included a sequence of spaces. It hopes that the expectation of these spaces will be fulfilled with some adequate focus such as works of art."

### Charles T. Ingham

The *Journal* notes with regret the untimely death of Charles T. Ingham, FAIA, of Titusville, Pennsylvania. Mr Ingham served as Secretary of the Institute from 1934 to 1943.

### Matthew W. Del Gaudio, FAIA

Word has been received of the death of Matthew W. Del Gaudio, FAIA, of New York. Mr Del Gaudio served the Institute as State Association Director, 1941-1944, and as Director of the New York District, 1955-1958.





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Journal

# A Flying Visit to Italy

*Some notes  
on travel today  
in general  
and on Milan  
in particular*

by **JOHN G. GRACE, M. A., RIBA**

*Assistant Professor of Architecture,*

*Tulane University*

► Quite a large number of first-time travellers to Europe will be returning to the US this fall with sighs of weary relief, and a bad case of indigestion. Not that they have over-eaten, or that the food has been bad. I mean visual indigestion. Just as the thought of America suggests to the average Englishman a country with a single standard of speech habits, two cars in every garage, universal prosperity, and one type of climate—that of Hollywood, to say nothing of a typical “modern” home on the outskirts of a city with typical skyscrapers; so the average American, who has never travelled abroad and is visiting Europe for the first time, naively expects to be able to “do” London, Paris, Rome, Stockholm, Berlin and Madrid, taking in them all in one easy sweep.

Compared with the American’s idea of Europe, the Englishman’s idea of the US is a fair approximation. Nevertheless I still find it difficult to convince people over here that, after living in the US for twenty years and becoming very familiar with California, and having crossed and re-crossed the country several times from Los Angeles to New York, from Chicago to New Orleans, and from Boston to Santa Fe, I still don’t know anything about Texas, Missouri, Michigan and Virginia. The fact is that though they all use the same language (more or less), and the same currency, to me they might all just as well be foreign countries.

A flight of less than an hour from London, if you are unprepared, don’t speak the language, and are unfamiliar with the currency of the country you land in, can get you into an awkward predicament. What starts out as a source of embarrassment soon becomes exhausting and irritating. This is why we have travel agents and organized tours. It is also the reason some of us develop optical dyspepsia.

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*The Galleria Vittorio Emanuele, Milan. An early example of fully protected pedestrian precinct*

For it has become increasingly difficult for the traveller on the European continent to permit his movements to be dictated by whims. Most hotels are booked up weeks ahead. You must not arrive in a place before you are expected. If you hate the place when you get there, you can't move on, and if you like it enough to want to stay you can't prolong your visit. The net result of all this is that a schedule is worked out by the travel agent. You find yourself being whisked from country to country, and from town to town. Your day is planned for you in advance. There is no escape. Soon you are saturated, impressions get blurred, and finally things seen in one place will be remembered as belonging somewhere else.

I recently met a party of American architects and their wives who were being entertained by the Royal Institute of British Architects in London. They had only been in England forty-eight hours, and already some of them were complaining about the tightness of their schedule. I forget which countries they were planning to visit, but I'm quite sure that by the time they got home they must have been in a state of utter exhaustion. I'm not sure if I know what the answer is. Perhaps it is this: "If you can't afford to take a whole year, stay home and save up until you can." It is small comfort to be told this, so by way of compromise I would suggest the following: Select one place. Go there, and stay as long as funds will permit. There is, however, one other alternative, and that is to obtain a grant from a foundation, or arrange for an exchange of jobs.

I happen to be one of the lucky ones. My university gave me a grant and a year's leave of absence to come to England and study post-war schools. The project has allowed me plenty of freedom. My time has been my own, but my movements have been limited. Getting to England was expensive, and there was the additional need to establish a base so that I could get my children into school. The list of places within comparatively easy reach of England that I would like to visit is quite long. So far I have managed to make only two tantalizingly brief trips abroad, and it was the second visit, to Italy this summer, that started me thinking about the best way to see the world in this age of mass transportation.

One might be tempted to think, as many do, that the automobile provides the solution to the problem. Undoubtedly one's freedom of movement is much greater, and you can cover a much wider area for much less money. If the hotels are all booked up in a certain town, a bed can often be found more cheaply in some neighboring village. You have only to drive on. Indeed, with a car you do not have to be dependent on hotels at all. Often the local tourist bureau has a list of small pensions and private houses whose owners double up during the season so that they can supplement their meagre incomes. You may have to share the family bathroom, but you will not be rooked. Moreover it isn't really necessary to travel by car in order to take advantage of these facilities. On arriving at the Stazione Termini at Rome the English-speaking attendant in the tourist inquiry booth gladly called up two or three pensions and arranged for me to take a room in the vicinity. I was even able to walk there carrying my own suitcase. So why go by car at all? Of course I



realize that it is difficult to keep one's baggage to the minimum when planning an extended stay. But surely it is permissible on arrival and departure to take a taxi. These, it will be found, are usually quite cheap.

Elizabeth Bowen, whose book, "A Time in Rome" I heartily recommend to anybody planning a visit to that city, makes no bones (no pun intended) about the fact that the only proper way to enjoy a city is on foot. She categorically forbids any other method except in cases of dire emergency. If you are lost and exhausted you may take a streetcar home (and you will be admitting defeat in doing so), but if you should take a taxi for purely social reasons, then you had better keep your eyes closed. If you look out you will run the risk of undoing whole days of patient work. Of course she is quite right. Taxis and cars have their own way of getting around. If you are not sufficiently enterprising to explore for the sake of exploration you will receive nothing but the stereotyped impression already stamped in your mind through previous acquaintance with post-cards, pictures on the walls of furnished lodgings, and all the other cliché-ridden paraphernalia of modern times from guide books to travel brochures.

So why not follow her advice? Buy yourself a map (they even give them away free) no matter how flimsy and expendable—in Italy it's called a "pianta," and start to make a series of sorties from wherever you happen to be staying. Thus you will be laying the foundation for real familiarity with the city. Nothing is more unsettling or more unnerving (especially for an architect) than to be totally disoriented. A simple question culled from a phrase-book may bring forth a stream of completely unintelligible directions. The more lost you become the more complicated the directions get.



I suppose, if I had not had a specific reason for going there, I would not have gone to Milan on my first trip to Italy. Few intercontinental travellers, however, can avoid passing through it, though not everybody takes a week to do so. Of course I didn't begin to get to know it, and I remember that by the end of the first day (which began with my arrival at five-thirty in the morning by airport bus at the nightmarish Stazione Centrale erected to the glory of Mussolini) I had begun to hate the place. Looking back now, as an experienced traveller who has been to Rome and Venice, I find I have developed a positive affection for Italy's major industrial city.

The night flight means that you get virtually no sleep at all. What you do get (in addition to a headache) is strictly limited by the comparatively brief duration of the flight, and produces a feeling of over-strained sensitivity. From the moment the plane started to wheel down to the floor of the valley with its scattered constellations of lights there began a search for something to identify. It was not until the airport bus had ground along for some forty minutes that the reason it had not been possible to spot the town of Milan from the air became apparent. It is forty kilometres from the airport. I had to admit that there was nothing unusual in this, but somehow I had hoped for something better. It turned out later that this was a purely temporary arrangement while the new air terminal is under construction: Again a situation with which we are all too familiar.

The suburbs of any city are apt to look ghostly in the dawn hours. Those of a city which you have never entered seem frighteningly unreal. There is no such thing as a comprehensive view of Milan. San Francisco suddenly spreads itself before you as you round a bend in the freeway coming up the peninsula from the south, and like New York presents the appearance of an island as you ap-



*The Stazione Centrale, Milan*

proach it across the water. But as the bus veers and changes direction with the streets the eye searches in vain for a glimpse of the Pirelli building. Surely this one free-standing sky-scraper will stand out clearly and say "Here is Milan." But well-placed as it is with regard to its surroundings, Gio Ponti's slender tower of reinforced concrete (the only one so far in this material to be built in Europe on this scale) is skillfully concealed, even from that side of the city on which it lies, by the constantly changing directions of the streets.



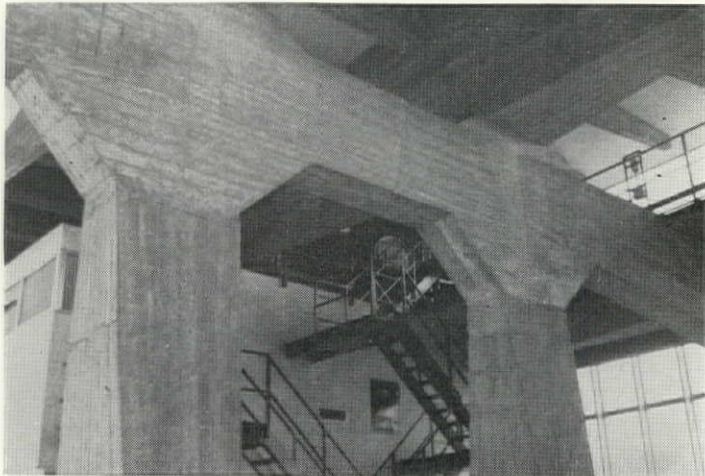


wonder then that I could not rest satisfied until, some four days later, I was able to join a party of students going over the building, and so was able to gratify a desire that had formed itself instantly—that of seeing what Milan looked like from above. In this I was doomed to be disappointed, however, for the succession of fine, hot, sunny days which had greeted my arrival was suddenly replaced by closed-in skies, and the city, drained of all color, faded off into the formless distance.

It has been said that the genius of Nervi is better left to function on its own. Teamed up with an architect, as in this case, the bones of this structure are not laid bare, and by US standards this may not be such a very high building—only thirty-four stories. But there is a sort of aero-dynamic quality about this one which stamps it as being of the twentieth century, and the silver sheath of the aluminum curtain wall carries the eye up till it terminates in a two-story glazed gallery surmounted by what looks like the flight deck of an aircraft carrier. At the top it is like being in the gondola of a Zeppelin, and with low flying clouds brushing the ceiling it is not hard to imagine the rock and sway of flight. It is here that the full structural beauty is revealed. It is impossible not to participate in the process whereby the loads are gathered, thrusts counter-balanced, and stresses channelled into the main trunk and the whole transmitted to the foundations hundreds of feet below.

Take a cabbage and slice it through the middle, not vertically downward, but horizontally. This is what the plan of Milan looks like. It must be quite typical of the way in which many European cities have developed since the Middle Ages. There is an inner core, roughly circular in shape, inside which is a labyrinth of narrow streets: The heart of the medieval walled city. At the center of this is the large open piazza of the Duomo, which, with its spiky gothic pinnacles squats there like a gigantic porcupine and serves as the principal landmark for this area. On the north side of the Piazza the open mouth of the famed Galleria sucks in and spews out a never-ending stream of shoppers, strollers and tourists.

By the eighteenth century the medieval town had long since burst its confines, and a squatter's settlement had clustered around the walls. The street pattern which evolved was simply the result of extending the roads leading from the center and linking them together with connecting cross-streets. The next concentric "ring"—actually much closer to the geometric form of an



*The Pirelli Building. Gio Ponti—Architect; P. Nervi—Engineer. Bottom photo shows roof structure—or "right deck" supports*

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Blocked off until the very last minute, the element of surprise is complete, and all the more so for having been anticipated so long.

Seen through the gaping apertures of the massive Stazione at relatively close quarters the tower literally seems to soar into the sky, and from this angle its slim proportions are emphasized. Small



octagon—seems to be the result of cutting through this shapeless jumble in a deliberate attempt to introduce some form, after the manner of Versailles, Karlsruhe, and other contemporary developments in the “grand manner.” Thus we find that an axis has been established running approximately north-west as a result of connecting the rebuilt Castello Sforza to the south-west corner of the Piazza del Duomo by means of the Via Dante. It is this axis which served for the development of the Parco and the Corso Sempione.

The area between the octagon and the more recent outer “ring” road is a sort of no-man’s-land full of varying street patterns which conflict, overlap and become hopelessly enmeshed with a capricious abandon sufficient to defy any attempt at analysis. I do not recommend anybody to tackle this section unless they have a car at their disposal—preferably driven by a native. Work is at present going on toward the construction of an underground railway system, and most of the major intersections have become dusty excavations. Apparently not content with the din of jack-hammers and the roar of trucks, the Italians, determined not to run short of material, have set up individual concrete mixing plants by way of adding to the confusion.

I had been given a map by some kind friends before I left London. It purported to show all the worthwhile examples of modern architecture in Milan. Out of a total of slightly over a hundred buildings, about half were inside the middle (octagon) area which measures about two miles across. Most of these places can be reached quite easily by a combination of foot and tram. The apartment where I was lucky enough to stay was outside the outside ring, but I had no difficulty in reaching the center by tram. I would suggest that, in order to do justice and avoid undue exhaustion (in summer it is wise to follow the local custom and have a leisurely midday lunch followed by a snooze) one should be prepared to stay in Milan for at least two weeks.



Space does not permit me to record the rest of my Italian tour in any detail. I tried to see too much in far too little time, and above all I was not properly prepared. If I did not arrive back in England with a bad case of indigestion myself, it is only because I was forced to quit after the appetizer. Emboldened by my newly-won knowledge of Milan, I found the temptation to take a side-trip to Venice and another one



*Observation deck, Pirelli Building*

after that to Rome quite irresistible. Why Rome, rather than Florence, which would have been much closer, I'll never know—especially since, with the Olympics in the offing Rome was in a ferment. It was also hotter than Vesuvius. That I didn't rush to the stadium in order to see Nervi's triumphs of athletic concrete for myself may have been because of this. Indeed, true to Miss Bowen's description of a typical Roman in summer, from the moment of my arrival I seemed to be totally preoccupied with the problem of how to get out of Rome and back to Milan in time to catch my plane.

In the short time left, and with the knowledge of how much there was to see (how much I hadn't even guessed) I yielded to the inevitable. To my undying shame it must be recorded here that I spent two whole days being driven sweatily from one ancient monument to another in an uncomfortable bus, listening to puerile explanations delivered in execrable English by moronic guides. It need not have happened that way. With a little more preparation I could have decided what I really wanted to see, enjoyed seeing it, and come away with a lasting impression.

Fortunately there are only two ways to see Venice. One, on foot, the other by boat, and surely the best time to be there would be early spring or late fall. Not when the tourists are there. I will say no more. ◀



► "In a few years the tentacles of Subtopia will smother and destroy the beauty of the English countryside."

Something like this was said by many people in the early post-war days, and it is not surprising that a country with a fine architectural heritage should endeavour to stop further encroachment.

This destruction of the British countryside, with its large parks and woods of stately trees, wind-swept open moorland, rich agricultural land, began to increase in the nineteenth century. The Industrial Revolution demanded towns; towns demanded land for building houses and factories. Between 1918 and 1939 towns spread in all directions, and meandering, scented country lanes became straight and fume-filled roads. Gaunt poles and looped cables replaced the pleasing curves of trees; houses, all alike, lined the roads like ranks of soldiers; signs and notices, pedestrian rails, hideous advertising hoardings with their doubtful tales—all these things proclaimed the arrival of ribbon development and progress.

After the Second World War the demand for industrial premises and houses was astronomical, and vast areas of good land on the edge of towns and cities were wiped out of existence and huge council estates, with their white concrete roads and badly-designed concrete lamp standards appeared. Ribbon development is now out, officially, but it continues in a new guise.

The same identical ranks of "soldiers" line the roads, but now they have taken a pace backwards—between them and the main road a service road for tradesmen and car owners is built. Neon-lined signs have multiplied, traffic signs are bigger and more plentiful and hang at unsightly angles. A suburban road junction on the outskirts of a town is now so cluttered with instructions as to render them meaningless, and the number of posts and poles gives the junction the appearance of a well-shelled wood. And at night the street lights bathe the streets in orange or blue light which often increase rather than diminish the shadows, and always make flesh look like something out of this world.

It was a Welshman who first raised a voice against the spread of this disease—subtopia. The *Architectural Review* supported him and slowly a single voice grew into widespread opposition.

On 20th July, 1957, a conference, under the chairmanship of the Rt. Hon. Duncan Sandys, M.P., was held at Lambeth Palace, London. Amongst the three hundred delegates who attended this inaugural conference were the presidents and leading representatives of the principal learned and professional bodies concerned with architecture and planning; delegates from civic and amenity societies from all over the country; representatives of government departments and Members of both Houses of Parliament and of differing political persuasions.

Mr Sandys emphasized that the new body was an entirely unofficial one. The influence of planning authorities through controls and regulations was primarily of a negative kind. The trustees of the new body—to be called the Civic Trust—could not set themselves up as arbiters of architectural taste or as experts on technical matters. It was the object of the Trust to commission qualified persons to study and report on important civic problems. It would seek the guidance of those professional bodies which had agreed to form a joint advisory committee. The Trust's targets for its many forms of propaganda include those professional bodies engaged in altering the face of Britain, departments of the government and committees of local government, the nationalised industries, private enterprise and, most important of all, the public. Public opinion is, or should be, the final arbiter of all.

General interest in the Civic Trust and its work is being awakened by a series of short television films shown by the British Broadcasting Corporation, exhibitions from home and abroad, by lecture and study groups.

This, then, is the Civic Trust's main objective—to open people's eyes to their environment and to mobilise public opinion when necessary. Civic and amenity societies have been formed, aid given to small amenity societies, pamphlets

and books published. In its first year Trust funds enabled, amongst other things, the sponsoring and supporting of five travelling exhibitions. The Trust does not purchase sites or buildings, but is empowered to make grants. It has also set up a Triennial Award for the best local architecture and a prize of £250 for a good idea which is in keeping with the spirit of the Trust.

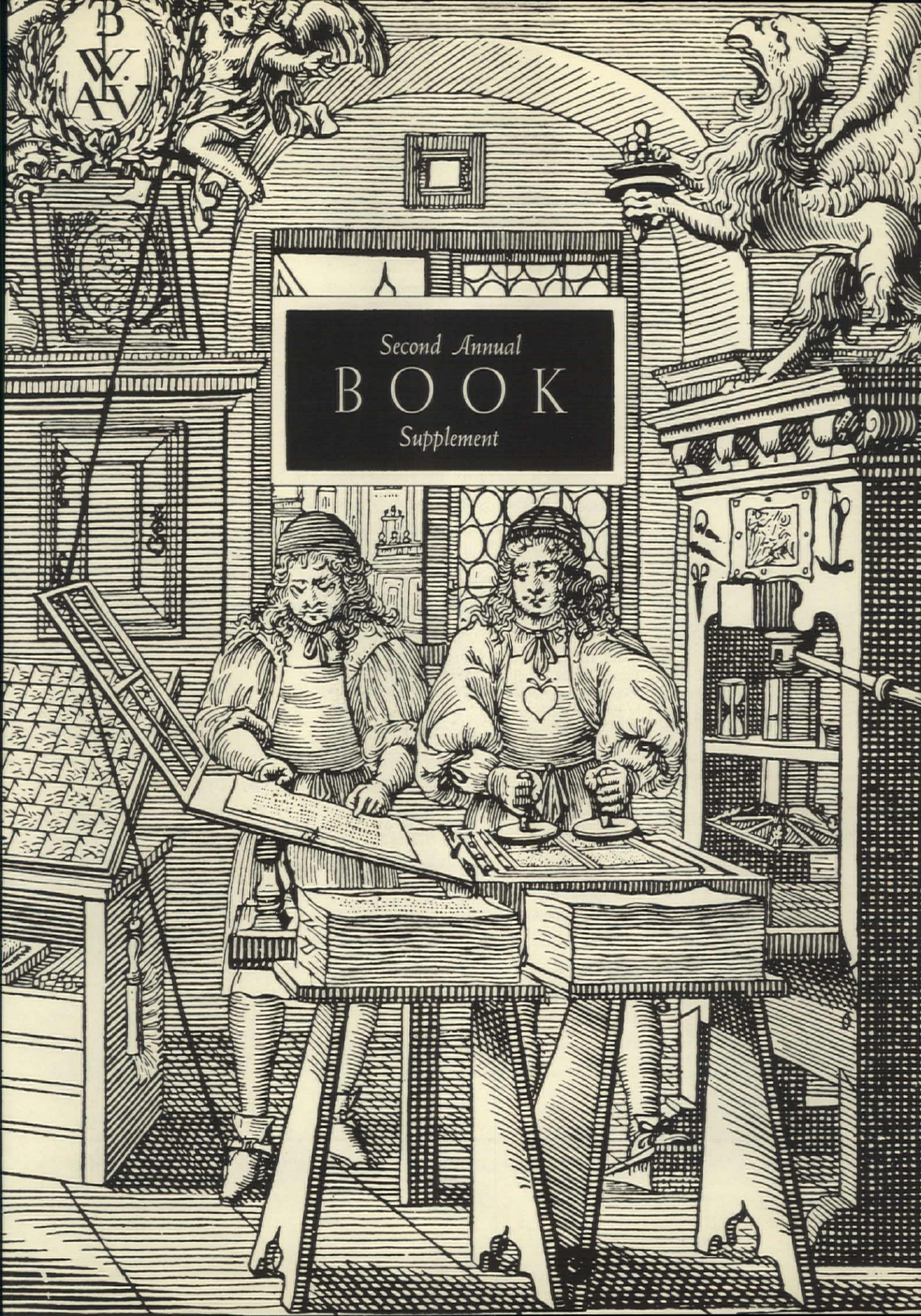
Perhaps the Civic Trust was formed only just in time, for right under our eyes the countryside and the architectural beauties within cities, towns and villages are being swallowed up, defaced or hidden. The sad thing is that these things happen a small bit at a time under the relentless pressure of regulations. Only when the cumulative effect of small outrages is viewed in true perspective is the real danger assessable—usually too late.

A piece of architecture, the publication of a poor design, a piece of ill-conceived planning and wanton destruction or the useless hiding of beauty are now becoming headline news. These things, whether they concern buildings or basins, trees or terraces, are now becoming more important to the average Englishman than the result of an international football match or a cricket Test Match.

What are you doing about preserving our heritage? The Civic Trust can advise and it may be able to help you. It is not always the bulldozer of big enterprise which destroys our country. Particularly in the rural areas it is the speculative builder who gets his plans passed, erects four shoddy buildings where there should only be three, and leaves the Parish or Rural District Council with a pile of modern rubbish in their midst.

The Civic Trust in no way hinders progress, for even progress can be spacious and beautiful. The preconceived idea of progress is dying hard, but no longer do all the houses in a street look alike, or traffic signs be of twisted and rusted metal. Concrete has a beauty of its own and, like brick, can enhance a landscape when the architectural drawing is clean and free from inhibitions. But progress must be in the hands of the right men. ◀





*Second Annual*  
**BOOK**  
*Supplement*





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## Secondhand Bookshelf

by HENRY S. CHURCHILL, FAIA

*Architect, town planner, man of letters, gourmet,*

*Cornellian and all-round personality, Henry*

*Churchill is one of the Journal's elder statesmen*

Books having to do with architecture, as distinct from architectural books, seem to fall into four categories. There are the books written by laymen—poets, novelists and philosophers. There are the books written by historians and record-keepers, there are the books written by architects, and there is that vast assemblage of volumes called picture-books. I would not include guide books, compendiums, or those works which seek to educate the unworthy or to elevate the mind of the unmindful. Dr Vierzig Vrozenfisch (of Göttingen and Alt-Rindbrust), has written a long work in which he proves to my satisfaction that the temple which Samson, in his struggle with the Philistines, managed to bring down upon all heads, was made of wood and was infested by termites. I do not care about his proof, learned as it is. I still prefer to think of that temple as being as mighty as Baalbek, perhaps even wider and longer. I write, I like to believe, about literature, which is something one reads solely for pleasure and which no Samson can destroy, with or without the help of termites, of whom there are plenty.

How is one to go about such an enchanting task? It is not one of research, but of recall, of looking through “. . . magic casements opening on the foam of perilous seas in faëry lands forlorn.” When Joachim du Bellay went to join his brother the Cardinal in Rome he tripped over the sill of his door, an evil omen; and he has told us all about his years of sorrow in a series of sonnets, “The Antiquities of Rome,” the sad grandeur of that sixteenth century dilapidated and nostalgic city and his own nostalgia for the fine air and the slate roofs of Anjou, which was home. The poets are full of architectural images which not only enrich their poems but in turn enrich architecture by phrases which, because of their association, make common cause with each other, evoking each other like musical overtones.

You had best explore the poets for yourself, since they concoct subtleties that must be read. To talk about them blows them away.

### WHAT IS PAST IS PRESENT

There is, nevertheless, one little book, not of poetry but by a poet, that I must talk about just a little. It is Paul Valéry's “Eupalinos, or the Architect.” It is a Socratic dialogue, and in it Phaedrus discusses architecture and his friend Eupalinos the Architect (who does not appear in person) with Socrates as Time passes them by as they pass the time immortally in Hades. As the talk proceeds, there are the most searching and the most beautiful images of what is the essential quality of architecture, and the quality of the



architect as a creator, that I know. It is in itself an exquisitely wrought piece of work, both musical and architectural in its structure: The elegance of a madrigal and the harmony of Sunium against the sky. If you can read it in French, so much the better, but there is an excellent translation by William McCausland Stewart, nicely presented by Bollingen.

What was it about Greece that made it the ideal of perfection for the western world? This is not an answerable question, although volumes of claptrap have been written in vain attempts to answer. It is better to accept the mystery, as Valéry did. Corbu, in "*Vers un Architecture*," and Viollet-le-Duc in the "Discourses" also responded to Greece in their divers ways, both doing homage to Greek purity and perfection. To Viollet the Greek is an absolute, it is unity of form and of construction, from major concept to minor moulding. The cutting of each block of marble is exactly suitable, the position of every stone in relation to other stones is inevitable, the shape of the mouldings—about which he has a beautiful passage—is born of the Attic light and shade. To Corbu this is all the creation of the spirit, of the mind as spirit—*creation de l'esprit pur*, and how does one translate "*esprit*"? Spirit, wit, mind, the Holy Ghost? Corbu, unlike Viollet, is a troubled soul, a metaphysician, and his meaning of *l'esprit* is certainly more the immanent spirit of creation than it is the mind of logic. Corbu is nearer to Valéry, who sees in architecture the divine in man.

*L'esprit* is also what imbues the Abbey of Thélème. The motto of the Abbey was "*Faiez que voudras*," which was not an invitation to license. To do what one liked was only possible if one did what others liked; and the choice minds and delightful youth and sage words and wise pleasures of those gathered in the Abbey were reflected in the fantastic and beautiful architecture of the Château de Chambord which was new when Rabelais remembered it to be as fantastical as his vision of what a school might be.

I have always wished that our educators were not too educated to learn from Dr François; but alas, he was but a poor physician and not a Ph.D.

BETWEEN SUNIUM AND CHAMBORD,  
MONT ST. MICHEL

It is easy to bury one's self in "Mont St. Michel and Chartres." This is the best of all books as an introduction to the architecture and the great stream of thought of the twelfth and thirteenth centuries. There are endless books on the Middle

Ages, and better ones on every phase of it, but only in this one does the spirit of architecture rise above the tide of specialization as Mont St. Michel rises above the sea in peril and Chartres rises above the grain fields of la Beauce. Henry Adams understood architecture as Valéry understood it, comprehensively, as essence, and that is how he writes about it. Thomas Aquinas, Hugh of St. Victor, Abélard, the Song of Roland and the goliards, all are there, and the throng of communicants, too, are all there, and the great structures and the way in which these all still have meaning for us. It is a beautiful book.

You know it well. Then perhaps you do not know Helen Waddell's tale of Abélard and Héloïse, which distinctly is not the sweetest story ever told; or if you are not even that romantically inclined there is much pleasure to be found in the work of Emile Mâle on the religious architecture of the thirteenth century (now you can get a good condensation in pocket books) or in the brilliant observations of Henri Focillon, both fine scholars but with a rare unscholarly feeling for Gothic architecture as a creative art. If you really care much about Gothic you can try Otto von Simson's interesting but curiously lop-sided "The Gothic Cathedral"—but there! I said I was only going to talk about literature.

#### OF CRITICS AND CRITICISM

This is a good place, since non-literature started to creep in, for an interlude on architectural criticism. A good starting place is with the writings of the Great Gothicist, John Ruskin. His books are often referred to as exemplars of architectural literature. He rose to critical power on the guilt-feelings of Victorian industrialism. To shudder with him over the depravity of contemporary art was a form of compensatory masochism for the maladjustment of the period in England. He wrote in magnificent purple, and is still considered literature, although he is hortatory and subjective and his ignorance of architecture\* is unmatched except by his ignorance of economics.

Having beaten that dead horse, I want to be sure and recall the charm and perceptiveness of Geoffrey Scott's "The Architecture of Humanism," which you all probably know. However I am

\* "Let us, therefore, at once confine the name [architecture] to that art which . . . impresses on its form certain characters venerable or beautiful, but otherwise unnecessary. Thus, I suppose, no one would call the laws architectural which determine the height of a breast-work or the position of a bastion. But if to the stone facing of that bastion be added an unnecessary feature, as a cable-moulding, that is Architecture." From "The Lamp of Sacrifice," Chap. I.



not averse to old friends, and Scott still talks well and is worth listening to. He is, I think, far more penetrating than Sir Herbert Read, who has always struck me as pompous. Scott remains a sort of touchstone for such writers, a good basis of comparison both for style and content. Bruno Zevi, for instance, is superficial in comparison, although Zevi is enormously stimulating within the rather narrow range of his particular approach.

What bothers me is the marked trend in recent years to write about architecture in the argot of semi-Freudian flatulence. This trend started in the field of art, where critics with nothing to say in the first place were trying to say something about paintings about which there was nothing to be said. This is to be deplored, it is a return to Ruskinian irresponsibility without even the merit of Ruskin's literacy. Criticism of current work is, in any case, a very difficult matter. By "criticism" I mean the making and justification of esthetic judgments on the basis of some standard, together with, and not just merely, a description of performance in the terms of contemporary techniques. Usually the critic either is prejudiced in favor of conservative mediocrity or he is inclined to overrate any aberration as a great step in some direction, lest he lose his *avant-garde* reputation. Moreover, he is afraid of being dull, since dullness in the art world is a greater crime than stupidity. Hence the New Critic tries to hide his essential vacuity behind verbal obscurantism. The result is wretched.

#### THE RENAISSANCE

To get back to whatever was the subject, it has always seemed odd to me that there are so few readable books about the architecture of the Renaissance. No building of that period has inflamed a Hugo to write the equivalent of "Notre Dame de Paris," nor is there even as good, solid and readable a book about a particular Renaissance building as Allan Temko's "Notre Dame of Paris."

John Addington Symonds, Walter Pater—that prosaic monotonist—who can read them now? I am not concerned with reference books, nor the dozens and dozens of books about Renaissance life, art, politics or economics. The books on Renaissance art alone would fill a library, but they usually ignore architecture or skimp it, and only a few are literature. The histories of Renaissance architecture are, without exception, unreadable, and what is worse, unenlightening when read. No Berenson has written about Renaissance architecture; there is no "Palazzo Massimi and

St. Louis des Invalides" to companion "Mont St. Michel and Chartres." Wylie Sypher's "Four Stages of Renaissance Art"? Thought-provoking, but hardly in the same class. There ought to be a perfectly grand book about the building of St. Peter's, for instance, but there isn't.

#### THE SHINING BROW

Vasari wrote *New Yorker*-ish profiles about his contemporaries, mostly about uninteresting and forgettable people, and (I feel the same about Plutarch) mostly dull. Cellini's autobiography, on the other hand, is always worth another glance, for he enjoyed life and wrote about it with gusto. There are not, by the way, many books by architects that are enjoyable. In my limited experience only two come to mind, Sullivan's "Autobiography of an Idea," and Frank Lloyd Wright's autobiography. The first perhaps is so very sensitive and revealing about the creative process that it repays reading, in spite of much in it that is now of little interest. After reading it and looking at Sullivan's work in Szarkowski's excellent book of photographs and fine comment, it is hard to understand how he came to be thought of only as a hard-boiled logician of the school of Viollet-le-Duc and a precursor of Corbusier. For "The Autobiography of an Idea," like his ornament, is violently emotional.

Wright's autobiography is another kettle of fish. Besides telling one a great deal about Wright, it tells a great deal about the United States. The first part of it, Wright's boyhood in the Wisconsin hills, his family, the black earth, the Welsh mysticism, is deeply moving. There is room for argument, of course, but for me Taliesin East remains one of the great works of architecture, and it reveals Wright as nothing else does. It is not as consciously a work of art as Falling Water, but it is almost a part of nature, a growth from the soil into the air, organic in the primary meaning of the word. The autobiography too is a part of Wright—deep-rooted like the chestnut, shallow and glittering like the willow, and, at times, as nasty as poison oak. But it is rich, all of it, as rich as the deep black loam of Wisconsin. (Advice: The first edition, published by Longmans, has excellent photographs in it that were left out of the revised version published by Duell, Sloane & Pearce.)

#### PICTURE BOOKS

There are plenty of architectural picture books, of course. One can start with those of Alberti and Vignola, which are scholars' fare but are



interesting to look at, and continue through a long array to the present. The engravings of du Cerceau of the most pleasant *bâtiments* of his time are full of sidelights on the costumes and customs of those charming days. There are the delicate etchings of Callot, whose finess of observation and accuracy of detail tells of much besides the architecture of his native Nancy. His draftsmanship is exquisite. Like Goya he did a set of terrible plates on the horrors of war and man's inhumanity in those charming days. Do not overlook the beautiful maps of Merian, who was a sort of an international spy. He made maps showing the fortifications of the towns, and it is said he sold these indiscriminately to the various princelings and dukelets who were always at their subjects' throats. Many of them have cavalier views of the city that are of great interest. It is fun to trace these town plans from Merian through old Baedekers to the present.



The greatest of all architectural picture makers is Piranesi. Unfortunately there are a few hackneyed prints of his that are hung everywhere, in the offices of dentists and of deans. Turn your back on these, for they are made from steel replatings of the originals, and lack quality. Go to Avery or Cornell, both of which have complete sets of the originals, and see how wide his range is, what power and depth the prints have, what a picture they give of Renaissance Rome—not just the ruins, as in the “Baths of Caracalla,” but, as in the “Piazza Navona” for instance, of Rome full of verve and life.

One more picture book and I have done with those confections. For over forty years, starting early in the nineteenth century, Isidore, Baron

Taylor, sponsored the magnificent series of drawings and lithographs known as “Voyages Pittoresques en France.” They were all done in the field, and total about two thousand plates; many of them are first class works of graphic art. There is text, too, some of it by Taylor, some by his associate Charles Nodier, and others; it is negligible. Complete sets of the “Voyages” are hard to find, for the booksellers cut them up and sold the plates separately. Avery and the New York Public Library have them and a majority of the volumes are in the Free Library of Philadelphia. Sorry! I just can't help those of you who live elsewhere.

Today's picture books are so overwhelmingly many that there is no keeping up with them. They range from shoddy little pot-boilers to really magnificent interpretations of architecture by sensitive camera men, often accompanied by the most idiotic text by “big names.”

#### TRAVEL

Picture books make one think of travel. There are lots of travel books, ranging from guide books to books of high adventure in far places. Most of them treat architecture like the returned traveler and his Evening with My Projector. I know of only one in which architecture is of more than a passing interest and that is worth reading for its own sake as well. That is John L. Stephens's “Incidents of Travel in Central America, Chiapas and Yucatan.” Stephens got himself sent to Guatamala as an Envoy to a fugitive government by President Van Buren in 1840. This was an excuse to visit the then virtually unknown ruins of the Maya. He had fun, and bought Copàn from what passed for a government in Honduras. He returned again in 1841. He had with him an extraordinary person, Frederick Catherwood, architect, an expatriate Englishman with much experience in archeological adventure in the Near East, which Stephens had also traveled in and written about. It is a wonderfully vigorous and vivid book, full of bandits, blood and love as well as ruins. They visited nearly all of them, Copàn, Chitzèn Itza, Palenque, Uxmal. The descriptions and appreciation of the architecture by Stephens are excellent, and Catherwood's drawings are superb. I find them better than photographs, but most drawings of architecture, when they are any good at all, are more informing than photographs. Not so accurate, as the architectural historians complain, but what good is accuracy if it is mis-informing? I've never seen an accurate building, anyway. “Incidents of



Travel" has been reprinted by Rutgers University, and a bad job it is, too. Wolfgang von Hagen has written a first class monograph on Catherwood, with much better reproductions of the drawings, but they really cannot compare to the vibrating life of the originals. If you are going to those parts, forget the learned and unutterably dull Professor Morley, who is accurate, and read Stephens. Read him anyway.

#### COOK BOOKS

Cook books are the natural companion of the traveler, and *gourmandise* is a function of the architect—they go together like pigs and truffles. But I have yet to find a book on the influence of food on architecture and vice versa. Samuel Chamberlain's "Bouquet de France" is only an approach to the subject. The drawings and photographs are fine, the recipes are excellent, the general tone is of architectural well-being. Like the Guide Michelin it is indispensable. It is not, though, the book I would like to see. Is there, as one may suspect, a relation between the architecture of a country that ties its pearls up in paper bags on the tree and feeds snails on special leaves and distinguishes *gigot de pré salé* from ordinary lamb, and its architecture? Is this relation different, as one may suspect, from that which exists in a country that delights in cold boiled mutton and undrained spinach? Or *gehacktey Rindbrust mit schweinefüssen*? Or hamburgers made from yesterday's "grinders" and coffee with Preem?

And what about the reverse, the effect of the architectural environment on the cook, the waiter and the diner, and on the quality of the talk engendered and so on the quality of the architecture produced, in a vicious circle, world without end? Which came first, Notre Dame or la Tour d'Argent? Architecture, let us not forget, is a *social art*.

I hope some younger man with a better stomach than mine gets a Ford grant to write that book and solve those questions. I would like a little kick-back for suggesting it.

#### OF GARDENS

Gardens are as much a part of architecture as food is, perhaps even more indispensable, for what is the good of fine food if there is no place to digest it in the repose of body and mind as a cool garden provides? From the Villa d'Este to the forlorn fig tree in the slum, this need seems to be true for all conditions of mankind. The gardens of Italy and England and France are spread out in volume after volume of plates,

most of which you know, I am sure; but do you know Siren's "The Gardens of China"? The Chinese never thought of architecture and gardens separately. They have a quality of unity that is rare except in the best Italian gardens; the Japanese have it too, but Japanese gardens seem to me more finicky than Chinese, especially the architectural embellishments.

Good reading on gardens, however, is rather scant, or perhaps I have missed it. Again I do not mean "garden books," but things like Washington Irving's "Alhambra," of which I am not fond. There is, however, Sir George Sitwell's wholly charming "On the Making of Gardens." Sir George was the father of all the busy Sitwells, and plainly as crazy as anyone out of Evelyn Waugh. The book is mostly about Italian gardens, with digressions here and digressions there about all sorts of things. I have not quoted much, saying "get thee behind me, Satan," at a good many temptations to do so, but I cannot resist this one:

"To make a great garden one must have a great idea or a great opportunity; a causeway leading to a giant's castle, or a fountain cave where a ceaseless iris plays on a river falling through the roof, or a deep clear pool with an underworld fantasy of dragon-guarded treasure caves lit by unearthly light, or a mighty palace quadrangle lined with hanging gardens of arcaded terraces, or a great galleon in a lake whose decks are drooping with jasmine and myrtle, or a precipitous ravine with double bridges and a terrace on either hand."

One can almost hear Fafnir snorting at St. George who, elegantly accoutred in armor made by Benvenuto Cellini, is come to rescue a captive mermaid. Wonderful!

Another delightful book is Nan Fairbrother's "Men and Gardens." This is a more complete appreciation of gardens than Sir George's, and less baroque, but delightful—the adjective is not a bit redundant—just the same. It comprehends all kinds of gardens, ancient and medieval and Renaissance, herbal and flowery and orchardy, ordered and romantic, great and homely. She gives quotations and some pictures from many contemporary sources, among them some memorable ones from the seventeenth century. Elizabethan English on gardens!—from "The Spirituall Uses of an Orchard," and "The Gardener's Labyrinth" by Didymus Mountain (who was Thomas Hill), and "Adam in Eden, or Nature's Paradise" . . .

It is time to stop and to follow Voltaire's advice.





## *The Golden House of Nero*

**Dr Axel Boethius and Thomas Spencer Jerome.**  
Ann Arbor, Michigan, University of Michigan  
Press, 1960. 188 pp 109 plates. \$15.00

**Reviewed by Carl Feiss, AIA, AIP,** well known to the profession as one of the country's outstanding architect-town planners.

Character: A set of four scholarly lectures dealing with a cross-section of commentary on and analysis of Roman architecture and town planning from pre-Etruscan to medieval town building. Section IV, "The Domestic Architecture of the Imperial Age and Its Importance for Medieval Town Building" is superb and deserves the attention of any architectural historian or student of architectural history.

Three years ago, at hot noon, in mid-August, my wife and I walked through iron gates into the *Domus Aurea*, the Golden House of Nero. We were locked in and forgotten for nearly three

hours. Rome at ninety-four degrees is very hot. The underground, octagonal, domed "banquet hall" of Nero, even without the fountains and stairs of running water, was cool and unbelievably romantic. We were lost and alone for miles in giant vaulted halls, the floors of dust and brick and perhaps a bit of mosaic. We had no light other than what wandered in from great heights through perforations in the giant terraces of the Baths of Trajan above us and from other mysterious sources. Occasionally we glimpsed soft line drawings and plaster reliefs in these vast sepulchral grottoes—grotesques which Raphael is purported to have studied for his lovely Stanze at the Vatican. One does not need to be a historian to recognize the grandeur of the place.

Dr Boethius has lived in Rome and written and studied many archeological treatises of unquestioned scholarship but he does not write as though he has been in the *Domus Aurea*. The only illustrations of it are two floor plans. Therefore, even though Chapter III contains fascinating discussion with frank admission of the very real need for more archeology of the place, it is clear that the author chose the Golden House of Nero not for itself but to symbolize the apogee of Roman domestic architecture in urban places. Perhaps this



is the reason he fails to discuss Hadrian's villa at Tivoli or Diocletian's great palace at Spoleto (split). He was working out the intricate theme of the Roman urban place in history.

In particular, he explores the architecture of single and multi-family houses from Bronze Age huts in the Sabine village on the Quirinal, through tenement houses and Nero's "Petit Trianon" of Imperial Rome to medieval houses and palaces of Florence and Rome. It is a worthwhile and fascinating effort.

Unfortunately, the book starts slowly and with great effort. Dr Boethius does not write English with ease. But this is not the problem. He is forever tripping on his own great scholarship, stumbling over references, quotations and footnotes. He is truly a kindly person, careful to give other scholars all due credit and is seldom critical of their efforts. The references themselves are interesting and obviously of value to other specialists. But the following quote, picked at random (page 133) will illustrate the problem the lay reader will find in the book:

"To this legacy belonged also the instructions for town architecture in the code of Justinian, which remained valid in medieval times, and also the architectural tradition derived from the Roman portico villas which, as has been shown by Karl M. Swoboda, was still alive in medieval palaces."

I was unable to identify a correlation of these references with the text. Dr Boethius apparently assumes that his readers are familiar with this special section of Justinian's code and have read Swoboda in German. There is no further elucidation of either point. This style of writing is particularly prevalent in Chapters I and II but fortunately has almost entirely vanished by the time Chapter IV is reached.

Much more difficult, however, is Dr Boethius' wandering scholarship. The chapters have no sub-heads and the subjects are scattered helter-skelter around in a fascinating melange. Like one of Piranesi's archeological fantasies made up of jumbles of fragments of antiquity, he jumps from monuments to tenements, to coins, to sculpture and back again. After it is done frequently enough one almost discerns a contrapuntal scheme but this hardly makes up for the needed directness of a planned presentation.

But please do not take these criticisms of style too seriously. You can master the text if I could and will be greatly rewarded by curious and wonderful discoveries. Dr Boethius is particularly valuable in his interpretations of the plans and buildings of Ostia, Rome's great seaport. His

analysis of the tenement houses and shops of Rome and Ostia is clear and convincing. In my opinion, Chapter IV on this subject, adds a new and important chapter to architectural history (and incidently this chapter is so clearly written and with such assurance that it can stand alone).

Dr Boethius is a great student of Vitruvius. His appraisal of Vitruvius as an architect of high standards and contemporary objectives adds dimension to a shadowy figure.

There are many histories of classical architecture and several on urban planning in the Mediterranean. Dr Boethius is not writing history as much as an analysis of certain historical sequences of selected architectural types, planning types and design types. He develops the themes of informal plans of public places through the formal Greek Agora, rectilinear Roman camps to the axial Roman fora, baths and great palaces.

Much of Dr Boethius' analysis is admittedly conjecture but it is well-documented conjecture. Dr Boethius leans heavily on sources that may be unknown or unavailable to many of us but in most instances he substantiates his cases. I failed, however, to be convinced of the "oriental" derivation of Etruscan art forms or the "oriental" derivations of barrel-vaulted warehouses of the late Roman Republic. In the latter instance I need more than a sample from Dura-Europas. But perhaps the term "oriental" needs definition in the first place. There are many other questions which can be raised. This is not unusual in a book on history and architectural theory.



Alinari

It is worth getting lost in "The Golden House of Nero." It is not easy to find your way around but there are lofty thoughts to wander in and shafts of light illuminating obscure passages. The total experience is memorable and impressive. In both the book and the house, digging is needed.



## Art Nouveau

**Peter Selz and Mildred Constantine**, Editors. New York, The Museum of Modern Art, distributed by Doubleday & Co., 1959. \$6.50

**Reviewed by Henry Hope Reed, Jr.**, for the *AIA Journal*. Mr Reed, author, architectural historian and commentator is leader of New York City's well-known Walking Tours.

Our era enjoys a number of distinctions which have been denied the past, and they are of particular significance in the world of art. One of these is art history. This relatively new phenomenon, a child of the last century, now finds itself with a substantial niche in our school curriculum. A second is the art museum, another offspring of the last century. The art museum has come to enjoy a role in the community which formerly devolved on rulers and the rich. It has become a patron of the arts. The inevitable consequence finds the museum changing or freezing fashions in painting, sculpture, etc. The first important example of the new patronage was the state or municipal museum in Germany of the nineteen-twenties; today an imitator, the Museum of Modern Art in New York, dominates current fashion in American art.

Now this new patron does not stop its activity with casting favors here and there; it organizes exhibits devoted to the past with accompanying texts which have all the elaborate machinery of art-history scholarship from the footnote to the appendix. As it is dedicated to the Modern, so-called, the institution has explored that part of history which has led to the Modernistic. Its efforts have proven extremely rewarding. There have been exhibitions from the Pre-Raphaelites to architectural oddities such as Gaudí, and it now can be seen that what were seemingly disparate currents are all part of one movement, the romantic revolt against the classical tradition. The recent exhibition and its accompanying volume devoted to the Art Nouveau are part of the revelation.

This rebellious striving has played a secondary role in our country's history up to about 1930. Only since the great depression has it become dominant. The overwhelming tone of the revolt is a brushing-aside of traditional standards; it is strongly subjective instead of objective; it con-

fuses the personality of the artist and his art; it is, to make use of European terms, strongly middle class as against aristocratic and working class. This last may seem difficult to apply to the United States which is basically a middle-class world, there being no American aristocracy and the working class here enjoying middle-class conventions. Because the Art Nouveau is largely a European product, the question of class distinction is a useful one, to grasp this particular phase of the rebellious striving.

Although we are a middle-class people, the style had very limited appeal here. It is true that Tiffany made exotic vases of Favrile glass and tendrillar lamps, but he also made classical objects. Gustav Stickley had his Mission furniture, Elbert Hubbard his Roycroft bindings and chairs, but both had a very small appeal. Louis Sullivan, whose tendrillar ornament preceded the Art Nouveau, was confined to Chicago, and Frank Lloyd Wright to unfashionable Chicago suburbia. Wright, and there may be a recent exception to this, never had a house in Lake Forest which is Chicago's most elegant suburb; at one point he almost obtained the commission for the Harold McCormick villa there but Charles A. Platt won out. The Secessionists, as they were then called, had a good press thanks to Montgomery Schuyler and Russell Sturgis; they could not complain of not having work. The legend of their persecution is part of the romantic approach: The artist must suffer, in this instance at the hands of coarse Eastern millionaires and Eastern architects. Richard Morris Hunt, thanks to Sullivan's distortions in his "Autobiography of an Idea," plays the devil's role in the tragedy which is supposed to have ended Sullivan's career at the time of the World's Columbian Exposition of 1893. According to the legend, Hunt was only concerned with money while Sullivan worshipped art. Today's Secessionists among art historians, for all their pretensions to scholarship, continue to echo Sullivan's falsehoods. They might glance at the 1891 proceedings of The American Institute of Architects to see what President Hunt had to say. "The architects in charge of the buildings about this court [the Court of Honor]," he told his colleagues, "after considerable thought and discussion, decided that it would be wiser to treat the facades on the court in a quiet way rather than attempt to vie with each other . . ." And he went on to say, and this was two years before the Fair opened: "Should the general effect of this court prove to be what its designers intended, I can but believe that it will be of benefit to the public and to the pro-





*Tête du lit: Le Rêve. 1892.  
Artist: Georges Lacombe.  
Courtesy: Musée  
National d'Art Moderne, Paris*

fession, a practical illustration of that dignity and repose so characteristic of classic architecture—features too often nowadays lost sight of in the search for originality, not to say eccentricity.” Henry van Brunt, who was to become President of the Institute, echoed him in saying that “These great models [around the Court of Honor], inspired as they have been by a profound respect for the masters of classic art, will prove such a revelation that they [the architects] will learn at last that true architecture cannot be based on undisciplined invention, illiterate originality, or, indeed, upon any audacity of ignorance . . .” It was the Chicago Fair which made impossible the spread of the Art Nouveau in this country by launching the American Renaissance, and Sullivan went down because he insisted on being a Secessionist in the face of men seized with the classical vision, and not because of any financial conspiracy.

There is a macabre fascination about this book. The strange interiors, the strange jewelry, the stranger furniture, it is all another world. The poster was its best achievement but for the rest, whether it went by the name of “Art Nouveau,” “le Style Modern,” “Jugendstil,” “Stile floreale,” “La Libre Esthétique” or what have you, it is ugly and there is no other word.

The Museum has approached the subject with some of its customary thoroughness but there are several curious blanks. At the exhibition a blown-up photograph of Hector Guimard’s subway entrance gate was on view, but not the gate itself although the Museum possesses one. In the book there is no information about the clients or their class background which is central to the explanation of this eccentric movement. No attempt was made to bring out the fact that the style enjoyed a limited appeal in this country because of the American Renaissance, and that the American Renaissance was launched by men such as Hunt, Charles Follen McKim, George B. Post and Daniel H. Burnham, all of whom were Presidents of the Institute.

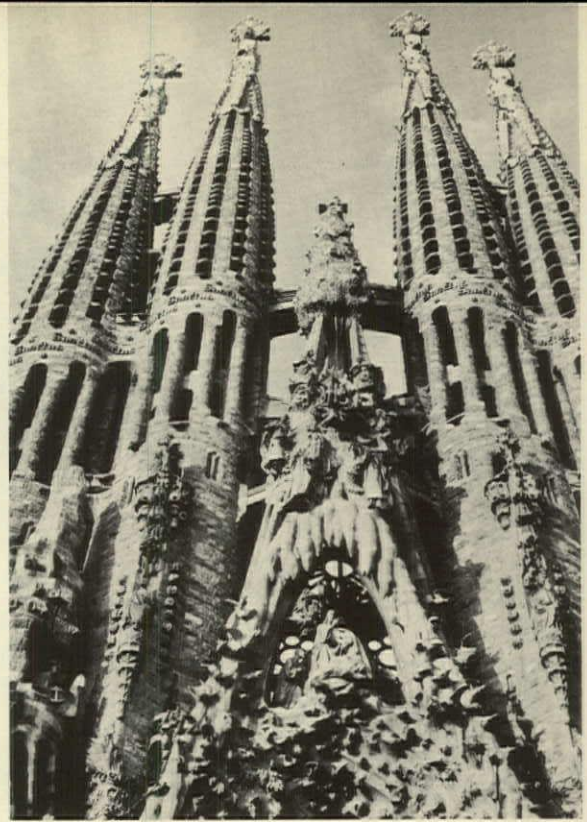
One or two errors crop up. The Austrian word for Art Nouveau, for example, is spelled “Secessionstil” when the Thieme-Becker, the standard biographical art reference, has it spelled “Sezessionstil.” Otto Wagner of Vienna, by the way, called it “Nutzstil,” which does not mean “Nuts Style” but “Useful Style.” Not enough importance is given to its influence on Frank Lloyd Wright. It was, I believe, J. M. Richards, modernist historian and Editor of *The Architectural Review* of London, who pointed out that Wright’s brand of Modernism was nothing more than a latter-day example of Art Nouveau. If this is so, then the Guggenheim Museum should be among the illustrations.

What gives pause about the exhibition and book is the thought that we today are too closely allied to the revolt. One cannot help wondering how some future generation will judge our own current rebellion. Thirty years from now another museum, and it will be called “Modern” although the word will have an entirely different connotation, will examine the year 1960. Will the “conversation pit” prove one of the more entertaining exhibits? The “storage wall” and the “picture window,” will they have their space? And there will be jewelry by Dali and “pieces” by Provincetown, Santa Fe and Carmel craftsmen. A Lippold, a Rothko, a witty Calder and an amusing Miro will all be there. A name will be invented for the architecture which will no longer be “Modern” to our children. Let us not attempt to imagine what *that* will be.

It is to be expected that the Museum of Modern Art will continue its historical survey of artistic rebellion. Edgar Kaufman, Jr, in the latest *Perspecta*, the Yale Architectural Journal, offers a list of the more prominent to be honored: William Morris, Augustus G. W. Pugin, Eugène-Emmanuel Viollet-le-Duc and others. It would be nice to have one devoted to Elbert Hubbard. And, in the future, the Museum might tell something about the clients. We would then have a complete panorama of what Fannie Brice, in her burlesque of Martha Graham’s modernistic dancing, called “REWOLT!”



*At right: Sagrada  
Familia Church,  
Barcelona, Spain.  
Designed by Antonio  
Gaudí. Below:  
Small Olympic Sports  
Palace, Rome, Italy.  
Designed by Pier  
Luigi Nervi*



## *Masters of World Architecture Series*

**William Alex**, General Editor. New York, George Braziller, Inc. 1960. 128 pp illus. \$3.95 ea. vol.  
**LE CORBUSIER.** Françoise Choay  
**ANTONIO GAUDÍ.** George R. Collins  
**LUDWIG MIES VAN DER ROHE.** Arthur Drexler  
**ALVAR AALTO.** Frederick Gutheim  
**PIER LUIGI NERVI.** Ada Louise Huxtable  
**FRANK LLOYD WRIGHT.** Vincent Scully, Jr

**T**he publishers and editor of this series have performed a real public service in adding the masters of architecture to the growing list of inexpensive illustrated books on art. They did better than most in exploiting a current vogue: The texts of this series are, on the whole, meaningful and interesting to both the initiated and the merely

interested. The illustrations are significant rather than sensational. And whereas the reproductions, particularly of some plans and drawings, could be better in spots, the series is well designed and produced. Each of the architects included so far is truly a master who has developed a unique approach (let's avoid the dangerous word "style") and made an irrevocable contribution to the evolution of the man-made environment. The influence of all of them is and will continue to be very much alive. And as Vincent Scully, Jr, in his brilliant essay, quotes Frank Lloyd Wright: "Every great architect is—necessarily—a great poet. He must be a great original interpreter of his time, his day, his age."

The Yale art historian's text is perhaps more sparkling, more penetrating, than the others in the series and certainly more so than anything else written about Frank Lloyd Wright to date. Scully well illuminates Wright's reckless refusal to acknowledge tradition and the world surrounding his buildings because of "his own tragic need . . . to keep the romantic myth of the artist as isolated creator and superman alive in himself."

As in all others, the word "poet" also occurs in Françoise Choay's text on Le Corbusier. This French writer, however, emulates the somewhat chaotically aphoristic prose poetry of her subject rather than putting it on Le Corbusier's work in perspective. But, then, she frankly states that her essay is "no descriptive analysis," although she doesn't quite succeed in giving us "the meaning and the spirit" of Le Corbusier, either.



Frederick Gutheim, in contrast, does remarkably well in interpreting both the man Alvar Aalto and his architecture against the setting of the landscape and sociology of Finland, about which he adds some helpful travel hints. This scholarly architectural author is thorough without being pedantic. In contrast to the wit and humanism of Aalto's architecture, Mies van der Rohe, in Arthur Drexler's words, "builds as if logic, universal truth and technology were all real things." Drexler, who is Director of the Department of Architecture and Design at New York's Museum of Modern Art, also weaves an interesting pattern of his subject's work and philosophy. From his deft pen the austere Mies, too, emerges as a poet whose dictum "less is more" is inherently a search for beauty. Granted, as George R. Collins points out in the volume on Antonio Gaudí, that the renewed interest in this bizarre, almost surrealist Catalan architect reflects a reaction against the flat-chested glass-and-steel-box functionalism of the international style. Yet as Drexler says, "It no longer seems possible to rebel against the

Miesian discipline except in Miesian terms." The Columbia art professor's volume on Gaudí (which includes eight beautiful color plates) is the first extensive study of Gaudí in English and provides some fascinating details of the nineteenth century Spaniard's pioneering in hyperbolic paraboloids and other daring structures.

Of these, the Italian Pier Luigi Nervi is, of course, the leading contemporary master. Although professionally an engineer, Nervi, too, creates three-dimensional poetry which is well described in Ada Louise Huxtable's contribution to the series. Mrs Huxtable, who now comments regularly and perceptively on architecture in *The New York Times*, puts Nervi's beautiful structures into historical perspective and ranks them "with the most significant developments of the art of architecture." The series will be continued. James Marston Fitch is contributing a volume on Walter Gropius; Esther McCoy on Richard Neutra; Stano Papadaki on Oscar Niemeyer; Albert Bush-Brown on Louis Sullivan; and Wolf Von Eckardt on Eric Mendelsohn.

W.V.E.



## Louis Sullivan As He Lived

Willard Connely. New York, Horizon Press, 1960. 322 pp illus. 6¼" x 9¼". \$6.50

With pitifully little to build on, the author has written a biography that will make Louis Sullivan, the man, come alive again for those who would otherwise have to be content merely with a factual record of his architecture.

Not only the architect but the layman too may read with deep feeling this poignant story of the frustration of a great figure in our cultural history.

It was the good fortune of the *AIA Journal* in 1953-1955 to have published several chapters from Mr Connely's manuscript. Readers who recall any or all of these can be assured that the book, so long in the making, is immeasurably better than its parts. There is a continuity and pro-

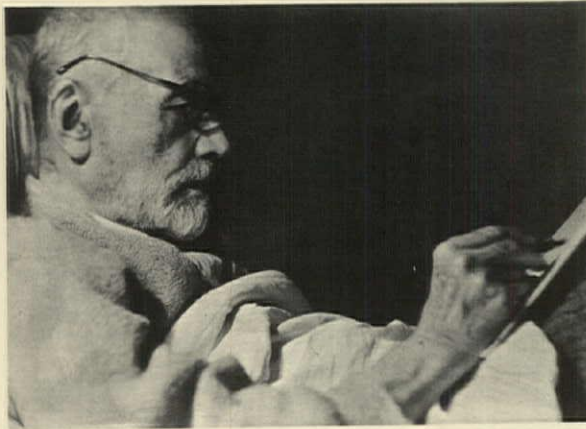
gressive development woven into the text that, in view of the paucity of available sources, is a marvelous achievement.

Though born in the United States and educated at Dartmouth and Harvard before Oxford, Mr Connely has become known chiefly as a biographer of English subjects—Beau Nash, Chesterfield, Steele, Beau Brummell and others being among the figures he has made live again. It is no wonder that the present volume reflects a craftsmanship of biographical writing that is worthy of its subject.

Through his sixteen-year-old entrance and single year at MIT; his brief apprenticeship under Frank Furness, William Le Baron Jenney and John Edelman; his storming of, and bafflement by, the Ecole des Beaux Arts; his association with Dankmar Adler, F. L. Wright, Burnham, Root and the World's Columbian Exposition; down through the lean years to the pitiful loneliness of the last months, partly relieved by friendships with Claude Bragdon, Max Dunning and F.L.W., here is a convincing picture of Louis Sullivan the man.

HENRY H. SAYLOR, FAIA





## Berenson: A Biography

**Sylvia Sprigge.** Cambridge, Mass., Houghton Mifflin Company, 1960. 267 pp illus. 6" x 9¼". \$5.00

**Reviewed by Theodore J. Prichard, AIA,** Head of the Department of Art and Architecture at the University of Idaho.

No one who has lived in Cambridge, sat at class in the Fogg, or roamed, if it can be said that one roams, the great rooms of Isabella Stewart Gardner's Fenway Court can have escaped the legend or the lurking spirit of the great Berenson. It was, therefore, with considerable anticipation that I engaged to review for the *AIA Journal* Sylvia Sprigge's "Berenson." Biography or autobiography has always possessed for me a lure akin to the mystery story—that is in anticipation. In actuality it is ever disappointing: While I can usually identify the victim, the crime and its illusive perpetrator somehow generally escape me. I am not being humorous. What I am trying to say is that every personality remains at least in part an enigma to the end of time. The fascination of biography is the anticipation of revelation, the disappointment, the simple fact that it is not given for one man to know another any more than it is for man to know himself. Facts do not explain the man.

Perhaps it is equally true that some men are not worth explaining or rather the effort involved—but it is always the search that is exciting. Is there anyone who has not felt let down when the culprit is finally exposed?

Mrs Sprigge's book on Bernard Berenson was

sufficiently exciting so that I put it down reluctantly and only when it was necessary to do so. It is replete with fact and enough innuendo to answer most of the ordinary questions about the man. As in similar books in the good tradition it leaves the more interesting ones unanswered.

I could not help but think as I read this book that here was a man who was himself a work of art. I was not at all surprised subsequently to find this same thought expressed by Behrman in his "Duveen" and on the jacket of the book. I begin all books at the first printed line and read doggedly to the end. Perhaps this is the reason why ordinary mysteries and I do not like each other. It is more cricket to peek. But the fact seems inescapable that more than the average man, Berenson had a design of life which he pursued, sometimes with inner misgivings. Since reading the book I have reread several of his early works and they have taken on deeper meaning. Berenson's permission for Mrs Sprigge to do a portrait such as his own "Sketch for a Self-Portrait" *seen from without* poses the prime question I have advanced here. How can man be separated from his works? How are the public figure and the private figure to be kept apart? And the corollary in eminent domain, what rights do the public have through use and familiarity in public figures? If we are to be squeamish in the matter we will have wasted our study of cultural anatomy. If we go too far we are ghoulish.

These questions are not rhetorical but germane. Berenson as a man cannot be understood except with an understanding of the seemingly hopeless dichotomy of scholarship and economics—learning and earning—and indeed yearning. The stretch of years between the Pale of Settlement and the little court at *I Tatti* reveals the structuring of a personality in all its complexity.

The study of such structuring is the fun and the pitfall of biography. It can be argued that knowledge gained solely from writings does not permit knowledge of the man himself. Such a doctrine would seriously curtail the publishing of books—and of course, thereby, their reviewing. Speculation is a chief concern of man and as Berenson himself so often pointed out "... in the beginning was the guess."

Scholar he was, of this there is ample testimony. Influential, certainly so within his circle and in the world of art, of which he was in his time so important a citizen, a personality.

Berenson writes in, "The Venetian Painters":

"The thousand years that elapsed between the triumph of Christianity and the middle of



the fourteenth century have been not inaptly compared to the first fifteen or sixteen years in the life of the individual. Whether full of sorrows or joys, of storms or peace, these early years are chiefly characterized by tutelage and unconsciousness of personality. But toward the end of the fourteenth century something happened in Europe that happens in the lives of all gifted individuals. There was an awakening of the sense of personality."

He is speaking from experience, not generalizing, for the development of personality is the ultimate of form. Italy and particularly Renaissance Italy was to him the symbol of self-realization, the dream of the Harvard boy come true.

It is hard for us to realize what this dream must have meant to the handsome curly-headed youth of 1887, portrayed in the book, but somewhat less difficult when one scans the roster of his classmates and teachers at Harvard. The scene is a complex one and I am afraid a maligned one. The current image is one not too unlike that which Parrington sketches of William Dean Howells. "For years," he says, "Howells lived in an atmosphere of complacent convention dominated by women, culture and conscience." This is the Victorian image most often accepted, but it is a part picture. The interpretation of the nineteenth-thirties was too ready to accept Marx as an accurate prophet, too crushing, too gutsy and far too willing to sell short a couple of generations of unusual talent. Culture and conscience are not to be sneezed at and hard work is not, nor has ever been, the exclusive property of the "working classes." Berenson, if nothing else, is a good example of the Alger story and a testament to a hopeful doctrine of equality of opportunity that was in his time so much a part of the American dream.

If America gave him his original chance and a reasonable education, it was England which set him a more final example. The great country houses with their libraries and galleries, and above all, their sons who frequented the ancient universities freed from all thought of making a living, pictures a condition of respect and freedom necessary to develop "the sense of personality" so fully awakened. He was delighted with Oxford, a man's world. The making of money was not something to be paraded in England. It was in England that his thoughts of writing and criticism turned from literature to art. He had discovered Pater. The Self-Portrait was blocked in.

It is hard to explain a work of art. It is enough to recognize it and to let it speak directly.

I have said I thought that the image of Victorian America was a part picture. There is need, I think, for a fresh study of this most interesting period.

Some years ago I was given permission to read the restricted papers of Charles Eliot Norton now at Harvard. I came away with a disquieting thought that here was a man much greater than his public portrait. Indeed almost unknown by moderns despite his enormous fame in his own time. Certainly his two-volume biography is a weak portrait of a man whose dedication to others was often selfless, whose friends were legion and seemingly close. I speak of him now because he is a piece of the tapestry and the mystery of Berenson. He too was closely connected with the imperious Mrs Gardner, her early guide in things linguistic and artistic. (His Dante Library is part of the collections at Fenway Court.) He was most influential at Harvard, in Boston and indeed in England and Italy where he seemed to know everybody. His interests were by no means academic. They ranged from conservation on an active scale to English reform bills, American politics, housing for the poor. He introduced the teaching of art history and appreciation to the college curriculum and made it respectable in America. He was a world traveler, a linguist and a patriot. He was a teacher. After reading his papers I could only feel how much more robust was my picture of the man than that which seems current. It is to Norton and Berenson and a number of others much like them that America owes eternal debt for its public galleries, its libraries and its great universities. We forget how many of the tycoons of the Gilded Age came under the sway of such men. Harvard's Fogg under Forbes and Sachs carried on after the depression of the late twenties slowed the great personal collections and gradually commenced their transfer to the public domain, training the men who would become the custodians of this heritage.

Behind the scenes in all of this was Berenson aiding with his studies, seeking, finding and authenticating the great paintings, writing brilliant essays on appreciation, amassing his study library and building his own collection of art works, at the same time devising and developing a new methodology for his particular concept of connoisseurship.

And behind the scene was Berenson's plan quite early conceived to leave all this to his adopted land and particularly to Harvard. His final act in leaving *I Tatti* and its treasures to his University, fully endowed, as a place for the study of paint-



ing, his chief love and interest, seems somehow expiation for the seemingly never entirely happy side of his life, the amassing of wealth. Mrs Sprigge does justice to this phase of his life. She draws but does not color the sketch. Behrman's pastiche is more vivid. Mr Berenson's own remarks more melancholy. The truth lies somewhere between.

Berenson's excellent ability to capitalize on what to some may seem an avocational interest should seem a highly creditable achievement in this economic world. His sensitivity to the subject explains the difficulty in divorcing "pure" appreciation of an art work from that other kind which equates value with local exchange—and culture with the amassing of possessions. So subtle are these distinctions (for familiarity sometimes does breed love) that we end full-circle, once more in that paradise of biographer and mystery writer, the region of motives.

There are many persons living who knew Mr Berenson. He apparently left a lasting impression on those who were privileged to be his guests at *I Tatti*. The admiration of some of these approaches worship. The order of the household, the ritual—but as Mrs Sprigge explains, courts must have ritual when there is work to be done. In this respect those who know can only admire.

In his own field Berenson sought perfection. His capacity for sustained work is well documented. If the number of his publications is not long, or their lengths modest, the research and effort which went into their preparation is staggering. His perfection of methodology in the study of attributions, his listing of examined works is an example for scholars.

These things and much more Mrs Sprigge has brought out in her excellent book. She writes with interest and measure. She is obviously devoted to her subject—but she is also true to her craft. She is not of a mind that her idol can do no wrong. Her statements are brightly documented with friendly sources; the book is not pedantic. Further, the book is a panorama of famous and evocative names which bring back a time not too distant but already a vanished age. Two wars and the intervening years have changed this planet almost beyond the knowing.

If Mr Berenson had enemies, and what man does not, it is probable that he outlived them all. He died full of years, greatly honored in his adopted land and in the land he chose to live out his years, the country he made his laboratory and his home. He is buried there.

The book deserves reading.



## *The First Book of Paintings*

AN INTRODUCTION TO THE  
APPRECIATION OF PICTURES

**Lamont Moore.** New York, Franklin Watts, Inc,  
1960. 69 pp illus. 7" x 8½". \$1.95

**A** slim little book, with a picture on every right-hand page, which sets forth in simple language the elements of painting, *line, shape, space, light and color*; and the principles *pattern, balance, rhythm, contrast and unity*.

Each element and principle is discussed in connection with several examples, ranging from cave paintings and Greek vases to Giorgione and Renoir, from Chinese painting to Mondrian. The

exposition is clear and thorough; the application to the painting being discussed is explicit. The author's style avoids the mumbo-jumbo of most current art-talk—which is a refresher.

The reader inexperienced in art, whether fifteen or fifty, should be able to get a great deal more out of his next visit to a museum after a brief study of this book—and would undoubtedly be encouraged to return again and again. If that is the case, the book will certainly have fulfilled its objective.

It may seem ungracious to find a fault in so attractive a little book, but one feels that the quality of the offset reproductions leaves much to be desired, black-and-white or color.

The author was formerly Director of Education at the National Gallery in Washington, and until recently Director of the Yale University Art Gallery. He is well-known in the museum and art education field.

J. W.



# Antonio Gaudí

James Johnson Sweeney and Josep Lluís Sert.  
New York, Praeger, 1960. 192 pp illus. 9" x 11".  
\$15.00

This handsome book, well-produced in Germany for this market, is the third of recent volumes by different authors and publishers on this "Mediterranean Gothic" architect who among other pioneering accomplishments, worked out in thin unit masonry the curvaceous space enclosures and vaulting now so popular in the thin-shell concrete which was not available to him.

Mediterranean Gothic was Gaudí's own term—he carried on a medieval European and Moorish tradition of consummate skill in structural masonry (and metalwork) for a climate of sunlight. He added a brilliance of color, beautifully reproduced in this large format. He thought of this as a continuation of the Greek polychrome tradition. It has special textural interest in his work through unique use of broken, flat, ceramic-glazed tile as mosaic on warped surfaces. In this he went beyond the Moorish tradition of geometrical tile into an Impressionist concern for a shimmering of light about and within the muscular, osseous and cavernous forms of his building elements and spaces. Gaudí's forms were inspired by organic nature, not by the more mineralogical geometry later explored by Dominikus Böhm in Germany. Both form and color were filled with symbolic, iconographic significance and derivation but a Catalan writer states that "To explain Gaudí on the basis of his Catholicism is like finding significance in Chopin's tuberculosis . . ."\*

Drexler, who prepared the 1957 exhibition of Gaudí's work for the Museum of Modern Art in New York, apparently takes another way—of seeing Freudian explanations for this solid imagery—and I believe the early German film "The Cabinet of Dr Caligari" used a Gaudí rooftop for a chase-sequence supposed to take place within a disordered mind.

Such misunderstanding of a brilliantly imaginative and disciplined esthetic achievement reminds us that what we now hear as some of the loveliest lyrical passages of Brahms were in his time criticised as harsh, inept and discordant. Cirlot (in the book just cited) sees in Gaudí's work an interpretation or almost mystic revelation of deeper essences of esthetics. His word for it, in his brief

but far-ranging philosophical essay in Spanish, is "hermenéutica" (Hermes—messenger).

Well, the bibliography on Gaudí is so extensive that we've been trapped into one of the faults of the Sweeney-Sert book under review—endless, endless quotation—compilation of evaluation by others. The book is also quite repetitious as if the two authors worked separately—perhaps one with the right and one with the left hand. Then the captions echo the same data. There is information here—some of it quite well presented—several times!

Much of what has been written about Gaudí seems over-defensive. References are made to his "obvious vulgarity" (common touch—not indecency) and "violations of scale." This book, however, hints also at his work's great lesson for architects of today—which has influenced such



Francesc Quintana

*Vaulting in Güell Colony Chapel (1898-1914). Note thin masonry ribs*

a temporal spectrum of designers as, among others, Hoeger (Chile-haus), Mendelsohn (Einstein-turm), Torroja, Nervi and Candela (thin shells, warped surfaces, tilted supports etc). This lesson is revolt against the rectilinear and simple cartesian reference. Gaudí's enormous facility for design of plastic, three-dimensional space reflects several facts. Witness his ancestry of copper-smiths, his own persistent use of structural models for analysis and design in preference to drawings—which with his formidable relationships of lines and spaces would be impossible. Sweeney and Sert cogently ask, "Who can construct a tree merely from two sections, one plan and four elevations? . . ." A strong distinction is also made in connection with the obvious influence or parallel of L'Art Nouveau. Most of this curling florescence by others was just that—a facile, superficial linearity. Gaudí's expression of it, as noted, was deeper—three dimensions you could

\* *El Arte de Gaudí*. By Juan Eduardo Cirlot. Barcelona: Ediciones Omega 1954 (2nd edit)



walk through like a wooded garden in which form and texture were often natural in inspiration but with underlying ordered design. Brilliant, broken color is the Mediterranean touch, the coastal sunlight.

It is instructive to note that Gaudí stretched his revolt to attempt plans and structures (Casa Milá, for example) which, without his supply of devoted craftsmen, his continuous, improvising superintendence, not to mention the money available to some of his clients, would be uneconomic under our conditions. We are forced by lack of these to the rectilinear, repetitive frame with standardized components and uniform surface treatments. Those designers mentioned who have expressed some of Gaudí's influence have done so for the most part in free-standing buildings which become significant, dominant unities in themselves—not a blended part of the plaid blah of our urban scene. There is still a place for this strong individual expression. Nervi, in particular, has found economic ways of creating the large significant form built up of repeated, often pre-cast, components.

E.P.



## Motels, Hotels, Restaurants and Bars

SECOND EDITION

Reprints from *The Architectural Record*. New York, Dodge, 1960. 327 pp 9" x 12". \$9.75

This attractively presented book should be in the library of every architect who expects to design a motel or hotel. It should also be of interest to the client of such an architect. The many well-selected illustrations lead one immediately to leaf through the book, reading some of the captions, before reading the text.

The discussion of motels by William Dudley Hunt, Jr, is sound and well-organized. He traces the architect's mental processes in programming and designing a motel—location, site selection, site planning, number of units, unit plans, planning of public spaces and offices, service facilities, materials, furniture, lighting, plumbing, heating and airconditioning and cost limitations.

Mr Hunt also wrote the foreword, but other parts of the book are written by others. Carl Koch's very frank discussion of his experience with a well-known franchise chain is both interesting and instructive.

Walter O. Voegele's article on "Today's Trends in Hotel Design" is down-to-earth and gives much useful information. For one among many examples, he writes of the Hotel New Yorker: "The character and design of one of the four eating places were completely changed. A 2700 square-foot dining room was changed to be an eating and drinking restaurant equally conducive to breakfast, lunch, cocktail, dinner and supper business. Immediately, the annual income increased ninety per cent." Summing up his discussion, Mr Voegele says: "Whatever the survey shows as to proportion of business men and vacation travellers, it is safe to predict for the future some interesting changes in clientele trends, as downtown hotels go out for highway business, and motor hotels move ever closer to downtown to reach for the businessman business."

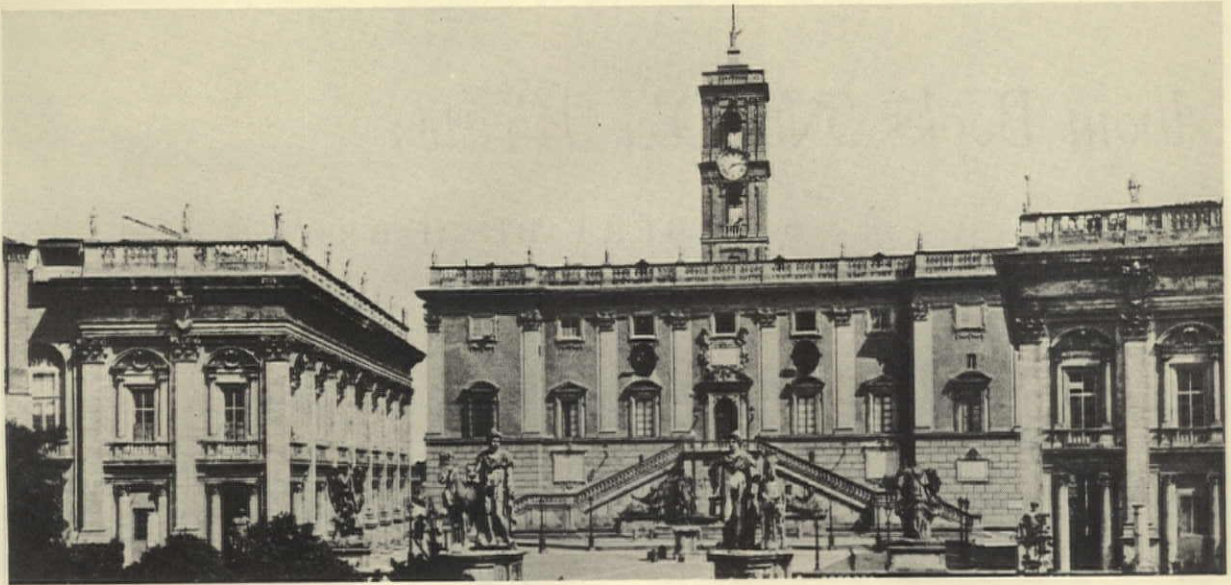
In his article on "Architecture for Eating and Drinking," Herman H. Siegel pitches right into such important details as entrance areas, dining areas, bars and kitchens. Other articles in this excellent collection are:

"Noise Control Techniques for Motels" by William J. Cavanaugh and Norman Doelling, "Motel Air Conditioning" by F. J. Walsh, "Analysis of Restaurant Space and Layout" by Sumner Spaulding, "Ventilating Commercial Kitchens for Efficiency and Economy" by Jack A. Wunderle, and "Restaurant Lighting with Sleight-of-Hand" by Thomas Smith Kelly.

As is inevitable in a collection of articles by different authors (most of these were originally published in the *Architectural Record*), there is some repetition and some slight disagreement. As an instance, Mr Hunt gives cost per guest unit for motels from \$6,000 to \$15,000 and for hotels from \$8,000 to \$20,000; while Mr Voegele gives \$6,000 to \$18,000 for motels and \$16,000 average for large city hotels. All in all, this is a valuable addition to the Dodge series on building types.

C.H.G.





## *The Life of Michelangelo*

**Charles H. Morgan.** New York, Reynal & Co., 1960. 253 pp 64 illus. \$6.00

When Michelangelo—poet, painter, sculptor and architect—died in 1564 at the age of eighty-nine, the cities of Rome and Florence disputed each other bitterly for possession of his corpse. In his last years, peasants and nobility alike called him “Michelangelo divino.”

Though he may have been called “divine” in the later years of his life, the complete life story of this venerated man reads almost stranger than fiction and is filled with frustration, petty arguments and jealousy.

Dr Morgan has taken the wealth of material that exists concerning Michelangelo (some of it available in day-to-day records) and woven it into a book that reads almost like a modern novel. Take, for instance, the opening paragraph:

“The scattered houses of Caprese, perched on its high hilltop in central Italy, took no notice when the wife of the temporary mayor gave birth to a second son. Such family additions were common, often short-lived, and in no way comparable to marriages, funerals and court sessions as a source of distraction from the monotony of everyday life.”

Thus, where many of the studies of Michelangelo have been labored, dull reading, Dr Morgan has, through warmth and enthusiasm, ap-

proached the artist so humanly that the reader finds himself often in suspense as to the outcome of events.

The constant rivalry between artists of the day (Leonardo da Vinci and Michelangelo were at each other's throats constantly), the popes who became demanding autocratic patrons of the arts, the political maneuverings of the various Medici, the demands of important patrons for commissions, all unfold in the book. All contain the elements of drama in its greatest aspect and each, in turn, is presented as they were lived daily by Michelangelo.

The important achievements for which the artist is particularly famed come in for their share of comment. The Sistine Chapel ceiling, the architectural problems of St. Peter's dome, the sculpture of the famous “David” and other renowned works are presented to the reader with simple clarity.

The illustrations include a hundred reproductions of paintings, drawings and sculpture along with architectural projects which include the Medici Chapel and the incredible work on St. Peter's. Perhaps the only fly in the ointment is the small size of many of the reproductions, and quite a few of them are too fuzzy and too dark. They do, however, give the reader an opportunity to trace the development of style from the early works to the final ones.

“The Life of Michelangelo” is a worthwhile addition to the library of the art lover and historian. It creates a new respect for the titan of the Renaissance who turned alternately from sculpture to painting and finally to architecture—and became a master of all three.

N.C.B.



# About Books Not Yet Written

by ALBERT BUSH-BROWN

*The author is Associate Professor, School of Architecture and Planning, Massachusetts Institute of Technology. Professor Bush-Brown wrote this article for the Book Supplement of the Journal while travelling in South America this summer*

**T**he *cariocas* of Rio de Janeiro have a myth. They rejoice in thinking they are unpredictably turbulent, as gay and fickle as the river that gave them their name. Actually, except for carnival week, Rio is a work-a-day city with dismal streets, commonplace buildings and some of the most spectacular slums in the world. Yet, the *cariocas* build for the myth. You see it declared in the tango beat traced in the mosaic walk on Copacabana Beach; you see it along the coast, providing you do not stray even one block inland; you see it in the somersaults architects turn to make each concrete structure an extravaganza.

Obviously, words and legends affect a people and their architecture. Where the words are Spanish, as at Lima, the social institutions demand a Spanish architecture. The churches have known no Reformation; the University has not been revolutionized by industry and science. Their medieval purposes are housed in Renaissance and Baroque buildings. The newer architecture owes nothing to modern England, France or Italy, and little to the United States, except as supermarkets, car lots and cafeterias have written an Esperanto abroad. As long as Spain remained vital, Peruvian architecture was colonial; but in the twentieth century, Spanish voices were no longer compelling, and young architects hearkened to calls from the United States and the Bauhaus.

Faced with the same loss of a vigorous motherland, colonial Santiago listened to different words. Many sophisticated Chileans send their children to Santiago's l'Alliance Française, and they read Sartre and Maurois; early, they built classis Beaux Arts townhouses, and now their plans for housing and a university exhibit high regard for Le Corbusier. Where the praising adjectives formerly were "Spanish," "national," and "regional," advancing architects are guided today by "sculptural," "monumental," and "brutal."

The visual-minded will, of course, deny the importance of words, but words affect architecture in many ways. A Roman's love of chatting publicly inspires restaurants, cafés and parks, while Londoners retire to domestic firesides and private clubs. Santiago has vast concourses lined with shops, and enormous urban populations move through these connected arcades—a modern equivalent of the *paseo*, where men and women parade merely to see and be seen by the groups walking in the opposite direction.

Such is the effect of words that the colossal Senate Executive Building at Brazilia devotes two-thirds of its space to public lobbies. Far from being wasteful, the halls facilitate the public conduct of government, which occurs face to face over handshakes and embraces. Thus, architecture is greatly affected by words said about it and in it. No architect should be scornful of them.

Words, of course, may have malicious effects. That fact never struck me so forcibly as in Caracas. I arrived there after seeing the Inca cities in Peru. At Macchu Picchu, the city stands a thousand feet above the valley and it clings to the precipitous slope of a high peak. Its terraces cascade sun and shadow on the hillside; the stones in the houses, temples and walls were cut deftly, each joint a work of art. Rocks and altars stand on the summit as abstract sculpture; but below,



where soldiers and commoners lived, wonderful rooms and plazas frame exciting views of the valley, and corridors release spectacular vignettes of distant tall peaks. At Sacsahuaman, the land lies high and flat, and there the Incas built a totally different but ingenious architecture. No one lives at either place today; one sees only masses struck rhythmically by light and shadow; the sites are still; the stillness is deep, deeper because the Incas left no written language.

At babbling Caracas, in contrast, there is the new University City designed by a single architect, though one might have supposed it to be the work of fifty, so chaotic is the campus. Indeed, everything is there: Folded plates, barrel vaults, acoustical clouds, rigid frames, exposed bents, cage frames, thin shells—but not a consistent rhythm, not an orderly space, not a unifying shape or scale anywhere. The campus testifies to plentiful communication among architects; there is one sample of each structural idea that has appeared in architectural journals, and the architect seemed fearful lest he fall one page behind in his reading. His work is a sad example of his misuse of information, and, sadder still, his misuse of the idea that architecture arises on a structural system, an idea the Incas could hardly deny, if they ever thought about it.

But they probably did not think about it. Their choice among systems was limited, and, like all primitive builders, they attempted no disguise for their structures. Theory about such matters arises only when choice is possible and when taste falters. Then come the books of theories and rationalizations, often (and ironically) written by architects who inveigh against words, as did Sullivan and Wright.

Too much of what they and other architects encourage us to read misleads architects from their proper business. Take one example: A recent article claimed that the chameleon work of a popular American architect stemmed from a consistent rationale. That point—not at all obvious in his enormous production—was defended on the basis of the architect's credo, which stands in six parts: Functional integrity; honest expression of structure; awareness of the times; expressive statement; concern for the site and environment; composition as a unity. No doubt such debatable and inconsistent ideas may form a creed; and, no doubt, the conflicting demands can be reconciled. But what has been suggested? That the architect become a man of great learning. To find out about his times, for example, he will need to know Maritain, Sartre, Camus,

Oppenheimer, Conant, Bridgman, Pasternak, Panofsky and many more intellectuals—yet those men and their ideas are not the subjects for the architectural conversations I have heard in America, South or North, not even in Detroit. Nor do I believe they should be the object of architects' study. Have we not merely mouthed the notion that architects should interpret their society? Is it not equally true that architecture partly creates the times? Is it not a fact that our buildings will inevitably be twentieth-century ones even if we do not try the impossible, consciously to build Einstein into them?

In answer, it would be a simple task to fill whole pages with running commentaries on architectural literature. Most of it, I believe, is not worth reading, and it should be reserved for historians of architectural aberrations. Wise were the Japanese students at Waseda University's School of Architecture. In gratitude for a lecture by Louis Kahn, they gave him a present—not a book, not a phonograph record, not a photograph, nor even a drawing—but a set of fine carpenter's chisels. What better token of the fact that architecture is a craft that deals with resilient masses and spaces?

The argument is not that architects should forget about reading or forget discussions about architecture. The plea is for books that are informative about architectural facts and principles. The right objective for books, I believe, is not rare editions and fine bindings, but guidance to the full-scale encounter and evaluation of architecture.

For surely everyone agrees: Architects are professional men; a profession is distinguished for its concern with excellence in delivering a service that benefits society; such a concern requires its practitioners to be conversant with ideas; books are major vehicles for ideas; therefore, architects ought to read. As it is, they have a literature, not professional often, but commercial, for most journals and many books deliver photographs, not analysis; parade novelty, not quality; champion polemical doctrine, not full measures; offer descriptions, not evaluations. Is this all that is expected of professional men?

Traditionally, the response has been that architects must be liberally educated and broadly informed. As citizens, they have, we may assume, an appetite for knowledge, but that is, or should be, their private concern. What, then, should architects read? This is by no means as easy a question as when the meccas of architectural example stood at Rome, Paris and Chartres, with a possible side excursion to the paws of the



Sphinx. There is, of course, an easy answer. Read all the travel books and history books that lead one to a first-hand encounter with architectural excellence.

Unfortunately, few good guides exist: *And that is the reason for my thesis*—that architects should study books mainly to obtain information that, unfortunately, has not yet been directed toward the problems with which they are concerned. Since literature lags behind practice, architects must “write” for themselves. Thus, if interested in connections among urban spaces, the architect may find useful guides in Kidder Smith’s “Italy Builds,” an older book; in Camillo Sitte’s “The Art of Building Cities”; and in a recent one, Paul Zucker’s “Town and Square.” But none of these studies of urban fragments, valuable though they are, begins to explore the total pattern or the vehicular approach to the city as suggested by Kevin Lynch in his “Image of the City.”

More complex still is the literature about what is generally regarded as the essential business of an architect, the creation of form. No book is helpful on this matter. True, there are many studies about how to devise a program, chart traffic flows, diagram uses, describe communication patterns, take test borings, gauge illumination and acoustical properties. But what finally brings all these facts together, rejects many, saves some, suggests a parallelepiped, a conoid, a dome? The marvelous leap from statistic to form, that imaginatively transforms piles of loose brick and lumber into architecture. How that leap occurs, when it arrives, what guides it, remains inscrutable, even to artists. Knowledge about it is important, especially today when architects seem to spend inordinate amounts of time impressing clients with pre-architectural analyses. Great architecture seldom arrived that way.

Another unwritten book lies in evaluating buildings in which strong decisions have been taken in favor of structure or function or expression or sculptural unity. The Kresge Auditorium at M.I.T., for example, struck a firm blow in favor of geometric unity, sacrificing ease of circulation. The Berlin Congress Hall shot headlong toward a powerful symbol, at the cost of structural purity and functional convenience. Is it so successful as an emblem of Western freedom that the decision was justified? Where do we find such evaluations of buildings that have been tried and tested by occupancy? Certainly not in picture books, nor in picture magazines where the sculptural contour, dramatically photographed by Ezra Stoller, allows no examination of its construction or serviceability.

Similarly, architects need to learn more about the institutions for which they work. Indeed, libraries now contain many books about schools, hospitals and factories, and at least one journal regularly publishes a building type study. But these are morgues of ingenious ways for solving details, and if you look at an old building type study, you will often be disappointed to find that its architectural contribution is minimal, once its systems and gadgets are outdated. What is needed is an account of the philosophy and instruments of our institutions and their expression in architecture. The architectural implications of these ideas are not written anywhere, and again, the architect is on his own.

Nor would I forget technology, where there are whole shelves of unwritten books. I would like to see a discussion of contemporary structures that really declared whether in Kahn’s Fine Arts Building at Yale and the Biology Building at the University of Pennsylvania, the slabs bear much of the load, including the trusses. In the same book, I would like to see some suggestions for giving architectural expression to the tension members which so many architects try to hide in thin-skinned structures. Many architects would benefit by a discussion of ways of accommodating mechanical systems within structural systems. It would be helpful, too, to see a discussion of the implications of artificial air, electronic letter-writing and electronic computers for the office building of the future.

Finally, of all the books still unwritten, the crucial one for the architect’s mission is a book about formal composition. We speak each day, among ourselves at least, about scale, about rhythm and balance and proportion and articulation; yet, actually, these terms and the architectural experiences to which they refer seem to remain obscure. Literature has been silent on these matters for years, and the serious student can receive suggestions only from old texts: Julien Guadet’s “Eléments et Théorie de l’Architecture”; Georges Gromort’s “Essai sur la Théorie de l’Architecture”; Andre Lurcat, “Formes, Composition et Lois d’Harmonie”; and A. E. Brinckmann, “Baukunst.” All are old books and foreign; there is no English equivalent, except as architects devise them.

Should architects read? Only if they respect carpenter’s chisels. What books should they read? Why, every book that leads them to architecture! For they must write their own, from experience, and, inevitably, toward a myth, which art must declare.



## Towards a Habitable World

Jan van Ettinger. Amsterdam, Elsevier (NY: Van Nostrand), 1960. 319 pp illus. 7" x 10<sup>3</sup>/<sub>8</sub>". \$10.75

Few persons have had the experience of using a periscope for vision from a submarine and there are few who have been in the rare situation of this author which has permitted him to view the sea of construction technology, extensively and intensively, internationally and in detailed analysis of many building types and problems.

Mr van Ettinger has been founder and director of *Bouwcentrum* in Rotterdam, for some fifteen years an internationally famous center for building information. As a moving force in CIB (International Council for Building Documentation), he has been in the center of a more and more successful effort to bring order into our continuing deluge of data. He was trained as a mechanical engineer and is an authority on statistical methods. His concern is international in scope and, as indicated by the title and tenor of this important book (five years in the making), humanitarian in motive.

In Part I, under "The Task," the author develops a worldwide statistical base to warn of our current social danger and need for a tremendous construction program.

Part II, "Problems and Methods," indicates means of increased efficiency, with some excellent material on planning procedures and the architectural program.

Part III, "Acceleration," sets forth the need, objectives of, and machinery for useful knowledge—building information.

In spite of its cold logic, there is a sober and earnest air of idealism in this book. It is not easy but not formidable to read. Some of its lack of ease is due to language. We wish that a text like this, produced abroad, could be read by a native professional here before publication. The author notes difficulties of technical translation but goes on to use literal terms that may require re-reading to understand. The expression "soil-shifting," for example, to us implies a construction site emergency — quicksand or that cursed Texas clay perhaps — but no, he means "earthmoving," a normal construction operation. There is also an occasional awkward preposition or adverb or proofreading error, but the book on the whole is well produced. The illustrations, beginning with

the charming child study of the frontispiece, are so excellently chosen for communicative values that they need and for the most part have no captions.

While Mr van Ettinger's approach to architectural values is that of an accomplished manipulator of concepts of industrial quantity and quality—he is a mental gymnast whose practiced feet stay on the slack-wire of a catenary curve — he does understand some of the importance of the esthetic contribution. There is a little tendency to elevate the tool of statistics to the status of inexorable and all-inclusive law — but there is also some faith in a "plus value," if not full awareness of the function of architecture. This comes out in several passages on standardization, a magic wand of a word, and the familiar European concept of the "American Idea" — the house-to-be-built-like-an-automobile (may the good Lord forbid!).



Finally, in Part II, there is some rather sketchy material on the application of *operations research* to architectural planning. In the Netherlands the term *decisionics* is used for these procedures of optimizing relationships. It is of interest to our readers perhaps to note that the AHA-AIA Collaborative Program on Hospital Planning is starting its second year of support of a major project applying operations research to the hospital. Results are most promising — for method. Some important basic relationships are at last being given scientific study — but no one here would believe that one hospital plan could emerge from such research. Neither would Mr van Ettinger. He is well-balanced in his regard for human values but readers of this fine book should be careful to note his statements in full. Out-of-context they could result in some *deep-frozen music*. E.P.



# A Distillation of



## *Frank Lloyd Wright:*

WRITINGS AND BUILDINGS

**Edgar Kaufmann and Ben Raeburn**, Editors. Horizon Press, Inc, 1960. 346 pp \$3.95. Paperback, \$1.65

## *Frank Lloyd Wright on Architecture*

**Frederick Gutheim**, Editor. The Universal Library. 275 pp \$1.95

## *Experiencing Architecture*

**Steen Eiler Rasmussen**. NY, John Wiley & Sons, Inc, 1960. 251 pp \$4.50

**Reviewed by Robert C. Weinberg, AIA**, head of the program of urban and regional planning and housing at New York University, and recently appointed visiting Professor of Urban Design at Carnegie Tech.

Books about architecture fall into a somewhat different category from books about art, on the one hand—and textbooks on scientific processes like engineering, on the other. While readership of the latter is generally limited to those actively engaged in the study or practice of specific technical and professional occupations, the former have a rather general appeal to people who take pleasure in producing works of art themselves, in collecting works produced by others, in visit-

ing museums and private exhibitions or in just owning art books. Books about architecture and, more particularly, about the sort of cities in which we live, are bought and read, of course, by professional architects and planners; but the number of these would never alone justify the expense that publishing such books involves. Their greater readership, it appears, consists of people who are concerned with the comfort of the houses they live in, the convenience of their offices, factories and means of transport and, above all, the character and appearance of the cities and towns whose responsibility it is theirs, as citizens, to enhance and improve for their own benefit and for that of those who come after them.

It is not surprising, therefore, that an increasing number of books about contemporary architecture and the current urban scene are being published and that they are getting the considerable circulation and attention which they deserve. Naturally, big names sell and the more gifted architects seem to have a knack for making headlines. Perhaps the most influential two architects of the first half of this century happen to be prolific writers as well: Frank Lloyd Wright and Le Corbusier have each been the beneficiaries, both of a fertile pen and of the cumulative effect of good public relations. Mr Wright wrote at least a dozen books in the last thirty years of his long life, to say nothing of the vast amount of material that has been written about him. While he has now passed on, the end is not in sight. Beginning with his "Autobiography," which was first published in 1932 and republished with revisions and additions in 1943, twelve books by Wright himself have appeared in the unique shape and format dictated by the master; all but three of which are still in print and their price has run from \$6.00 to \$12.00. Ever since 1923, when his design of Tokyo's Imperial Hotel and his



## and The Genial Professor from Copenhagen

already established reputation in Europe finally brought him headlines at home, at least seventeen books *about* Wright have appeared, of which nine were published abroad. There have been countless articles and special numbers of magazines devoted to the man or to aspects of his work. The material has appeared in every conceivable format, and most of the books have been comparatively expensive—one of the latest, a superb collection of reproductions of his drawings, selling at \$35.00.

Those of us who have followed his long career and whose libraries are filled with most of the books by and about Wright have a good reason for welcoming the latest additions to our literally five-foot shelf of Wrightiana. Two of the books under consideration here, "Frank Lloyd Wright: Writings and Buildings" and "Frank Lloyd Wright on Architecture," can both be regarded as reference works in compact, inexpensive format. Messrs. Kaufmann and Raeburn's little volume is not only a well-chosen distillation of Wright's own ideas as he has expounded them over six decades, since so much of what fills his own books in their original form is windy and repetitious rhetoric, it is also a serviceable visual notebook, as it were, illustrating his work in hundreds of plans and pictures that are, at worst, legible enough for quick reference. The reprint, in paperback, of Gutheim's excellent earlier anthology made from Wright's writings unfortunately lacks illustrations as well as examples of his writing since 1940. The Kaufmann-Raeburn book provides a useful list of Wright's major buildings from a long lifetime in practice, including sketches for projects as well as executed commissions; in the latter case, giving the places they were built and the clients' names. Much is made on the jacket blurb of a map locating these works but this turns out to be merely the crudest sort

of continent-wide diagram of no great help in finding a particular building tucked away at a specific address in any one of the purely generalized locations indicated by minute dots on a barely legible small-scale map. More careful editing of the list and the use of clearer, larger scale maps should be provided if there is a second edition. In this otherwise valuable handbook, moreover, one misses a complete bibliography of books and articles by and about Wright which, except for the one that appeared in a practically unobtainable issue of *The House Beautiful* magazine back in 1955, has not been attempted as far as I know, at least in recent years. What is most welcome about the Kaufmann-Raeburn book is its compact form and its low cost which puts it within the means of many thousands of young people, students and general readers who have heretofore been unable, on account of price, to own books by or on Wright. The plans and drawings which are reproduced in line-cut are extremely valuable, even though in some cases they have been reduced to such an extent that the lettering of important, identifying titles is illegible. The photo-offset reproductions of photographs of executed works—while just a few of them are large and brilliant enough to be effective as pictures—are generally more useful as reminders, or visual notes, than as illustrations to get pleasure or information from. To the reader who has never seen well-reproduced photographs of Wright's work in half-tone—much less the buildings themselves—these illustrations will scarcely prove a revelation or an inspiration. But no matter, the book as a whole, in its size and at its price, is a fine thing to have and the selection from Wright's writings is well chosen. It is altogether fitting that this book should be simultaneously issued as a paperback, which will help make it available to the widest possible readership.



The reprint of the Gutheim anthology is equally useful, within its limits, as a reference work of Wright's written ideas, and it is a better organized book as to arrangement of subject matter than the Kaufmann-Raeburn collection, which tends to be superficial and spotty. But one wonders why the publishers, when reducing the plates of an originally *square*-shaped volume, saw fit to waste paper, space and weight in order to create an oversized, *rectangular* paper-back.

As I said at the outset, the public is buying more and more books about buildings and cities; how they are designed, how they look and how they affect us all. This is what it should be and the better the book the more is accomplished in the great cause and effort many of us architects and planners are engaged in, trying to build better buildings and better communities in which to live, work and play. To those of us who are accustomed to observe the things around us with a trained eye, it comes natural to criticize and comment on what is good and what is bad—but the general public still needs to learn how to see things with critical understanding and appreciation if they are to help, as citizens, to encourage more of the good and to prevent the bad from continuing to be created.

As an aid to the layman in doing just this, no better book has appeared in recent years than one which should receive special notice here, and the warmest acclaim: "Experiencing Architecture," by Steen Eiler Rasmussen. In this well-printed, superbly illustrated and comparatively short book (250 pages), the genial professor from Copenhagen, a frequent traveler and teacher in our country and in many others, guides his readers through the elements of architecture and urbanism—buildings and cities—in such terms, as he puts it, "that even an interested teenager might understand them." Perhaps everyone of us is a teenager, when it comes to some subject that is not our own speciality. For architectural "teenagers," therefore, there is no better aid to intelligent observation of what is around us than Professor Rasmussen's engaging book of directions. A sensitive designer, a sympathetic teacher, a witty writer and illustrator who has made books of such diverse subjects as the layout of subways and the folk-art of the British aristocracy has here created a handbook for those who would really *see* their surroundings and understand how and why good design came into being and what it consists of.

In the older civilizations in the Orient as well as in Europe and the Mediterranean, the ultimate control of design—whether of individual buildings or of whole cities—was left to the expert, and only a cultivated upper class was expected to appreciate and understand it. The "people" received it, saw it, accepted it as good and great and took it for granted. In our country—and this holds true not only for other "new" civilizations, from Brazil to Australia, but also for the *contemporary* world of "old" Europe and "new" Africa and Asia—the character and design (such as it is) of buildings and neighborhoods and even of cities, are determined by democratic, political and economic processes in which the controlling decisions are made by laymen, not by experts in design or esthetics. That's why it is so important to appeal to the taste and discrimination of the layman—the average person, the "man in the street" as well as the public official or the realtor and commercial builder. Books by and about architects or builders that are written for specialists are of interest and of use, of course; but books that are written directly for the average, intelligent observer, to help him know what is good, and why, in the architecture he sees, and in the urban scene around him are of particular value today. That is Professor Rasmussen's special contribution to the subject.

## **Wiley** BOOKS

### **EXPERIENCING ARCHITECTURE**

By STEEN EILER RASMUSSEN

Here is a book which discusses architecture in language that everyone can understand. The author is a well-known practicing architect in Denmark who is also Professor of Architecture at the Royal Academy of Fine Arts in Copenhagen. He has set forth the aim of his book simply but eloquently in the preface:

"Today in our highly civilized society the houses which ordinary people are doomed to live in and gaze upon are on the whole without quality. We cannot, however, go back to the old method of personally supervised handicrafts. We must strive to advance by arousing interest in and understanding of the work the architect does. The basis of competent professionalism is a sympathetic and knowledgeable group of amateurs, of non-professional art-lovers.

"My object is in all modesty to endeavor to explain the instrument the architect plays, to show what a great range it has, and thereby awaken the senses to its music."

*Experiencing Architecture* is, in substance, a translation of a Danish best-seller. However, new material and fresh illustrations have been added by the author to the American edition. (A Technology Press Book, M.I.T.) 1959. 251 pages. Illus. \$4.50.

Send for an examination copy.

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440 Park Avenue South, New York 16, N. Y.



# The Image of the City

**Kevin Lynch.** Cambridge, The Technology Press and Harvard University Press, 1960. 194 pp 6" x 8 1/4". \$5.50

**Reviewed by Donald L. Foley,** Associate Professor of City Planning and Architecture at the University of California at Berkeley.

Architects and city planners had better put this book on their required reading lists. It is bound to be much discussed and will be highly acclaimed. And deservedly so, for it provides a thoughtful and imaginative pursuit of an important question. That the book does not also pursue some other questions and that some reservations are clearly apparent to this reviewer—these should not seriously detract from its fundamental contribution.

After a study of several years' duration, Kevin Lynch concludes that a key quality of the urban environment is "imageability," or the probability that a physical object will evoke a strong, clear mental image in observers; that a clear image of the city provides the strategic link between the environment and those individuals facing the important problem of finding their way around the city and maintaining an organized sense of what the city is all about; and that it is feasible and important for designers to enhance the imageability of our cities. After developing the main concepts with which he approaches his problem, the author describes his case-study approaches to three American cities—Boston, Jersey City and Los Angeles.

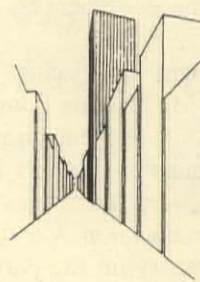
Lynch also moves on to break down the concept of the city image into five component elements: Paths, edges, districts, nodes and landmarks. He then proposes how a designer may best work with each of these elements and relate them so as to provide a city form capable of evoking appropriate public images.

Two problems are by no means tackled or resolved. The first is philosophic and esthetic: How shall the city of tomorrow be spatially organized? The main problem for city planners may not be to provide a clear and emotionally satisfying image for residents, as Lynch suggests. It may be to fathom out the fundamental nature of the city's functional organization and to plan the city in the light of these functional requirements. Taking into account Florence and its charms may or may not help to accommodate future urban activity sys-

tems. Lynch does not make clear how his proposed "visual plan" (p. 116) relates to a functional view of city and metropolitan structures.

The second problem is social and psychological and calls for a considerably more rigorous series of sampling-interview studies than Lynch was able to complete in his pilot interview program. The aim of such studies might well be not just to seek out a public image, for this may be partly mythical, but rather to gain a sophisticated understanding of the variations in images of the city along with the kinds of social and psychological attributes that are correlated with such variations.

The book is well-written, although to deal with the visual qualities of American cities by means of an essentially verbal presentation is a courageous undertaking. The 180-odd pages of text are interspersed with over sixty photographs and diagrammatic maps. By the use of an ingenious and attractive format, several dozen small sketches are also adroitly exhibited in broad outer page margins. Nevertheless, the cogency of the author's thesis is put to an exacting test. Some ambiguity may inevitably mark the readers' "images" of the ideas that Lynch is seeking to communicate.



## The Image of the City

By Kevin Lynch

"It is Professor Lynch's belief that unless the whole metropolitan region is given a new and clear face, there will be no way to understand or to manage the new Gargantua. . . . What is needed today is a way to evoke organization from existing urban functions and institutions . . . stimulating better growth in older cities. On this question, Kevin Lynch now offers a rewarding analysis in his modest and artful book. . . . From his scrutiny of Boston, Los Angeles, and Jersey City . . . he finds that 'legibility,' a clear image of the environment, depends upon an observer's ease in finding many clues, including visual sensations and color, shape, size and pattern, motion and concentration of light, sound, texture, and even smell. . . . aptly illustrated by fine photographs, drawings, and maps."—ALBERT BUSH-BROWN, *The Reporter* \$5.50

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## Denis Diderot:

A DIDEROT PICTORIAL ENCYCLOPEDIA  
OF TRADES

Charles Coulston Gillispie, Editor. New York, Dover Publications, 1960. 2 vols. 485 plates. \$18.50

Reviewed by Henry Hope Reed, Jr for the *AIA Journal*. Mr Reed is architectural historian and commentator, leader of New York City's Walking Tours, and author of "The Golden City."

There is in Paris, it is probably in the cellar of the Louvre, a large portrait of Madame de Pompadour by Maurice Quentin de la Tour. (Not to be confused with the over-rated seventeenth century Georges de la Tour, Maurice Quentin de la Tour did lively portraits, mostly in pastel.) Beautifully dressed, the great lady is shown languidly seated next to a table scattered with books, papers and other objects. It is possible to make out the titles of several books, Montesquieu's "Esprit des Lois" and a volume of "L'Encyclopédie ou Dictionnaire Raisonné des Sciences, des Arts et des Métiers."

De la Tour was quite right in placing the *Encyclopédie* there; after all, Madame de Pompadour had backed its publication and encouraged its editor, Denis Diderot, against the Jesuits and the Archbishop of Paris who were intent on suppressing it. The story of its publication is a story of censorship, as well as chicanery on the part of the publisher, and she was instrumental in calling off the censors. At one point, after a number of volumes had appeared, sets were confiscated from subscribers—it had not yet been placed on public sale. Louis XV, Madame de Pompadour and several courtiers were at a *petit souper* in the Trianon. While conversing, the question came up about the manufacture of gunpowder. No one had the answer. "Yes, and face powder?" remarked Madame de Pompadour, "What is that made of? Now if you had not confiscated the *Encyclopédie*, Sire, we could have found out in a moment."

The King, who has not been called "*le Roi charmant*" for nothing, ordered a set brought from his library and in came the footmen struggling with the volumes. The questions were answered and the volumes perused. The King then ordered

the confiscated sets returned to the subscribers and eventually the *Encyclopédie* went on sale.

It must be confessed that Madame de Pompadour had her doubts about the project towards the end of her life, and well she might have. The *Encyclopédie* was one of the chief sources of the concept of religious tolerance and speculative freedom and, especially, of that concept of universal progress which is so commonly held today, that it has ventured into fields, notably the fine arts, where it has only a limited place. The *Encyclopédie* had its part in the founding of our Republic, for Thomas Jefferson owned a pirated edition printed in Lausanne; and it played no small part in the French Revolution.

Unlike our contemporary encyclopedias, history and biography are not to be found in it and geography was hardly prominent. On this last the example of the description of Canada shows the absence of interest: Our Northern neighbor is described as "a country inhabited by bears, beavers and barbarians, and covered, eight months of the year, with snow." Diderot and his collaborators were primarily concerned with speculative

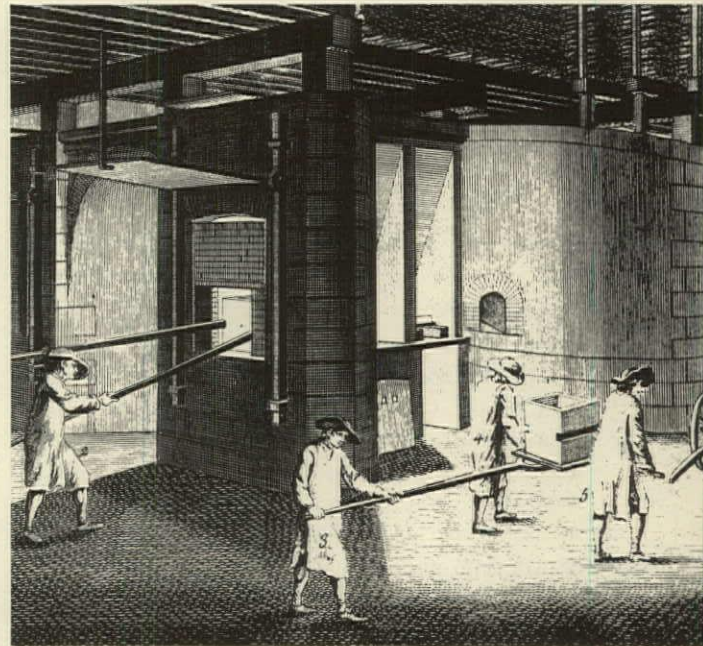


Plate Glass VII

subjects on the one hand and practical subjects, such as the manufacturers, on the other. It is this part of the *Encyclopédie* which is of general interest, chiefly because of the plates. There are 2,888 of them altogether in the original edition and of these Dover Publications has published 485 in a



facsimile edition of two volumes under the careful editing of Professor Gillispie of the History Department of Princeton University. He has made this more than a picture book by contributing pertinent essays to each section, situating the various subjects in their time and place. To those who have the fever of our colonial history, the two volumes will help explain whole aspects of Colonial America. Not that our manufactures followed the French example, for we had no artificial pearl industry, for instance. But rather the plates convey the climate of the trades and skills of that time. We see how men worked in the eighteenth century. Furthermore, the illustrations have fascination for their own sake.

The plates chosen are confined to the following: Agriculture and the rural arts, fifty-six plates; the art of war, twenty-five plates; the manufacture of iron, forty plates; mining and the working of metals, eighty-seven plates; the manufacture of glass, sixty-seven plates; masonry and carpentry, twenty-eight plates; the manufacture of textiles, fifty-five plates; paper and printing, twenty-eight plates; leather, fourteen plates; gold, silver and jewelry, twenty-eight plates, including artificial pearls; fashion, eighteen plates; and miscellaneous trades, thirty-eight plates, including candles, patisserie, playing cards, etc. One last plate is devoted to a tongue-in-cheek reconstruction of Noah's Ark under the heading, *Antiquités Judaïques*—the Enlightenment had to have its fun. There is even a section under "Masonry and Carpentry" devoted to carriage-making; this will be of particular interest to the fanciers of antique automobiles who might want to look further into history.

What, after all, you may ask, is the virtue of owning such volumes? What possible use have they in this age of the mini-book? They seem to belong to the last century with its fondness for large illustrated sets. They bring back the days when those of us who were so privileged took refuge in the library on rainy days, i.e. before TV, and leafed through Doré's Bible or Bryant's "Picturesque America." Now that TV has lost some of its attraction for the young and the library is coming back into fashion in house design, these volumes have their place. The engravings offer an alternative also to the photograph; somehow they are far more satisfying than photographs on the same subjects. Whether at making glass or candles, our ancestors worked much harder under far worse conditions than today, but as subjects for the etcher's needle they come alive. And there is no better way of introducing all ages to history's fascination than these plates.

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## The Eighteenth-Century Houses of Williamsburg

**Marcus Whiffen.** Williamsburg, Virginia, Colonial Williamsburg, 1960. Distributed by Holt, Rinehart, and Winston, Inc, 223 pp Indexed. \$10.00

**Reviewed by Parke Rouse, Jr** for the *AIA Journal*. Mr Rouse is Executive Director of The Jamestown Foundation, Jamestown, Virginia

Despite Jefferson's bilious view of Williamsburg houses — a view which Frank Lloyd Wright forcefully reiterated twenty years ago in the very shadow of the Wren Building — the architecture of Virginia's colonial capital continues to exert an influence on America. For better or worse, a sizable proportion of the homes built each year in the eastern United States show Williamsburg effects, and visitors to Virginia by the millions fall prey to the handsome proportions of surviving Georgian buildings.

At its worst, the slavish mimicry of outmoded forms is ridiculous, as Mr Wright often reminded us. Story-and-a-half houses, whose dormered second-story bedrooms reach the temperature of baking ovens in the summer, certainly do not deserve the admiration which modern copyists show them. But there is much else in Williamsburg's house architecture which is worthy of admiration and even of emulation in any age: Undecorated simplicity, amplexness, beauty of texture and the happy marriage of house and lot which wise town planning 250 years ago made possible.

After thirty years of intensive research into the sources and the forms of its architecture, Colonial Williamsburg has recently begun publication of studies summarizing its findings. The initial volume, "The Public Buildings of Williamsburg," appeared in 1958. Now Marcus Whiffen, Williamsburg's former architectural historian, has prepared this companion volume which extends his careful inquiry to thirty-two of the eighty-three original houses in Colonial Williamsburg's restored area, including most of the larger houses and the more interesting of the smaller ones. An Englishman and a former assistant editor of *The Architectural Review* of London, he knows British antecedents of Williamsburg houses. His conclusions are crisp, his documentation (by means of numbered refer-

ences in an appendix) is impressive, and his presentation is always readable. (What accounts for the unique ability of Englishmen to write good English prose?)

The text, well illustrated with drawings and photographs, divides into eighty-five pages of general information about the design and constructions of the houses and 100 pages describing the thirty-two which Mr Whiffen has chosen to document. The first section is easily the more original and valuable, describing with fascinating detail the building materials used, the development of crafts and craftsmen in eighteenth-century Williamsburg, and the difference of the houses from their predecessors in English villages.

Mr Whiffen observes that the Williamsburg houses are more beautiful than their antecedents because of their ampler proportions (as if built for seven-foot-tall inhabitants) and their placement on large lots, having uniform setbacks and other intelligent requirements. Although he emphasizes the contributions of Governor Nicholson's town plan to the happy effect of the houses, he does not adequately indicate how greatly this effect is augmented by the severely geometric layout of each lot, with its subordinate outbuildings, and unifying walks and fences. At Williamsburg, as at Jamestown earlier, transplanted English city-folk were anxious to create the comfortable impression of urbanity in Virginia's fields and woods.

So valuable is this first section of the book—and particularly Chapter V, explaining early construction methods which restoration has revealed—that the reader wishes Mr Whiffen had devoted more space to it before describing individual house structures. For example, he has left much unsaid about Williamsburg paint colors, about the scarcity of stained wood interiors in Virginia, and about the differences in roof pitch in Williamsburg and other colonial sites. Although he partly defines what is peculiarly Williamsburg's by contrast with English practices, he cites few other American localities. A somewhat wider view would have enriched the book.

"The Eighteenth Century Houses of Williamsburg" is a worthy contribution to the greater depth of knowledge of early American architecture. Colonial Williamsburg is to be congratulated on undertaking these studies at length, utilizing the wealth of knowledge amassed by such devoted Williamsburg architects of present and past as A. Edwin Kendrew, Singleton P. Moorehead, Paul Buchanan, Lawrence Kocher, Howard Dearstyne and Orin Bullock. The excellent illustrations are by Albert Koch.



## Town Design

**Frederick Gibberd, FRIBA.** New York, Praeger, 1960. 3rd ed. 316 pp illus. 8¾" x 11". \$15.00

Each of the four sections of this useful and handsome book: Design of the Complete Town—Central Areas—Industry—Housing—is followed by a series of case-studies which add greatly to exposition of the author's experience and theory.

Considerable care has been taken to key illustrations with appropriate text and to indicate angles-of-view when plans are supplemented by photographs. There are design lessons in each.

The author has interpretative ability for large and small-scale aspects of *town design*—note, not *town planning*. Town design in his definition takes over for esthetic expression after the sociology, economics and survey-work of data-collection and preliminary town planning. It is "concerned with everything we see in the urban picture." With such a definition, town design includes form, space and surface in all their complex relationships.

For a third edition, this book shows shocking carelessness about spelling of non-British names. Granted that some readers couldn't care less about absent *Umlaute*—why put in some and not all? The pioneer American compilation, "Civic Art," is always by "Hegemann and Petts." There is also one curiously confused attribution. The sculptor of the equestrian monument of Cosimo [di] Medici in Florence is given as Giovanni da Bolōgna but that of Grand Duke Ferdinand I is by Jean de Bologna. Of course they were by the same man—originally named Jean Bologne (Flemish—b. Douai 1524)—and the twin fountains grouped with the latter monument, in the Piazza Annunziata (sic twice—Annunziata elsewhere) are by his pupil, Pietro Tacca (not Jacca—although in the mind's eye we can see the swash capital letter which caused this confusion). The Foundling Hospital nearby was by Brunelleschi (not Brunellesco) and this fine square is surrounded by an arcade (not a colonnade). This is perhaps the worst collection of errors but after a while such carelessness begins to annoy the reader and makes him doubt the book's real values. This bad editing is a publisher's responsibility.

The only dates seem to be in some of the case-studies. They would help throughout. There is no bibliography. A few photos of major city replan-

ning models are ghastly in singlepoint floodlighting or flash but many of the 800-plus illustrations are excellent. The glossy paper is NG for use at the drafting board or reading, without carefully-angled light.

Mr Gibberd's experience is broad, however, and his examples range from significant small and great squares and details of European and a few American cities to his own crisp and urbane work in the British new towns and for British industry. He has a particular understanding and creative handling of the latter subject—the design of industrial areas. The author also has good things to say on the need for continuity of concern for the townscape—never finished but evolving toward a more complete idea for its time. This is a far cry from someone's wry definition of planning as "catching up with the inevitable" for the very reason that the objective is esthetic. E. P.



## Calibela—

THE MONOLITHIC CHURCHES OF ETHIOPIA

**Irmgard Bidder.** New York, Praeger, 1959. 138 pp illus. 8½" x 12". \$12.50

Hardly any foreigner realizes that already in the pre-Christian period and during the greatest epochs of Hellenism in the Near East, in the Byzantine era with its oriental influences, Ethiopia was culturally and economically far more developed than Northern Europe and America which was still undiscovered."

Ethiopia ("Habash" or "Habashé" throughout the orient) carried on extensive trade and cul-





tural relations from Mesopotamia to China, even in pre-Christian times. It was an island stronghold of Christianity, high in the mountain country, for two thousand years, all through the Moslem invasions, when all Egypt and Arabia fell, and the fugitives who fled into the interior of Ethiopia to escape the Moslems did not flee into bleak mountains but into a long-entrenched Christian country.

This absorbing book introduces us to what, to the Western reader, is a new architectural form: The monolithic, rock-cut church. It is distinctly different from Petra and Abu Simbel, which are facades carved on the face of a cliff for a temple hollowed out of the rock behind. These churches are completely free-standing buildings (if one can call them "buildings," for they were not really "built," they were carved), open on four sides, usually set in a pit so the roof is flush with the surrounding ground, sometimes gouged out of a slope so the front is in the open. Yet they were not built, they were carved out of living rock, hollowed out, with columns left for interior support. The technical feat alone is remarkable. There is sculptured decoration and there are murals and painted decorations, showing a Byzantine influence. Two of the churches were very clearly modeled after the Greek temple, for they are sur-

rounded by columns, with a vestige of a pediment at each end.

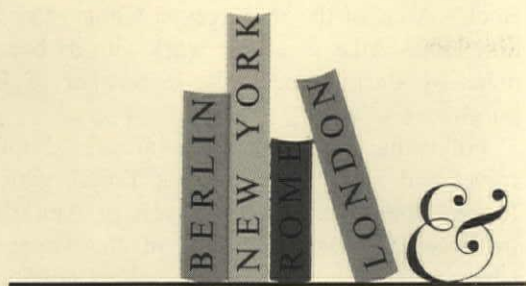
Lalibela, with its eleven such churches, was famous as a religious center a thousand years ago, as were Baalbek and Petra. But unlike them, which are deserted and in ruins, it still is today. These temples do not have to be excavated or restored, they are alive and in constant use. But they do need a more thorough and systematic study.

Mrs Bidder is the wife of the German Ambassador to Ethiopia, and her book is an excellent introduction to the subject. She briefly sketches in the historical background, and gives an interesting account of her journey deep into the interior of the country, over mountains 10,000 to 13,000 feet high, following muletracks which had been in use for two thousand years. She traveled in a long train of eighty mules and 150 people, led by the Provincial Governor and his wife with their retinue.

The book is handsome and well-made, with sixty-eight gravure plates, many color plates tipped in, and forty-eight drawings and plans. The only flaw in an otherwise beautiful book is that it was apparently proofread by a German, so such slips as "mosaik" got by.

J. W.





## *A Library on Cities*

The Adventures of a Book Collector With

a Very-Special Hobby. By CHARLES A. BLESSING, AIA, AIP

*The author is Director of City Planning of the City of Detroit and President of the American Institute of Planners*

**N**ihonga Hanashimas Sukoshi." (I speak a little Japanese.) Thus began one of the most unexpected and successful negotiations during thirty years of book-hunting ranging among the antiquarian book dealers in many cities in America and extending from Tokyo to Athens.

In talking with many book lovers within the profession and beyond it, I have been impressed by the fact that it is not only the ownership and enjoyment of books that is satisfying, but the quest itself that carries with it always something of adventure and unexpected pleasure.

The Japanese words above, which were typical of the limited vocabulary I acquired during seven months of naval military government indoctrination at Columbia University in 1944, proved to be the key which opened the door to one of the most interesting acquisitions I have made. My host and

book dealer for the moment was a seventy-five-year-old Japanese bronzesmith who had designed and cast some of the largest and finest temple bells in Japan, but whose failing eyesight had diverted him to the management of a small Japanese gift shop in a suburban village near Tokyo. On learning that I was in the market for neither pearls nor silk kimonos, the shopkeeper asked what then might I be interested in seeing. When I explained that I had been searching for six months in Tokyo for some of the old rice paper sketch books which used to be commonplace but which seem to have virtually disappeared from the bookshops during the war, he brightened up and brought in an apple box filled with perhaps thirty or forty beautiful and well-worn sketch books, including a number of architectural sketch books presenting the geometric basis for the traditional Japanese shrine and temple forms. Together we examined the sketch books one by one. Since he had been using the books for more than fifty years as source books for his designs for bells and temple bronzes, some he would not part with. Among my most prized books are the dozen-and-a-half handsome sketch books which he did part with, including several by the famous Japanese printmaker Hiroshige.

As a special favor, the old bronzesmith sold me



a lovely little figure of Buddha and in addition gave me a handsome plaster cast of a temple lion which he had designed years earlier.

Whether in Tokyo or Berlin or Athens, the quest for books has provided some of the greatest pleasures and satisfactions I have experienced. The collection, which I have never indexed or catalogued, might number some two thousand or more titles. Each of these volumes has a story to go with it and each, in its way, is a treasure to me, if not to book auctioneers of New York or London. The general range of titles includes subjects on architecture, archaeology, anthropology and history, philosophy, sculpture, painting and etching, among others. Most of all it centers on the idea of



cities around the world; ancient cities like Mohenjo, Daro in the Indus Valley, Pergamum, Ephesus, Macchu Picchu, as well as Athens and Rome, the present great capital cities such as Paris, London, Stockholm, Copenhagen and the newer cities ranging from Brazilia to Vallingby in Sweden, and Chandigarh in the Punjab.

Archaeological explorations in Egypt and the Middle East and South and Central America provide some of the most interesting background information on cities. A set of nearly thirty Baedeker guide books which lacks only the German language guide book on Constantinople and Turkey provides a wealth of information in ready reference form. With a reference collection of the variety indicated, the arrangement of the books in some logical order has represented quite a problem. I have a series of atlases and geographies assembled for ready use, including among others Herman Moll's 1720 Atlas of Asia and another of Europe. Humbolt's Atlas of the World, Smith's

Atlas of the Holy Land, a Russian language Atlas of the USSR, a Historical Atlas of Africa, and Buck's Atlas of the resources of China. The London Times Atlas is a basic work with its beautiful maps by Bartholomew, the mapmaker of Edinburgh.

Following the geographies are the books of travel and exploration such as Yules' edition of Marco Polo's travels, the travels of Annacharsis in Greece, several accounts of the voyages of Christopher Columbus and the volumes of Stevens' visits to Mayan cities of Central America and the personal accounts of some of the early German archaeologists in Greece and the Aegean Islands and Asia Minor.

Following the archaeologists comes a varied series of volumes on the cities of the world written in a wide variety of languages—Chinese, Russian, Hungarian, Swedish, German, French, Italian and Spanish, in addition to English. It is surprising how much a book well illustrated with photographs, sketches, maps and plans can convey, even if the written word cannot be understood. I have had to depend on English and a passing acquaintance with French backed up by four years of high school Latin. I am still hoping to gain a reading knowledge of German and Spanish.

To conclude an all too brief summary of the nature of the volumes, the more recent works on contemporary architects, on the famous architectural delineators such as Piranisi, Canaletto, Turner, Boys, Pennell and Goodhue, for a few examples, and the English and American etchers, round out the graphic descriptions of cities.

A more recent interest developed during the past five years or so has been an examination of the natural forms of the landscape in relation to the forms of the modern metropolis. The work of the earlier geologists and explorers contained in such volumes as Capt. Dutton's Atlas on the history of the Grand Canyon District, published by the United States Geological Survey in 1882, contains magnificent drawings and prints of the beautiful and varied landscape of the United States which is proving of interest and value in identifying a relationship between natural mountain forms and the forms of the skyscraper city.

In order to escape the indexing and cataloguing trap which has almost sprung, I should turn to a few of the interesting encounters with book dealers in different parts of this country and in Europe. It has been my practice to check quickly through the telephone yellow book in any city I visit to see what book stores are identified as antiquarian book dealers or as handlers of used, old



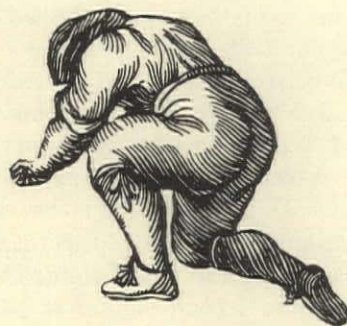
and rare volumes. Almost invariably a call or two will be enough to learn who the one or perhaps two best book dealers in the city might be. This is true in many of the cities in this country but is far from the situation in, for instance, London or Amsterdam or Paris. One is strictly on his own in such great centers of book collecting and can only hope to happen upon bookshops or dealers of unusual merit. My best index to book dealers is represented by an envelope filled with mailing stickers clipped from the packages of books received over the years. Such names as George Prackner of Vienna, Blackwells of Oxford, Hoepflis of Milan and Rome, bring back memories of acres of books and hours of pleasant browsing, and more important, most of the larger dealers faithfully continue to send generous catalogues periodically.

Suggestive of the names of some of the great book dealers in Europe and this country, I list the following without further comment: Konrad Wittwer, Buchhandlers, Stuttgart; F. B. Auffarth, Frankfurt; Bruno Hessling, Berlin; Ludwig Ey, Hanover; Wasmuth, Berlin; L. Werner, Munich; Libreria Rizzoli, Milano; Vincent Freal, Paris; Tulkens, Brussels; B. T. Batsford, London; Boyesen and Maasch, Hamburg; W. H. Laudermilk, Washington, D. C.; Central Book Store and Economy Book Store, Chicago; Shulte, Stechert Hafner, Weyhe, Wittenborne, Four Continents Book Corp., Argosy, all of New York City. While this suggestive list may not be meaningful without an acquaintance with the various stores, one can be certain of proceeding far toward the most enjoyable book tour of Europe with no more than those names mentioned.

Memories of most pleasant personal contact will highlight the pleasures of visiting some of these outstanding book shops. As an example, stopping in Brussels on a tour of thirteen countries in Europe, I went on a short walking tour of the center of the city and found on returning to my traveling companions in the hotel that I had missed a cocktail party as Ambassador Alger's guest at the American Embassy. When questioned concerning my absence, I explained limply that I had gone out for a little walk and, because of the maze of the streets, had become lost. One of the group who knew me better than the others looked directly at me and nodded, "Lost in a bookstore." I had, in fact, just enjoyed a most delightful first visit with a wonderful old gentleman by the name of Tulkens, Treasurer of the International Antiquarian Book Dealers Association. His home was his bookshop and he graciously showed me through

four floors of rare and beautiful volumes. In response to a question, he explained that he did have a complete set of the Blau Atlases. The price, bargain as it was, was \$1,500 which, of course, ended our conversation on Blau Atlases, but I was free to peruse at length these wonderful volumes. Being lost in that fashion is my idea of a good time well spent.

In a similar manner, while on my first walking tour in the heart of Vienna, I noted the particular richness of the collection of architectural books, old and new, in the window of George Prachner. I walked in and found no one who could speak English. Even so, I succeeded to a degree of explaining my interest and was shown the day book



of Mr Prachner. Examining only a few pages my attention was called to the names of some of the greatest architects; F. L. Wright, Walter Gropius, Richard Neutra, van der Rohe, and many others. I tried to explain that my interest was in securing a comprehensive historic atlas of the plans of Vienna beginning at perhaps the twelfth century. I failed to communicate and with some disappointment returned to my hotel. At dinner I was seated, fortunately, with a pleasant and valuable Parisian grandmother who spoke equally fluent French, German, Italian and English and found herself repeatedly shifting gears from one to the other in rapid succession. When I explained my problem at Prachner's to her, she volunteered with enthusiasm to accompany me the next morning and to serve as my interpreter. With her assistance Prachner turned up a wonderfully comprehensive portfolio of all of the significant maps going back to about 1490 and tracing the evolution of Vienna up to the twentieth century and another even finer



portfolio of lithographic views of Vienna through the ages. These views in full color were described as among the hardest to find documentation existing on Vienna anywhere today. After some hesitation, I agreed with them that I could not afford to leave the store without the two portfolios.

Fortunately in West Berlin I was directed early in my stay to Wasmuth Buchhandler and Antiquariat. Wasmuth's is on a par with George Prachner as one of the outstanding European book dealers in the field of architecture, city planning and the allied arts. I inquired at Wasmuth's store for the names of old and rare book dealers and was directed about two blocks down the street to Bruno Hessling's. I would find it at the entrance adjacent to the milk depot. Arriving at the milk depot I could see no sign or indication that a book dealer might be in the vicinity. On inquiring in the milk depot I was advised simply to enter the archway next door, go up the stairs to the second floor, and ring the doorbell. On doing so I was greeted pleasantly in perfect English and invited to enter.

After I had selected several interesting volumes, among which was an amazing two-volume set on historic masterpieces of architecture which were never built, the dealer, noting my interest and willingness as a customer, asked if perhaps I was acquainted with the rare old volume, Munster's *Kosmography*, the second edition of which was published in 1550 and which provides one of the earliest comprehensive collections of graphic materials, plans and views on the great and lesser cities known to the German compilers at the time of the first edition in 1491. The dealer proudly turned to a page marked with a small slip of paper and explained that here on this page was one of the earliest accurate notations on Columbus' first voyage to America and what he found on that voyage. It was a beautiful large volume in the original leather binding about four inches thick and with several hundred engraved views in fine condition. On inquiring the price I was told that it was precisely the amount that I had set aside for the purchase of a good German camera. I concluded with some reluctance that I might be back again some day to pick up the camera but was assured by being shown the comprehensive book auction summary indicating that during the previous several years only three or four copies had changed hands in all of Europe that his asking price was considerably less than the recorded prices in the auctions at Basle, Paris and Amsterdam. I came away with Munster's *Kosmography* and am still using the camera which I have carried since 1940. I believe that Munster has meant as

much to me as any book I have obtained during my varied book collecting experiences.

Another volume which ranges along with Munster is the *Topographia Bohemia Moraviae et Selesiae* compiled and published by Matthias Merian. I did not have to travel so far for this volume but was indeed fortunate to obtain it from a friend who had purchased it in 1930 in Moscow from a Russian aristocrat who had been charged with the administration and disposal of books taken over by the state at that time. This is a more beautiful volume than Munster's *Kosmography* and every print is a masterpiece of its kind. I have seen individual prints for as much as \$50.00 to \$75.00 and was, of course, delighted to find the entire volume of several hundred prints at hardly more than that price. While one can enjoy looking at the rarest of volumes, the justification for owning them must be in terms of relative cost and utility. I am entirely satisfied that the knowledge that I have gained from the Merian volume over the past several years has well justified the investment in it.

A somewhat similar experience to that at Hessling's in Berlin relates to the discovery at a popular Harvard Square book dealer in Cambridge of the classic by Ericus Dalberg on the cities of Sweden, published in 1720. While I was examining this beautiful volume of several hundred prints of Swedish cities, castles and related subjects, the dealer excused himself and returned in about twenty minutes stating that the Widner Library at Harvard had a copy of the volume for which they had paid around \$400. I thanked him for the information and explained that I should leave now for a little browsing over at Goodspeed's on Beacon Hill in Boston. The unexpected conclusion to this story was that the dealer prevailed upon me to listen in on an extension telephone while he inquired of the owner whether a certain very modest price would be considered a fair price for the volume which had just come in that morning. I heard, with some amazement the very pleasant voice of a lady whose husband had been professor of Scandinavian languages at one of the great universities agree with the book dealer that his suggested price would be more than satisfactory to her although her professor husband had indicated to her that this was the finest volume in a library of several thousand. I felt almost guilty, but walked out with the Dalberg and have found it to be of great practical value in studying the evolution of the cities of Sweden.

I did get over to Goodspeed's and was pleased to find an extraordinary atlas which depicted a



total evolution of the City of Paris from the late 1700's until 1890. There were some twenty beautiful maps in the series which showed a step-by-step development of Paris at ten-year intervals covering the work of Hausmann—the great boulevard developments that have contributed so much to the scene of Paris. In looking at the pages in the front of the atlas I was all the more surprised to find the handsome bookmark of Henry Cabot Lodge, Sr. I was puzzled to know how the volume could have come into the hands of the book dealer and was told that it was one of a number of volumes which had been involved in the settlement of the estate. As the price was most reasonable, I bought the atlas and have found it was of practical value in explaining the problems of urban redevelopment which the experience of Paris provided, a limited guide in that the work of Hausmann was a work of boulevard-building rather than total urban reconstruction.

One of the most recent experiences, but gratifying from my point of view, was the discovery at a book dealers in Chicago during the past few weeks, of a beautifully detailed graphic history of the evolution of the campus of Cambridge University. It seems that this four-volume set had graced the shelves of a prominent university club in a large mid-western city. As eventually happens to all libraries, recent accessions perhaps, of the popular book club variety had so increased the demand for shelf space that the history section had to be sacrificed. The club's misfortune was my good fortune and for only \$2.50 a volume I acquired what I could safely assume is one of the finest graphic histories of the development of a great university. This has both practical value and interest in connection with evolving plans for the further expansion of the Cultural Center area and the Wayne University campus in Detroit.

One observation which I might make is that book dealers, as a race, are a most upright and honorable class of people. How true this is has been brought home to me on many occasions. One instance which illustrates the point is that after tentatively questioning whether a book dealer might consider lowering the price on a volume of Herman Moll's 1720 Atlas of Asia, the dealer explained clearly and politely that he was not at all interested in bargaining. When somewhat later I had decided to acquire the volume at his price, which was a fair one, I was quite amazed when without hesitation he said, "Now I am going to give you a little gift," which was a beautiful original line drawing, hand-colored by a famous artist, which itself might readily represent the value of

the book he had just sold me. Again my regard for the generosity and humanity of book dealers was heightened.

One is tempted in a review of this sort to touch upon all of the incidents that seem to stand out. I must conclude this informational journey with a comment or two on what to me are the significant justifications for the collection and enjoyment of books. I have been increasingly convinced, during the past three decades which I have sketched above, that the greatest need in America today is not necessarily for perception in technical aspects of architecture and city planning, but something which may well lie in a rather different direction. One must, of course, recognize that the need for many more planners and architects of unquestioned competence in technical matters is increasing with every passing year. These experts, it seems to me, will somehow be provided. It is in the area of the philosophic inquiry into the nature of form and space—of the total image of the city—that I believe much of the leadership so necessary for guiding the future growth of cities must be encouraged. How better than through books and historic depictions of cities throughout the world and over the past 6,000 years can one comprehend adequately the richness of the past? While ideally one would prefer to visit personally 500 or more of the great cities of all times, that avenue remains open to only a few. The alternative, it seems to me, is to obtain by study and research a reasonable facsimile of the image that might be provided by personal visits through the study of all available documents on these great examples. While no one would urge the blind copying of specific designs whether of cities or buildings, one must be free to observe something of the richness of the image of cities everywhere and apply this knowledge to an entirely changed set of circumstances brought about in comparatively recent years by the automobile, automation, air transportation, nuclear power and related technological developments. If one by chance can look forward to the good fortune of visiting personally the great cities of all five continents, then the homework done with volumes of the kinds suggested above should provide an invaluable perspective from which to gain more fully from the actual first-hand examination of the architectural and urban design developments throughout the world.

In conclusion, it has been my observation that the book habit is a most compelling one, which seems to command the interest of the varied professionals who have the greatest perspective and vision of the roles which await them in the future.



## Five California Architects

Esther McCoy. New York, Reinhold, 1960. 200 pp illus. 8½" x 10¾". \$10.00

This book, one of the best examples of book-making Reinhold has published (and on a beautiful, restful matte paper), has an important lesson for American architects in its treatment of five\* who pioneered in an American region and, in a deeper sense, in an approach to our architecture.

These five may be considered a second, esthetically-emergent frontier generation if we can do violence to simple chronology and the sensibilities of our historians by starting with Richardson-Sullivan-Wright as a group. Granted that this is a different way of cutting the deck than the usual "time-bound" shuffle (should we call it *geomorphological*), it is helpful in this case because these three myth-enviored giants influenced the five in many ways. Of course there were other influences—California-Spanish, oriental, Art Nouveau, Cubism, Neue Sachlichkeit—hardly provincial these five although little actual travel is reported for Gill and the brothers Greene.

All of them were non-copying, thought-taking architects—all of them had a perceptive and innate sense of structure based on personal knowledge of construction, the nature of materials and a talent for assembly. Each was a structural pioneer and an innovator of intelligent detail. Each had his similar but individual delight in texture, form and proportion which comes through strongly in his architecture.

Mrs McCoy deserves high praise for her own discernment of these qualities which bind together and yet set apart these five who really had little effect on each other.

Several of us in a group talked with that wonderful old romantic Maybeck a year or so before he went. He told us, after an inspiring exhibition of vigorous architectural criticism, that he would like to dynamite one building on the Berkeley campus (not his own), and he was right. He expressed a pleasant faith in the permanence of his "Palace." I hope there are balsa, plastic and soft sheet copper in Heaven for more of his experiments in structure and form. At ninety-three he was still making study models in his workshop—crazy enough to be correct, as Nils Bohr said of a fellow nuclear physicist.

Gill had a refined simplicity, overwhelmed by the transplanted eclectic hispanic, like some aus-

tere northern wildflower found in a jungle of Spanish moss and creepers. The Mediterranean cubic was most appropriate and with it and Gill's constructional innovations (tilt-slab, etc) an esthetic architecture was within reach of the modest budgets of most of his clients. The Churrigurgitation which followed was hardly a suitable end to such purity and, in a retrospective opinion, brings such unlikely bedfellows as Elmer Grey, B. G. Goodhue and Hollywood together in a scandalous *ménage à trois*.

As one who remembers the dark, angular weight of "mission" interiors and furniture that once loaded our buildings, it is always a pleasant reversal to come back to the lovely originals—the sensitive surfaces, form and line of Greene and Greene interiors. A brief, significant quote is enough for now: ". . . We didn't need to have inspections. A craftsman's work was his reputation."

While it is clear that this was an oversimplification, it is also evident that the Greenes had at their disposal what our time lacks—an honest and proud craftsmanship—which can never be overpaid. It was no doubt underpaid and thereby more available. There are differing compensations for the baker's dozen. Add definitions: A craftsman is one who does more than he is paid for.

It is good to have Schindler added to these earlier men. In spite of a touch of the theatrical and a little brutality in some exteriors, he was sincerely concerned with interior space—as space design—and its relation to site and view. Much of Greene and Greene also now seems sticky outdoors.

An instinctive engineer, Schindler's work, with its own rhythm (mostly a hidden four-foot grid) is more nearly organic in relationships, not obviously tied to superficialities of structure. His original concepts in preliminary design were strong in organic functionalism. This was refined in his practice by personal and literal cut-and-try in the field. His enlightened comment that the metric system is for engineers, surprising from a European, foreshadowed Le Corbusier's concern for human scale (*Modulor*).

There is an age-old tradition of painful birth, and the accomplishments of these men were almost always against odds. They were strong swimmers upstream showing that the current could be mastered, and awakening public acceptance of architectural values. By their nature they were individuals, unwilling to build organizations in which design would get out of their control. It is sad that this, like most forms of prophecy, is without honor until too late for rest.

E. P.

\* Maybeck—Gill—Greene and Greene—Schindler



# Arts of the United States

A PICTORIAL SURVEY

**William H. Pierson, Jr and Martha Davidson,** Editors. New York, McGraw-Hill Book Company, Inc, 1960. 416 pp illus. 8½" x 11". \$9.75

**Reviewed by William Carrington Guy** for the *AIA Journal*. Mr Guy is Senior Editor of *Cosmopolitan Magazine*

Based on a collection of color slides assembled by the University of Georgia under a grant by the Carnegie Corporation of New York, this ambitious volume undertakes a comprehensive catalogue of the American artistic heritage. That it does not entirely succeed in doing just that is understandable. Topics considered in eighteen essays by leading US art historians and critics include architecture, city planning, design and decorative arts, costume design, graphic arts, Indian arts and artifacts, painting, photography, sculpture, stage design and visual communications. And if the reader is not entirely bedazzled by this wealth of commentary and opinion, he can leisurely glance through some 4,000 photographs.

These black-and-white photographs represent color slides made by a special team of photographers visiting major museums, private collections and important monuments. As a pictorial aid to understanding our arts from the seventeenth to the twentieth centuries, they are quite impressive. Photography techniques employed here are of a high professional order, and the quality of reproduction is excellent. The color slides, I am informed by the publishers, are available upon application to Sandak, Inc, 39 West 53rd Street, New York, N.Y. This service should be of real value to architects, artists, teachers and students of the arts.

In compiling this pictorial material, it seems unfortunate that the editors have selected most of their material from sources located east of the Mississippi River. There are certainly fine museums, institutions and monuments "out there," too. One also wonders why the editors did not see fit to tap the resources of so many excellent private collections here in America. That would have been a real research project! Another shortcoming in this volume is the absence of a bibliography. This would still seem to be a requisite for a "workable" book.

One of the best essays included is Hugh Mor-

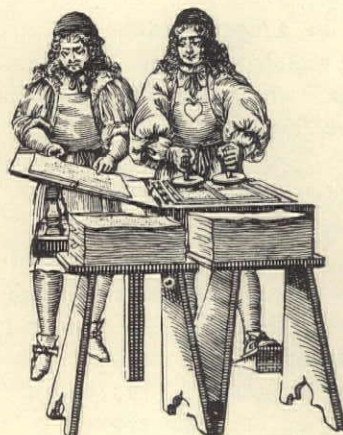
risson's evaluation and brilliant summary of the architecture of the Federal Period. Professor Morrison, however, might well have made some mention of the eminent contributions of Mr and Mrs Fiske Kimball here.

Vincent Scully in his remarks on the twentieth century might have discussed more fully American constructural ideas and achievements, including such recent gems as the lift-slab method.

Lucy Barton's essay on costume design is a noteworthy contribution to the volume.

Carl Zigrosser, in two fine essays on the graphic arts, gives an excellent study of that subject—one that seems especially worthwhile reading for anyone even remotely interested in the field. Bodmer is presented in a good light. This seems long overdue. Whistler, too, is given an honest and solid evaluation.

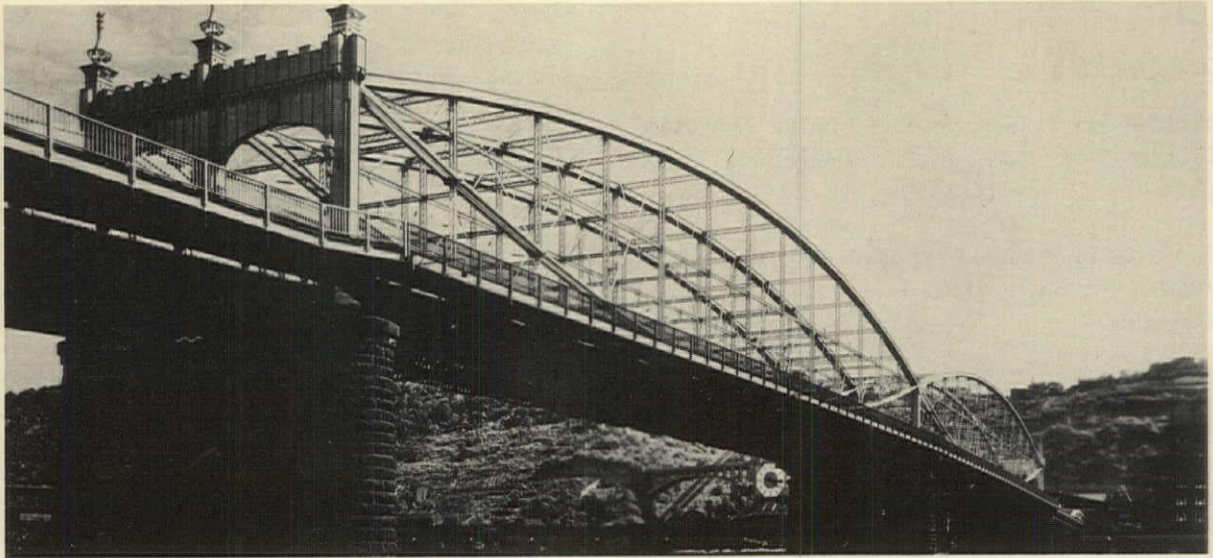
E. P. Richardson's thoughts on the Federal period and nineteenth century painting make another delightful study. It's refreshing to read someone who doesn't get overly-excited about all those Peaceable Kingdoms so leniently distributed by Mr Hicks.



To this reviewer, however, G. Hayden Huntley's section on Design and Decorative Arts of the nineteenth century seems one of the most rewarding and best organized in the book. His approach in it is both startling and unique. For instance, do you know of anyone else who has drawn a relationship between diaper patterns and the work of Paul Gauguin?

Frederick J. Dockstader's account of Indian Arts and Artifacts is fascinating but seems lacking in space allotted for it. On the other hand, this is not surprising considering the range and magnitude of the endeavor of this volume.





Smithfield Street Bridge in Pittsburgh, 1884. Gustav Lindenthal, engineer

## American Building Art

THE NINETEENTH CENTURY

**Carl W. Condit.** New York, Oxford University Press, 1960. 371 pp illus. 9½" x 7½". \$12.50

**Reviewed by Clay Lancaster,** architectural historian and writer, author of "Architectural Follies in America," which is reviewed elsewhere in this issue of the *Journal*.

Carl W. Condit, Professor of English and the Humanities at Northwestern University, specializing in History of Science, and author of "The Rise of the Skyscraper" (1952), here presents a book giving a systematic account of engineering achievements in the United States during the nineteenth century, the era which saw "the transformation of building from an empirical and pragmatic art to an exact science" (p 3). Mr Condit touches only scantily upon developments of the seventeenth and eighteenth centuries, "because building techniques showed little range and diversity compared to the immense radiation that occurred in the nineteenth" (p vii), and the earlier period is, he believes, handled adequately in other published works. It is the author's intention to continue the historical account of construction in twentieth-century America into a forthcoming second volume.

About one-third of "American Building Art" is devoted to buildings per se, including the first two

chapters on wood and iron framing, the seventh chapter dealing with the railway trainshed, two out of five sections of the eighth chapter treating concrete construction, and the short concluding chapter entitled "An Architectural Appraisal." The bulk of the book concentrates on bridge-building, with the last section of Chapter Eight having to do with masonry and concrete dams. The emphasis is upon the evolution of structural forms, and in this regard the book makes a worthy contribution to the accumulation of existing sources as one of the most complete accounts available to date.

By way of introduction, Mr Condit calls attention to the fact that early building in the American colonies — subsequent to the first primitive shelters — was based upon methods employed during the late Middle Ages in Europe. He points out that: "One can trace an unbroken line from medieval framing, through the New England braced frame and trussed roof, to the iron framing of the mid-nineteenth century. And the same is true of bridge construction, where the line extends from the medieval wooden truss to the long-span steel truss of the modern railroad." (p 10). A review of Dutch, Scandinavian, French and English colonial methods of wooden house framing leads to a discussion of the large-scale timber textile mill of New England, prevalent during the first half of the nineteenth century, followed by the origin (in Chicago, around 1833) and significance of the balloon frame, which made possible prefabricated structures during and after the Civil War period.

In the United States the substitution of iron for wood as a construction material was prompted initially by the need for fireproofing, and later as



a means of admitting more light, through eliminating solid weight-bearing walls. The first use of iron interior columns was in William Strickland's Chesnut Street Theatre in Philadelphia, built in 1820-22 and demolished in 1856. The system did not show much promise of acceptance until the mid eighteen-thirties, and acquired popularity only after the establishment of the Daniel Badger and James Bogardus architectural iron works during the eighteen-forties. The products of these two foundries, and others, overspread lower Manhattan and led to the metamorphosis of the New York skyscraper, which had its beginning in the five-storied Equitable Life Assurance Company Building at 120 Broadway (1868-70), and in 1898 could claim among its notables the thirty-storied Park Row, the highest building in the world at that time. The tall building in Chicago constitutes a separate story, characterized by the use of complete internal framing, anticipated in William Le Baron Jenney's Leiter Building (1879), and fully realized in the same architect's Home Insurance Building (1884-85). Towards the close of the century Chicago builders enjoyed less technical restraint than those of New York. The second chapter is wound up with a section on iron-framed construction in other cities, such as the Thomas U. Walter dome of the Capitol in Washington (1855), the John P. Gaynor Palace Hotel in San Francisco (1874-75), and the Clarke and Reeves proposal for a thousand-foot tower for the Centennial Exposition at Philadelphia (1876), not executed.

In Chapter Three a detailed analysis of "The Wooden Bridge Truss" is traced from the end of the eighteenth century onward, each innovation illustrated with diagrams often reproducing the various inventors' patent drawings. The earliest wooden bridges in America of any size were derived from Palladio's arched truss. In 1820 the architect Ithiel Town patented a straightforward lattice truss, which was improved upon by others, notably William Howe (an uncle of Elias Howe, inventor of the sewing machine) twenty years later. Ideally suited for horse-drawn vehicles, many wooden truss bridges also were built for railroads, but of course metal proved a much safer material for supporting the tracks of fiery locomotives and their strings of cars. "It was the railroad that made the nineteenth century the age of iron." (p 103).

"The first man to build an iron railroad bridge in the United States was Richard Osborne of Philadelphia, who constructed a small one for the Philadelphia and Reading at Manayunk, Pennsylvania, in 1845. The bridge spanned thirty-four feet

and consisted of three parallel Howe trusses, located at the sides and the center to carry a double-track line." (p 105). The first plate-girder bridge was that of James Milholland for the Baltimore and Susquehanna Railroad at Bolton Station, Maryland, 1846-47. An interesting sidelight is that shortly after 1850 the officials of the New York and Erie Railroad judged iron bridges untrustworthy, and "They not only called a halt to all plans for future construction in the material, but ordered that all existing structures be replaced with wooden spans." (p 107). Notwithstanding several disasters that seemed to justify the Erie decision, designers of iron trusses forged ahead, creating variants that proved to be satisfactory throughout a respectable life span. Unusually wide requirements prompted the use of the cantilever bridge that reached maturity during the 1870's, and attained dramatic proportions — such as the railroad bridges across the Mississippi at Memphis (1888-92) and over the Pecos River at Comstock, Texas (1891-92) — during the next two decades.



N. Y. Public Library

*The trainshed of Grand Central Terminal in New York City, 1869-71. John B. Snook, architect; Issac C. Buckhout, engineer*

The suspension bridge, traceable back to the pre-Christian era in China, appeared at the beginning of the nineteenth century in America. James Finley constructed the first over Jacob's Creek at Uniontown, Pennsylvania, in 1801, its seventy-foot span sustained by cables and suspenders that were wrought iron chains. Finley later more than tripled the length of this bridge in other projects. Chains became obsolete with the introduction of wire-rope cables, first used in a 400-foot passerelle over the Schuylkill River in 1816.

The titan of nineteenth-century bridge building was John Roebling, who came to America in 1831, and, after working on canals and aqueducts, entered the field in which he became famous in 1845. He was responsible for the world's first railroad suspension bridge, which was over the Niagara River (1851-55), actually a double-deck affair



providing passage for vehicles and pedestrians underneath the railroad tracks. Working on another bridge at Pittsburgh (1857-60) John Roebling was joined by his twenty-one year old son, Washington Roebling. In 1867 he assumed the stupendous responsibility of erecting a bridge over the East River in New York, resulting in the celebrated Brooklyn Bridge, work on which was directed by Washington Roebling after his father's death resulting from an accident in 1869. The Brooklyn Bridge has been in constant service since its completion in 1883.

Chapter Seven, "The Railway Trainshed," virtually parallels the American material in Carroll Meeks' "The Railroad Station" (1956), though with different pictures of many of the same monuments, and analyses of several mid-nineteenth century mid-western depots overlooked in the earlier book.

"Concrete Construction," the subject of Chapter Eight, was initially utilized in the area of the United States by the Spanish builders of the Castillo de San Marcos, St. Augustine, Florida (1672 and later), where the flooring was composed of oyster lime, sand and shell aggregate, finished with linseed oil. During the first quarter of the nineteenth century natural hydraulic cement was discovered in New York state, and here, as a consequence, monolithic houses began to come into being during the eighteen-thirties. The structural system was enthusiastically advocated by Orson S. Fowler in his book, "A Home for All, or, The Gravel Wall and Octagon Mode of Building," first printed in 1848. The statement that Fowler defended the eight-sided plan "on the ground that it was phrenologically sound" (p 226) hardly does justice to Fowler's logical, practical and economically sound arguments. Precast blocks were widely acceptable throughout the two decades after 1860. In 1871 David O. Saylor was granted a patent for the manufacture of artificial Portland cement, working in Coplay, Pennsylvania.

"The first patent for a reinforced concrete wall was granted to S. T. Fowler in 1860. The reinforcing consisted of a grillage of horizontal and vertical timbers bolted together" (p 232). However, the impetus for reinforced concrete construction in the United States seems to have come from the Paris Exposition of 1867. One of the boldest of early milestones was the William E. Ward house at Port Chester, New York (1871-76), in which exterior walls, interior partitioning, floors, staircases and even the roof were of homogeneous artificial stone. The residence remained an isolated phenomenon for fifteen years, when various public

and commercial buildings began to be constructed in a similar manner.

The stone arch, already brought to a high stage of development when adopted by the Romans of antiquity, the only means of constructing permanent bridges known to medieval builders, achieved little distinction in America prior to the Revolution. The first masonry bridge arch of heroic proportions here came into being to carry a railroad, the Carrollton Viaduct at Baltimore (1829), its void having a 100-foot diameter, four times that of previously built vehicular bridges in this country.

Substituting reinforced concrete for stonework arches in America was based upon borrowings from French and Swiss engineers. It had a modest beginning in a bridge carrying one road over another in Golden Gate Park, San Francisco, dating from 1889. The noteworthy work in this idiom was that of the German-born engineer, Fritz von Emperger, whose graceful, clean-cut forms—such as the pedestrian bridge over the Housatonic River at Stockbridge, Massachusetts (1895)—were prophetic of twentieth-century designs.

The final chapter, "An Architectural Appraisal," relates rather loosely to the eight preceding chapters, being a modification of an article by the author published in the *Bucknell Review* containing many tangential thoughts. Its role as a summary is stated in two sentences: "The history of structural techniques in the nineteenth century corresponded with the progress of theoretical and applied science." And: "It is in the design of buildings beyond utility and function, however, that the structural art responded most fully to the numerous and often contradictory currents of the century" (p 267). One would have gathered from the tone of the book up to this point that beauty was no consideration of nineteenth-century American builders, and it is gratifying to find, near the end, the declaration that: "The combination of structural integrity and its esthetic expression was the deliberate and announced intention of the great engineers of the last third of the century, men like Roebling, Eads, Wilson, Pegram and Morison. In their work and their writings the doctrine was steadily elaborated" (p 271).

Appendices include sixty-nine pages of notes, specifically numbered in relation to the main text, geared more towards definitions, explanations, elaborations and cross references in the same book than to bibliographic citations elsewhere, found normally in a work of this kind. It is followed by a five-page book list arranged by chapters, and a general list of periodicals.



## Planning America's School Buildings

**AASA School-building Commission.** Washington, American Association of School Administrators, 1960. 229 pp illus. 8½" x 11". \$6.00

A five-man team (two architects, three educators) worked two years on this book which, with few reservations, is possibly the most important and authoritative document yet produced on the background and procedures of planning the better examples of school building in the United States. Some of the problems of authority, responsibility and relationship of the parties concerned are put on the line in quite forthright and objective terms.

Brief historical and (frightening) statistical data offer a good foundation for what follows in sections devoted to needs and programming, the place of beauty in school buildings, the planning process, educational specifications, mechanical features and flexibility, the site, financing, costs, rehabilitation, maintenance and operation.

There are long passages worth quotation. The architect's place in all this for the most part is extremely well stated. (Both architects on the Commission have been valued members of the AIA national Committee on School Buildings and the educators are a top drawer selection as well.)

One excellent passage, headed "If . . ." will help you savor the quality and value of this book for the architect:

"If the educational program never changed; if the culture were static and scientists had ceased probing into the unknown; if the inventors had gone on a long holiday and discoveries and innovations were at a standstill; if population mobility had ceased and the birth rate had become a constant factor; if community life always remained the same; if towns and cities were all alike; if there were no differences in school sites; if no new jobs were being created; if no new educational needs were emerging and the specific purposes of the school were rigidly defined; if the researchers had concluded that all the answers to the problems of teaching and learning had been found; if there were no more content to be added to the curriculum; if the producers of instructional materials and equipment had ceased to experiment and had settled down to producing a standard

product; if people were entirely content with present accomplishments; if the dynamic forces of society had all been securely grounded and had ceased to function, then school-building planning would be a simple matter. Stock plans and standard classrooms would be the answer to the school districts' needs for building space. But such is not the case, nor is it likely to be."

The book is well-illustrated and well-made, with a few skips in proofreading, but there are a few skips in thinking about education that keep bothering this reviewer. There seems a fear of going too fast in some directions (must wait for child's "readiness") at the same time that the strong drink of "democracy" (there's a loaded word) must be forced on all, ready or no, creative individual or dullard.

It is stated that "We know better now. Learning should often be hard work for children . . ." but on the same page "These important goals of education must be reached in a free society— not in a society in which the individual is subservient to an authoritarian force or ideology . . ." Agreed—we might prefer more, a society in which a true free economy obtains—and should the competition of intelligence be subordinated by democratic, automatic promotions?

The principal objective of the school program is herein stated to be ". . . developing basic concepts, attitudes, understandings and values, as well as knowledge and skills . . ." At the highschool level we are told that after vocational choice ". . . next in order of student concern are development of social abilities, relationships with the opposite sex, health problems, philosophy of life, problems pertaining to money and personal possessions, and problems concerning the achievement of independence . . ." Is it a completely historic concept now that parents, the home, religious convictions and instruction, and relationships of all kinds with the rest of our social (and physical) environment have nothing to do with these desiderata? The schools do all in this book's educational philosophy—sicklied o'er with the pale cast of democracy and the deformations of conformity.

The one statement of this sort that seems most objectionable is under "needs": "Because the high-school student has not yet achieved emotional independence, there is need for an emotional home base with some teacher or other staff member skilled in guidance."

Bunk! Which highschool student? This sort of sentimental, pseudo-psychiatry takes the place of a truer need—for a justified respect for a teacher's mastery of his subject and the most salutary re-



action of all—that which comes from the inspiration of good teaching!

With those tensions eased (and these matters are reflected in school facilities), it is refreshing to turn to other parts of this book: “. . . physical design of high quality and creative expression are rarely achieved through committee action. A careful analysis of the better schoolhouses of the past decade shows that best results come from carefully fixed individual responsibility and authority . . .”

Again, and we recognize here the touch of one of the top state education department men—and why he is: “If the division of school-plant planning in the state department of education becomes primarily regulatory in nature, it will be regarded as a master agency of red tape as far as planning in the local district is concerned . . .” The passage goes on to commend a *leadership* function in the state department.

We regret that two overloaded architect-selection questionnaires (someone’s pets) were reprinted in full and the brief AIA-National Council form, which has been so successful and in such

demand since 1955 because of its simplicity, was relegated to mention in a footnote. This short, free form (AIA Document B-431) took several years in development by subcommittees of the AIA Committee on School Buildings and opposite numbers in the National Council on Schoolhouse Construction (educators). The Octagon has reprinted it several times as an AIA Document with a total print-order of 5000 copies in addition to its reprint edition of some 7000 as a *School Plant Study*. It originally appeared in the *AIA Bulletin* (11,000 copies). All of this publication was in addition to distribution by the National Council.

There is, finally, in this book one of the best treatments of the hot subject of change-orders we have seen. The Institute might do well, however, to do more in this direction to educate the construction public generally on the simple normality of change-orders in large projects. There should be no stigma attached to these almost inevitable facts of complex jobs. Understanding this normality is part of understanding what an architect does and must do to assure satisfactory work. E. P.



## Architectural Follies in America

Clay Lancaster. Rutland, Vt., Charles E. Tuttle Co., 1960. 244 pp illus. 7½" x 10½". \$10.00

The word “folly,” as the author explains, has not always had the meaning we now give it. Probably the term came from the French, *folie*, which then carried the meaning of “delight” or “favorite abode.” The term came to be more closely associated with garden structures, of which eighteenth century England built rather profusely. In our country and time the word has come to mean a building in bad taste, or one that, in its unfinished state, probably over-strained the owner’s finances.

The title is one of strong appeal: One anticipates the sight of many amusing examples of the sort of building that stops one along the road, offering a glimpse of an amusing or even offensive deviation from the normal. The anticipation is

not immediately satisfied. Instead, the reader is led through some forty pages in which the Tower of Babel, the European Palaces of Yüan Ming Yüan, the castles of Ludwig II and other distractions postpone the relevance of the “in America” part of the book’s title.

It would seem that there must be an ample supply of follies to display, yet one meets among the motley examples Thomas Jefferson’s Poplar Forest, Porto’s San Francisco bank of the eighteen-fifties, the mention of Disneyland, and of Hearst’s San Simeon. While undoubtedly differing from the norm, these are not follies in the commonly understood meaning of the word.

Mr. Lancaster’s line drawings are so much better than his color illustrations that one could wish he had given us more of the former instead of depending on word descriptions. More floor plans would have been welcomed.

The author has evidently done so much research on the subject that one could hope he might follow the present volume with a picture-and-caption book that would give us more variety of follies in the United States.

HENRY H. SAYLOR, FAIA



## American Art Museums and Galleries

**Eloise Spaeth.** New York, Harper & Brothers, 1960. 288 pp 150 illus. 5½" x 8¼". \$5.95

**Reviewed by Lamont Moore** for the *AIA Journal*. Mr Moore is former Director of Education at the National Gallery of Art in Washington and subsequently Director of the Yale University Art Gallery. Mr Moore is the author of "The First Book of Paintings," which is reviewed elsewhere in this issue.

**F**or the past two decades, Eloise Spaeth has been accumulating material for this most lively introduction to museums and galleries of the United States. She has done so with enormous energy, a perceptive eye and a light touch. At Dayton, Ohio, she guided the Art Institute's contemporary section. In New York, she has been closely associated with the American Federation of Arts, helping its lending service to send contemporary and classical art from city to province. Mrs Spaeth has also directed the Friends of the Whitney Art Museum, championed The College Art Association and found time, in between collecting art and raising a family, to contribute articles to magazines.

As she indicates in her foreword, this book is directed toward the growing numbers of people who are becoming aware of art and who, as tourists in this mobile nation of ours, might benefit from a short introduction to "what to see." She is also interested in tenderfoot collectors of art. These she leads firmly and gently through museum doors, not only to see what is on display but to talk with museum directors. She also introduces her charges to the owners of galleries where works of art await the collector's choice.

To bolster courage by good example, she recounts amusing stories of benefactors and collectors. She tells of a Mr Sumner of Hartford, Conn., who rode in a purple Rolls Royce, and was never known to have bought a painting or to have visited a museum. He endowed the Wadsworth Atheneum with funds to purchase paintings. J. C. Butler, Jr, of Youngstown, Ohio, was on a train headed for New York when he received the news that his house and art collection had been destroyed by fire. Within twenty-four hours Mr Butler was making plans with McKim, Mead and

White to build a fireproof museum, the Butler Institute of American Art.

The body of the book, that section devoted to museums, quite naturally takes up most of the author's attention and skill at compression. Good judgement led her to exclude (except for the briefest note) the "Big Seven" museums of the country: The National Gallery of Art in Washington; The Art Institute of Chicago; the Museum of Fine Arts, Boston; the Brooklyn Museum; The Metropolitan Museum of Art, New York; the Cleveland Museum of Art; and the Philadelphia Museum of Art.

Of the sixty-seven museums included in detail, she describes the history leading to the establishment of each, something of the growth of its collections, and lists outstanding works of art, some of which are illustrated. One often senses the selection is determined as much by her own personal preference as by a list supplied to her. She projects to the reader the personalities of directors and benefactors and sketches in the physical atmosphere and unique qualities of each museum—no mean feat in a small space. The selections she has made lead one to believe that she has excerpted her diary of sprightly impressions. She is most successful in suggesting the vitality and liveliness of the museum world. This part of the book is a most desirable addition to others in the same field.

As far as I know, the section on galleries is a pioneer venture. The galleries of ten cities are treated separately and here again a succinct statement, "Things to know about galleries," precedes the listing. She makes it clear that gallery owners are not wolves in sheep's clothing just as museum



personnel are not tin gods on pedestals, but are professional people who have been trained and who follow their careers just as doctors or lawyers.

One finishes the book with the feeling that each place described is a *must* on one's travel list about the States. Travellers north, south, east and west, follow Eloise Spaeth's sparkling, vivacious lead! Her book is close to pocket-size and should be a very pleasant travelling companion.



## The Master Builders

Peter Blake. New York, Alfred A. Knopf, 1960.  
399 pp illus. \$6.50

Although, thanks to Henry Luce and others, the names of famous architects are of late increasingly creeping into cocktail party conversation, the profession still has a legitimate complaint when it deplors its relative anonymity. People are far more apt to know who wrote "Exodus" or "My Fair Lady" than just who designed Lever House, let alone the new office building down the street. That building, to be sure, is more apt to be discussed than some doctor's appendectomy or some lawyer's court room victory, no matter how brilliant; but, then, the latter two hardly affect as many people.

There are several reasons why architects are not as well known as the popular impact of their professional activities would warrant. One is, of course, that while every book or musical comedy advertises the name of its author, buildings do not. Another is that it is the business of authors to communicate, while architects seem to make it their business to make their public communication as painfully obscure and abstruse as possible.

Only diligent devotees of architecture manage to penetrate the dense scaffold of theorizing which most architects leave on their buildings. And even the handful or so lucid architectural writers and critics tell us next-to-nothing about the men who create the trends, currents and cross-currents of the architecture they write about.

The publication of a lucid, witty, well-written and interpretative book an interested layman can not only understand but also enjoy, is therefore an event which calls for a celebration. Peter Blake's "The Master Builders" is such an event. Architects should not only cheer it but read it as well, for even if they know (or think they know) all about the course of the architectural revolution of our time, there is still much personal history of its three principal leaders they will find fascinating.

The three leaders are, of course: Le Corbusier, Mies van der Rohe and Frank Lloyd Wright whom Blake convincingly presents as the "great lawgivers" of modern architecture. In telling us how their laws developed in theory and practice,

he acts on his belief that the artist rather than economic, sociological or technological "forces" write the history of art. He manages to penetrate the fog behind which Corbu and FLW insisted on hiding their contribution, and he melts the chilly, Teutonic philosophizing of Mies to reveal a very human and very great artist. He is as candid about his heroes as he is critically analytical about their work. He doesn't shy away from the personal foibles and eccentricities of his subject; but in illustrating them, such as in his account of Corbu's difficulties with his colleagues on the United Nations Building, his candor is tempered by fairness, tact and good taste and keeps perspective throughout.

Even if you do not agree with everything Peter Blake has to say, you will grant him thoroughness and diligence in his research and you will find his enthusiasm for the twentieth century architectural revolution contagious.

The turmoil and experimentation of this revolution, Blake holds, has now come to an end. The new set of physical and moral laws laid down by Corbu, Mies and Wright cannot be ignored without peril. "To create a coherent civilization—and this is its purpose—architecture must again become a force for order," he writes. "Some critics have asked whether there can be freedom in architectural order. Indeed there can be; in fact, there can be no freedom *without* order, *without* a rule of law."

In conclusion Blake ponders the "where do we go from here." If there are to be any new Michelangelos of our time," he believes, "they will have to accept the three propositions suggested above: First, that the fundamental principles of the new architecture were settled by its great lawgivers; second, that the time for individual heroes is past; and third, that the hero of the future must be the city itself.

Out of this acceptance may grow a new generation of great artists, all working within a universally understood discipline, all interpreting that discipline in new ways—a new generation of Bramantes, Michelangelos and Palladios. But if the younger architects refuse to accept these propositions and insist upon individual heroics in a mass society, the future of architecture—the future of cities—will be but a caricature of all the things that were transmitted to us by the true heroes. The alternatives are architecture or Disneyland, civilization or chaos. "What makes our dreams so daring," Le Corbusier once said, "is that they can be realized." W.V.E.





*The reproduction  
of this painting,  
typical of the Rococo Age,  
appears as  
the jacket illustration*

## *The Rococo Age*

**Arno Schonberger and Halldor Soehner.** New York, McGraw-Hill Book Co., Inc, 1960. 394 pp illus. 10¼" x 13½". \$23.50

This magnificent book grew out of an exhibition, "European Rococo, Art and Culture of the Eighteenth Century," organized by the Council of Europe in 1958 and presented in the Munich Residenz Palace. Dr Schönberger is Chief Curator of the Bavarian National Museum in Munich; Dr Soehner is an art historian on the staff of the Bavarian State Picture Collection. Professor Theodor Müller, Director of the Bavarian National Museum, collaborated on the preparation of the book. The volume is most handsomely presented, profusely illustrated with 316 black-and-white reproductions, mostly full-page, and forty-nine excellent color plates, tipped in.

So much for the formalities, now for the unique character of the book itself: It covers not just painting, sculpture and architecture; it includes all the arts. It draws examples not only from

France and Italy, but also from Spain, England, Germany and Austria. The subjects of the divisions of the text and illustrations give one an idea of the scope of the book. Some of them are: "The Courtly Arts," "Music and the Theatre," "The Olympians," "Chinoiserie and the Exotic East," "Town and Country" and "Ecclesia Triumphans."

In the section devoted to "Music and the Theatre," for instance, there is a ten-page story of the development of the French and Italian comedy and its influence on painting and sculpture; Garrick and the London stage, and the revival of Shakespeare in both England and Germany are discussed. "Opera buffa" flowered in Italy as a parody of "opera seria," and in France "opera comique" developed, while everywhere serious opera was presented with magnificent scenery and gorgeous costumes, and with the popularity of "bel canto" came the triumph of great individual singers. And so the story goes on, through instrumental music, with Handel, Bach and Scarlatti, to the theatres their music was presented in—the great rococo interiors in which architecture, sculpture and painting were more perfectly fused than possibly in any other time in history.

The illustrations for this section include the title page of an opera by Goldoni, a bit of a saraband and a minuet in Bach's own musical notation, paintings by Watteau, Goya and Tiepolo, porcelains of dancers, engravings of stage sets, a fine color photograph of the old Residency Theatre in Munich, an exquisitely wrought harp and a pianoforte made by Hubert. These are only tid-bits from a rich feast.

The book warrants a far more thorough and scholarly review than is possible here. This reviewer has skimmed it with delight, and looks forward to many hours of delving into that golden age, "The Age of Enlightenment," the eighteenth century.

J. W.





## Venice

**Anthony Thorne.** Photographs by Kurt Otto-Wasow. New York, Viking, 1960. 68 pp illus. 8 $\frac{7}{8}$ " x 9 $\frac{5}{8}$ ". \$5.95

**I**n fifteen pages of beautifully evocative text Thorne provides word images of historic and modern Venice which lead the reader naturally, even eagerly to the twenty-four full-page color photographs which follow.

Otto-Wasow's photos are imaginative as well as beautiful. Surely no two people would select the same set of illustrations to convey the essence of a city—particularly Venice, which has been all things to many men and of which few sophisticated people lack an image, correct or faulty. One may say at least that each photograph has its own strong interest, that the captions enhance and lead

into the heart of the photograph, that no temptation to flip blithely through the pages is felt.

Thorne's words give mental pictures of the daily life of Venice which find no echo in Otto-Wasow's pictures. Perhaps this omission is more than a sign of limited space. Perhaps it is the wisdom of one who has known Venice and realizes the difficulty of making the city's unique spirit shine through in pictures. The reviewer found some question as to why this was included, why this was left out, but more important was the inspiration for planning a next visit to Venice.

It is a sad footnote to realize that any next visit would already be deprived, by the ravages of termite infestation and various types of water erosion, of some of the city's art treasures. It is ironic to think that with the dam in Nubia, men's intelligence threatens a balance of nature which preserved cultural monuments for over 3,000 years, and at the same time in Venice the same human intelligence seems unable to cope with the natural balance which threatens the ultimate destruction of the city.

GUDRUN HUDEN



# Reflections on the Home Design Clinic

► Two words—successful and stimulating—describe the second annual Home Design Clinic sponsored jointly by The American Institute of Architects and the National Association of Home Builders on the Stanford University campus. Sessions were held August 16-19.

More than a hundred architects and builders heard participants in several discussion groups stress the importance of integrating the building professions in order to assure more successful housing developments in the future. They also brought out many salient points which stimulated our thinking in regards to other methods of offering better neighborhoods and communities.

Contributing to the prestige and importance of the Clinic was the presence of nearly every major trade publication and many representatives of West Coast newspaper staffs. Their valuable activities on behalf of the conclave creates better public relations, not only for this Clinic, but also for other similar discussion groups and work shops of this type.

From Richard Latham's opening comments on industrial design, to the reception at Sunset House and to the conclusion of Richard Neutra's provocative speech "The Mission of Housing Americans," there was little doubt of the interest in this get-together. As Elizabeth Thompson commented, "They all seem to be listening and taking notes." As each evening's meetings ended there were small groups gathering in the university arcades discussing the day's sessions.

This is only the second of these annual Design Clinics. However, already The American Institute of Architects and National Association of Home Builders are looking forward to the next program. They realize that only through the continued cooperation of these two great organizations can programs of this type be formulated.

Presidents and committee heads of AIA and NAHB agree that there is great need for a broader appreciation of the ability of the profession. They further agree that architects themselves cannot solve all of the problems in housing, but through consideration of subjects such as "Industrial Design," "The History of the American Home," "The Fundamentals of Architecture," "Landscaping the Community," "The Effect of Design on Selling,"

BY EDWARD H. FICKETT, AIA

*The Chairman of the AIA Committee on the Homebuilding Industry tells about the success of the second annual Home Design Clinic held at Stanford University*

and other similar subjects studied by groups such as this clinic, we realize that much progress can be made toward solving housing problems.

It is easy to understand the tremendous strides and successes that already are behind us. I do not feel, as many do, that the housing industry is creating slums of the future, or that we have not successfully provided adequate housing for low-cost income groups. I do believe, however, that there is a growing tendency to overlook the fact that we are now at a point where land cost and land use demand new thinking in land planning, new zoning ordinances and a total regard for the relation of the house to the site, and the site to the community.

I do not think we should lose sight of new materials which may expand our perspective and allow us unlimited freedom of design. I certainly do not feel that, although incomes have increased, everyone can afford a \$16,000 or \$18,000 home, and inasmuch as all of the subjects and prerequisites for a successful housing venture were touched on at this meeting, it would certainly give all who attended something to think about. As we think we continue to better understand and appreciate that our long range programs and future activities must include a place for the professionals.

As the program progressed and each speaker made major contributions, it was easy to see and understand the importance of the color consultant, the significance of the architect, the continued necessity for better architect and builder relations and the economic aspects of good land use as well as the necessity for a designed product that would sell and return a reasonable profit to the investor, developer and contractor.

I hope most of those in attendance feel as George Stiller does—"All of us now have a better understanding of what the public is really looking for in a home." ◀





## *From the Executive Director's Desk*

► Serious-minded Americans, possibly a dwindling category but one which includes virtually all architects, are genuinely concerned with the apparent lack of interest in education. This lack of interest is enjoyed not only by the majority of youth to whom a security provided by others is an inalienable right, but also by a fearful preponderance of their elders. As increased opportunity for recreation becomes our primary goal, we trust that the rare but now essential citizen, the scientific genius, will develop for us a quick and painless acquisition of education through osmosis or injections.

Teenagers as a rule are now held up to us as a horrid example of a lack of values, a lack of ambition and a lack of those qualities which have made this country great. This I think is unfair to the teenagers for it is we who have created them. They did not ask to come into the world; they did not invent the world nor have they contrived the atmosphere and the facilities of this lotus-loving era in which we find ourselves. We have failed to set the examples or have been too lazy to set those examples. Elders aid and abet the natural instincts of youth with the deification of ephemeral celebrity of little consequence, the extolling of the mediocre and the dedication to the unimportant.

Architects are among the few, including other adherents of the learned professions and the sciences, to look on education and superior education as essential to the progress and security of mankind. And yet there has crept into our philosophy an inclination to attach greater importance to the commonplaces of democracy rather than to the fundamentals which support a democracy.

Even in The American Institute of Architects, I am aware of an occasional yen toward a cozy homeliness instead of looking upon this organization as a stronghold of conservative philosophy and even as one of the last remaining bulwarks or bastions of an essential snobbery.

Now by conservative I certainly do not mean a cultivation of archaic styles in architecture or retrogressive thinking in planning. What I mean by conservative is the cultivation or rather the recultivation of that superiority which our profession

enjoyed in the past and which it may still maintain by a refusal to abnegate itself to a popular cheap and vulgar cult. Architects are superior people; let us keep ourselves that way.

A friend of mine, somewhat older than I, a most successful practitioner who was internationally famous for his buildings and who has received many awards for the progressive magnificence of his conceptions, said when we were discussing the best approach to the selection of an architect for an important building, "Let us not be democratic about this. In order to produce a really fine building, one must be arrogant and not give in to the democratic demands which may well reduce the concept to mediocrity." I have come to see how exceedingly right he was. Those architects who have left and will continue to leave their mark on civilization and to advance the profession have been neither humble nor self-effacing. They possessed and exercised an arrogance which stemmed not only from their realization of their own abilities, but from their conviction that if they were to advance architecture they must be forceful about it.

Those infallible if perhaps unwilling barometers of contemporary taste and intellectual level, the magazines, furnish telling proof of the decline of American culture. I am not especially referring to architectural magazines.

The other day I picked up one of our magazines of greatest circulation, a magazine which not infrequently contains articles aspiring to properly inform and which contains occasionally a modicum of intellectual content. But the principal article in this issue was a review with statistics of the leading educational institutions in the football world. The list contained the name of not one single college or university which enjoys any sort of reputation, of which I am aware, for its advertised purpose; namely, the purveying of education. What the relation of these virtually professional athletic outfits are to the educational world which they profess to represent was not apparent.

I like to cherish the feeling that teenagers who look forward to engaging in architecture are seldom, if ever, fooled by the allure of football pag-



antry but attach real value to those architectural schools which can best fit them to practice their profession. This is a healthy indication of the inherent discrimination of the young people who turn to our profession as a life work.

I recall when I was an undergraduate that there were one or two fellows in the school who played on the football team, not very spectacularly of course. They were a trifle quiet and apologetic for being required to spend any time away from the drafting board or lecture hall. I do not recall that the undergraduates of the architectural school ever took the trouble to go to a football game and watch their classmates play if the demands of the design problem were more pressing. Learning came first.

This is not to be taken as an indication of a distaste for health. Although I played football in high school, I hated it. I rowed and boxed later on, neither particularly companionable sports. I have never been much but bored by watching professional athletics. I would regard college football teams as professional to all intents and purposes as are probably a good many other college sports. There are fine distinctions drawn by those who preside over the athletic world and can define whether or not a man or woman is a professional or amateur. But the intricacies of definition are bewildering or laughable to an intelligent man who generally cares not one whit if the performer on the field gets paid or not. The philosophy of highly competitive sport is the same, the frame of mind is the same. The only difference in the football world lies in the fact that the well-defined professional is perhaps more honest than his colleague protected by the pettifogging of the solons from the harsh, if candid, label of professionalism.

Maybe my introduction to college football was a trifle on the rude side. In my freshman year in college we had a freshman football team which could not only beat the varsity, it could beat any football team in the United States. A member of my class, whose family had always been identified with athletics and who was a rather persuasive and dominant figure, had made up his mind apparently when he entered the university that he was not only to be the captain of our freshman football team, but that we would have a freshman football team that was really something. He was 100% successful. How he recruited the crew I do not know. How he got his assortment of gorillas through the campus gates mystified us architectural students.

Spotting his performers in the mass of undergraduates was all too easy. There was no chance of mistaking them for students. They stuck together, they wore caps well over their eyes, they

were heavy jawed and they lowered and communicated in husky guttural tones. As none of us had the temerity to approach them, we never confirmed the suspicion that they spoke no English. But they certainly could play football. They were the terror of the gridiron. You may wonder why a freshman team that got off to such an auspicious start did not carry the university to a championship in due course. The answer was very simple. At the end of the football season of my freshman year they all disappeared. The campus cleared. After a mild flurry of rumor that the steel mills, the mines and even the state farm had repossessed their own, our university resumed its beaten football path.

Now I have known a few athletes—amateur and professional—who were nice fellows and have known some who were as dedicated to their sports as we are to architecture. By a curious force of circumstances at one time in my life I became quite intimate with Joe Dimaggio. We were both patients in the same station hospital in the Pacific and talked together by the hour. I have never known a man so dedicated to his vocation as Joe Dimaggio was to baseball. He thought it, he talked it, he dreamed it and he lived for it. He was perfectly frank and honest about it. To him it was important and as much of an art as art is to a sculptor or a painter who is really deadly serious about it.

I am sure there are many many honest, sincere and altogether professional athletes who earn their livelihoods, some most successfully, through skillfully selling their native talents not only to their own satisfaction but to the enjoyment of others and to the progress of their vocations.

I admire good professionals, be they athletes, politicians or architects. I am neither interested in nor amused by amateurs.

The laborer is worthy of his hire. A year or so ago I happened to find myself sitting by Joe Dimaggio on a plane from La Guardia to Washington. We renewed our acquaintance. At that time the Washington Senators were running true to form—that is, enjoying an incontrovertible claim to the last position in the American League. I asked him what was the matter with our ball team. His reply could be applied to any form of professional endeavor. "Washington will not have a good ball team until Washington is willing to pay for a good ball team." And then he added, "Good professionals do not come cheap." And he should know.

*Edmund D. Purvis*



## FOR INSTANCE—*Article 30—Guaranty Bonds*

BY WILLIAM STANLEY PARKER, FAIA, *Consultant to the Institute on Contract Procedures*

► The General Conditions are intended to be useful in contracts of all types and sizes. The so-called "Short Form for Small Construction Contracts" (AIA Doc. No. A-107) simplifies the General Conditions for use where the size of the job and the time needed to complete the work eliminate many of the hazards of large projects. This simpler form should be used with judgment. It has undoubtedly been used on much larger projects than it was intended to serve and we hope without trouble. The essential responsibility of the Architect to render decisions and the use of arbitration to settle disputes are covered in the Short Form but many details and more than half the Articles of the General Conditions are omitted or greatly abbreviated, and the Short Form is intended for and only to be wisely used in really small jobs.

In these small jobs Guaranty Bonds are rarely used. Even on private jobs of substantial size they are probably used in a small percentage of such private jobs but with a current tendency for this percentage to increase, and on public projects Guaranty Bonds are generally required by Statute. Their use, therefore, while not specifically referred to in the "Short Form," is covered in Article 30 of the General Conditions.

The Article does not, in itself, require the use of a Guaranty Bond but indicates the procedure if a bond is required, either before or after bids are invited. The Institute now publishes two forms of bond, a Bid Bond and a Performance and Payment Bond.

The Bid Bond (AIA Doc. No. A-310) guarantees that the bidder will sign a contract if his bid is accepted and a contract awarded. This is currently used very infrequently in private work and on public work only where the public authority requires it. The Performance and Payment Bond now published by the Institute (AIA Document No. A-311) is the "double form" of bond, composed of two separate guaranty bonds, issued simultaneously by the Surety Company. These are the "Performance Bond" which guarantees the completion of the Contract and the "Labor and Material Payment Bond" which guarantees the

payment by the Contractor for all labor and materials used on the work.

The Performance Bond makes the Surety Company, in effect, a partner of the Contractor. It agrees to secure the completion of the Contract in case of default by the Contractor in one of two ways, as follows:

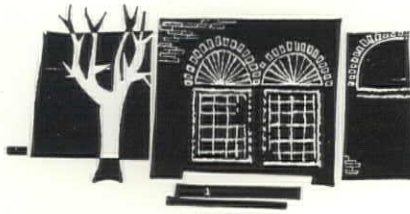
(a) To complete the Contract in accordance with its terms.

(b) To obtain a bid or bids for completing the work and paying the Owner any excess over and above the unpaid balance of the Contract price, but not exceeding the face of the bond.

In this provision it includes the cost of damages involved for which the Surety may be liable. In Article 22, Owner's Right to Terminate Contract, it provides that a legitimate item of cost in completing the work is the cost of "additional architectural, managerial and administrative services" resulting from the Contractor's default. Where the work has to be completed by the Surety these expenses would be the responsibility of the Surety Company.

In the Current Labor and Material Payment Bond published by the Institute the provisions are the same as in the previous form except for one detail. Previously Article 3a stated that no suit or action could be commenced against the Surety unless Claimant shall have given written notice to any two of the following: The Principal, the Owner, or the Surety, within ninety days after Claimant did or performed the last of the work or labor or furnished the last of the materials for which the Claim is made. A Claimant was defined as "one having a direct contract with the Principal or with a subcontractor of the Principal." The ninety-day claim provision has been revised to read "Unless Claimant, *other than one having a direct contract with the Principal*, shall have given written notice . . . etc." This action was taken promptly, and subsequently the Surety Company paid the claim in full. This corrects a defect of importance to Subcontractors and it should be kept in mind by Architects if they are unfortunate enough to be involved in defaulted contracts that are bonded. ◀





## LIBRARY NOTES

### Gifts to the Library

January 1 to June 30, 1960

LEOPOLD ARNAUD, FAIA  
Two publications on Brasilia

ASPHALT INSTITUTE  
"The Asphalt Handbook"

ASSOCIATION OF AMERICAN RAILROADS LIBRARY  
"Contemporary Architecture in South Africa"

BERNARD H. BRADLEY, AIA  
Brochure on Holabird and Root

BRAZIL MINISTERIO DA EDUCACAO E SAUDE  
Dante Milano's "Bruno Giorgi"

CLINTON E. BRUSH, III, AIA  
Three copies of the *Gulf States Architect & Builder*

THEODORE I. COE, FAIA  
Two medals, slide viewer, and several books

COLEGIO OFICIAL DE ARQUITECTOS DE CATALUNA Y BALEARES  
Three pamphlets

COMMISSION OF FINE ARTS  
Its 16th Annual Report

CLINTON H. COWGILL, FAIA  
Two books

THOMAS H. CREIGHTON, FAIA  
Progressive Architecture, July-December 1959

DEPARTMENT OF THE AIR FORCE  
*Air Force Civil Engineer*

D. C. DEPARTMENT OF HIGHWAYS  
"A Pictorial Report on Highway Bridges and Structures in the District of Columbia"

EAST AFRICA INSTITUTE OF ARCHITECTS  
EAIA Yearbook 1959-60

HERSCHEL A. ELARTH, AIA  
Letter from H. V. Magonigle to T. R. Kimball re competitions

JOHN HARBESON, FAIA  
"The Reverse of the Capitol Story"

HOUSING & HOME FINANCE AGENCY LIBRARY  
"Prize Winning Works in the 2nd National Home Design Contest" from Korea

MRS SELMA JAGER  
Nine copies of the Northwest Architect

JOHNS HOPKINS UNIVERSITY LIBRARY  
William Sener Rusk's Thesis

L. M. LEISENRING, FAIA  
"A Brief History of Southwest Washington and a Description of Buildings of Historical Interest"

ROBERT RODES MCGOODWIN, FAIA  
Roll of original drawings of the plates contained in monograph of his work

THE HONORABLE ABBOT L. MILLS, JR  
Three volumes of Fergusson's "History of Architecture"

THE MUNICIPAL ART SOCIETY OF NEW YORK  
"New York Landmarks" 4th ed.

NATIONAL COUNCIL OF ARCHITECTURAL REGISTRATION BOARDS  
37th Annual Report and circulars

NATIONAL PARK SERVICE  
"That the Past Shall Live"

NICARAGUA OFICINA NACIONAL DE URBANISMO  
"Planificación Urbana"

RICHARD W. E. PERRIN, AIA  
His article on "Historic Wisconsin Buildings" in *Lore*

CHARLES S. POPE, AIA  
"Historic California — Sonoma Benicia" and "San Juan Bautista Monterey" which he published from H.A.B.I. records

PORTLAND CEMENT ASSOCIATION  
Slides on "Concrete Structural Forces"

WILLIAM G. PURCELL, AIA  
Six issues of Northwest Architect

EARL H. REED, FAIA  
Several books

HENRY H. SAYLOR, FAIA  
A medal

H. WARREN STEWART  
Architectural club of George Washington University's "Architecture 1913"

MICHAEL STILLMAN, AIA  
Minard Lafever's "The Modern Builders Guide" and Palladio's "Architecture" 1726

STOWARZYSZENIE ARCHITEKTOW POLSKICH  
"Architektura 1956-1959"

EDGAR A. TAFEL, AIA  
"The House Beautiful" designed by Frank Lloyd Wright

FREDERICK TILP, AIA  
Eight books

TIMES MIRROR PRESS  
Western States AEC Catalog File 1960

UNIVERSITY OF ILLINOIS DEPT. OF ARCHITECTURE  
"Printed Books on Architecture 1485-1805"

VOORHEES, WALKER, SMITH, SMITH & HAINES  
Perspectives Number 4

H. H. WAECHTER, AIA  
Copies of two of his articles

Slides of structures winning AIA awards have been presented by the following:

Anshen & Allen  
John F. Beuttler, AIA  
Wallace C. Bonsall, AIA  
Kenneth W. Brooks, AIA  
J. Herschel Fisher, AIA  
Victor Gruen Associates  
Philip C. Johnson, AIA  
William Keck, AIA  
Morris Ketchum, Jr., FAIA  
John M. Morse, AIA  
R. B. O'Connor and W. H. Kilham, Jr.

I. M. Pei & Associates  
William L. Pereira & Associates  
George T. Rockrise, AIA  
Rogers, Taliaferro & Lamb  
Moreland Griffith Smith, AIA  
Steele, Sandham & Weinstein Co.  
Hugh Stubbins, FAIA  
Thorshov & Cerny Inc  
John Carl Warnecke and Associates  
Weinberg and Teare  
Wurster Bernardi and Emmons, Architects



## Europe by Bus

If I were to follow last year's precedent, I would feel that I had to bare the details of another secret love affair in this Second Annual Book Supplement issue of the *Journal*. But I have no other secret love affair—at least, none that would be appropriate for these pages, and further details on the affair revealed last year could only be boring.

Furthermore, I have just returned from a "quickie tour" of Europe, so I've got lots of other things on my mind. (See "News," page 16 of this issue.) There is room here for only a few random observations.

It was the first time I had been abroad since before the war (World War II, that is!) and I was very interested to see what the post-war expansion of population has done to the cities of Europe. The answer is, of course, that it has done the same thing there that it has here. The urban sprawl around London is the same as around any American city—just as crowded, just as confused, just as ugly. Away from the cities, however, the countryside is still clean. There are few billboards, and those modest; the service stations are businesslike and unobtrusive, with no loud signs and fluttering pennants to attract attention. The hungry or thirsty American tourist finds no hot dog stands or Coke machines littering the roadside. He must go to the pub or restaurant in the next village. One does wonder, however, how much longer the British can get along with their narrow two-lane roads, despite their small cars. Even leading into London there is only one modern dual highway, M-1, less than sixty miles long—of which they are inordinately proud.

Everywhere, in provincial cities such as Avignon, Pisa and even Ravenna, not long ago so dusty and remote from this age, great slab-type apartment buildings stand six to twelve stories high, and scores more are under construction. Not only the skylines but the entire

character of these cities is changing, except, of course, for their old-world centers, which are cherished and preserved for the tourist trade.

Rome no longer merges quickly into the Campagna and the flat surrounding countryside; all is bustle, highways, hotels and apartment houses, like any prosperous American city. Yet the Forum Romanum is still hot and dusty, covered with grass and weeds (including the acanthus), and the subterranean Early Christian church and sub-subterranean temple of Mithras under San Clemente are still dark and silent with the stillness of two thousand years. The magic of Rome still lives.

I was struck by the cleanliness of the cities and towns (except in Italy, of course). In even the slums of Edinburgh, although the aged buildings were grimy and soot-stained, the windows were sparkling and the streets and alleys clean-swept—no litter of papers blowing about, no piles of rubbish in forgotten corners, no vacant lots piled with rusting auto bodies and broken crates. There were flowers in every garden (front yard to us) and window boxes everywhere; and the parks were filled with bloom and swarming with people—plenty of benches and no "Keep off the Grass" signs.

Bowling over the highways of Europe in a bus involves certain minor discomforts and is a relatively slow means of transportation, but it gives one a peoples'-eye view of the country one would never get otherwise—not even driving one's own car, in which one sits down low on the ground and is apt to be too preoccupied with maps and mechanics to be able to peer into farmyards and doorways or to wave to housewives and children leaning out of second-story windows. Descending suddenly from the open country into the narrow streets of a village, the bus would plunge into passageways which seemed no wider than its shining sides, flattening pedestrians into doorways, and miraculously missing parked cars,

and then suddenly emerge and come to a welcome stop in a quiet little village square, with trees and a fountain, and the inevitable outdoor cafe.

Climbing from the Rhone valley into the Simplon Pass, and down again, was an experience both hair-raising and awe-inspiring, but crossing the Apennines, from the incredibly picturesque city-republic of San Marino to Rome, gave me what was perhaps the greatest thrill of the trip. It was not only the scores of hairpin turns and 180-degree switchbacks, some of which the bus couldn't negotiate in one turn, it was the incredible beauty of the mountains. Rugged, rocky, yet green, and covered with farms and vineyards. For two thousand years men have lived there and scratched a hardy existence out of those stony mountainsides, terraced wherever possible to gain a few feet of tillable ground. And their way of life has changed very little. Their stone buildings are one-third house, two-thirds barn, with a few out-buildings, and their countless straw stacks, neat and precisely made, trimmed down with accurate symmetry into polygons as they cut the straw off the sides for use. Red tile roofs, yellow stucco walls, golden stacks, green fields and vineyards, spread upon a range of craggy mountains and deep valleys.

The most beautiful contemporary building I saw (and we saw some of the modern classics) is the Pirelli building in Milan. Clean, bold, finely-formed, structurally daring, it is a magnificent sight to come upon. Time did not permit my going into it, but Professor Grace takes you into it in his article in the front of this issue. I was moved by the interior of Notre Dame du Haut; I was thrilled by the thrust of the Pirelli building. If a building arouses emotion in its beholder, it must truly be fine architecture.



BTRG

AIA Building Type Reference Guide (BTRG 9-1)

## Industrial Buildings PART I

By Clinton H. Cowgill, FAIA, Head of the Department of Office Practice, The American Institute of Architects, with the collaboration of Mr H. E. B. Anderson, Construction Editor of Plant Engineering

NOTE: In this article, the architect's client, as well as the architect, is addressed. Thus some material which is well-known by the veteran architect may be of use to him in his conferences with his client.

► When you ride through a large city and pass miles of factory buildings interspersed with slums, it is a relief to emerge into the first green areas of the country which eventually surround the city. Here, in what are now called industrial park areas, you will pass some new industrial plants which look like pleasant places to work. You may realize then that the design of factories may be much more than providing the most economical engineering enclosure for manufacturing processes on a minimum site.

Even though the number of industrial workers is decreasing in relation to production, industrial plants are places in which many people spend most of their working hours. Industrial planning could even involve the planning of whole communities and now considers probable expansion a part of original economy. The typical industrial project is a plant for the efficient production of finished or partly finished goods. This may require housing a monster integrated process or may be limited to the design of an eventually expendable shop for a small group of workers.

### Types of industrial buildings

These plants may be classified according to characteristics of products manufactured, for example:

- *light manufacturing:*
  - textiles
  - paper
  - books
  - glass products
  - pottery
  - metalware
  - canning
  - food processing
  - bakery goods
  - garments
  - shoes
  - furniture
  - boxes + containers
  - pharmaceuticals
  - electronic equipment
  - hardware
  - tools, etc
- *heavy manufacturing:*
  - automobiles
  - aluminum
  - aircraft
  - building equipment and components
  - railway engines and cars
  - machinery of all types, etc
- *noxious manufacturing*
  - chemicals
  - petroleum products
  - steel

Industrial buildings may be single-story or multi-story. While light

manufacturing is usually possible in multi-story buildings, low buildings are often preferred. For heavy manufacturing (especially where foundations are required for heavy machinery) single-story buildings usually prevail. Where the cost of heating and airconditioning is an important budget item, higher buildings are favored. For heavy manufacturing, work spaces must generally be large and free of columns. Mechanical means of handling materials and products are usually necessary. A typical unit has a high ceiling and one or more traveling cranes. Buildings for manufacturing processes subject to explosions may be designed so that internal pressure will push out walls and thus save the structure. More and more factories have shelters resistant to radioactive "fallout," standby sources of light, power and water. Housing should be placed at least one mile from factories which might produce war materials during hostilities. Dispersion of industry is still the best method of reducing target value and is made more easily possible today by truck transportation. Some industrial complexes which depend upon interconnecting pipelines must always remain concentrated.

### Industrial history

Before the advent of mechanical power, shops were small and many of the few manufactured products



available were made on farms and in homes. Shops and studios were often combined with residences or places for display and sale. The use of power from animals and water wheels (1700-1768) required a degree of cooperative action among groups of workers.

The first factories came into being in 1769 with the use of steam power. As long as the transmission of power was by means of the line shafts, belts and pulleys, great limitations were placed upon practical arrangement of machines. Architects had little interest in the typical nineteenth century mill with its thick brick walls, closely spaced wood columns, heavy timber "slow burning" floors, and small windows. Perhaps these buildings answered the recognized needs of the time, although little attention was paid to the comfort and health of the workers. At a later date the use of electric power and its location at the machine by means of small motors, together with steel and concrete construction with their wider spans made it possible to arrange machines so that they could be used most conveniently. By the use of steel and concrete construction architects were able to increase the size of windows, and the results proved that more and better work resulted from improved illumination and the freer plan.

Some of the most interesting innovations in architectural design have first been applied to industrial buildings, and the opportunity for such experiments still attracts some of our most talented designers to the industrial building field. Architects may be prepared to render the normal service, which is described hereinafter, and in addition many other services which may be desired. Unlike physicians and surgeons, architects do not hold themselves out as specialists. An architect who has designed many factories may be able to solve a new problem employing a minimum of research, but every project presents its own peculiar challenges. An architect's first factory may turn out to be his best.

Since centralized shops were first established in the middle of the eighteenth century, factories have increased in size and in the diversity of their products. By the middle of the nineteenth century there were textile mills and factories for

paper, books, glass, pottery, metalware, engines and machines. These were followed by factories for garments, shoes, woodwork, canning and by creameries and bakeries.

#### **Comprehensive service**

While it is generally desirable for a representative or the owner (or occupant) of a new factory building to collaborate actively with the architect, many architectural firms are prepared to take over as many responsibilities from the owner as may be desired. For example, the architect may secure the needed topographical survey and map, make measured drawings of existing buildings, obtain the building permit, arrange for fire insurance, furnish all needed copies of drawings and specifications, pay expenses of travel for the project, and supervise tests of soil, materials, structure and equipment. If it is needed for the project, the architect may conduct a planning survey and analyze results. He may prepare display drawings and models and make arrangements for financing. He may provide one or more project inspectors to work under his direction; furnish a survey of quantities and a detailed estimate of the construction cost. He may arrange for independent services of legal counsel and accounting auditors. Finally, the architect may prepare revised (as-built) drawings and specifications for the project as it is finally completed, showing location of all concealed piping, ducts, conduits, wiring, etc.

These services, which are not customarily provided by the architect as part of his "basic" services, may be paid for at cost plus an allowance for overhead and profit, or may be included in the services to be provided for an agreed upon stipulated sum.

#### **Mass Production**

Early in the industrial revolution, it was discovered that less time was required to make a product when the necessary operations were each performed by a different worker than when a single worker completed the product himself. The substitution of factory work for home work was delayed by the need for capital, and with the development of mass production and automation, the need for capital has increased rapidly. To attract

funds for investment in machines and buildings, production costs must be significantly lower than sales income. Today emphasis is placed upon efficiency rather than exploitation of labor. Also, by corporate organization and the distribution of securities among large numbers of sometimes competing investors, investment capital may be attracted with less drain upon profits.

Production machines have been developed to enable the worker to perform a certain operation in the shortest possible time, and these are arranged so that products move from one machine to the other quickly. Factory planning usually starts with a routing diagram showing the production line for each product. For some products parts are assembled from several production lines—either by one or more production lines joining the main production line, or by parallel production lines feeding into a short assembly line. With automatic machinery many operations may be performed by a single machine. Once the optimum capacity has been reached for a manufacturing process, a greater production is uneconomical. While a plant's optimum capacity may be doubled or tripled under the same roof or on the same site, consideration is often given to decentralization by establishing another factory in another location. Decentralization, as noted, is especially to be recommended for factories which are apt to be used or converted for war production.

#### **Location**

When a new industrial plant is proposed one of the first questions is where to locate it. Even though this decision may have been reached before the architect is engaged, the architect should be aware of management or other reasons for the choice.

An industrial plant should be convenient to a source of materials used: Raw materials or finished or partly finished goods. When more than one heavy material is used in a process (such as ore and coal in the manufacture of steel) it may be necessary to transport at least one of them some distance. At the present time, water is the cheapest means of heavy transportation, railway and the truck vie for second



place, the railway—perhaps with trucks on flat cars (piggyback)—usually leading for long hauls and the truck for short hauls.

Sources of materials are generally stable, but the labor market is constantly changing. While the South still has the most plentiful labor supply, it has been affected by accelerated industrialization and migration. In some plants the need for labor is being reduced by automation which requires more worker intelligence. The quality of labor available must be studied, therefore, as well as the quantity. When special skills are needed (as in the case of furniture manufacture) it may be necessary to locate where these skills are available, even though it be near potential competitors. For some manufacturing processes, employees with special aptitudes must be attracted by a definite campaign which includes architectural, sociological and psychological considerations. When a new factory is proposed, climate, educational facilities, facilities for recreation and health and other advantages which would appeal to the company's employees, should be investigated, perhaps planned as a part of the project.

The location of the market for the products of a manufacturing plant deserves consideration. If the whole country is to be supplied some item from a single factory, a location near the center of population might be considered—along with such barriers as the Rocky Mountains. Since manufacturing activity is spurting on the West Coast, it is seldom possible now to establish higher selling prices for that area. Many factories serve limited market areas, and national advertisers find it advantageous to spread factories out to cover various markets. The means of product transportation used also enters all of these calculations. Finally, location may be considered in relation to other similar factories—those operated by the company and those operated by competitors. Avoiding areas supplied from these other sources may affect the location of a new plant.

#### Choosing a site

The architect's advice may be valuable in the choice of a plant site. With an ideal design of the plant in mind he can tell which of

various available sites would permit the nearest approach to that ideal solution, making suitable allowance for expansion. If rail shipments in or out of the plant will be of sufficient volume to justify maintenance of a siding, only those sites providing this facility may be considered. If truck transportation will be used, access to truck highways will weigh heavily. Level, clear sites are generally preferred. In many cases subsoil conditions should be investigated. Probable cost of providing or expanding the capacity of water service, sewers, and waste disposal facilities will affect cost. For some factories an adequate supply of pure water is essential. Products which require this include paper, textiles and chemicals. Access to pipe lines carrying oil, gas or steam may be an important factor. Special means for disposal of waste and salvaging valuable parts of waste may also be essential, particularly if it is toxic or radioactive.

#### The planning program

To design an industrial plant, one must first learn how it works. If an industrial engineer is employed to make the production equipment layout, the architect must understand it. He needs to know the space needs for receiving and storage of materials and the means of distribution and control. He needs information on the size and shape of machines and the working space surrounding each machine, making suitable allowance for increased size of machines which might be substituted in the future. He needs to know which machines and processes need shelter and which operations, if any, may be performed outdoors. He must understand what takes place along every production line and note possible bottle-necks and cross traffic. He should know preferred means of handling materials and products within the plant. Finally, he must plan the space needs for storage and shipment of products, including docks and parking space for trucks.

Even though, as has been noted, automation is reducing number of factory employees in relation to volume of production, better employees are needed and they can command still higher wages and improved working conditions. Ade-

quate light and airconditioning may increase production, and other improvements may help to maintain morale. The design of employee facilities may be influenced by administrative policies and employee attitudes. In some plants workers of all grades and executives use the same entrances and facilities. On the other hand, if employees are to be divided into groups according to skills, or for other reasons, the architect needs information on the number in each group and the processes with which each group will be associated. For example, in some plants there are separate entrances for white collar workers and separate toilet rooms for managerial employees. A sympathetic consideration of these matters may, without downgrading any group, avoid causes of possible friction.

In addition to suitable locker space and toilet facilities, many companies provide their employees with dining facilities and in some cases reading rooms. Many managements consider piped music effective in certain production areas as well as in these off-time spaces.

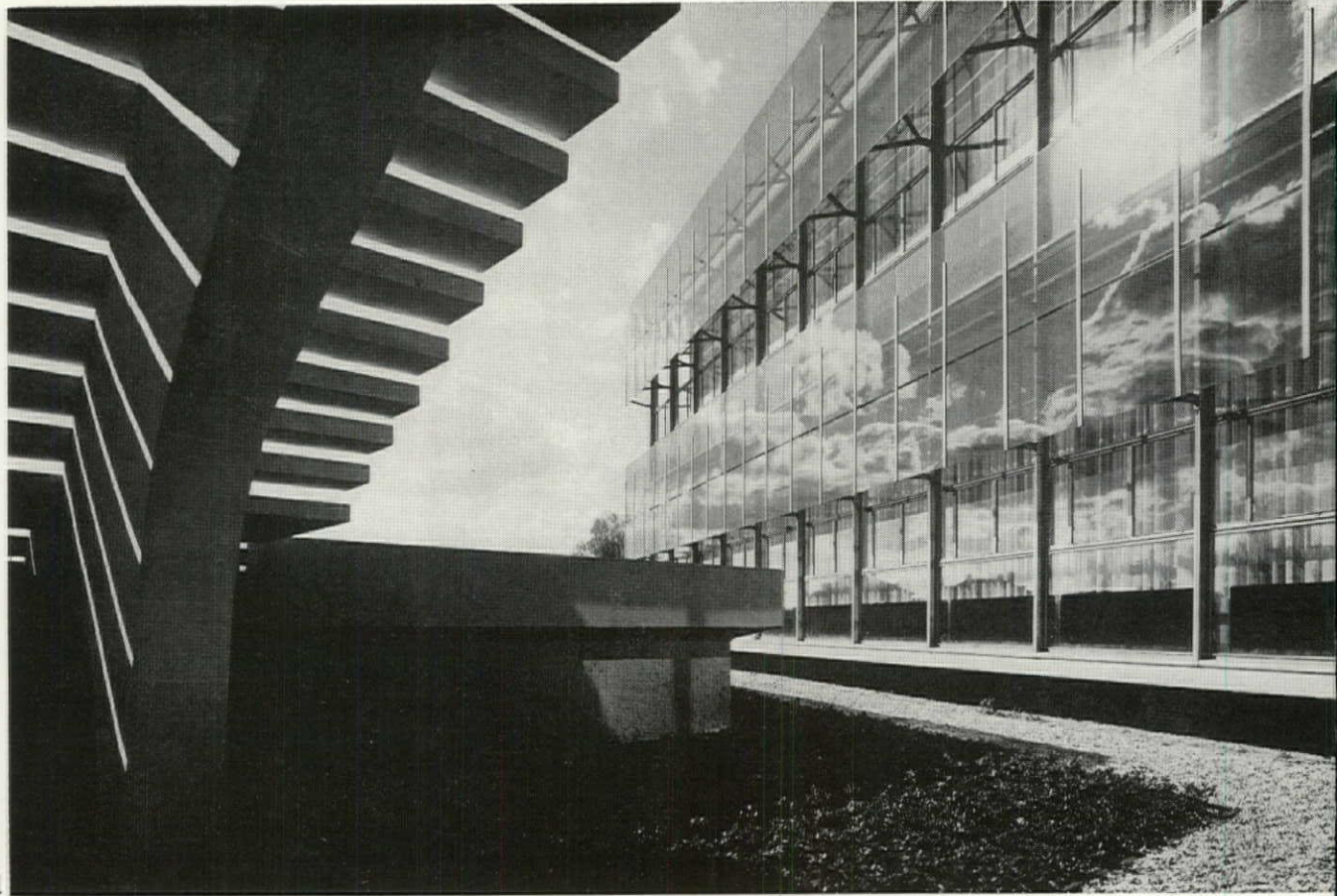
If the company may engage in secret or "classified" work for the Federal Government, provisions must be made for checking all persons who enter and leave. Security against theft or vandalism may be a factor, particularly in urban areas.

Protection of employees, buildings and contents from fire and other hazards is most important—the architect must by code provide adequate exits, alarms, some degree of fire-resisting construction and fire fighting equipment, such as hydrants, extinguishers and possibly a sprinkler system. Considerable sums may be saved in insurance premiums if these aspects are considered with care.

Parking space is required for employees and visitors. By planting trees and shrubs, cars may be protected against the sun's heat and the area made less bleak in appearance. In some cases, it is possible to conceal parking spaces by depressing them below adjacent areas, or to break them up into small, conveniently-placed lots. For many plants, more ground area is required for automobile parking than for the building.

Finally, the planning program should state needs for future ex-





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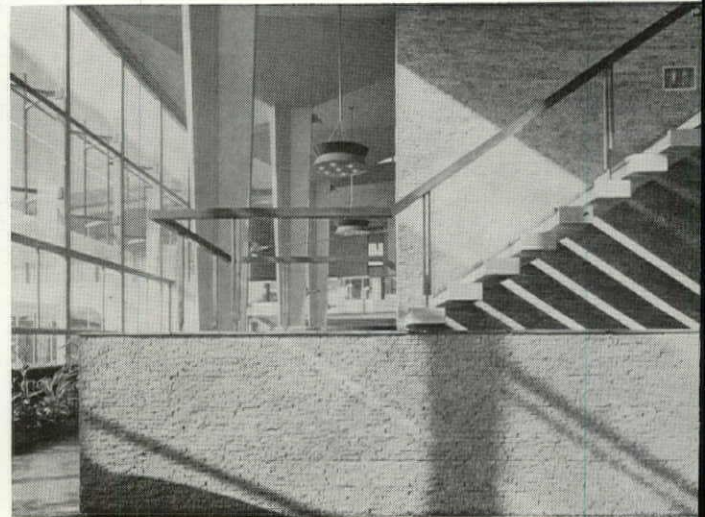
## Van Leer Building, Amstelveen, Holland

Marcel Breuer & Associates  
Architects

PHOTOS BY JAN VERSNEL



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1 Detail view of Southwest wing and frog's eye-view of entrance stair

2 Main entrance

3 Central stair to bridge

4 Conference niches in central hall

5 Canteen

6 Canteen wing

7 Northeast view, with reflections in water



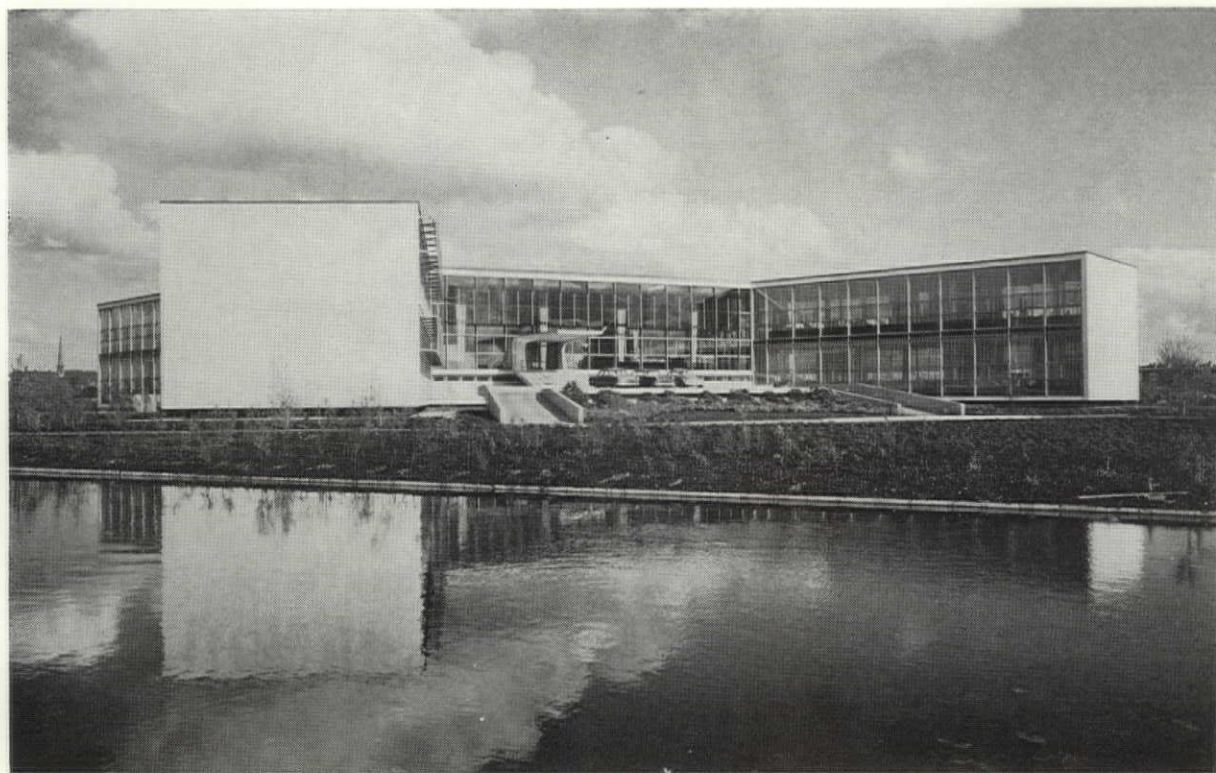
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pansion. Unless the buildings are designed to provide for optimum capacity with expansion provided by the future erection of one or more complete factories, on the site or elsewhere, the expansion of each department must be considered. They will probably not require equal expansion. Since remodeling costs considerably more than new construction, it is wise to oversize departments to provide for a reasonable amount of expansion.

**Factory construction**

Even before the final design of a factory has been determined, its form of construction may be given attention. It may be assumed that it will have a frame of steel or concrete, but the choice of materials and form will depend upon:

- span lengths and applied loads
- degree of fire resistance
- number of stories
- need for skylights

Exceedingly long spans are often desired for maximum flexibility in use of space. For each form of construction there is a minimum, optimum, and maximum practical span. Use of spans longer than optimum for ordinary loads increases cost. Longer spans are more feasible for roofs than for floors, especially if trusses or space-frames are used. Loads to be carried include weight of structural frame itself, and this is invariably greater for fire resisting construction. One-story construction not only permits longer spans, but also daylighting of large areas by means of skylights, monitors or sawtooth roofs. Economy of daylighting may be questioned where winter temperatures are low, where summer cooling is adopted and where electric rates are low. For multi-story buildings, it is generally most economical to provide long spans only in those stories where they are needed, (even though concentrated column loads must be carried on gir-

ders) rather than to use long spans for every floor.

For many factories, exterior walls are mostly glass, but the wisdom of this may be questioned under conditions indicated above for skylights. With the present high cost of masonry labor, use of pre-cast concrete and prefabricated metal components deserves consideration—especially where factory cranes may be employed to handle large wall units. Among more recently developed elements of construction are:

- tilt-up reinforced concrete walls which are usually poured in a horizontal position on the ground
- pre-stressed and pre-cast reinforced concrete beams and slabs
- sandwich-wall panels with metal or plastic surfaces and insulating cores
- semi-cylindrical, segmental or warped surface reinforced concrete shells for roof construction

Architects and plant engineers observe the performance of materials used in building, but industrial buildings present special problems. See following list of warnings based upon a survey of plant engineers:

The typical flat roof with bituminous roofing over insulation on metal decks has given trouble due to spread of fire and due to leakage. Fire resistance may be improved by covering metal deck with concrete. To insure against leaks there should be provisions for expansion and contraction. Expansion joints, flashings and gravelstops should be installed in accordance with approved details.

Floors in factories receive rough treatment. Dense concrete wearing surfaces may be hardened and dust-proofed with chemical or mineral hardeners. Under slabs on ground, soil must be well compacted. Where a more resilient floor is needed, especially where sharp tools are used, either wood block or industrial mastic tile may be chosen, but unless humidity and dampness are

controlled, wood block floors may be expected to require occasional relaying. For asphalt tile, care in bonding with base is essential. There are many complaints because floors do not slope to drains.

Reports of difficulties with walls reflect poor workmanship. Poured concrete walls will leak unless a dense quality of concrete is well compacted, and precast units and prefabricated units will leak at joints unless expansion joints are in accordance with approved details.

Some plant engineers report a need for screening of windows to prevent vandalism. Some recommended omission of windows, reported that costs of cleaning and replacements were excessive, that power operators were troublesome, and that steel sash corrode while aluminum sash need good caulking. Many plant engineers report trouble with skylights.

**Environmental Conditioning**

Architectural and structural design of factories involve heating, airconditioning and illumination problems.

Other items requiring special care are large doors, foundations, corrosion and drainage.

First, let us consider the use of glass, and compare capital cost of masonry, sandwich-panels and glass for use in walls. This study might be broadened to include several types of masonry walls and panels, and single and double glazing with clear, patterned and colored glass—also several types of sun shades. From these data, tentative decisions may be reached as follows:

- eliminate all windows
- use only sufficient glass to afford

<sup>1</sup> Report of Results of Questionnaire Survey to Determine Problems of Plant Engineers with Recently Constructed Buildings and to Determine the Status of the Relationship between Plant Engineer and Architect-Engineers, by John E Lockhardt, Co-Chairman, Special Activities Committee, American Institute of Plant Engineers, and Manager, Plant Engineering, General Electric Company, Evendale, Ohio.



contact with exterior

- use liberal glass areas for psychological effect
- use daylight as complete or partial substitute for electric lighting

For top lighting a similar comparison may be made, and a tentative decision reached regarding use of skylights, monitors or sawtooth roofs.

These decisions will be influenced by size of building (width especially) and whether building will have one or more stories. Also—number of occupants, nature of activities, and need for controlled conditions. Where daylighting is exclusively from one sidewall, width is limited to roughly twice the distance from floor to top of windows. Where daylighting is from two side walls, maximum width is double this. Where daylighting is combined with electric lighting, illumination levels must generally be higher than where illumination is solely artificial, because eyes adapt themselves to exterior brightness.

When a person is the sole occupant of a small space with no windows, he may be subject to claustrophobia. When in a room with windows unprotected against glare (unless they face northward) most occupants tend to close window blinds and use artificial illumination. Groups of people in larger spaces with no windows generally have less unfavorable reactions, and if their attention is diverted, as in a theater, few of them will experience any unfavorable reactions. For some manufacturing operations, therefore, windowless factories are suitable, and when there must be uniform temperature and humidity, well insulated windowless spaces may be comparatively low in total annual cost.

When the amount of glass used is based upon economic considerations, two favored designs should be selected and answers to following questions concerning each should be sought:

- *for exterior wall or glass per unit area:* interest, depreciation, taxes and other annual charges on capital maintenance costs (cleaning, painting, etc)
- *for heating and airconditioning:* annual charges on capital invested in equipment fuel and electricity cost/year maintenance costs

- *for electric lighting:* annual charges on capital electricity consumed maintenance costs

When size and shape of proposed building is known, these costs may be related to a unit area of the floor, and the extra rent (or its equivalent) required may be determined for the more expensive design. If analysis of cost of airconditioning is segregated, the saving in rent (or equivalent) from its elimination may be computed.

For some manufacturing processes, ventilation is needed to remove contamination at its source. This may be combined with airconditioning, but an independent exhaust system (possibly including recovery of some products) may be indicated.

When air is exhausted, it will be replaced, and if heated (or cooled) air is not introduced, unheated (or uncooled) air will enter through cracks, open doors or windows, or possibly as down-drafts in stacks. In winter, cold drafts result. Although this seems obvious it is frequently overlooked.

Other warnings concerning building equipment reported by plant engineers<sup>1</sup> include:

- space heaters are frequently noisy —power exhaust system is preferred to monitor ventilators
- balancing of duct system takes time
- air filters are often required at air intakes
- propane-powered lift-trucks contaminate air
- ducts may interfere with head room — especially in buildings with cranes
- sprinkler system is often required
- power and lighting circuits should be separated
- electrical duct in floor may fill with water
- provide plenty of electric outlets
- for power, consider 440 volts and multiple unit substations
- water treatment plant may be needed
- compressed air needs should be studied
- process waste and sanitary sewer (possibly disposal unit) may be required
- adequate valves for all piping systems are economical—all plumbing should be accessible
- dust collection, welding smoke, and process fume removal often

deserve study

- gas supply should be adequate and clean
- underground power lines are undesirable
- mechanical equipment should be given adequate space
- escalators may be needed—freight elevators should be ample in size
- architect should have adequate time for mechanical equipment drawings
- offices should be airconditioned—two compressors are advantageous—cooling tower, fans and compressors should have excess capacity
- for future expansion, mechanical equipment needs should be considered now
- centralized control of mechanical equipment is desirable

Good illumination requires that brightness contrasts be avoided. Light sources should not be in the line of vision and areas surrounding light sources should be illuminated—white ceilings should receive some light. For efficient use of light, the number of reflections should be as small as possible and reflecting surfaces should be white.

Wiring for electric lighting may be combined with wiring for power, but 220 volts may be required for motors. The wiring layout should provide for changes in equipment.

Plumbing for manufacturing plants may be comparatively simple, but some plants require special distribution systems for gas, compressed air, and vacuum, as well as sprinkler systems. Specialized wastes may also be required for laboratories.

While most new industrial buildings have one or two stories, for light manufacturing, multistory buildings with elevators may be considered. For typical manufacturing plants, however, materials are moved horizontally except when lines of travel cross and when materials are stacked. Four-wheel carts of suitable size may be used, under-floor drag lines may furnish locomotion, and cranes of suitable type and size may be used to transfer items from one part of the factory to another. For material handling, pallets and the fork-lift truck are widely used. Control equipment may include closed circuit TV, a public-address system and two-way radio. ◀

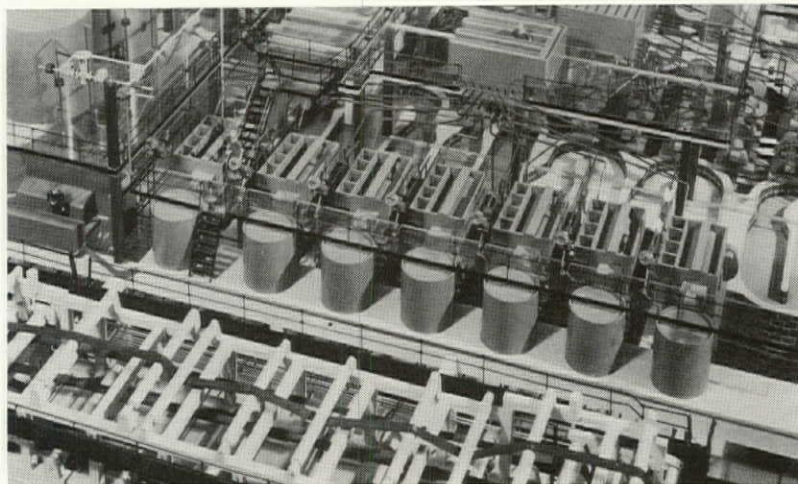




Fred English

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**Albert C. Martin & Associates  
Architects—Engineers**



Herbert Bruce Cross

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**1, 2 CALIFORNIA CONTAINER CORPORATION.** Paper Mill, Warehouse and Office Building, Santa Clara, California.

Description: The primary building elements in this 129,000 sf project were a structural steel frame, "tilt-up" concrete walls, and wood roof sheathing over wood purlins. The facilities included the main paper processing machinery floor, a basement housing concrete tile lined hydropulper chests, a mezzanine for production control and piping, two loading docks, a storage warehouse, office wing, shops and product control laboratories. The contract included paper processing machinery, concrete pits, machinery foundations, process piping for water, stock, steam, chemicals, fuel and air; and electrical switchgear, transformers, control centers and instrumentation; all utilities, fire protection systems, yard lighting, railroad spur trackage; and approximately 136,000 sf of concrete and asphaltic concrete yard pavement.

Design features: Design and construction coordination required of the architect-engineer was unusually complex. Paper processing machinery and steam plant were furnished and installed under separate contracts. In addition, the owner procured numerous items of equipment from various sources, which the general contractor installed.

Construction cost: \$6,500,000, of which \$3,600,000 was for procurement and installation of machinery and equipment.

**3 GENERAL FIREPROOFING COMPANY.** A Metal Furniture Manufacturing Plant, San Luis Obispo, California.

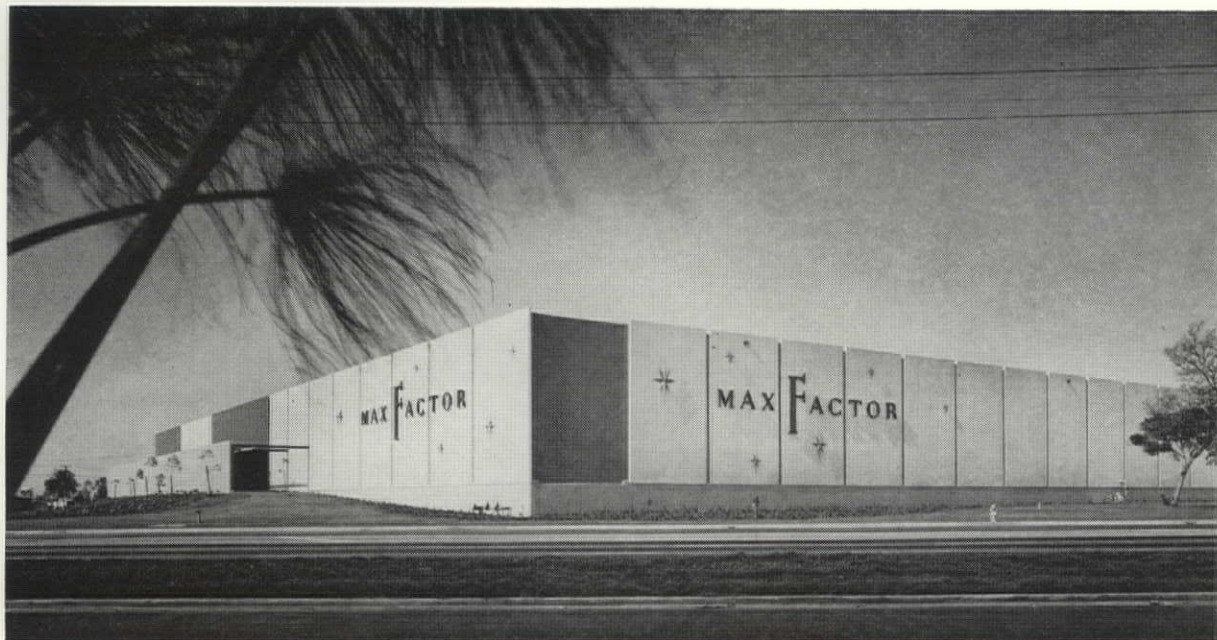
Modernage



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This plant and office were planned to house the West Coast operations of a metal furniture manufacturer, and as such the intent of the design was to develop surroundings which enhance the structural and modular concept of the furniture. The design made extensive use of related metals exposed in a rhythmical structural frame, and highlighted by the use of selected impact colors.

The plant contains the necessary metal processing equipment, conveyors, paint booths, bake ovens, chemical vats and pits for assembling and finishing of furniture and equipment.

The office, intended to serve as a working office and a model display area, is planned around a central garden court with perimeter garden areas partially contained within steel framework and concrete screens.

Construction cost: \$1,500,000.

**4, 5 MAX FACTOR & COMPANY.** Warehouse, Los Angeles, California.

**Description:** 215,000 sf of warehouse designed for future expansion and conversion to a manufacturing plant. Structure consists of 40' by 64' bays, with 20' clear height to bottom chord of steel trusses, and enclosing walls of tiltup concrete construction. Function of building is storage of raw materials and finished goods, with facilities for assembly line packaging and shipping. Fire protection sprinkling system is included throughout. A decorative concrete block screen encloses garden facilities designed for employee usage.

**Design features:** Economy of construction, along with provisions for expansion and future manufacturing were important factors governing design. Construction contract approximates \$4.50 sf of building area. Future expansion is planned to the south and west without interference to permanent facilities such as toilets and utilities. Extensive floor area additions are also planned within the building by means of future mezzanine floor construction. Site planning, grading, and paving anticipate the expansion with minimum dislocation and expense.

Construction cost: \$985,000.



Marvin Rand

5 101



Eero Saarinen & Associates  
Architects

Baltazar Korab



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Baltazar Korab

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Baltazar Korab



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Baltazar Korab



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6-9 INTERNATIONAL BUSINESS MACHINES. Rochester, Minnesota.

Analysis of IBM's practices indicated that in manufacturing, self-contained areas of about 60,000 sf and in administration of about 40,000 sf were common and that expansion usually occurred in each facility when a similar amount of new space was necessary.

The result is a plan of unit pavilions growing laterally from a central core, with the one-story, 250-foot square manufacturing pavilions expanding to the east and the two-story administration and educational pavilions, each 80 by 250 feet expanding to the west. Each of these unit pavilions contains a central mechanical core of airconditioning units, toilet facilities, lockers, etc. They are arranged in a checkerboard pattern with intervening garden courts. Two spine-like corridors connect the various units. Each unit pavilion has a corresponding adjacent parking lot, marked off by trees, flanking the outer sides of the checkerboard. Obviously, these parking units can expand laterally as the corresponding units are added.

The central core, from which the unit pavilions extend laterally, contains the dining and recreation areas and, on its north side, a small entrance pavilion for visitors. The importance of the front entrance, so often emphasized in monumental terms in manufacturing plants, has been de-emphasized. The emphasis in this building has been placed on those who work within the plants. The visitors' entrance has no superiority over those of each of the employees' pavilions and since administrative and manufacturing activities are treated equally there is no special distinction between white-collar or overall-clad employees.

The pavilions are constructed of "curtain walls"—aluminum panels laminated to an asbestos core in extruded aluminum mullions. The panels are porcelained on the exterior in two tones of blue, and on the interior in very pale blue. Panels are  $\frac{5}{16}$ " thick. Neoprene gaskets act both as weatherseal and serve to grip the glass and panels in place. These walls are 23' high in the manufacturing section with 4' high windows at the 4' level and 25' high with two bands of window in the administrative area.

In the interiors, space and color have also been used with consideration of their effect on the employee. In this light, airy atmosphere, the machines (which manufacture electronic data-processing machines) are a deep blue. The bins in which manufactured parts are placed and which are stacked 20 or 30 in a pile alongside of the





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machines are painted in six very different bright colors. Since these are constantly stacked in different ways, there is a constant variety of big blocks of bright colors.

**10, 11** LEAR, INCORPORATED—Instrument Division Plant. Grand Rapids, Michigan.

Project has highest degree of temperature, humidity and dust control systems required in the development of delicate missile components. Photo below shows the "white room" area. These rooms are positively pressured, and all surfaces are specially treated to avoid any form of contamination. Total cost of building: \$2,096,000—cost/sf \$11.09. Floor area, 189,000 sf—size of lot 50 acres.

The most unusual feature in the building is the rigid dust control design requirements that are provided in the 20,000 sf of manufacturing assembly rooms. In these rooms which maintain special room pressures, humidity, and 99.95% dust free air, all the surfaces were specially treated to avoid dust contamination. For instance, the floors were covered with large sheets of vinyl plastic and the bases were covered up the wall to meet flush with the plaster walls. And the plastered walls with coves at ceiling were sprayed with a plastic coating to prevent dust contamination from any developed plaster cracks. Along with these features, the ceiling tile of plastic covered acoustical tile over plaster backup had all joints taped. Also, all recessed lights were provided with gasketed frames and above ceiling servicing by employment of a vast network of catwalks. Finally, various doors were gasketed and provided with an alarm system to prevent employees from leaving area at will.

Floor is 6" reinforced monolithic concrete on grade/floor capacities in principal areas—concrete slab is designed for 1,000 psf capacity. Dust controlled assembly rooms have separate foundations for walls to prevent cracks from developing in walls which would be detrimental to manufactured items. The sidewall construction consists of a cavity-type masonry tier 4'-4" high, which has an interior face of 4" concrete block, air space filled with insulation and an exterior face of brick, glass fenestration tier and colored insulated metal siding top tier. Bays are based on a 40' square module. Various trusses were designed to take loads of one-and two-ton capacity hoists for light manufacturing functions.



11

**Giffels and Rossetti**

**Architects—Engineers**





**O'Neil Ford and Richard S. Colley**  
Architects

**12 CENTRAL RESEARCH LABORATORIES, TEXAS INSTRUMENTS, INCORPORATED. Dallas, Texas.**

The research building is the second building constructed on the Texas Instruments' 300-acre central expressway site. The building is generally three 42' wide wings, each 462' long. The three wings, arranged with the long dimension running east-west, are each on a succeeding ascending one-story level to match the approximate slope of the existing grade.

The connecting link between first and second levels on the west side contains cafeteria and library at the second level. The library overlooks the central garden first and second levels. Central receiving and shipping is located below cafeteria on the first level. In a service yard outside is located the main electrical transformers with attendant switch gear, gas compound and rough chemical storage.

Window walls on each face of three levels extend from slab to slab. Bottom panels are porcelain enamel sandwiches, some of which are fastened in so that they may be easily knocked out from the inside, thus serving as emergency escape openings from hazardous areas. Panels may be located as desired at any time. All of the window wall is easily removable for moving in bulky equipment, etc.

Exterior wall of the basement occurs about 3' back of the plane of the window wall and extends to within 3' of the underside of floor slab. In this open band occurs fresh air-intake louvers, some glass panels, etc. It is partly covered by removable cement asbestos panels.

Floor slab is a 10" thick, two-way mild steel reinforced flat slab designed for 200 psf live load. Precast concrete blocks, cast in floor slab at 3' modules, can be knocked-out to provide access from the floor to basement area.

Roof is an 8" thick, two-way mild steel reinforced light weight concrete flat slab. Since the perimeter columns supporting this slab rise outside of floor area, window wall is freed of column interruptions.

Interior lighting is by surface-mounted fluorescent fixtures. Integrated with lighting layout are branch lines and heads of a wet pipe sprinkler system protecting the building in accordance with the standards of the National Board of Fire Underwriters.

The various exits of the building are monitored by an electric detection system, the console of which is located in the receptionist's desk in entrance lobby. (Part II will appear in December.)



*Limited Factory, Bedford, England*

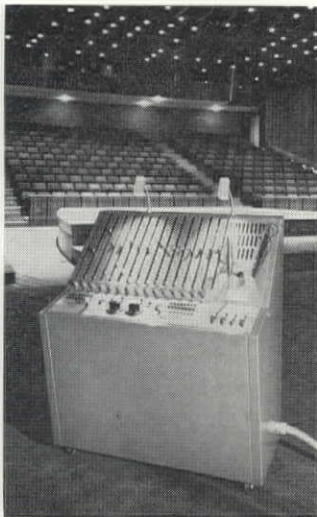


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# *School Plant Studies*

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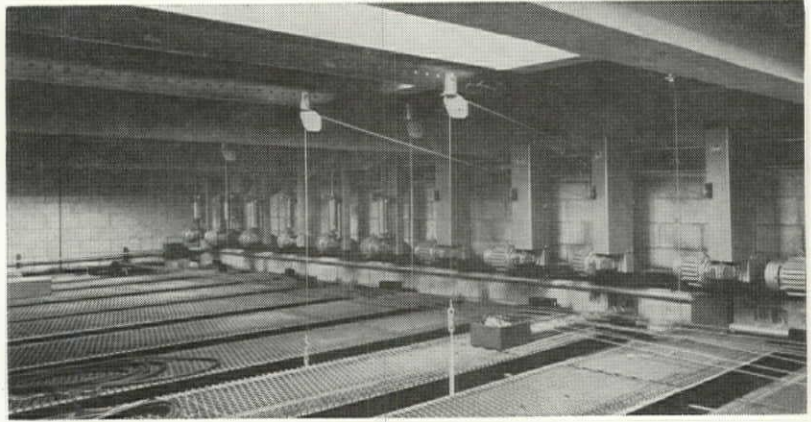
## Backstage Isn't Backstage Anymore

by Edward C. Cole, Yale School of Drama

*Adapted from a paper delivered at  
AETA Convention, December 1959*

*One of a series of papers prepared by members of the AIA Committee on School Buildings, and by selected specialists, to make laymen aware of school building problems and trends and to stimulate discussion. They are not intended to be definitive last words and carry only the authority of their respective authors. New subjects are being worked on and contributed articles are welcome. Reprints of these non-technical articles are widely distributed to educators and laymen. One copy each issue free — additional copies 10¢ each.*





## Backstage Isn't Backstage Anymore

by Edward C. Cole

► The process of designing a theatre often starts with a plot of ground, an over-all budget figure, and a vague notion that there should be a stage, an auditorium and a lobby. Sometimes there is a program of required rooms and equipment. Even when the bill of particulars is pretty thoroughly drawn there is often no real comprehension of the variations which are possible in stage and auditorium and in relationships between the two.

Sometimes, even, the school or college theatre is designed without bringing the theatre worker (the director of drama, or the department head) into the councils and the planning sessions. Sometimes, in state or municipal buildings, there is a complex hierarchical chain of command which keeps the architect at much more than hailing distance from the persons who are going to use the theatre. Sometimes existing theatres are used as prototypes and copied without adequate investigation of their good and bad features.

Sometimes architects are given, or must compile, bills of requirements drawn from reference manuals that are either incomplete or archaic.

All too often the design of the exterior of the building dominates interior shape and arrangement with the result that operation of

the building as a theatre is either difficult or impossible.

### Architecture or sculpture?

There seems to be current among "name" architects a compulsion to create forms which are startling. Witness the church in the shape of a fish in Stamford, Connecticut, the hockey rink in the form of a brontosaurus in New Haven, and the auditorium in the shape of an eighth-sphere in Cambridge. One cannot dispute motives without knowledge of the situation; one can and must, charitably and in fairness, recognize the right and duty of the architect honestly to arrive at the appropriate form for the buildings which he designs. If the accomplishment of a particular external expression in a building derives from careful consideration of the uses of the building and at least does not interfere with the uses of the building there can be no complaint; but when, as has been the case in more than one instance, the predetermined external shape has cramped, compressed, distorted and hindered the operations within the building, there is basis for objection.

### Sophistication

A theatre is a complex building. It has several component spaces which are organically related one to another and the relationships



are surrounded with a set of variable values which by their variability in different situations make impossible the establishment of a set of fixed specifications as to size, shape and arrangement. The final sizes, shapes and arrangements must be evolved by the adjustment of the fundamental relationships in consideration of the factors in each particular situation. A thorough knowledge of theatre practices is necessary, but other knowledge is also necessary; the status of theatre in a particular community must be evaluated, the stage of development of those who will operate the theatre both presently and in the future, their "theatre-readiness," must be appraised, their readiness to progress from one level of production to a higher, more sophisticated level. It avails little to place at the disposal of a producing group a highly experimental theatre form when their, and their audiences', theatre sophistication is not capable of using or appreciating it. This reasoning extends also to elaboration of staging equipment, lighting equipment and other facilities.

### The Origin

The place where the design of a theatre starts is where the audience and the performance confront each other. The design works outward from that point in all directions, logically and methodically, according to requirements, until the outside walls and roof are reached and positioned.

### Viewpoints

The fundamental decision is the one regarding the audience-performance relationship. It must be decided whether the audience shall be seated all on one side of the performance and look in one direction at the performance, or whether the performance shall surround or partially surround the audience, or indeed whether these various arrangements shall exist in varying degrees at different times.

### Backstage isn't backstage anymore

The rigid separation of audience from performance which has existed in the theatre until recently is breaking down in various ways. The performance elements, the

*Photo at left: Console-controlled electric motors for gridiron above stage. Below: Scene-Control console in Loeb Drama Center—Hugh Stubbins & Associates, Inc, Architects. (Clancy's SceneControl), J. R. Clancy Inc—U. S. Patent # 2,942,879. George C. Izenour, inventor*





backstage elements, are not staying backstage. Most obviously the action is bursting thru the proscenium onto side stages or forestages, and denying the proscenium entirely in the arena form. In one amusing production of a farce an actor stuck his head through the ceiling lighting slot and uttered some lines. It was that kind of play and the action was effective. Actors have entered from orchestra pits, down aisles, even through tunnels under the seating banks.

Now as the actor departs from the area within the proscenium, he leaves behind him a number of devices which traditionally have aided him in his performance: Act curtain, scenery and scenery-handling devices, wings for entrances, trapped stage floor, adjustable levels and a variety of lighting positions. The purposes of backstage equipment are to set up, to operate and to change production aids which the playwright and director call for, which the designer supplies and which the actor uses—the changing productional environment of the actor. When the actor leaves this changeable and changing environment of backstage and goes into the spaces in, or around, the audience, he enters an environment which to date has been changeable only within narrow limits and with difficulty. In an unchanging environment the actor is not only not helped in the execution of his art, he is hindered by the very sameness of the fixed forms. Monotony may set in and with it boredom, the anathema of theatre art.

#### Why the new forms?

It is in part boredom with the fixed form of the proscenium theatre, despite flexible backstage facilities, which has motivated the revolt against it. But in executing this revolt the revolutionaries have not added positive values to balance those lost productional values which reside in the abandoned backstage area. Not yet, that is. And here lies the challenge: Here lies in fact the 20th century contribution to the form of the theatre: To retain the positive productional values of the proscenium theatre's backstage area and to provide for the actor a changeable environment in the other areas into which advanced production styles are taking him: The forestage, the side stages,

the arena stage. The changeability of the backstage area must be made to extend to these other areas.

#### The challenge

Even if the performance is in an *avant-garde* style which denies the validity of representational scenery, the forms which surround the actor and upon which he moves must be variable to be most effective. The very differences in the moods between and within plays, the scales of the action, the styles of performance, the emotional tonality of the subject matter, demand differences in forms: From light to heavy, from massive to delicate, from horizontal to vertical to angular, from ordered to jumbled, from symmetrical to irregular.

The answer to the challenge seems to lie in the movement of parts of the theatre itself; adjustable forestages, sidestages, arena stages, wall panels, ceiling panels. This is not a new idea. Gropius' *Total-Theater* is only one of many projects which have attained respectable positions in theatre history. What is new, and this is the third point, is that technological developments, mostly outside the theatre, have been placed at our disposal; the devices to make these changes possible. Until now we have not had devices with sufficient subtlety, or "sophistication" as the engineers say, to perform the movements silently and with infinite variability accompanied by precision and dependability, and controllable remotely thru analogs, telemeters and amplifiers, so that minute movements by an operator may guide the movements of large heavy objects with speed changes and precise positioning as desired. If we want to raise and lower sections of floor we may do so; if we wish to change the position of a wall, it is possible; if we wish to fly objects onto or off an arena stage, we may.

We now have remotely controlled flying systems which have no counterweights and hence are independent of the theatre's walls. We have platforming systems capable of instantaneous adjustment and total recall of previous configurations. And we have a device for automatically moving whole sections of seats, so that in a matter of minutes the theatre may assume the form for proscenium produc-

tion, for arena production or for open stage production.

If the demand resulting from a number of motives—theatrical need, the urge to adventure, the view for the future, or any other motive—is expressed and backed by sufficient funds, these devices can and will be built into future theatres.

#### Theatre engineering

These devices are electro-mechanical and they must be understood, operated and maintained by human beings, probably technical directors who must possess the knowledge and skills to perform these tasks. The educational theatre must train them. What kind of training should they have? What kind of skills should they acquire? Certainly greater knowledge in math and science than most technical directors have today. Certainly some skills in metal and electrical crafts and in electronics.

As a start in the preparation of persons for these jobs, we at Yale are asking candidates for the Technical-Design-Lighting major either to have had math thru trigonometry and physics thru basic electronics and statics, or to get these subjects in the Yale Engineering School, or at least to take a minimal course, in Math and Physics for Technicians, which we have introduced as a stopgap into the School of Drama curriculum. And we are selecting from our "T-D-L" students those with qualifications, interest and aptitudes in this direction to work as "apprentices" (or lab assistants if you wish) in George Izenour's electro-mechanical laboratory, for about a quarter-year each, to learn bench skills and circuitry, and to find out if the sample justifies the full course dinner. And we hope that enough candidates will like the diet to enable us to satisfy an already existing, though small, demand for men qualified in this work.\*

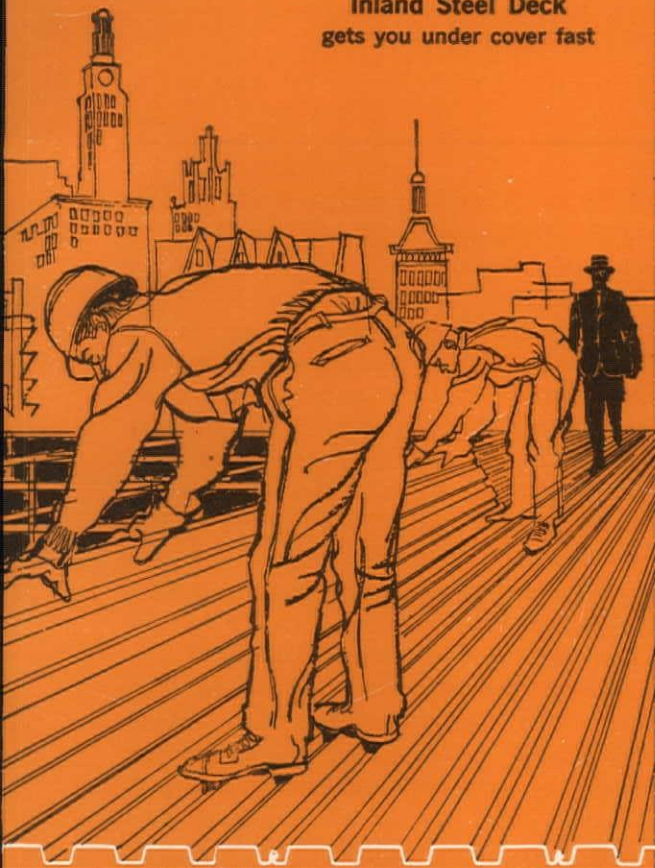
Backstage isn't backstage anymore. It is all over the theatre. And soon stagecraft won't be stagecraft anymore. It will be Theatre Engineering. ◀

\* In March 1960, a Rockefeller Foundation grant was made to Yale by which Dr Izenour may select research fellows to work in this laboratory on yearly appointments.

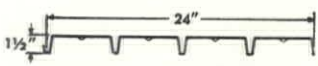


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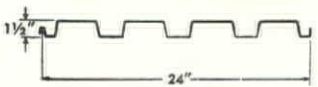
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for poured construction



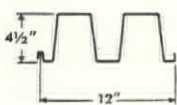
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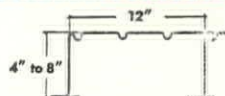
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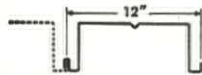
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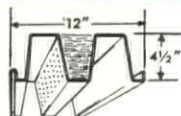
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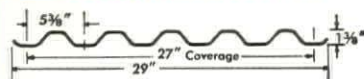
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# THE STUDENT PAGE

## Common Aims

by Ray Gaio, Notre Dame '61, President, ASC-AIA; Alexei Vergun, MIT '61, Vice President; Gary Call, USC '61, Secretary-Treasurer

We, the officers of the Association of Student Chapters, AIA, wish to emphasize to the profession and to the student body of American architectural schools, the importance of a close agreement reached between the student officers and the Institute officers at a meeting in Washington, Sept. 14, 1960. The conclusions will be presented to the Board of Directors for approval.

Just as The American Medical Association has enforced a level of competence that has won public recognition of its profession's responsibility for public health, so now we are told of the AIA's expansive program to raise the profession's level of competence to achieve recognition of its responsibility for man's total environment.

We, the students, face the same involvement. Early in school the student must choose which professional pursuit he intends to follow. Such commitment requires early and full contact with all phases of architectural involvement.

Having chosen this profession, the older students have a duty to themselves and to the younger students to pursue true understanding of the breadth and the complexity of architecture. Good architects remain students all their lives.

In a decisive attempt to resolve the mutual misunderstandings which arose earlier this year between the ASC-AIA and AIA, Mr George Pierce, Chairman of the Chapter Affairs Committee, held a special meeting. Those in attendance included President Will, Second Vice-President Hunter, and the three national student officers and members of the Chapter Affairs Steering Committee. Items requiring study were the ASC-AIA, AIA relationship, national and international competitions and conferences, the student pages of the *Journal*, and student-architect contact.

110

The situation at hand necessitated clarification, by President Will and Second Vice-President Hunter, of AIA policy as it pertains to the Student Association. They stated that the Institute's concern should expand to include all facets and standards of education in addition to fostering communications: To enlighten, to indoctrinate and to broaden the architect's and student's view of the profession. The student officers described the further heights to which the ASC-AIA aspires:

To instill in its student members the broadest principles of professionalism and the desire for architectural competence.

The conclusion drawn by Second Vice-President Hunter, and echoed by the ASC officers, was that the ASC-AIA is a total dedicated organization representative of autonomous school chapters, rather than individual students (who may become student associates of their sponsoring chapter) and that it advocates a closer relationship between the students and the corporate members.

To implement these principles and to safeguard their future relationships, a new joint committee was proposed, to be composed of three Institute members and the three national student officers.

In order to facilitate matters, an effective inter-communication system embracing each administrative echelon, including the Octagon, has been established by the student officers as follows:

- 1 National ASC-AIA officers (President, Vice-President, Secretary-Treasurer)
- 2 AIA Regional Directors, ASC-AIS Regional Directors, ASC, AIA officers
- 3 All AIA members

The group reaffirmed the use of the pages set aside by the *Journal* for student matters, as a means to insure the aforementioned permanent relationship between architects and students.

As a further means of achieving this end, the ASC proposed that it undertake a series of exhibits and competitions:

- a An annual exhibit of selected student theses at the Octagon, during the Annual Student Forum.
- b Preliminary display and screening of submissions for international exhibits, to be held at the AIA and ASC National Conventions.
- c Conduct of a national student design competition with a fellowship award.

Finally, the student officers proposed participation in international architectural student congresses by an elected student delegate.

Fully realizing their obligation to share in the financial responsibility of this rather ambitious proposed program, the ASC-AIA officers stated their intention to attempt a fund-raising plan by:

- a Entry fee for ASC competitions.
- b ASC fee for administrative assistance to private architectural student competitions.
- c Federal sponsorship for international delegates.
- d Corporate and private donations.
- e Donations from sponsoring chapters. ◀



# New Corporate Members

---

*Elected September 1, 1960*

Paul, Grant Jim  
Wisconsin Chapter

Myers, John Kenneth  
Pittsburgh Chapter

Barrow, David Brown, Jr  
Dallas Chapter

Perez, August, III  
New Orleans Chapter

Neilson, Hugh M.  
Pittsburgh Chapter

Chen, Hok-Ming  
Baltimore Chapter

Pierce, John Allen  
Dallas Chapter

Newland, Donald A.  
Eastern Ohio Chapter

Daverman, Herbert George \*  
Western Michigan Chapter

Taylor, Joe Byron  
Arkansas Chapter

O'Neal, Donald H.  
Pittsburgh Chapter

Davis, Alexander Schenck  
East Bay Chapter

Vogt, George Emil  
Georgia Chapter

Oppenheimer, Otto H.  
South Florida Chapter

Hallbeck, James Richard  
Wisconsin Chapter

*Elected September 15, 1960*

Plenert, James Woodrow  
Central Arizona Chapter

Hawn, Roland H.  
Arkansas Chapter

Burgess, Ronald Alan  
Cincinnati Chapter

Rose, LeRoy  
Orange County Chapter

Janka, Martin J.  
Baltimore Chapter

Bush, Arthur H.  
Colorado Chapter

Salerno, Joseph  
Connecticut Chapter

Kemp, Robert Walter  
Wisconsin Chapter

Cook, William Howard  
Indiana Chapter

Starkovich, Robert LeRoy  
Central Arizona Chapter

Keyes, Edward Ambrose  
New Orleans Chapter

Fox, Robert DeCamp  
Cincinnati Chapter

Toman, Sidney Wright  
North Carolina Chapter

Klemmedson, Robert L.  
East Bay Chapter

Horty, Thomas  
Minneapolis Chapter

Van Ess, Donald Theodore  
Central Arizona Chapter

McFarland, Jasper Anderson, Jr  
Memphis Chapter

Kulhavy, Alexander  
South Florida Chapter

Waring, Anthony Andrews  
Rhode Island Chapter

Nicholson, Lee Austin  
Memphis Chapter

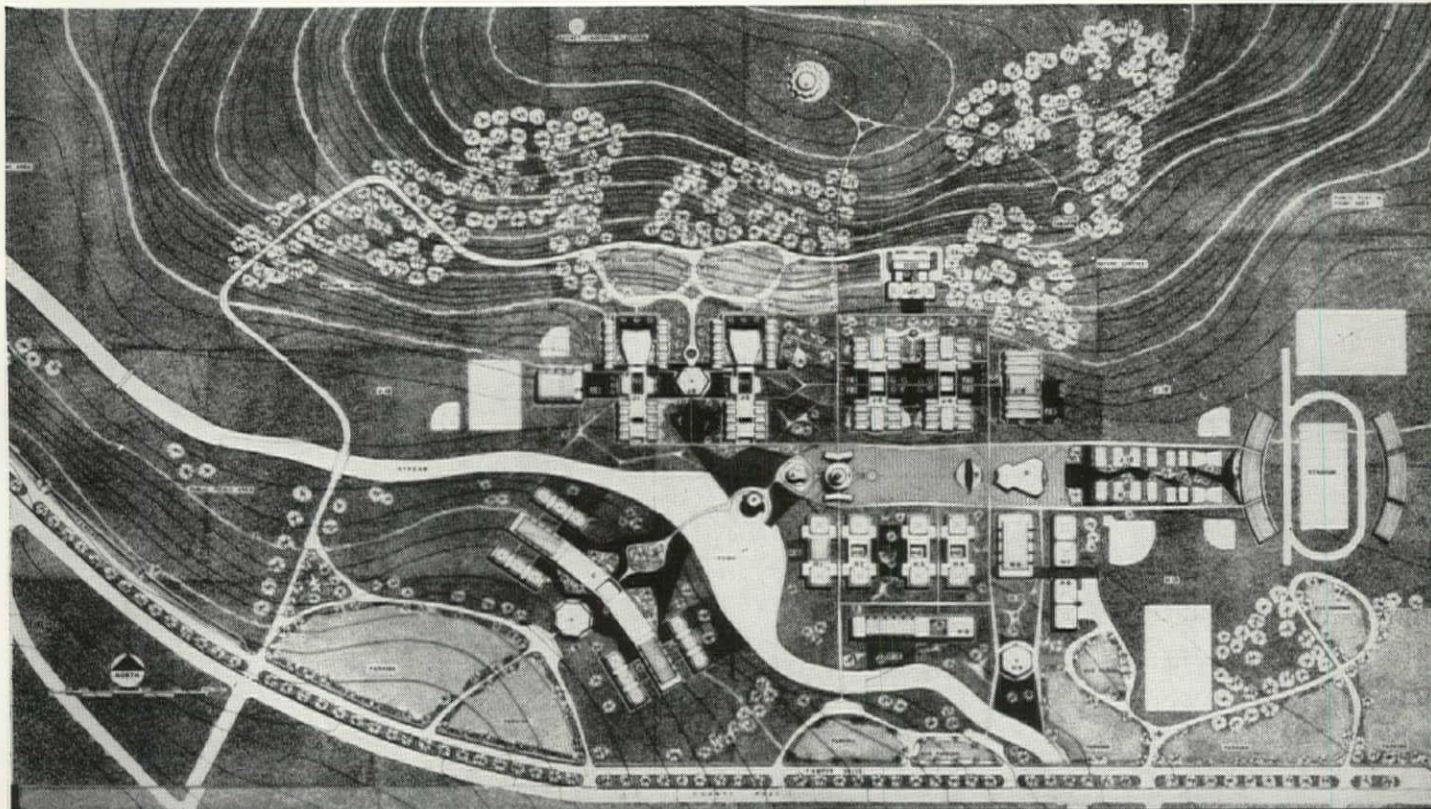
Machlan, Jim Walker  
Texas Coastal Bend Chapter

Wilson, William Harold  
Kansas City Chapter

\* Readmission

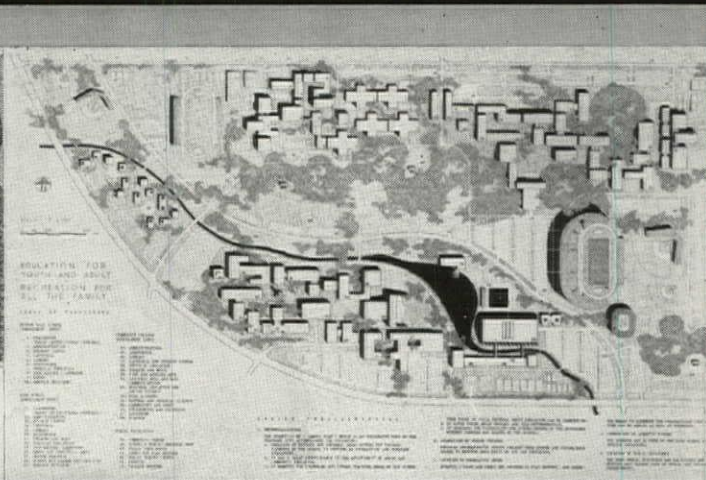
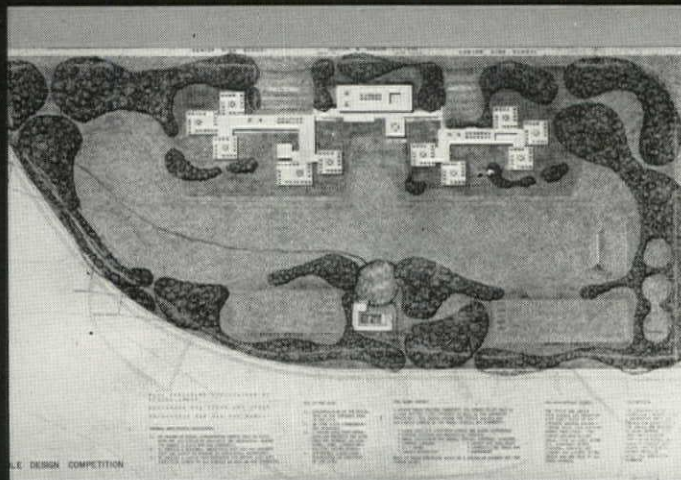


# 1960 AWARD



## GRAND PRIZE

Edward Colbert, A.I.A. and Alfred J. Petrilli. — "The main feature was the total plan, with center of plant revolving around the information center. Most impressive."



## 2nd prize

Edwin F. Harris, Jr. — "The accent is on planning, with Junior High School, High School and the College planned on one very large space module."

## 3rd prize

Marvin Hatami. — "It is one of the best decentralized plans; for instance, the Junior High School itself is ten or so buildings. A well-integrated job."



# WINNERS

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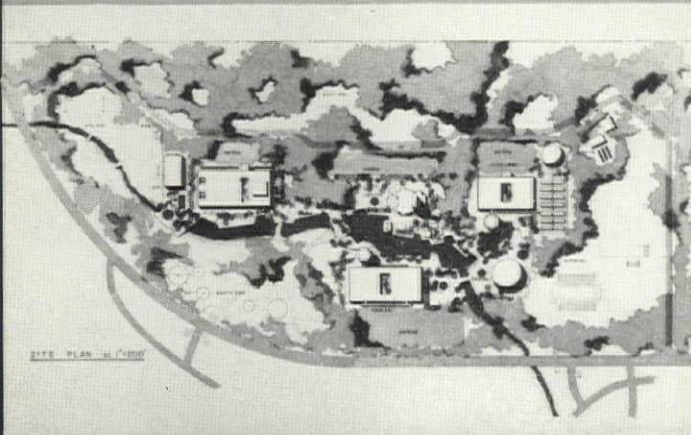
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*...from comments by the Jury*



## STUDENT DIVISION

### 1<sup>st</sup> prize

John Scarlata, Pratt Institute. — "The design was particularly liked for the development along the water's edge, and related the community and educational facilities very well."

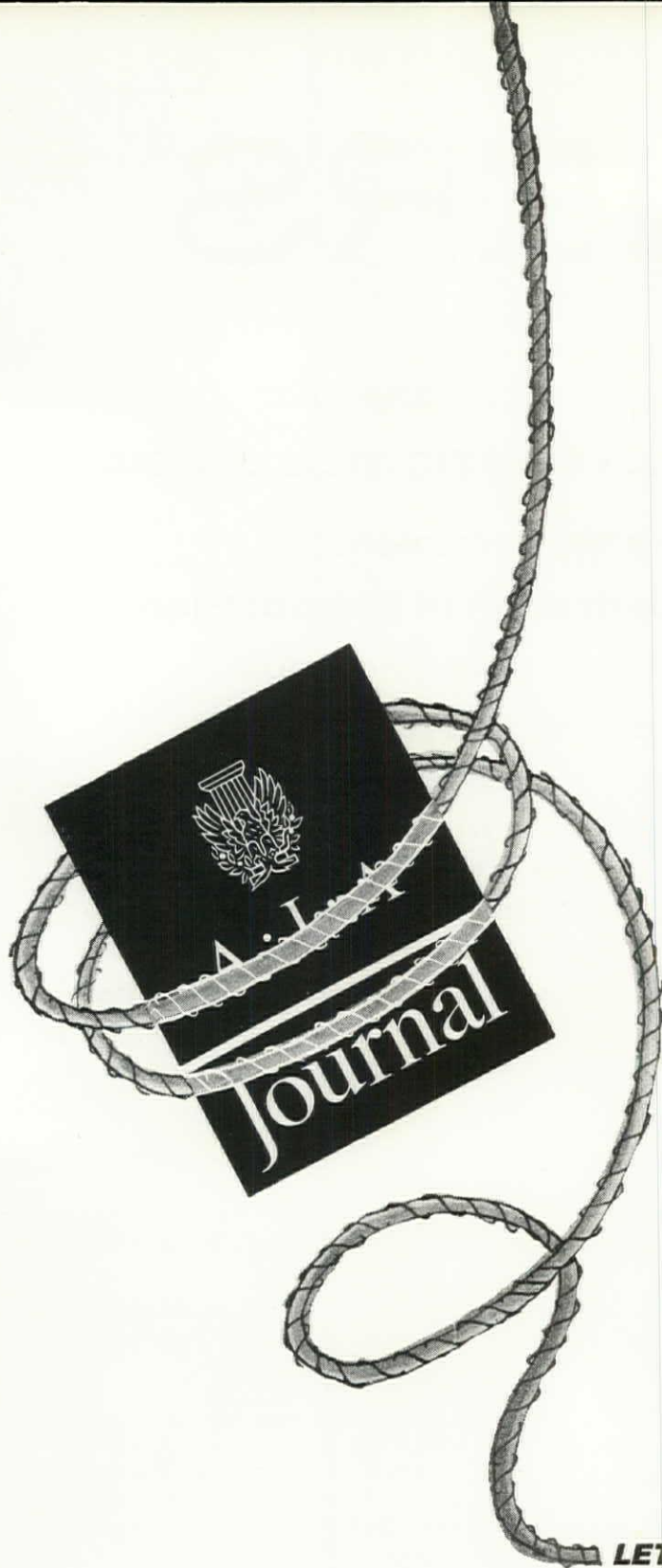


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