

PENCIL  
POINTS

OCTOBER

1936

THE WORK OF  
TECTON



# Tradition HAS MERIT

*... But Not When it  
Blocks Betterment . . . . .*

Centuries of change have failed to obsolete certain traditional architectural elements. But such elements have survived on their merits.

On their merits, Truscon Steel Joists have permanently obsoleted the traditional material for joist construction. Structurally stronger, contributing to fire-safety, easier and quicker to erect and...all factors considered...more economical, Truscon Steel Joists are basic elements of modern building construction.

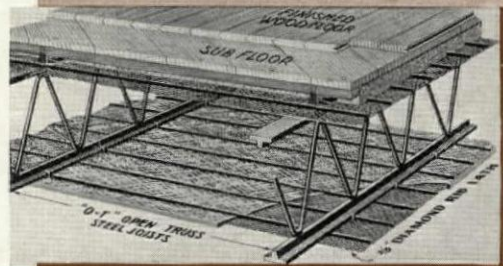
## TRUSCON STEEL JOISTS FOR EVERY TYPE AND SIZE OF BUILDING

FOR LIGHT OCCUPANCY STRUCTURES, Truscon "O-T" Open Truss Joists and Truscon "O-T" Open Truss Nailer Joists meet every requirement for concrete or wood floor construction.

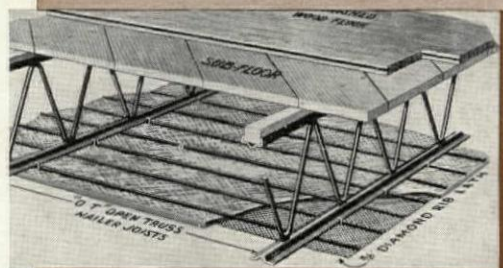
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Open Truss Joist fire-safe construction



Open Truss Nailer Joist construction



Clerespan Joist and Cement Floor construction

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STEEL WINDOW AND DOOR Casement and Case Screens Casement and Utility Basement Window Coal Chutes and Gates

METAL LATHING The Original Herbol Doublemetal Insulmesh and Diamond "A" Metal Lath Hy-Rib and Diamond Rib Laths Corner Beads and Accessories

OTHER BUILDING PRODUCTS Open Truss Steel Reinforcing Bars Steel Lintels Duplex Bridge

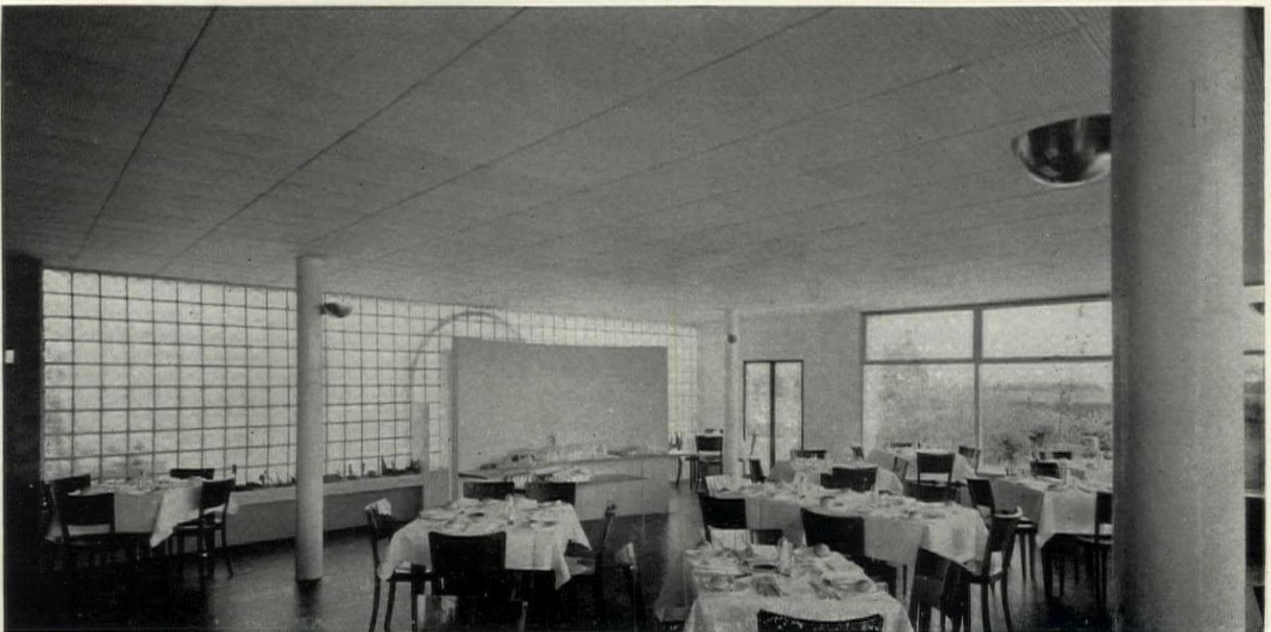


# Truscon Steel Company

YOUNGSTOWN, OHIO



ON THE FOLLOWING PAGES IS A PRESENTATION OF THE  
WORK AND PHILOSOPHIES OF A BRILLIANT GROUP OF  
YOUNG BRITISH ARCHITECTS WHO HAVE MADE A SUCCESS  
OF A JOINT PRACTICE UNDER THE NAME OF "TECTON."  
INDIVIDUALLY, THEIR NAMES ARE ANTHONY M. CHITTY,  
LINDSEY A. T. W. DRAKE, MICHAEL A. S. DUGDALE,  
VALENTINE HARDING, LUBETKIN, GODFREY H. SAMUEL,  
AND RUSSELL T. F. SKINNER. BELOW IS A RESTAURANT  
INTERIOR AT WHIPSNADE THEY DID IN COLLABORATION







A CORNER OF THE ENTRANCE HALL, HIGHGATE APARTMENTS, RECENTLY COMPLETED



# ARCHITECTS OF EUROPE TODAY

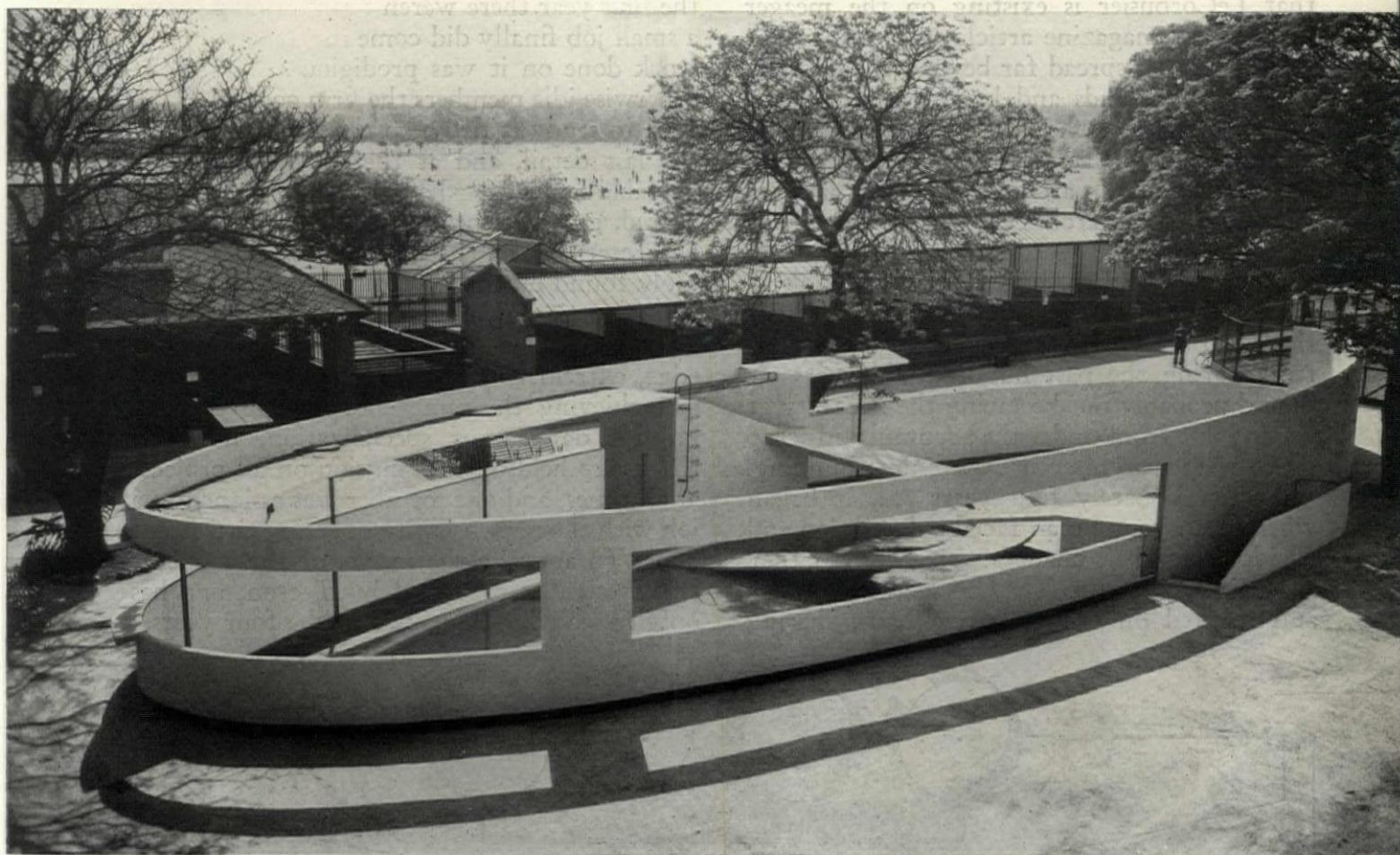
1 2 — "TECTON," ENGLAND

BY GEORGE NELSON

THIS is the last of a series of articles on men who have succeeded in impressing their ideas upon their generation. Sometimes they did it by force of personality; sometimes it was the sheer power of an idea convincingly put on paper; sometimes it was social connections or political conniving; but whatever the means, the idea was always there. These men and their kind are creating a new architecture, and the most important single fact about them is that in spite of a wide range of temperaments, of the most bitterly opposed political convictions, they all agree on one essential point: *only an architecture which takes modern technics seriously, which uses the new tools*

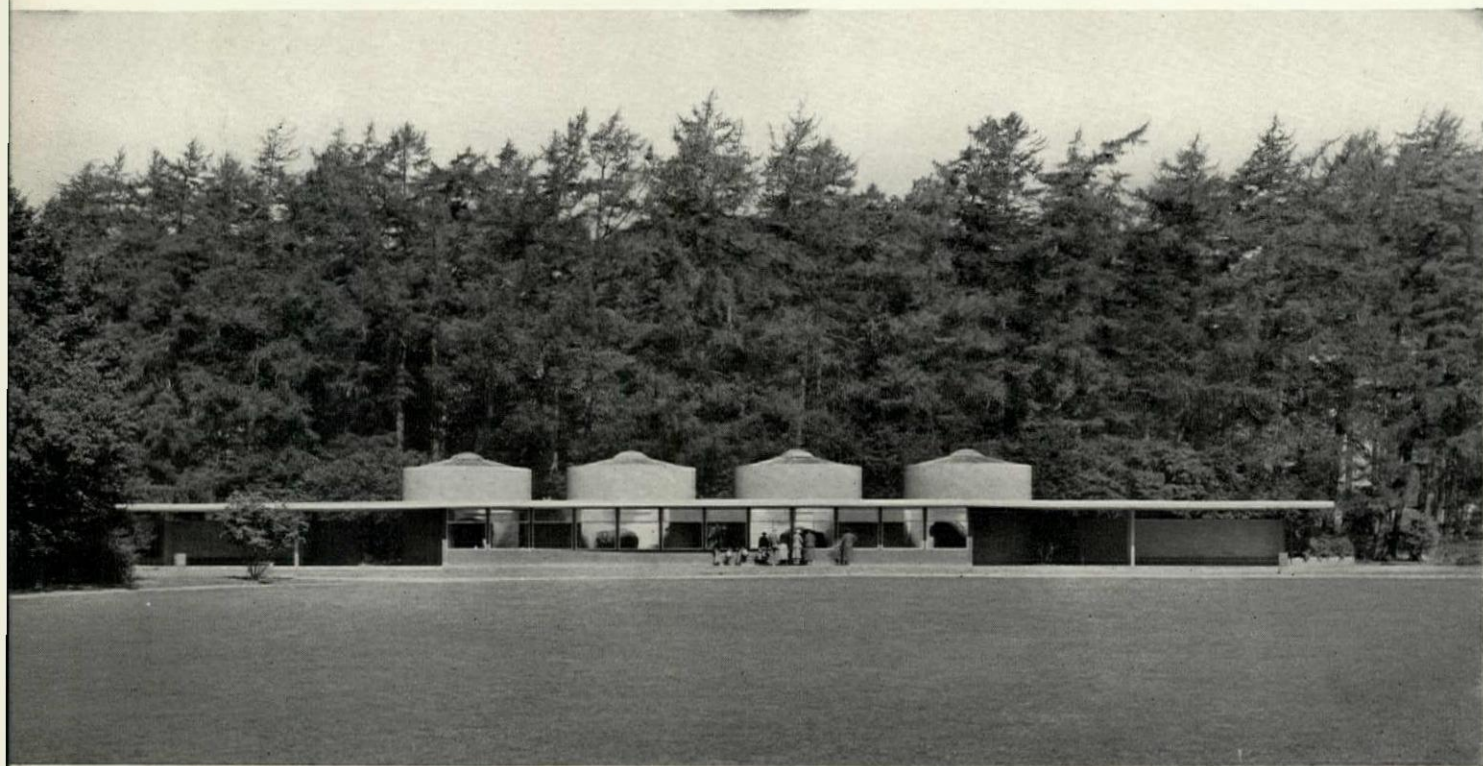
*with understanding and imagination, has any meaning in the world today.* Or tomorrow. It is also noteworthy that the great majority of these men are conscious of the social implications of modern architecture; as the corporate life becomes a more characteristic form of present-day existence the social responsibilities of the architect become greater—and also his opportunities.

While they have been primarily concerned with the thinking behind a new kind of building, the stories of the men who have appeared in these articles have been—without exception—success stories. This in spite of the fact that Miës van der Rohe and the Brothers Luck-



THE PENGUIN POOL, ONE OF TECTON'S EARLIEST AND MOST BRILLIANTLY CONCEIVED WORKS—A SUPERLATIVE PIECE OF DARING ARCHITECTURAL SHOWMANSHIP THAT HAS ATTRACTED ATTENTION ALL OVER THE WORLD





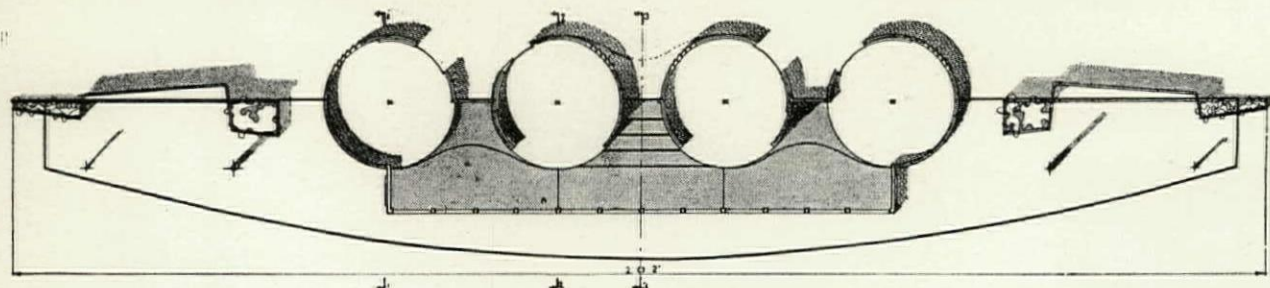
THE ELEPHANT HOUSE AT THE LONDON ZOO, A POWERFUL AND DRAMATIC GROUPING. THE PLAN IS SHOWN BELOW. NOTE THE EFFECTIVE USE OF THE BATHING POOL AS A BARRIER BETWEEN ANIMALS AND SPECTATORS

hardt are sitting around Berlin doing virtually nothing, that Gropius is in voluntary exile, that LeCorbusier is existing on the meager proceeds of magazine articles and books. For their work has spread far beyond the confines of their own lands and has made itself felt. Of all these stories, however, none is as timely, as heartening, or as illuminating as Tecton's.

Tecton is not an architect. It is the name of a group of seven architects whose average age is under 30. The word is Greek and means "carpenter," and so, by extension, "builder." It is a good name. We need more builders; if there had been more builders and fewer architects during the past hundred-odd years we should probably not be facing the necessity of getting out from under the accumulated scrap pile of paper architecture to resume building.

Tecton is barely four years old. It began when seven young men faced a depression and decided that their chances were better if they faced it as a group. They took a small office and worked on a coöperative basis, sharing

work and fees alike. They did their own cleaning and typing. They shared all profits, but the first year there weren't any profits. When a small job finally did come in, the amount of work done on it was prodigious. With seven otherwise idle members the firm could well afford to study it down to the last scheme and the last detail, and at the very beginning a valuable habit of exhaustive research was acquired, growing into one of the most notable characteristics of the group. Each man inevitably found his special aptitude and devoted a major portion of his time to it. The result was a powerful concentration of technical knowledge, extremely usable because all were bent on achieving the same end. To correct any possible dangers of specialization, however, the group held open discussion on all projects at all times, and one member was assigned to a job with the responsibility of seeing that it got done. To appraise the merits of the coöperative system as practiced by Tecton, one has only to see what happened in the four years.





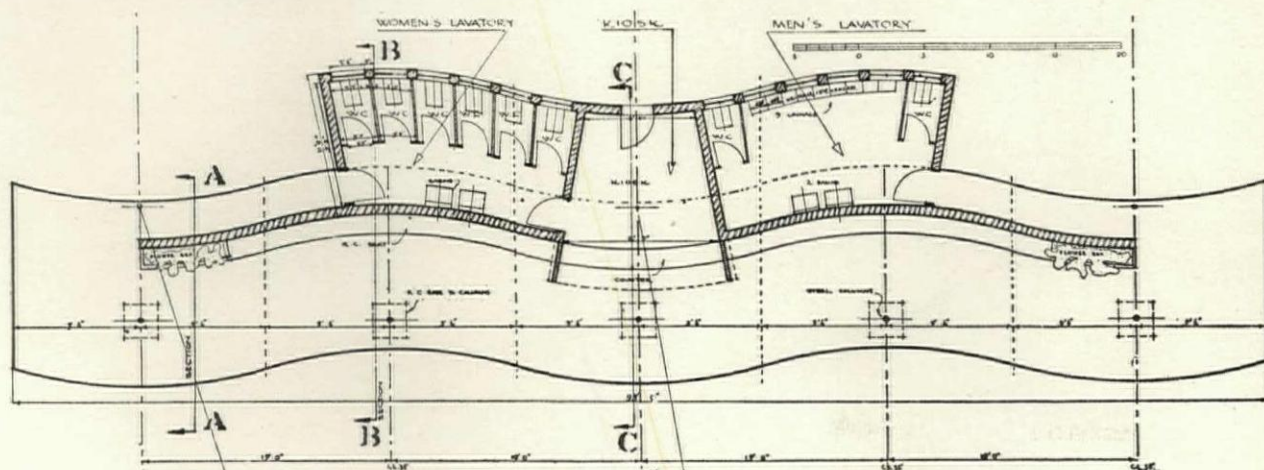


A SHELTER AT THE WHIPSNADE ZOO, LONDON, SIMILAR IN CHARACTER TO THE ELEPHANT HOUSE. A TOBACCONIST'S KIOSK AND TOILET FACILITIES ARE UNOBTUSIVELY PROVIDED AS SHOWN BY THE PLAN BELOW

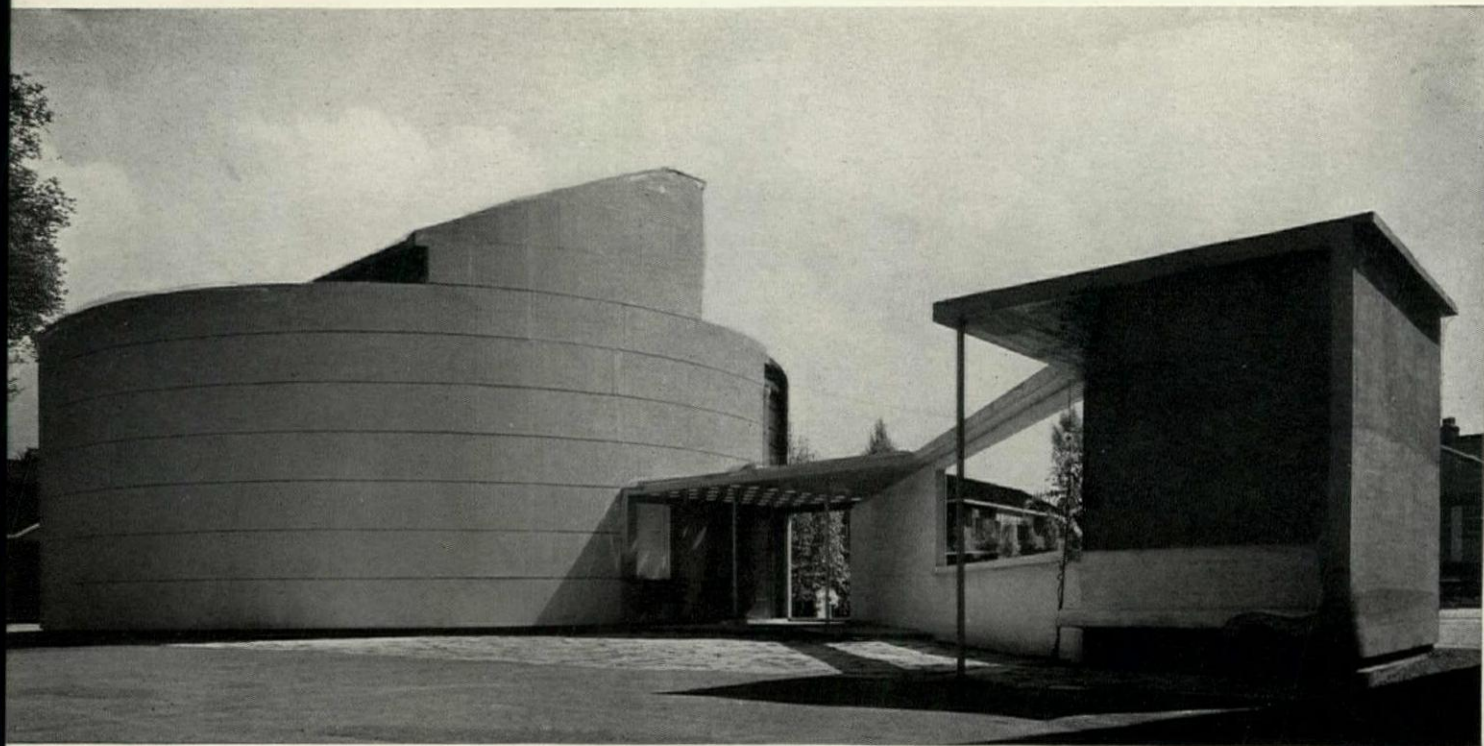
The second year Tecton was commissioned to do a penguin pool at the London Zoo. The pool was followed by other constructions at the Zoo, work whose brilliance and unconventionality attracted much favorable attention. Since then there has been no dearth of work. Last year they entered an important competition for the design of several blocks of workingmen's flats, to be built of concrete. Their project took first prize, and not only was the solution excellent, but along with the plans they submitted a series of studies of construction methods and details of interior design, many of which were entirely new. Recently they had the satisfaction of building a large apartment house which made use of many of the ideas used in the competition.

The Penguin Pool—it deserves capitals:

there is only one in the world like it—is a piece of pure constructivism. Elliptical in shape, with two delicately curved ramps of reinforced concrete, it is a delightful conception, ideally suited for showing off the rather ridiculous antics of its occupants. After this brilliant bit of showmanship there came a gorilla house—quite a different sort of problem. Gorillas in captivity are practically nonexistent, and the Zoo authorities were very anxious that their very valuable pair be housed in a manner giving them every chance of survival. Extremely susceptible to colds and other infectious diseases, the gorillas were as carefully housed as though they had been the Dionnes. The house looks like no other building. Circular in form, half of it is a cage—open on the top as well as the side. Curved



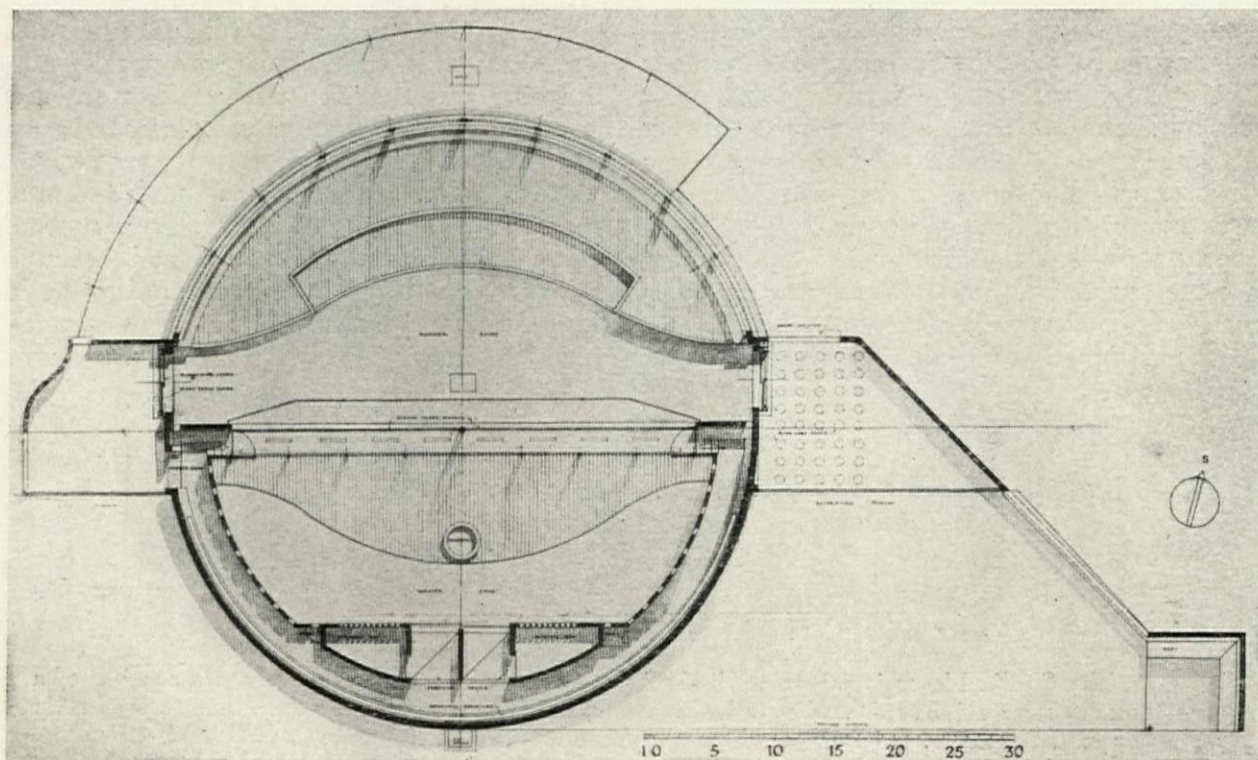




A REAR VIEW OF THE GORILLA HOUSE. THE BUILDING HAS BEEN DESIGNED TO FUNCTION WITH THE PRECISION OF A LABORATORY TO HOUSE A PAIR OF DELICATE TROPICAL ANIMALS AND KEEP THEM IN GOOD HEALTH

walls are slid around in the winter to close the cage, and the rear half is used, while the public passes through the summer cage and looks through windows at the animals within. The windows are to prevent the transmission of infectious diseases. The gorillas breathe conditioned air, are heated with radiant heat panels,

and up to date have done very well indeed. The elephant house was a less delicate problem, but its solution was no less distinguished. Four Indian elephants were set in four circular cages, their bathing pool acting as a barrier between them and the public. A shelter over the windows keeps the spectators in shadow



PLAN OF THE GORILLA HOUSE. THE WINTER ENTRANCE IS THROUGH THE SUMMER CAGE. NOTE PROVISIONS FOR WALL OF CAGE TO SLIDE OUT OF SIGHT BEHIND THE CLOSED HALF OF THE STRUCTURE FOR WARM WEATHER



while the animals are in full light. The setting of the elephant house is particularly effective: against a dark background of trees four white drums and the strong line of the shelter stand out. So outstanding was the job that they did on housing animals that the *Architectural Record* recently ran pictures of four of their Zoo buildings together with a photograph of a slum tenement, commenting on the quaintness of a world that houses its animals so well and its humans so badly. But Tecton has done pretty well on housing humans, too.

England has an interesting method of keeping up the quality of the architecture in its towns. As advisors to the local Council, a panel of architects is frequently set up, passing on the suitability of proposed buildings. When the panel is made up of conservative members, as is frequently the case, and a design for a modern house is submitted, there is sometimes trouble. In 1934 Tecton designed a series of small houses for a town in Sussex. Dignified, simple in form and materials, the houses were eminently suitable for occupancy by respectable people, but the local Council thought otherwise, and rejected them. The venerable gentlemen were disturbed by the evident lack of trimmings—commonly known as “architecture”—and feared that the beauty of the fake half-timber cottages in the locality would be marred by the intruders. The Ad-



AN EXHIBIT FOR A PLYWOOD MANUFACTURER. THE DISPLAY IS DESIGNED TO EMPHASIZE THE QUALITIES OF THE MATERIAL, NOT JUST MANUFACTURED PRODUCTS

visory Panel of Architects hedged a bit when consulted, recommended certain modifications in design, and proposed that the houses be built in a “secluded, undeveloped area.” Tecton didn’t get much profit out of their



A FRONT VIEW OF THE GORILLA HOUSE, SHOWING THE WALLS OF THE SUMMER CAGE CLOSED FOR THE WINTER



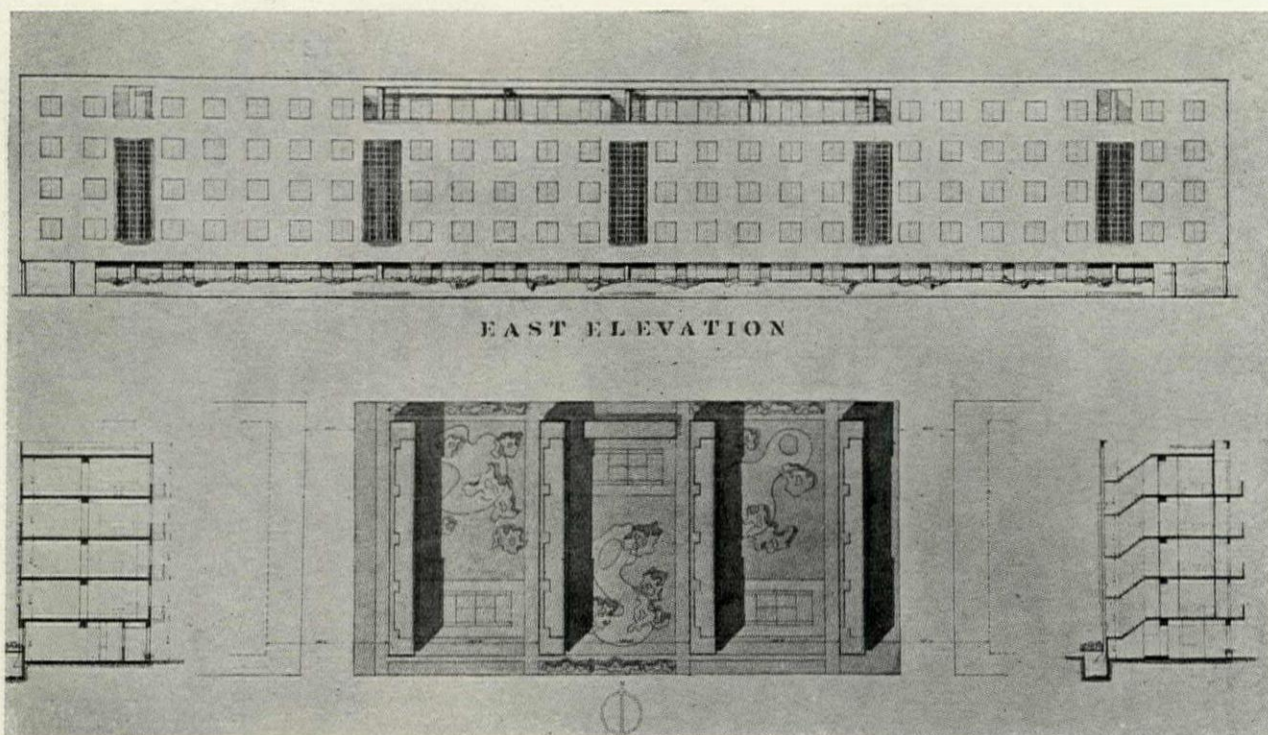


AN AIR VIEW OF HIGHGATE APARTMENTS. NOTE THE CONTRAST BETWEEN THIS AND THE LOW SURROUNDINGS

work, but the Cuckfield Case, as it was known, did get them much useful publicity.

The Cement Marketing Company's competition for workingmen's flats was Tecton's first large-scale study of housing. For their scheme they adopted a series of strip plans, with a very simple arrangement of structural members in each building. In Tecton's project

the influence of LeCorbusier was apparent, while the column arrangement recalled that of Miës van der Rohe's apartment house in Stuttgart. Although the group has never done a building that reflected other than its own point of view, its members obviously have a complete familiarity with the best of modern work and a rare understanding of its aims and

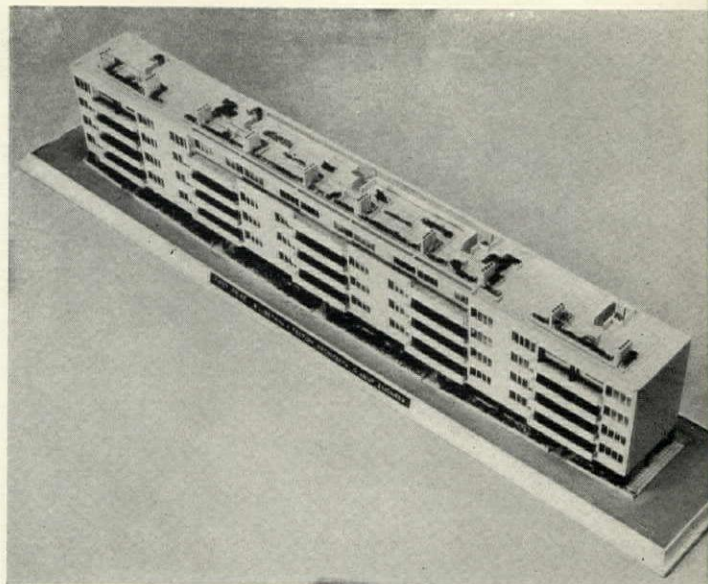


ONE OF THE DRAWINGS OF THE WINNING DESIGN FOR A GROUP OF LOW-COST FLATS. STRIP PLANS, A FREE FIRST STORY AND ROOF TERRACES ARE THE OUTSTANDING FEATURES. EVERY APARTMENT GETS SUNSHINE ALL DAY



underlying principles. The Tecton project combined variety of apartment layout with a rigidly standardized construction; as a result the cost per room of their design was the lowest of any submitted, although the space allotted to the various rooms was quite generous. One of the most interesting parts of their work was the system of sliding forms for concrete, used to eliminate the usual built-up forms and scaffolding. While this winning design was never built, it led directly to their biggest commission, only recently completed: the apartment house at Northfield, Highgate.

Highgate was somewhat more complicated than the competition. For one thing there was the human element to fight against. The building regulations in this suburb, which is filled with the low rows of houses so characteristic of London's outskirts, had never considered the matter of height, so when the plans for a multi-storied dwelling were submitted there was a great disturbance, and the puny men, who always get frightened when a new idea



A VIEW OF THE MODEL OF ONE OF THE BLOCKS WHICH WON THE CEMENT MARKETING COMPANY'S PRIZE AND LED DIRECTLY TO THE HIGHGATE COMMISSION, A HIGHLY SUCCESSFUL MULTI-STORIED APARTMENT



ANOTHER VIEW OF HIGHGATE. NOTE THE CURVED BALCONIES, THE OPEN FIRST FLOOR, AND THE INDICATION OF THE LIVING ROOM IN EACH CASE WITH ITS LONG HORIZONTAL STRETCH OF WINDOW WITH DRAW CURTAINS





THE FIRST FLOOR HALL SHOWS A LUXURIOUS USE OF SPACE GENERALLY GIVEN OVER TO NARROW CORRIDORS

appears, objected. But this time the local Council's feeble objections were brushed aside and the building was built. As soon as it was up, however, a clause was inserted into the regulations forbidding the repetition of such an unheard-of venture. And what was there so bad about this high building that the Council objected to? It gave sun, air, and privacy to its occupants. It had a magnificent view of London, and made it available to most of the apartments in it. It had a roof, nine stories in the air, where recreational activities, undisturbed by traffic and street noises, were possible. And it was neither Cinema Classic, nor Jerrybuilder Tudor. It was just a building that gave its occupants more in the way of amenities than any other building. So the local authorities did their level best to keep it from going up. But when completion approached it was found that not a single flat was available: they had all long since been rented by a public that knew a good thing.

LeCorbusier, who found in Highgate a realization of some of his fondest dreams, waxed eloquent on the subject, and wrote of it: "So we find in Highgate the seed of some-

thing, the seed of a vertical garden city as opposed to the horizontal extension. The building is large enough to be an example, a demonstration, a proof . . . Thanks to the construction on stanchions, the ground floor is no longer that part of the building usually sacrificed, where strangled rooms crowd around access corridors. The ground floor here extends like the superb surface of a lake, absorbing easily the lines of traffic of different speed and direction . . . The building at Highgate is an achievement of the first rank, and a milestone which will be useful to everybody."

The plan of Highgate is a double cruciform plan. That such a scheme has its defects the architects will be the first to confess, but granted the size of the plot and the financial limitations, it was the best that could be done. The real fault here lies not with the architects, but with the prevailing system of land planning. As in their competition project, the structural system was standardized for speed and economy; within the limits of this standardization there is every opportunity for freedom of planning. Here, due to the open-mindedness of the local building inspector, a





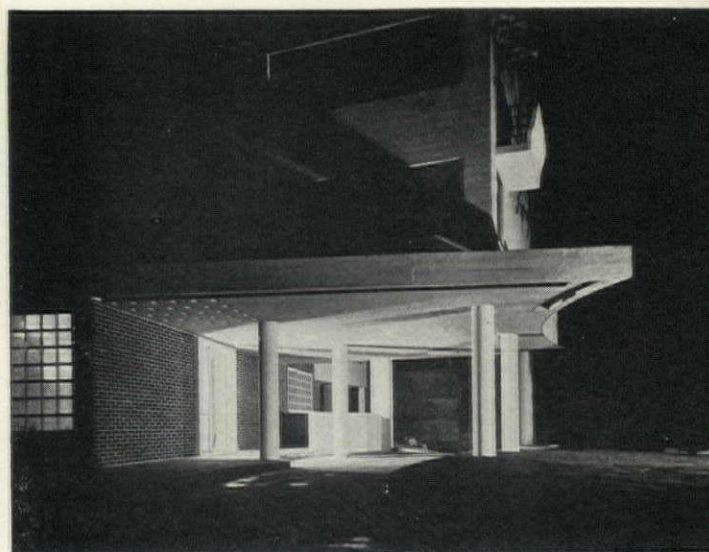
ANOTHER VIEW OF THE LARGE HALL. ITS SURENESS OF HANDLING AND MASTERY OF FORM COMMAND ADMIRATION

structural system based on the intelligent use of reinforced concrete, rather than on the traditional imitation of steel framing, was used for the first time in England. The illustration shows the difference in the amount of space made available in this way.

There were many "firsts" in Highgate. Due to their background of continual research and questioning of existing methods, the members of Tecton had become skeptics of the most pronounced sort. Nothing was accepted unless it made sense. Not content with putting up a multi-story building where all the houses were two or three stories, changing accepted structural methods, and abolishing the ground floor, they went on to a study of every piece of equipment—and redesigned most of it. Washbasins, waterclosets, bathtubs, casement window hardware, closets, door handles, and lighting fixtures submitted by manufacturers were rejected, redesigned, and specially built. This was not because the architects objected on esthetic grounds, although there was ample room for complaint on this score, but because they could not see why stock equipment should not be intelligently designed for easy

use, durability, and ease of cleaning. And not finding what they wanted, they designed it themselves. In America we have industrial designers doing over the commonest items of household equipment—objects that architects have been specifying for years, too lazy to ever

A NIGHT VIEW OF THE ENTRANCE TO HIGHGATE, A FREE, SPACIOUS APPROACH DRAMATICALLY LIGHTED





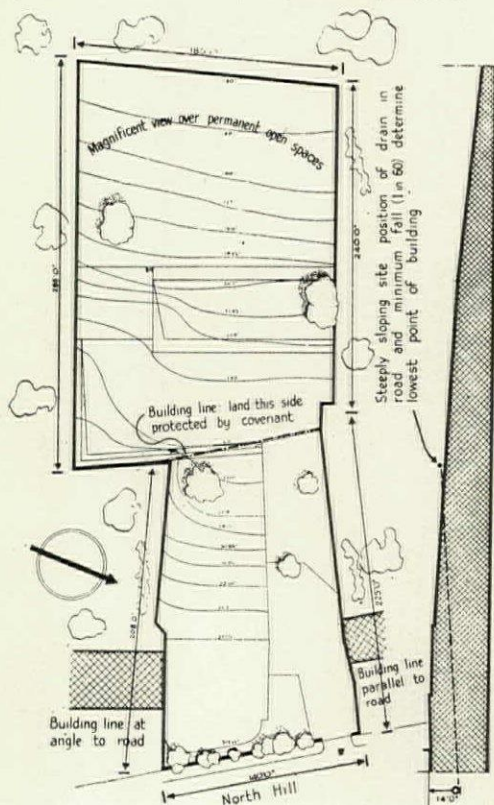
consider that improvements might be in order. England is more fortunate: with architects such as Tecton there is no need for a special profession to solve industrial design problems.

Some time before Highgate was finished, arrangements were made for the students of the Architectural Association School to pay the building a visit. When they learned of the proposed trip, the architects did a very characteristic thing. Believing that a tour of the building could not have its full value unless the students already knew what developments led to the final scheme, the members of Tecton prepared a series of diagrams which were sent to the school several days before the trip. The development of the plan was shown, details of the plans, construction, and fittings, with explanatory text containing such comments as "Any detail left to the contractors will certainly be done wrong. Better to spend a month drawing than spoil the building forever." Orientation diagrams showed how much sun entered each flat, and the text here explained why the solution, from this point of view, was not ideal. Other drawings showed briefly the development of the flat from 1800 to the present day. In short, Tecton gave its guests a complete picture of the building and the thinking and conditions that produced it. It

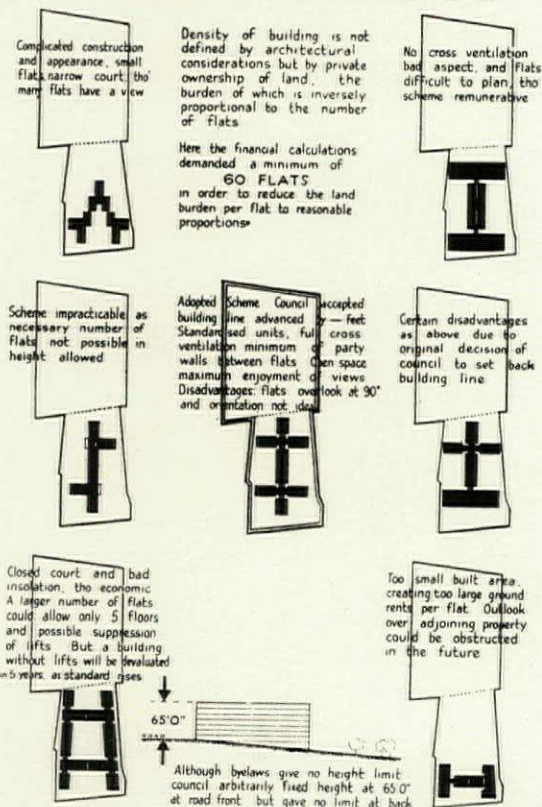
was a nice gesture and a very intelligent one.

Today, at the ripe age of four years, Tecton can look back at solid achievement. A remarkable series of Zoo buildings, brilliant in conception and craftsmanlike in execution; a difficult competition, fairly won; houses; exhibits; a list of product designs too long to enumerate; and one of the outstanding apartment buildings of the present day—this record for four years speaks well for the coöperative effort. Tecton, curiously enough, has stood up better in adversity than in success, and a few of the members have left to set themselves up in private practice. The group, however, still maintains its strong identity. Work continues to increase, and apparently the resistance of the Highgate Council has again been overcome, for there will soon be another apartment house next to the first one. Tecton can hardly have any doubts as to its future; with its sound background it is equipped for any conceivable type of design problem, whether a door knob or a town plan. The group represents the ideal of the modern architect: the coördinator of what Gropius calls "a modern architectonic art." As such, the architect will be able to fill the useful place in society he once occupied. Tecton has already done it. There is plenty of room for more of the same kind.

Crammed urban site means congestion. Here mitigated by big garden high healthy site and view over permanent open spaces

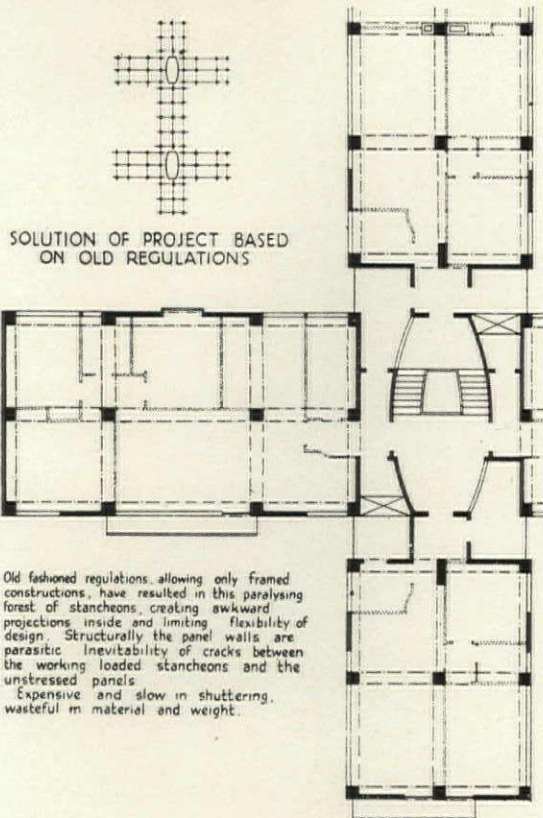


Amid permanent open spaces, instead of allowing a high building the council shortsightedly restricted the height to 6 floors creating congestion





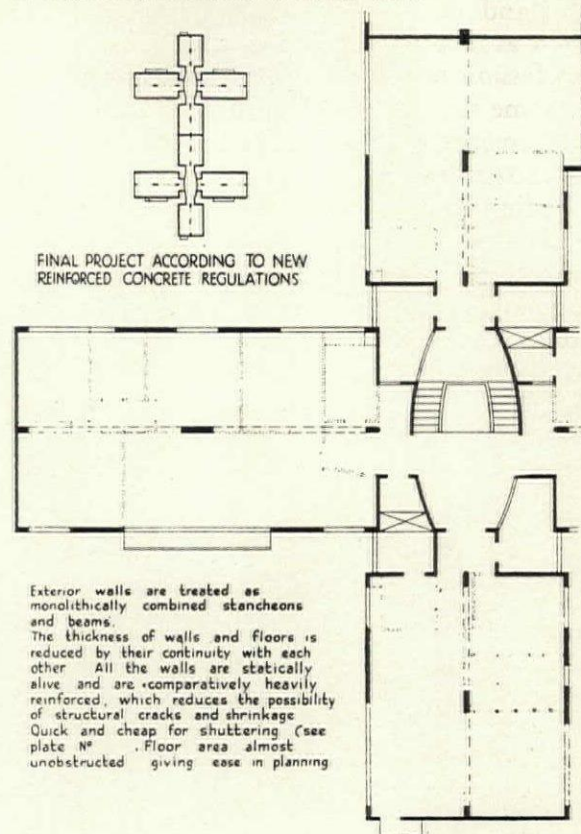
Framed buildings in concrete are slavish imitations of steel technique, the wonderful properties of monolithic methods of construction properly used give new freedom of planning. Not every framed building is modern!



SOLUTION OF PROJECT BASED ON OLD REGULATIONS

Old fashioned regulations, allowing only framed constructions, have resulted in this paralyzing forest of stanchions, creating awkward projections inside and limiting flexibility of design. Structurally the panel walls are parasitic. Inevitability of cracks between the working loaded stanchions and the unstressed panels. Expensive and slow in shuttering, wasteful in material and weight.

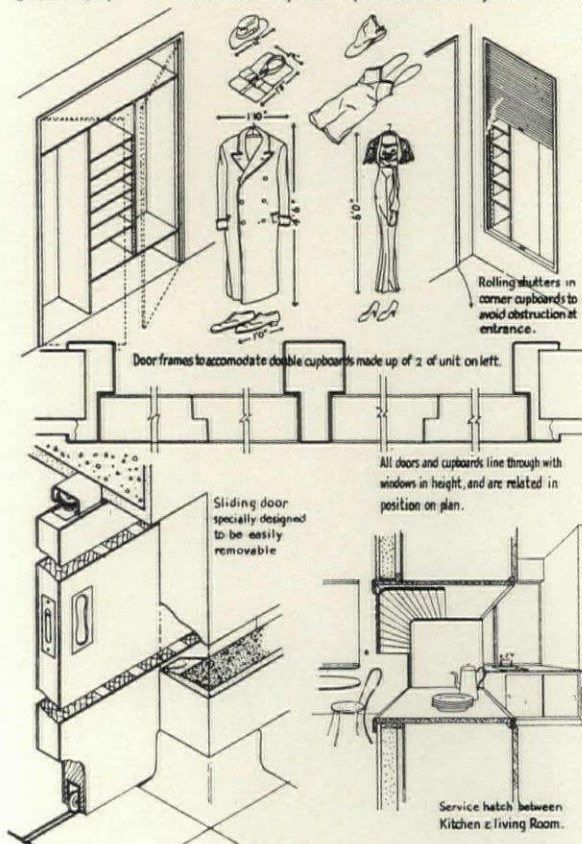
This system, here used in England for the first time, whose advantages are obvious was only accepted through the liberality of the local surveyor.



FINAL PROJECT ACCORDING TO NEW REINFORCED CONCRETE REGULATIONS

Exterior walls are treated as monolithically combined stanchions and beams. The thickness of walls and floors is reduced by their continuity with each other. All the walls are statically alive and are comparatively heavily reinforced, which reduces the possibility of structural cracks and shrinkage. Quick and cheap for shuttering (see plate N°). Floor area almost unobstructed giving ease in planning.

Any detail left to the contractors will certainly be done wrong. Better to spend a month drawing than spoil the building for ever.



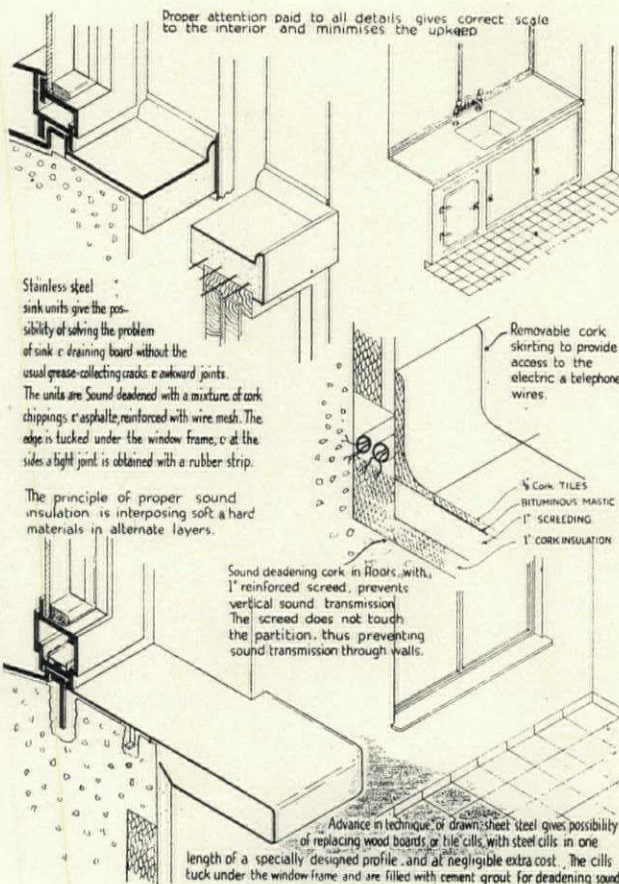
Door frames to accommodate double cupboards made up of 2 of unit on left.

Rolling shutters in corner cupboards to avoid obstruction at entrance.

All doors and cupboards line through with windows in height, and are related in position on plan.

Sliding door specially designed to be easily removable

Service hatch between Kitchen & living Room.



Proper attention paid to all details, gives correct scale to the interior and minimises the upkeep

Stainless steel sink units give the possibility of solving the problem of sink & draining board without the usual grease-collecting cracks & awkward joints. The units are sound deadened with a mixture of cork chippings & asphalt, reinforced with wire mesh. The edge is tucked under the window frame, & at the sides a tight joint is obtained with a rubber strip.

The principle of proper sound insulation is interposing soft & hard materials in alternate layers.

Sound deadening cork in floors, with 1" reinforced screed, prevents vertical sound transmission. The screed does not touch the partition, thus preventing sound transmission through walls.

Removable cork skirting to provide access to the electric & telephone wires.

1/2" CORK TILES  
BITUMINOUS MASTIC  
1" SCREEDING  
1" CORK INSULATION

Advance in technique of drawn sheet steel gives possibility of replacing wood boards or tile cills with steel cills in one length of a specially designed profile, and at negligible extra cost. The cills tuck under the window frame and are filled with cement grout for deadening sound.

THE SHEETS ON THIS AND THE PRECEDING PAGE WERE PREPARED BY TECTON TO EXPLAIN TO A GROUP OF STUDENTS THE MANNER IN WHICH THE HIGHGATE APARTMENTS WERE DESIGNED COMPLETE IN EVERY DETAIL





A BEDROOM IN HIGHGATE. SIMPLE, COMFORTABLE, PLEASING IN ITS FORMS AND TEXTURES, THE ROOM SHOWS HOW FAR MODERN DESIGN HAS ADVANCED IN RECENT YEARS IN THE DIRECTION OF UNAFFECTED HONESTY



A LIVING ROOM IN HIGHGATE. WIDE WINDOWS AND PLAIN WALLS ARE THE RULE. THE WOOD FURNITURE WAS DESIGNED BY THE WELL KNOWN FINNISH ARCHITECT, ALVAR AALTO. THE ORIENTAL RUG SEEMS IN HARMONY



# THE TEACHING OF ARCHITECTURE

## SOME NOTES ON ITS RATIONALIZATION

BY CONSTANTIN A. PERTZOFF

IT HAS been my privilege to attend, at different times, in the course of fifteen years of my residence in this country, the architectural departments of three great educational institutions.

Taking stock of myself as an architect, now that ten years of experience are added to the five of training, analyzing my conception of architecture, my methods of work, my store of information, I am forced to admit that in my professional makeup there is very little that can be credited to the schools I have attended and that my most cherished and valuable professional possessions have developed or have been acquired in an act of rebellion against the things I have been taught. I believe that whatever I received from the schools which was of real and lasting value could have been acquired, not in five, but possibly in two, at most in three years of really intensive and well directed study. Furthermore I must add that much of the information that I received in the schools was incorrect and definitely harmful and that it took the better part of my ten years of experience and independent study to achieve a degree of what I believe to be a clear insight into the problems an architect must face and to acquire sufficient information to be able to undertake independent work with some competence.

I will regret it very much if this statement is taken as either a bitter reproach or a deliberate insult to those institutions that so generously opened their gates to me or to the members of their staffs whose honesty, ability, and good-will I do not question.

What is wrong is the system, not the men or institutions, and it would be idle to speculate, at this time, as to who is responsible for the system.

I believe that the substance of the art of architecture, like that of any other creative art, is fundamentally unteachable.

To make possible a sort of a makeshift teaching of the unteachable, schools of art

throughout the world for many a century have been busy producing theories of art. I may add that not many of these theories ever survived more than a few decades and that, to my knowledge, none ever created a master.

The architectural schools for the same purpose have been doing and for the most part are still doing something even worse.

They have created a sort of an architectural fool's paradise in which they teach an artificial and extremely simplified form of architecture reduced, almost entirely, to its graphic side. The science of building is relegated to the background and classified more or less as a necessary evil. Architectural design is divorced from its source—the creative insight into the function and construction of a building—and based upon arbitrary and artificial standards. The detailed study of a building, work which in practice occupies three quarters of an architectural office's time, is not dwelt upon at all.

Briefly, I believe that the schools misrepresent both the nature of architectural design and the function of the architect. By doing so the schools handicap heavily the future progress of their own graduates and their adjustment to the reality of architectural practice.

I have no intention to re-open the old controversy between the "practical" and the "theoretical" schools of thought. The trouble with architectural education is that it is neither practical nor theoretical enough.

I believe that it would be unwise and undesirable, even if it were possible, to force a student to acquire that enormous mass of detailed and unrelated information that an architect must possess if he is to practice competently. It must be borne in mind that a school is in a position to teach only what is already firmly established and that in matters related, at least, to the details of the technology of construction things that are firmly established are usually those that are about to become obsolete and superseded by some new development. It is well also to remember that a graduate in



the course of approximately the first five years of his work will have very little opportunity to use more than a fraction of the information acquired during his years in school, and by the time these five years have passed what little of this information is still retained by his memory outside of some fundamental principles will be probably out of date.

The general tendency to look upon a student as a sort of a fact-absorbing sponge is much to be deplored. More truly in the province of an educator lies the teaching of the basic underlying principles and of habits and methods of work, among the latter the habit and method of acquiring information when and as this information becomes necessary. A retentive memory and an educated man, far from being one and the same, belong in wholly different categories.

I have already stated my belief that the substance of architecture, as a creative art, is fundamentally unteachable.

What then is teachable? What can and should be taught?

Emerson, in his "Conduct of Life," tells us that Moller (now a completely forgotten writer) taught that a building which was fitted accurately to answer its need would turn out to be beautiful, though beauty had not been intended. All our moderns, without doubt, will be glad to subscribe to this statement. In fact some of them will probably claim the authorship.

Moller's principle and the identical doctrine of modern architecture are of particular importance and interest to an architectural educator as their acceptance offers almost unlimited possibilities of rationalizing the teaching of architecture. They virtually advance the theory that architectural design is neither the result of the artistic self-expression of an individual nor the embodiment of certain preconceived principles of beauty, but is a variable quantity whose very existence and value depend upon certain determinable factors extraneous to architecture. They imply that the processes of architectural design are purely intellectual, logical, analyzable, and consequently teachable. Their approach to architecture is fundamentally scientific.

Such an approach will undoubtedly arouse many to the defence of architecture as an art. I do not propose to join the battle as it seems to me to be a singularly futile one.

That art of a very high order is present in the design of a really excellent building is a statement so obvious as to be axiomatic. It is equally obvious that the very complexity and variability of factors that determine architec-

tural design offer numberless opportunities for the individual abilities to manifest themselves. Although I am in complete sympathy with the principles of modern architecture I would, for these reasons, like to add these qualifying words to Moller's statement: "... if designed by a man of talent." I conceive of the talent in this case, as in any other case, not as something that would add a few beautifying touches to an already excellent building but rather as something almost purely instinctive, undefinable, unanalyzable and consequently unteachable that would permeate and illuminate the whole design from its very inception.

Architecture is both an art and a science when it is practiced. It is a science when it is taught. It is both an art and a science in its creative aspect and solely a science in its communicable aspect.

I propose in this paper to approach architecture as a science. That is, I will limit myself to the analysis of those perfectly definable and concrete factors which, in my belief, determine architectural design. Of these factors two are preeminent: the social and the structural ones—the function and the construction of buildings. A third factor also exists, of lesser direct importance, whose presence I believe cannot be denied but whose substance and influence are difficult to define and analyze. This factor is the influence upon architecture of æsthetic standards established by other arts or even sometimes by activities unrelated to art.

I shall refrain from touching any purely æsthetic problem as it is my belief that any attempt to rationalize excessively an æsthetic experience almost invariably results in the limitation if not the actual destruction of the art it tries to elucidate. I shall refrain also from the discussion of architecture as a creative art as I believe that this aspect of architecture is unteachable.

To avoid the confusion often caused by the unwarranted introduction of artificial terminology I shall refer to architecture as an art (as it undoubtedly is, in its entirety, in the generally accepted sense of the word) although, limiting myself to the discussion of determinable and analyzable matters, I am concerned mainly with its scientific aspect.

It is my belief that if a school succeeds in teaching the students the clear understanding of factors that determine architectural design, the methods of study of such factors and the processes of integration of these factors into an architectural design it will succeed in teaching everything teachable in architecture.





FROM A LITHOGRAPH OF DUNSTER HOUSE AT HARVARD UNIVERSITY, WORKED UP BY PERTZOFF FROM A PENCIL SKETCH PREVIOUSLY PUBLISHED ELSEWHERE. THIS PRINT IS ONE OF A SERIES HANDLED BY GOODSPEED'S IN BOSTON



Architecture is, essentially, a social art. It is deeply rooted in the whole body of the civilization of a given age. Therein lies its greatness. An architect not only performs a social function of enormous importance but his art, by virtue of its nearness to the ultimate sources of all the arts—the social forms, the spiritual and material needs and facilities of a nation—is called upon to establish æsthetic standards for other arts to follow. We have the right to say, on the strength of evidence available in abundance, that in those epochs in which existed a state of æsthetic unity—that is, a condition in which even the most humble craft and the most austere art had a common æsthetic denominator and bore marks of distinct mutual relationship—it was architecture that occupied the key position welding the mass of arts and crafts into one organic whole.

It would be interesting to speculate as to what extent the present lack of æsthetic unity and the undeniable break-up of the arts are due to the failure of the architecture of today, and particularly so of the immediate past, to dominate and coordinate other arts, to act as a sort of an æsthetic flywheel. However this paper is hardly a place for such a speculation. More pertinent and of greater immediate interest would be the question: what were the causes that forced the decline of architecture from its former position of leadership to its present state of being almost a useless and irrelevant luxury, and what can be done about it?

The causes of this decline, it seems to me, are clear enough. They are to be found in the destruction of the direct and organic relationship that once existed between the function and form, between the needs of a nation and its architecture, and in the consequent change in the attitude of the architect, once equipped to solve brilliantly the problems he met, but who is accustomed now to look upon the limitations which he inevitably encounters everywhere as detrimental to his work instead of seeing in them the source of a greater and more vital art. They are to be found also in those layers of dead traditions, of artificial standards and of vulgar and irreverent plunder of the past that have all but submerged architectural design. The result of all this is not only a definite decline of the significance of our art but an equally disastrous decline of the social and economic usefulness of the architect.

The decline of the prestige of the architectural profession is a serious matter which must be faced honestly and intelligently inasmuch

as it was brought about by the profession itself and not by the unappreciative public as the architects fondly believed. Either the architects will have to re-educate themselves to a greater and more realistic usefulness, thus restoring architecture as a great integrating art, or they will inevitably become a sort of exterior decorators ordered about by engineers, sociologists, economists, and various more or less self-styled specialists—as seems already to a very considerable extent to be the case with the architects employed by the government.

The advent of functional architecture is a ray of light, yet its appearance in the schools, which it seems to have taken by storm, has brought about almost no change in methods of work and of study of architectural design—a substantial proof, if any is needed, that there is something fundamentally wrong with the technique of the teaching of architecture. The so-called "international style" (a most unfortunate misnomer by the way) as it is used in schools is just one more style for students to play with, possibly a more flexible, more interesting and spectacular style, but just as detached from reality and from the factors that created it as the numerous "styles" of old. It is nonsensical to teach a functional architecture while ignoring the study of function. This study, as thorough and broad as possible, and a parallel research, when the importance of the problem warrants, into the social and economic field a given building serves should be considered an integral part of the process of development of an architectural design. The relationship between the function and design of a building is organic, immediate, and specific. For this reason I do not believe that the creation of a special course to teach the function of buildings detached from the course of design will solve the problem. This would probably result only in cramming into the heads of students some more facts. What students should be taught is first of all a clear realization of the existence of the intrinsic relationship between the function and the design of a given building and, second, the understanding that an intelligent and thorough inquiry into this relationship is a proper and necessary function of an architectural designer. The students should learn, from the very beginning, to acquire their own information and to do their own research.

I believe that every large design problem should be preceded by a period of study of the function of the building under consideration. This study should be conducted by each student independently and should be consid-





A VIEW OF THE HARBOR OF GLOUCESTER, MASSACHUSETTS, REDUCED FROM A LARGE CHARCOAL SKETCH BY CONSTANTIN PERTZOFF, AWARDED THE BLACK-AND-WHITE PRIZE IN A BOSTON ARCHITECTURAL CLUB SHOW SEVERAL YEARS AGO



ered a part of his problem. Much of the information at present contained in the programs should be left to be formulated by students individually.

All the social research the students are called upon to do at present is to figure out what the fellow that wrote the program really meant.

The students must be taught to study the problem, not merely the program.

It is impossible to discuss the social aspects of architecture without at least a brief mention of the science of city planning.

I have a growing suspicion, only strengthened by a year of graduate study of this subject, that in the case of city planning we really are faced not by one profession but by a cluster of professions, united by a common purpose and possibly also by a rather elusive common quality—the vision of a planner—but nevertheless rooted in widely separated fields of basic knowledge. It is almost unthinkable that a single educational institution could give one man sufficient information to enable him to deal authoritatively with such diversified problems (to mention a few ramifications of city planning) as housing, inter-urban highways, zoning, rapid transit systems, airports, recreational areas, and regional land use. Any city plan is necessarily the result of the teamwork of a group of specialists and although there exists a small number of men that specialize in acting as captains of such teams, and do so brilliantly, their personal qualifications are of such high calibre as to make it doubtful if men of the necessary type can be deliberately produced by educational processes.

However, there is no doubt, in my mind at any rate, that a certain field of city planning is not only teachable but, because it really is a natural and thoroughly justifiable expansion of the work of an architect, it should and can be taught by schools of architecture either as a part of their regular curriculum or, preferably, in the form of a graduate or post graduate year. The field of city planning I have in mind consists of large compositions in general, of all types of group design, of housing and also possibly of certain aspects of some related problems like those of communication, education, and recreation.

The social factor—that is, the function of buildings in the broadest sense of the word—is, as already was stated, not the only factor that determines architectural design, although it is possibly the preeminent one. Of almost equal importance, at any rate to the designer if not to the layman, is the factor of construction. By construction I mean the methods and

materials that bring about the concrete realization of design. The relationship that exists between social and structural factors follows in general the law of demand and supply. The demands of modern civilization, the immense variety and complexity of function which the buildings of today must perform, brought about a spectacular development of the technology of construction. This development was not an unmitigated blessing as it brought for a time a greater freedom to the architect than he was able to use intelligently. It removed that discipline of the limitation of material means that was so beneficial in the past.

The reintroduction into the modern architecture of structural discipline without a pedantic limitation of the technical means that are at the disposal of an architect is one of the most important problems that an educator must face.

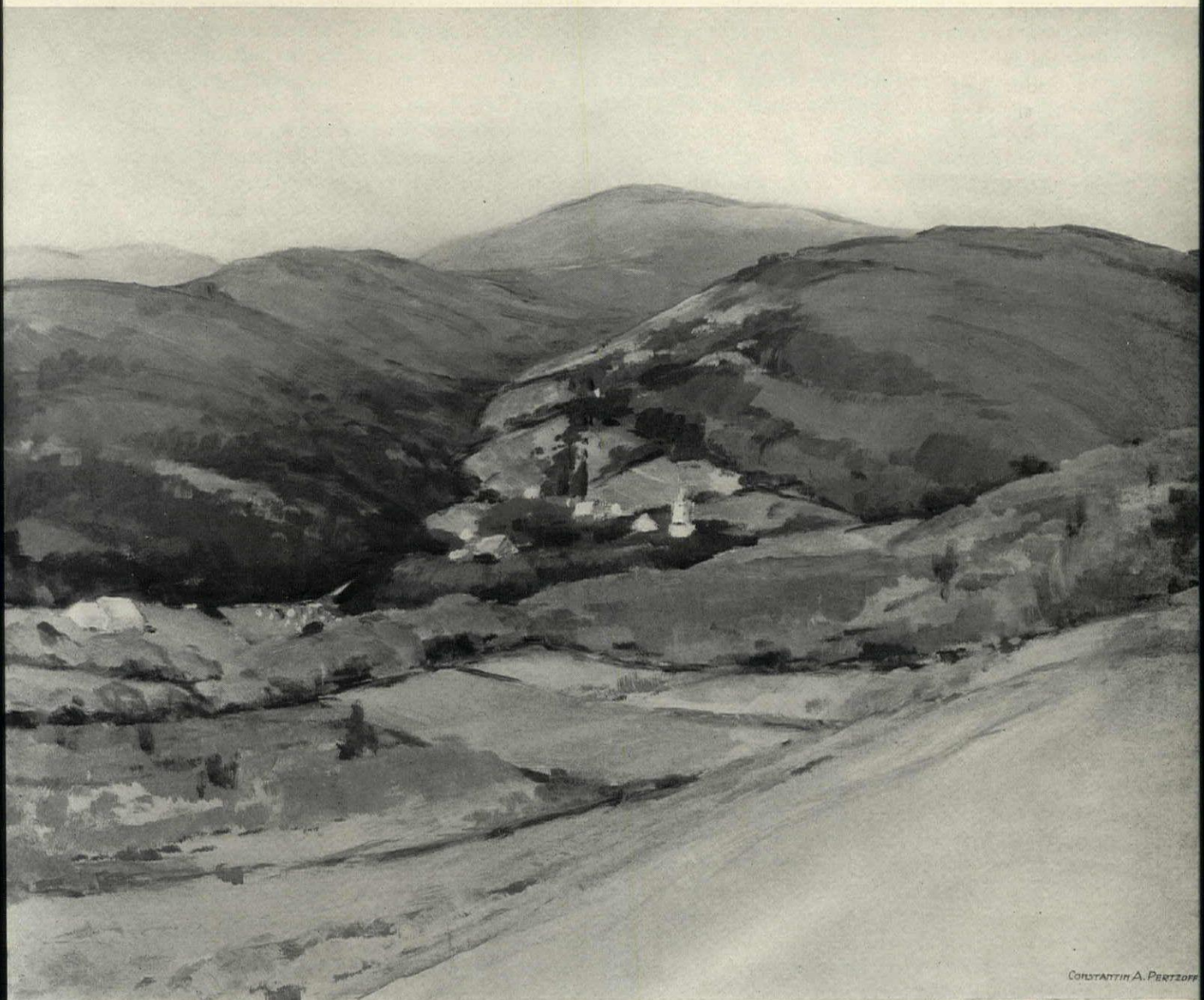
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Architecture is obviously enough an art of building and not an art of drawing. It is a three-dimensional art and should be approached as such. The grotesque overemphasis of the graphic side of architecture common in all schools is not only utterly absurd but very harmful as well. Drawings are but diagrams to build from. They are also means, rather limited ones, of the study of architectural design. In both cases their function is an auxiliary one. Drawings, taken as such, certainly cannot be considered as means of architectural expression.

Students must be taught to think in terms of structure and materials and to look upon both not as a technical matter but as their principal æsthetic medium. They must be taught that the relationship that exists between form and construction is fully as organic, unavoidable, and important as the one that exists between form and function. They must be taught also that the palette a modern architect is called upon to use is far greater than the one in their water color boxes. An almost infinite variety of materials is at his disposal.

It is not sufficient to design a building that looks, and probably is, buildable and logical. A truly great architectural design is the result of infinitely more thorough, precise, definite, and responsible thinking. It is absolutely essential that the students should acquire the habit of such thinking. Architecture is an exact art. A good building of any of the great ages of architecture displays an astounding unity, the same thought, the same feeling, the same method of expression permeating everything from a minor detail to the building as a whole. This





CONSTANTIN A. PERTZOFF

AN OIL PAINTING BY CONSTANTIN PERTZOFF OF A  
LANDSCAPE AT NORTH WARDBORO, VERMONT. MADE  
AS A PRELIMINARY STUDY FOR A LARGE BIRD'S-EYE  
PERSPECTIVE (WHICH NEVER MATERIALIZED). IT IS IN  
ITSELF, HOWEVER, A WELL THOUGHT OUT DESIGN



thoroughgoing honesty, this unity and consistency of architectural thought are of fundamental importance. It is by these means that new factors are translated into new architectural expressions. The problem of the intersection of the vault set the whole Gothic machinery into motion. No such details ever bothered the Ecole des Beaux Arts or its American ramifications.

The habit of exact and thorough thought is far from being solely of theoretical importance. It is the prime requisite of the work of every member of an architectural office from a junior draftsman to the head of a great firm. We, in the offices, know well how hard it is for young graduates to get accustomed to its new and exacting discipline and how many among them, sometimes indeed the most gifted, never do get accustomed to it and go through life professional misfits, unable to find in their work the elementary joy of good workmanship. Ours is not only a great art, it is the greatest of crafts as well, and our precision and thoroughness are the tools of our craftsmanship. The schools teach their students the use of no such tools—in fact, in the design field at least, they appear to encourage careless ways and the dangerous habit of superficial thinking.

I do not wish to suggest that the students henceforth should spend all their time designing practical buildings with office-like meticulous attention to all details. I believe it to be quite right that at least a portion of the student's design work should be, from the point of view of a practicing architect, of more or less fantastic character. It is not what they do that matters, it is the way they do it.

I believe that every large design problem should be studied in three dimensions, perspective drawings and models forming a part of final presentations. Considerable attention should be given also to the study of details.

I believe also that every large design problem should be, to a certain extent, a construction problem as well, the students submitting structural drawings and computations for at least a part of their designs.

Furthermore I would like to suggest that schools should place at the disposal of students an extensive collection of materials, particularly so of decorative ones, so as to permit the actual selection and presentation by the students of the materials they intend to use.

\* \* \* \* \*

Architecture, finally, is not an isolated art. A certain relationship exists among the arts even in the epoch when the æsthetic unity, referred to above, is not particularly apparent.

It is inconceivable that the modern architecture with its simple and direct use of masses could have come into being if the Cubists did not clear the ground by introducing æsthetically the use of pure geometric forms. It is not an accident that among the most influential figures of architecture of today can be found men that are artists and not architects by training. It is also not an accident that the happy hall mark of the functional architecture—the horizontal window—justifiable as it is both structurally and functionally, is directly related to a certain principle of composition that has been widely used by modern painters ever since the days of Cezanne. I have in mind the so-called directional emphasis of mass in compositions based upon the contrast of the movement of masses.

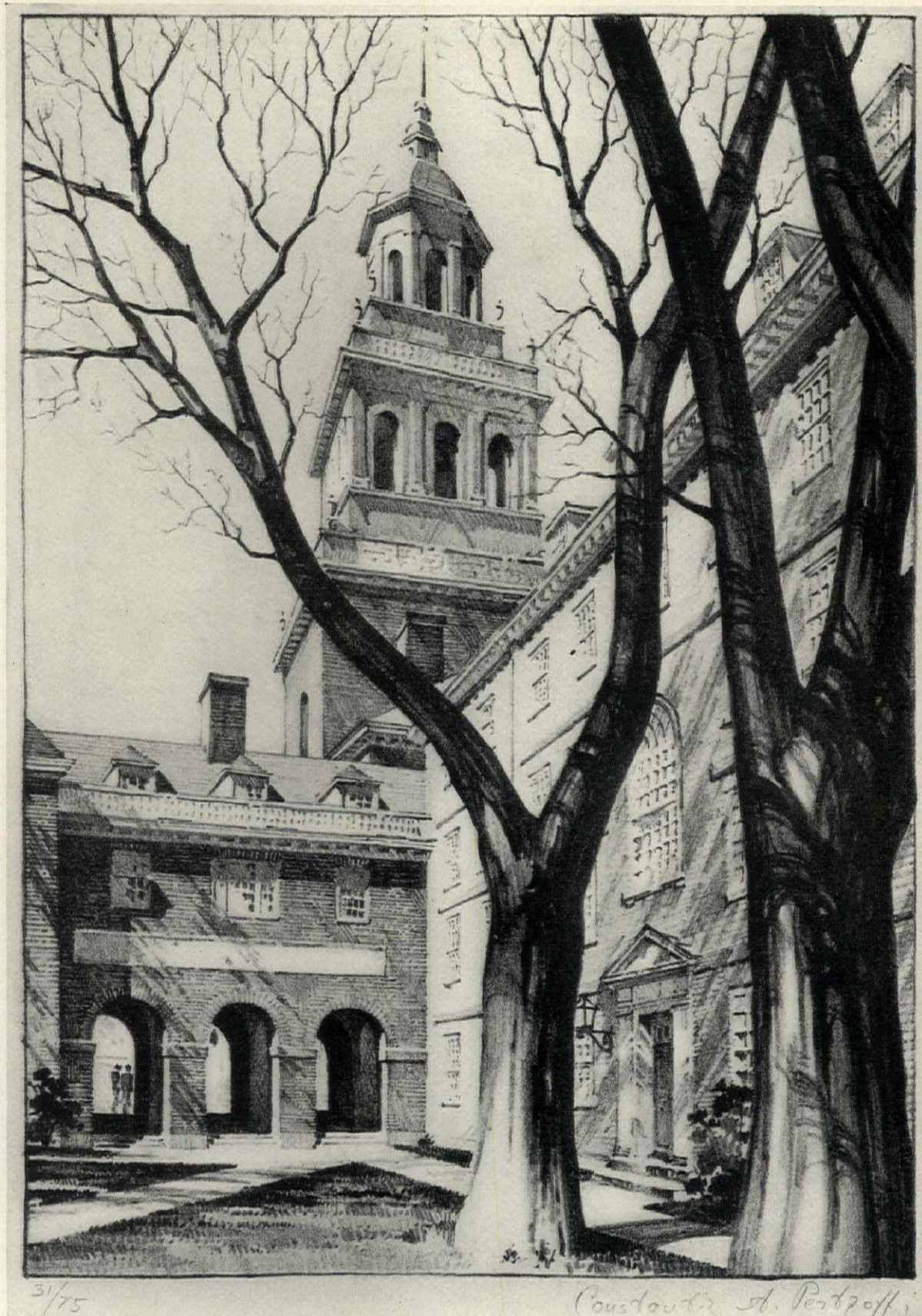
We are also constantly faced by the influences that have their sources in fields unrelated to the arts but which nevertheless are capable of altering profoundly the æsthetic standards of an age. It is sufficient to mention in this connection the nearly complete substitution in the popular favor of precision, of mechanically perfect workmanship for the "artistic" hand-tooled effects that were unanimously accepted only a few years ago, or the introduction into some completely unconnected fields of certain particularly striking characteristics of airplane and motorcar design. Sometimes such influences take the grotesque and futile form of a fad, but on the whole they are not only beneficial, they are basic.

It is precisely this steady pressure upon our æsthetic consciousness of the totality of our impressions derived alike from the arts and from purely utilitarian fields and its transformation into æsthetic forms that will establish, in the long run, the conception of beauty of our age as it established those of ages long past.

Industrial art is the folk art of today. It is the nearest approach to the spontaneous creative activity of a nation that is possible in a mechanized age. For this reason its importance is enormous.

I hesitate, however, to recommend the introduction of extensive training in applied and other arts into the schools of architecture. Not only I have grave doubts as to the real value of such training but there is also always the danger of overburdening the students with excessive work. The students already have altogether too little time and opportunity to cultivate their interests in other fields and to enlarge their liberal education. It is by encouraging these interests by means of lectures (preferably by visiting lecturers), by exhibi-





ANOTHER OF THE GROUP OF FOUR LITHOGRAPHS OF THE HARVARD HOUSES BY PERTZOFF—THIS TIME LOWELL. IT, ALSO, WAS BASED ON AN EARLIER PENCIL STUDY MADE WHILE HE WAS WORKING FOR THE ARCHITECTS, COOLIDGE, SHEPLEY, BULFINCH AND ABBOTT



tions, by carefully coached reading and by co-operation with Departments of Fine Arts and with schools of applied Arts, if such exist in the vicinity, that the problem of correlation of architecture with other arts can best be solved. This however does not mean that the instruction of freehand drawing and of water color in architectural schools should be left as it is. In common with other departments it certainly should be subjected to a very critical scrutiny. For one thing there is altogether too much emphasis upon the technicalities of the mediums taught (that culminate in the appalling mannerism of architectural renderings) and altogether too little of art education in the broader sense of the word. Students certainly need something more than mere ability to draw a reasonably correct figure on the foreground of their designs or to handle snappily a water color brush.

There are some interesting possibilities in the introduction, as a part of the elementary architectural design, of the teaching of some forms of industrial design such as the design of furniture, of lighting fixtures, and possibly also of the simpler kinds of interiors. The methodology of such design is very closely related to that of architectural design. Yet it is much simpler, the factors that determine it are much easier to understand and it requires no preliminary knowledge of construction. It may serve as an excellent introduction to architectural design.

\* \* \* \* \*

It is my belief that a drastic change in both the character and schedule of the design courses is urgently needed.

I hope that such a change, if it takes place, will give the students a chance to present at least once every term one completely developed architectural design:

A design in which the function of the building, in all its significance and implication, will be thoroughly studied.

A design developed with due regard for the methods and materials of construction.

A design in which all parts of the building will be given equally careful thought.

A design studied in three dimensions.

Such a design should be preferably conducted on a non-competitive basis. Its final presentation, besides a number of drawings, unrendered and prepared in a way generally accepted in actual practice, should also contain: a report on the function of the building, at least one structural drawing with necessary computations, a detailed drawing, a model, and possibly some rendered perspective sketches (preferably of interiors or details).

The preparation of such a design will probably take the better part of a usual four-month term. The balance of the term can be profitably dedicated to a number of much smaller problems of varying complexity. Most of them could well be conducted in a competitive way. It must be remembered that in spite of the many undesirable consequences that have resulted from its abuse by the Beaux Arts school and its American counterparts the competitive method has very considerable educational possibilities. The most important among them is the opportunity that it offers the students to compare their work to that of others done on an identical basis. However, it is well to remember that competition is in the nature of a powerful stimulant and should be, consequently, handled with great caution.

I would like to suggest that none of these short problems should be as long as five weeks. The five-week period now in general use I consider to be singularly unfortunate: it is too long for merely an exercise of one's imagination and designing ability and altogether too short for a thorough architectural study.

The suggested changes in the design courses will necessarily increase the volume of work required in this field. The net increase, however, will not be as great as it may appear as some of the work now done in the construction classes can be transferred to the design courses. Nevertheless, it seems advisable that some of the load now carried by the students in other fields should be reduced. This reduction is furthermore justified by the existing overemphasis of the historical and graphic sides of architecture.

We seem to be safely emerging from the period in which the historical precedent has been the chief preoccupation of an architectural designer. We no longer need to memorize a vast quantity of the architectural forms of the past. The amount of time now given to the courses of history of architecture can be safely reduced for this reason. I would like also to suggest that the contents of the courses themselves should be so altered as to stress in a greater degree than is now done the underlying philosophy of architectural styles, the factors that created them, the principles on which they are based.

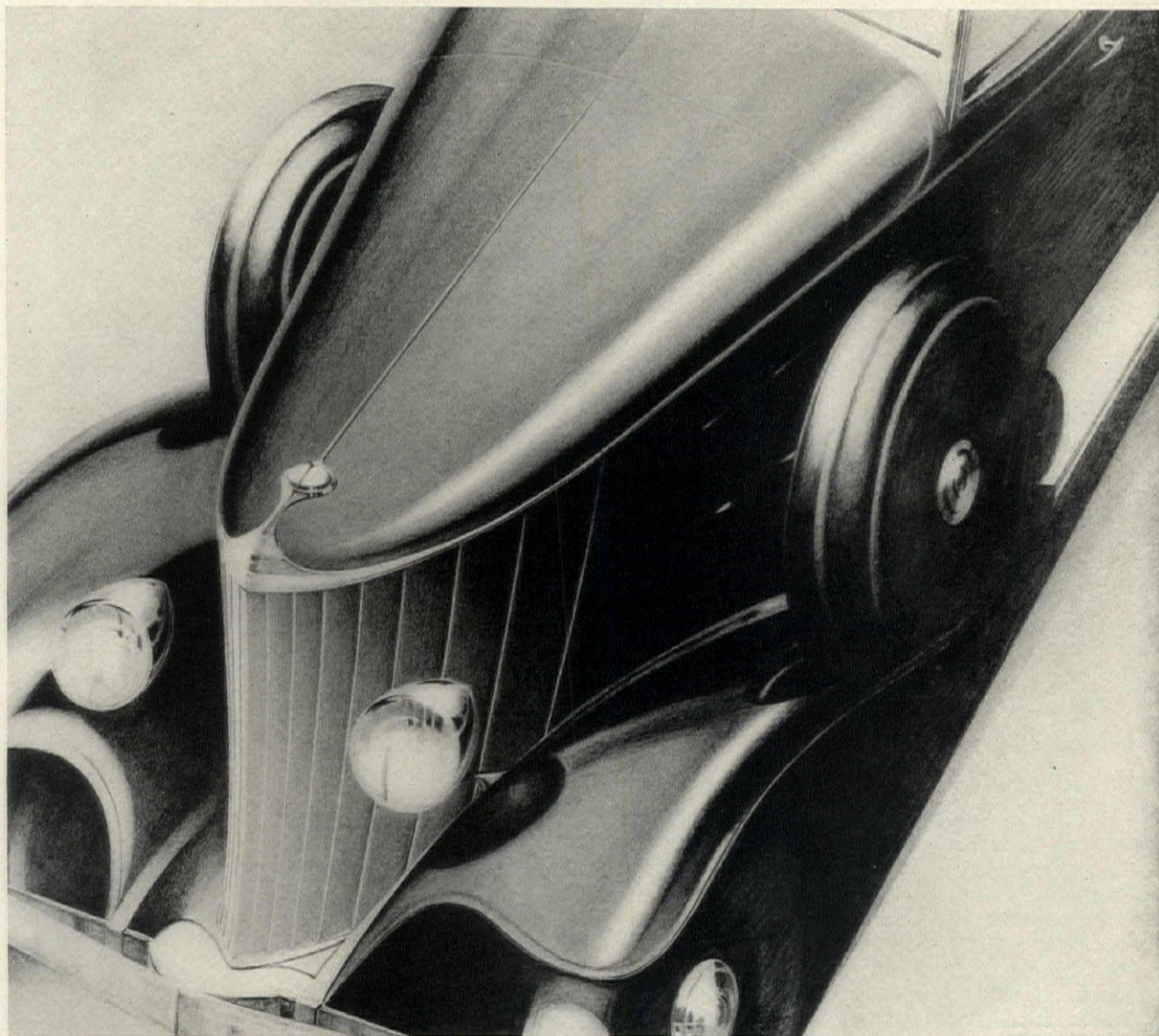
Shades and Shadows, Perspective, Stereotomy and to a certain extent Descriptive Geometry are minor auxiliary crafts, necessary enough to an architect, but not nearly important enough to be elevated to the standing of separate courses. Most of them could well be pooled together and possibly attached to the elementary design course.



The usefulness of some minor technical courses like that of the mechanical equipment of buildings is open to question. This is one of those instances when students are required to acquire certain information that will be either completely forgotten or as completely out of date by the time they are advanced enough to use it. It may possibly be wiser to abolish such courses altogether and to replace them by less formal instruction possibly attached to the thesis. By giving the students an opportunity to utilize immediately the acquired information in their design work the difficulty of memorizing such information will be greatly lessened. Furthermore, coming as it will at the very end of their studies, there will be a greater chance that it will be retained for a sufficient period.

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Architecture is architectural design. All the other functions of the architect are auxiliary to it. All courses given by a school should be considered tributary to the courses of design. Their connection to architectural design should never be forgotten. The teaching of architecture should resolve itself into the teaching of the methods of architectural design, that is, of the methods of integration into a design of the vast mass of knowledge an architect must possess in dealing with a specific problem. If a school achieves the teaching of this it will not only succeed in producing young architects of far greater competence and social usefulness but it will also fulfill its elementary duty to its students by giving them a clear insight into the true importance, complexity, difficulty, and greatness of architecture.



PENCIL DRAWING BY CONSTANTIN PERTZOFF OF A DESIGN HE MADE SEVERAL YEARS AGO FOR A MOTOR CAR BODY. OF PRINCIPAL INTEREST TODAY AS AN EXAMPLE OF PENCIL TECHNIQUE RATHER THAN FOR ITS DESIGN





SOME TIME WHEN YOU MAKE A PENCIL RENDERING ON TRACING PAPER, TRY FLOATING IT ONTO A SHEET OF WHITE GLASS INSTEAD OF THE USUAL PIECE OF ILLUSTRATORS' BOARD. YOU WILL BE SURPRISED AT THE INCREASED LUMINOSITY AND AT THE PLEASING SOFTNESS OF EFFECT THAT IS TO BE GAINED IN THIS WAY. SCHELL LEWIS DISCOVERED THE TRICK DURING HIS EXPERIMENTS WITH DIFFERENT WAYS OF MOUNTING HIS DRAWINGS AND PASSES THE SUGGESTION ALONG GRATIS TO HIS FELLOW DELINEATORS. THE ABOVE DRAWING WAS ONE HE MADE FOR ERIC GUGLER AND SHOWS THE GARDEN SIDE OF A LITTLE HOUSE BY THIS ARCHITECT



# UNCLE EDWARD IN NANTUCKET

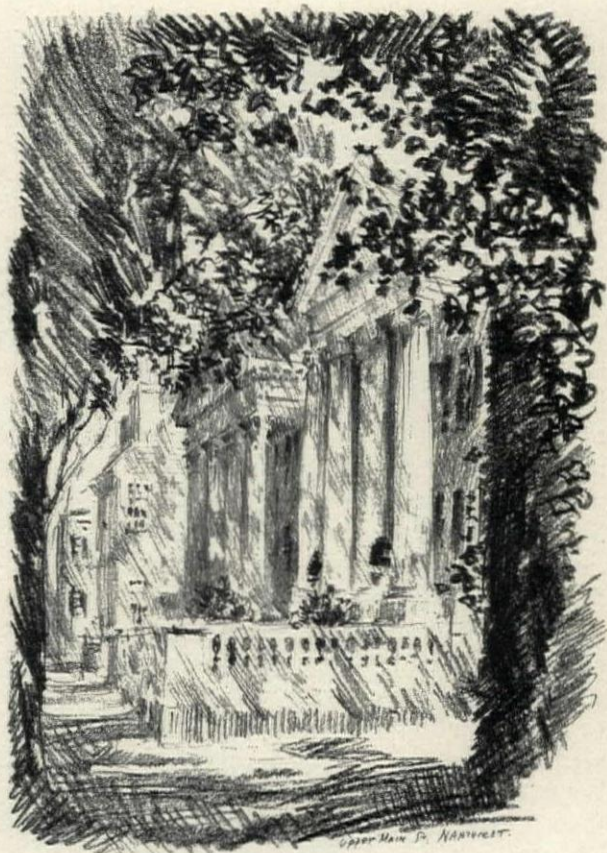
FROM "THE CHRONICLES OF A EUPEPTIC"

BY HUBERT G. RIPLEY

UNCLE EDWARD is an architect of distinction, a creative artist, as well an earnest worker in the Vineyard; by nature a conscientious student, a disciple of glorious Apollo, the far-Worker, and of divine Insewn.\* The only mistake he made in sixty years—that is, if it *was* a mistake—was not visiting Nantucket earlier in life. Although he's years younger, or maybe it's years older (one is never sure of anything in these troublous times), than we, Kenneth, his little nephew by adoption, finding "Ed" incompatible with the austerity of his mien, and "Mister" entirely too formal, christened him Uncle Edward. The name proved acceptable to all, both young and old—especially to the nymphæ and gratiæ who cluster around him in shoals at convocations of the Fine Arts.

Early the past summer we broached the subject of a trip to Nantucket one day at lunch, and found Uncle Edward in a receptive mood. That's one of the many delightful traits of his character, he always lends a sympathetic ear to suggestions of varying sorts. A date was agreed upon and, having preceded him a few days in order to make suitable preparations, on his arrival at the steamboat dock, we ushered him to the "Skipper," an institution for the higher appreciation of gastronomic culture in Nantucket, founded about 15 years ago by two gracious ladies to whom the rites of Gasteria are as an open book. A pleasant place for leisurely dining, oozing salty atmosphere, good food, and a genteel clientele.

Lodgings awaited our Amphytryon in what formerly was India Street, a well-mannered two-story house with Captain's walk and rambling ell, built about 1820, or thereabouts. Alfred Shurrocks, who knows every brick and stick of timber in Nantucket—in fact he is to Nantucket what Dr. Fellows, the Antiquary, is to the rest of the United States—says that the raised mouldings around the panels of the Living Room doors are unique and most



UPPER MAIN STREET IN NANTUCKET

unusual for woodwork of any date, and that their antiquity is difficult to determine. There are three windows in the second story and two in the first; the entrance doorway, reached by a high stoop which encroaches on the sidewalk, is placed asymmetrically at one side.

"What a lovely room," said Uncle Edward when he saw the old four-poster and knotted counterpane, the paneled fireplace end, and the sumpter\*\* beam stretching across the ceiling. "I'm sure here sweet sleep will banish carking care, while gentle zephyrs, laden with scent of fragrant clematis, induce dreams of Pierian groves dotted with asphodel and *asperula odorata*." Uncle Edward, like all true artists, is very poetical and always reads a

\*c.f. Diod. 1. Hesiod, Homeric Hymns, 1. etc.—Appendix—A.

\*\*See Appendix—B.



Bucolic before retiring. To make sure that all would be as he wished, we broke open a vial of Golden Sickle Bourbon, cherished against his arrival, and mingled it judiciously with the incomparable Nantucket water that comes from the tap crystal clear, icy cold, all the way from deep artesian wells far off on the moors between the Shimmo Hills and Tom Never's Head. Pouring out a libation to the Immortal Gods, first sprinkling a few drops on the braided rug, we sipped the remainder in blissful reverence.

After a breakfast of excellent coffee and new-baked oatmeal bread, we visited the nearby points of interest within easy walking distance. Just around the corner from the coffee shop (a real coffee shop, by the way, where coffee is made in glass and never comes in contact with the baser metals), there stands a house that only the eye of an expert like Uncle Edward could distinguish from a veritable old-timer. Everything about it is exactly right, its lines, the simple detail, the great chimney, and especially the front doorway, which is one of the sweetest bits of subtle detail on the whole island. The house is worthy of being added to the archives of the H.A.B.S.; it's distinctly not a copy of an existing structure. It was designed and built about a year ago by Alfred Shurrocks, we were told, and why everybody doesn't have Shurrocks as their architect is beyond understanding. The Old Square was lovely in the morning sunlight despite the ravages that time has wrought on many of the great elms. New ones have been planted, however, to succeed the old which never can be replaced. Further along Main Street above the Bank, the old trees have suffered little, and the houses, with one or two exceptions, have stood there for a century or more. All this was new to Uncle Edward, and he became greatly stimulated, though holding his emotions in control even as when vine leaves twine in his luxuriant hair.

To adjust his psyche we took him to the Bathing Beach in a large, handsome bus, seating twenty-four persons, so the sign posted in front read. Another sign stated that "The driver's name is Elmer Pease," which moved Uncle Edward to remark, "Elmer Pease is a simple declarative sentence." Stepping from the bus onto the peristyle of the bathing pavilion was like stepping from the past into the future. The Cliffside Beach lies under the sea-cliff that runs southward from the town for several miles, a vast stretch of virgin sand, a veritable shining shingle. In fact the entire 88 miles of shore line is gently sloping, spotless white sand, where all manner of bathing may

be enjoyed from timid paddling to varying degrees of surf riding that only expert swimmers may indulge in with safety. To date, Nantucket bathers have not quite achieved the freedom from the hampering convention of costume that is said to obtain in Russia, but considerable progress has been made in unshackling of the initiative, so that now, in order to determine the sex of a bather, one must see both sides.

It was hard to tear Uncle Edward away from this lively scene but by promising a visit to the Galley on the beach where sandwiches, hot soup, and such are served, we persuaded him to come away from the great sand box dotted with twisted torsos and sprawling suntanned youth, exposing themselves to the radiant energy of Phoebus Apollo which transmits light by which chemical changes are produced.

The Galley was full of girlish chatter, uncovered spines, and the aroma of grilled frankfurters—a sight well worth viewing, Uncle Edward thought as he bit into a toasted roll and sipped steaming quahaug chowder. "This is a right jolly place, especially the perineum between the sand box and the beach proper," he remarked. He meant to say peristyle, but no doubt was confused by this exuberant display of Promethean vitality.

Another walk, somewhat longer, followed, during which the well-mannered streets of the town were explored. "One doesn't have to go to points of interest on this island, for no matter where we go it seems to me there is an interesting spot. Look at that doorway, for example, if I hadn't already seen scores of fine doorways, no two exactly alike, I'd believe it the most beautiful of all," said Uncle Edward, pointing to a particularly tidy front entrance to a well-favoured house on Lily Street. The house, like all houses in Nantucket large and small, was spotless. In perfect condition, it might have been built last year, and yet it dates back to the roaring forties. It is unusual in detail, though perfect in its proportions, and looks as if Asher Benjamin and Samuel McIntyre had designed it in collaboration. What interested Uncle Edward greatly was the large number, literally hundreds, of small, well-designed houses. Houses a story-and-a-half and two-stories, capable of duplication at moderate cost. No serious or comprehensive survey of these houses seems to be available as yet, but we saw Frank Brown on two or three occasions, sketching and measuring like mad all over the Island, so maybe something from his stimulating pen will appear shortly.

A cool breeze, what Admiral Folger called a dry nor'easter, had sprung from the deep



bosom of the broad Atlantic, and though it was warm in the sun, Frank Baldwin's Old-Fashioned hospitality on the lawn of the Yacht Club was most grateful. The Horace Peaslees were there, huddled between two great plates of cinnamon toast, telling tales of torrid Washington where high temperatures shattered shatterproof glass in Horace's windshield, while the car was standing still. "Isn't it a great relief to be here where it's cool?" Uncle Edward asked. "Yes, it is indeed!" Mrs. Peaslee answered with a shiver as she guessed she'd take an Old-Fashioned\*\*\* too, as long as the rest were having them. Frank says cocktail parties are his *bête-noir* and I fancy he dreads them as much as any of us. Certainly his party was a lifesaver the afternoon of the dry Nor'easter. The Yacht Club lawn was brilliant with color and handsome folk. We saw lots of people we didn't know and some we did, among them Mrs. Stanley-Brown and the Tony Sargs, all looking extremely well and jolly. Frank, you see, is a Governor and knows practically everybody. For twoscore years or more, come next Whitsuntide, we've known Frank, man and boy, but only recently did we realize that he is a skilled craftsman, a worker in cornel wood and electrum, a builder of boats and sophas. Duncan Phyfe and Donald Deskey haven't anything on *him*. Uncle Edward isn't precisely an early riser, and a gentle tap on his door the following morning brought only a muffled answer. "Come in," he said sleepily. "I just squinted at my watch with one eye, wondering whether it was (a) ten minutes to eight, or (b) twenty minutes to ten." "(b) is correct," we answered. "Here's a 'Steamboat' with what is left of the Golden Sickle." "When's the boat leave?"—still half asleep. "Now!" we said, putting the glass in his hand. Immediately he sat up.

It was a radiant morning, the nor'easter had subsided to a gentle breeze and as we walked past Voorneveld's, the florist on the corner, Uncle Edward glanced at the name. "I didn't know Mr. Voorhees had a place in Nantucket," he said. "Let's call and pay our respects." The Steamboat was functioning smoothly. "We'll do so later, just now we've only time for the bathing beach, lunch, and the 40-mile drive in Admiral Folger's bus which leaves the Atheneum at 2:00 sharp." (It used to be "Cap'n Folger" when he had only one bus, but now he has three of these conveyances, and it's "Admiral.")

The day's programme was followed and we made the Atheneum with minutes to spare,

\*\*\*See Appendix—C.

fortunately, as the Admiral delayed the start while Miss Finley skipped back to the Nesbit Inn for her camera. During the two and one-half hours' drive we divided our attention between listening attentively to the driver's entertaining discourse, a steady stream of instructive information on the geologic formation of the island—which turned out to be a glacial moraine—aboriginal anthropology, an historical and cultural account of the manners and customs of the early settlers, agriculture and soil conservation, husbandry, commerce, whaling, horticulture, architecture, the chain store menace, and the idiosyncrasies of summer visitors, the whole enlivened with merry quip and trenchant anecdote — and Miss Finley.

It was Miss Finley's first visit to the Island and she sat next to us on the outside, handy to the side door. Whenever the bus stopped to allow passengers an opportunity to read a tablet marking the birthplace of Benjamin Franklin's Mother, listen to the moaning combers of Maddaket, or snatch a fleeting view of the town pump and a squint at the snuggeries and *maisons de plaisance* in 'Sconset, Miss Finley and her camera would hop out and she'd reel off about 11 feet of film. She made copious notes on loose sheets of fluttering paper, smiled pleasantly at Uncle Edward, and wanted to know where Nantucket's water supply came from. He couldn't answer that one, but when the driver told us the round white tower with the wide red band that loomed on the horizon was Sankaty Head, Uncle Edward said, "That's where the Sanka coffee comes from, my dear."

Uncle Edward possesses the happy faculty of always finding old friends and making new ones wherever he goes, so it did not surprise us, on dropping in at the cocktail hour at the "White Elephant," to see him cordially welcomed by its charming chatelaine. The place is really a little village in itself, the creation of Edward Ludwig, whose untimely death two years ago ended a career of achievement that has been and will continue to be a stimulating influence on Nantucket Architecture. Out of a barren sandy shore line, dotted with nondescript structures, he created a thing of beauty. At first, a tiny hotel of half dozen or so rooms, the main building has grown, by judicious planning, rebuilding, and adding new wings, into a large, comfortable, well-favoured, imposing villa, surrounded by a score of exquisitely designed cottages. There are fore-courts and tea-gardens, wide lawns and handsome trees, and everywhere a profusion of flowers and shrubs. The planting has been done with



sympathetic understanding of the indigenous flora, just as the architecture of the Hotel and its message, harmonize with Nantucket tradition. "It is balm to the soul and a delight to the eye, and this is a most excellent Martini," said Uncle Edward. "If Elihu Coleman, Admiral Sir Isaac Coffin, Henry Mitchell, the hydrographer, Thomas Mayhew, and Christopher Hussey who first slew the leviathan on the high seas deserve a niche in the Hall of Fame, and Abiah Franklin, Maria Mitchell, and Lucretia Mott a sprig of laurel, surely Bessi Temple should have a wreath of Petrosilium that rich-haired Demeter loved." "You've been peeking in the Encyclopedia." "No, over Miss Finley's shoulder," said Uncle Edward.

#### Appendix—A:

Insewn was a name given to Dionysus on account of his untimely birth. It seems that the lady Hera was jealous of Semele, daughter of Cadmus who invented the 16-letter alphabet and sowed the dragon's teeth, you know, and by artifice accomplished her destruction. The goddess appeared to Semele in the form of her nurse, Bereöe, and persuaded her to ask a boon of the Son of Cronos, viz.—that he appear to her with the same majesty as he courted the embraces of Hera. Zeus, who dearly loved Semele, had promised her whatever she asked, could not violate his oath, and when he

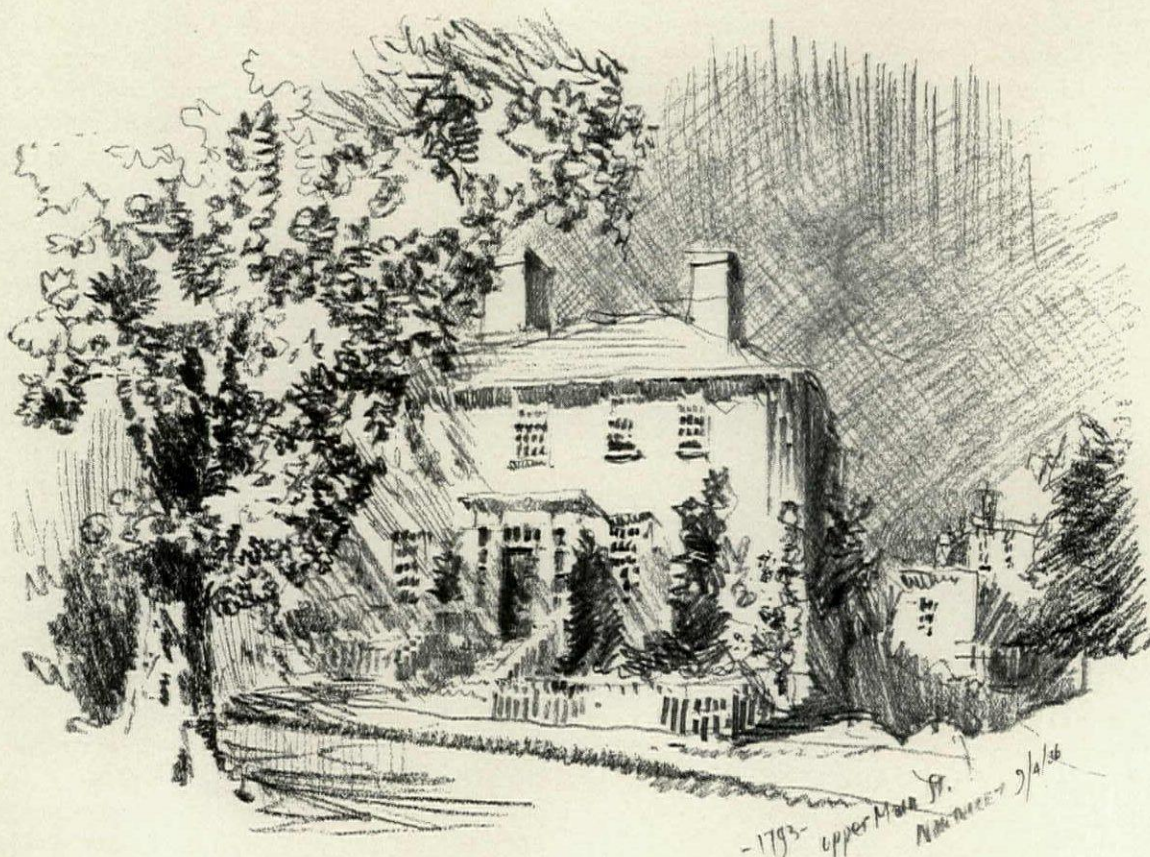
showed up in all his godlike divinity, it was too much for the poor girl, and she was consumed and reduced to ashes. Hastily snatching the child, of which she had been pregnant for seven months, from the holocaust, Zeus, who was never at a loss in an emergency, sewed him in his thigh for the remainder of the period.

#### Appendix—B:

The use of the term "Sumpter Beam" instead of the old standby, "Summer Beam," that we were just becoming accustomed to (in fact we felt rather proud of displaying our knowledge about it) is a recent device of the Antiquaries, for the dictionary defines Sumpter as meaning, "pack horse or pack mule"—Low Latin, *sag-matarius* = (*sagmarius*, see Breastsummer) from the Greek *sagma* and *aïos*, packsaddle. So we looked up Breastsummer and found that it is, "a beam across broad opening sustaining a superstructure," from Latin *sagmorias*, etc., which completes the cycle.

#### Appendix—C:

The Old-Fashioned, a much abused term nowadays. If Daisy Allen, who originated the concoction while the Hessians were besieging Tarrytown, knew what most bars serve when that drink is ordered, all the gaiety and brightness of the Elysian Fields, where doubtless she is an omen to the immortals, would become drab and gray for her and her joyous companions. To the post-repeal bartender, an Old-Fashioned means a boiled dinner, a horrid concoction of sugar, raw spirit, and three or four fruits served with straws! Think of it, straws, Ugh!





# DESIGN FOR BETTER LIVING

BY RALPH WALKER, F. A. I. A.

ALL OF you have heard of that old farmhouse way down on Long Island which cradled the most sentimental song in the English tongue—"Home Sweet Home." The simple structure and the lack of ornament is as striking as are its evident charm and its graceful proportions. It is obvious to all of us who know the house that in it a high standard of living was possible, and also an intangible thing we call "home" was achieved there, for the house is the source of that nostalgic theme.

It is interesting that such a simple frame shelter, utterly lacking in pretension, has the power of stirring strong emotions equally in the dweller of palace or of cot.

But far more interesting to those who would think philosophically about design is the appreciation of the completeness of the order and unity of which this house, as well as others of the time, was a part. It was not an isolated thought outside the stream of the normal thinking of the time, but it was closely related in design to everything else which was made in its neighborhood.

We loosely speak of it as being Colonial—a word which immediately bespeaks a definite kind of house and appearance of furniture, a definite cooking method and accompanying devices, and a related quality of design, which we would expect to find in books, in clothes, in carriages and wagons, in the making of glassware and of iron, and in the crockery, and in the lighting accessories.

All of it seems very natural, and seems to have happened without too much intellectual guidance or questioning, and so achieved a unity which we know as the Colonial style.

But! There was no aping of ancestors; the immediate time and its attendant problems engaged the activities of mind and hand, and while there was a classical reminiscence in all this design, it was unconsciously so.

This unity of all design is being stressed here in that it is on the whole directly opposite to what we find now.

Now, houses are mostly reproductions of past styles and are totally unrelated to the

other design tendencies in our civilization. These other trends—found in mass production products, in fabrics, in clothes, in printing, and of course in most things which pertain to comfort—have in recent years begun to have a relationship, and with which, of course, the automobiles and aeroplanes are in harmony. But the house, with few exceptions—NO! It, and its social furnishings, continue to lag.

We, today, are interested in the trends and accomplishments of today's design in the house—trends which foretell a house in harmony with the rest of our civilization.

Perhaps the house on wheels will be the answer, and a population looking for work will re-engender the pioneer spirit, and the covered wagon will be again in the ascendant.

Or again, in a mass production world it would seem natural that the modern house should be prefabricated in a factory and shipped to a site for ready assemblage. And in that idea there has been more hopeful wishing and more money wasted of late years, in the dream that the prefabricated house would be, of course, the bell-cow to lead us out of the depression. While there may be "gold in them thar hills" the all-wise prospectors have yet to find the paying lode.

There have been hundreds of attempts to solve the mass production house, both here and abroad, and while it would be foolhardy to say that it is impossible of solution, each attempt to date has realized that there is a major and essential difference between the mass production of the automobile and the house.

It is that to have automobiles at all they must be made on a mass production basis, whereas it continues to be possible that economically and physically a single individual can build himself a good house.

For the moment, we may say that the only way a house may resemble an automobile is to put wheels on it, and so for some while we may see those dancing grandmothers forsaking the electric hearth for the oil stove of the trailer.

According to Roger Babson this means half of our grandmothers and half of everyone else.



However, it is the other half, those who are the stay-at-homes, in whom we are interested. What of their houses?

The manufacturing world is filled with new and amazing materials, and lately there has been one house after another—a steel house, a concrete house, a glass house, a canvas house, a wood house—that is different. All these houses receive acclaim in the daily press.

We have invented new structural methods—a house hung on cables from a tent pole, turning like a flower with the wind and sun. The sixth order of architecture, the Lally column, has again come into its own, and some houses depend for æsthetic appeal on that single structural device. We cantilever walls, rooms, buildings (whether necessary or not) in the wild exuberance of a spirit of WE CAN!

We condition all sorts of things—sound, air, water, food. We are continually adding to the expense of space, for as the space becomes more comfortable it seems to become smaller. I believe that the space itself does not relatively cost any more than it did in my grandfather's time. The increasing costs of the house are entirely due to the added comforts we no longer consider as luxuries.

We play more games as more mechanical and electrical servants develop. We live outdoors for much longer periods at a time than did our great-grandfathers.

In contrast: More and more people are interested in flower gardens. More and more people are interested in better food, and have better taste in choosing their belongings. These stay-at-homes would like better houses.

The average person accepts a Cape Cod cottage but demands a modern kitchen, a modern bathroom, and an ultra-modern central heating system. The design of the kitchen and the bathroom are related to other industrial design, in fact they may be said to have started it, and the mistake has been that writers like Lewis Mumford or Le Corbusier have said that this type of design is proper for the living room as well. They have confused the ideas expressed by the words "similar" and "related."

The new generations, however, want a truly modern house—one that goes on from where Father left off.

And this house at present looks like this: A series of boxes painted to look like concrete even though they are made of wood or tin; large glass windows going around corners (whether the view or prevailing winds make it desirable or not). They must be prefabricated, factory-made, or look like it. Orna-

ment, like some disease, is taboo. Furniture must be built-in whether it is convenient or not, because, *per se*, it is so in aeroplanes. A sun terrace or two are placed at levels which afford the neighbors much amusement.

This house is designed to jump, in anticipation, into the twenty-first century, and theoretically to be so perfect that our children and their children can just rest contented and never have to worry about the problem of shelter again. Not for them the joys of being modern.

And, because the short wave permits a New Yorker to know what thoughts a Berliner has presented to him by his leaders, all thoughts would soon be alike and therefore the house should be international.

Perhaps!

The modern house will look like this:

It will have some relation to where it is built.

It will generally be asymmetrical to take advantage of orientation, breezes, views, and site.

The materials which will enter the house in the future will be tested and tried, to achieve those which do not need added moisture. (A large part of the time now needed to build is taken up waiting for wet materials to dry.)

Nevertheless, for the immediate future—Old materials are still cheapest.

Where wood is plentiful it will be built of wood.

Where clay is plentiful it will be built of bricks.

Where materials have to be exported into a community, houses will be built of the cheapest imported materials.

Where steel is necessary it will be used, and so, too, concrete, and also some of the plastics of which we hear so much.

And the houses will still be built on the ground.

And many people will continue to live in houses.

And windows will be placed where they are needed and not because they will look better if they are symmetrical or because a theory says that there should be no windows at all but only a wall of glass.

And materials will be used to their best advantage both for strength and appearance.

More and more parts will probably be made at the factory.

But the most interesting trend in house design is the sense of freedom in planning both



the inside, as to the relation of rooms, and with the outside in relation to terrace and garden rooms, so that even period houses are taking on a new appearance to meet a new condition of life. What I have been trying to say is that a new set of living conditions and desires are appearing and they are changing the practical considerations of the house, and in time will naturally change the appearance.

Many qualities of the modern house which we have seen built are wholly negative, mostly brought on by depression thoughts and philosophy. These are the severe box-like characteristics: the paucity of arrangement, as far as appearance is concerned; the use of materials with which there is not the remotest possibility of attaining beauty; a meanness of conception as to what are the limits in design possibilities under the machine. All these qualities fit people whose post-war thoughts were on lost wealth, and who saw no future except by means of attaining the utmost economy—a conception of economy based on a false engineering idea that the less materials and the less workmanship employed, the more successful would be the result.

And yet it is from these aspects, together with a true understanding of what simplicity

means, that the new house will develop, because we are now able to start with a clean slate.

And this clean slate is necessary. It was not relatively difficult to develop the motor car, for the motor itself does not look like a horse, although the passenger part still slightly resembles the carriage. What we expect of the house, however, has not changed enough, except in an intellectual way, to have radically changed its appearance.

And an accepted appearance of things is the cause of sentimental attachment.

It would have been extremely easy to have painted a Wellsian portrait of the modern house, but looking at the prospects we may say that what the modern house will look like is difficult to foretell. But this we can say: It does not seem possible that a culture can continue to straddle as much as ours does on the question of design. The two streams must come together to achieve a unity which we will agree is desirable. All other design trends, save the house itself, seem now to be in a stream of natural development. It does not take much thought to anticipate a notable change in the appearance and quality of houses of the next decade.

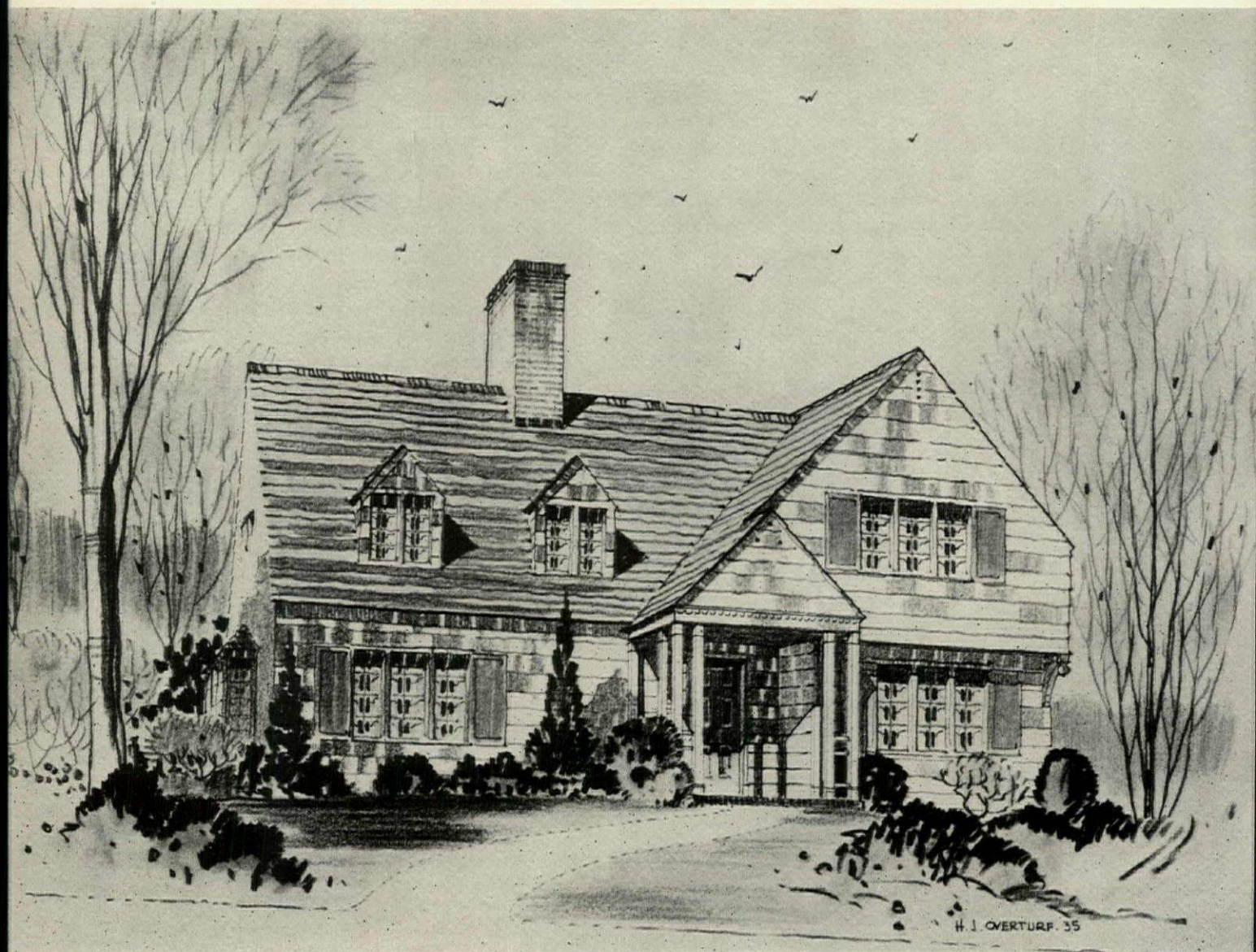
## EDITOR'S NOTE:

*The foregoing talk was given by Mr. Ralph Walker at the New York Herald-Tribune Forum at the Waldorf-Astoria, New York, on September 22, 1936.*

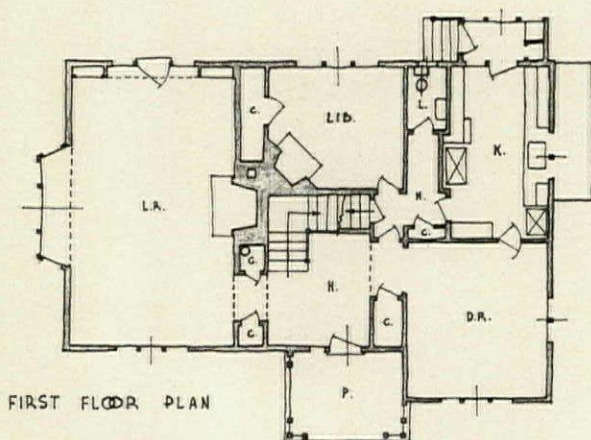
*This Forum on Current Problems is organized each year for the New York Herald-Tribune by Mrs. William Brown Meloney.*

*They have become the major event of the year for organized women all over the United States. Each session is attended by 3,000 delegates from 1,800 organizations representing all the large national groups of women. The printed report of the speeches is sold at cost and used as a textbook in clubs and schools throughout the year.*

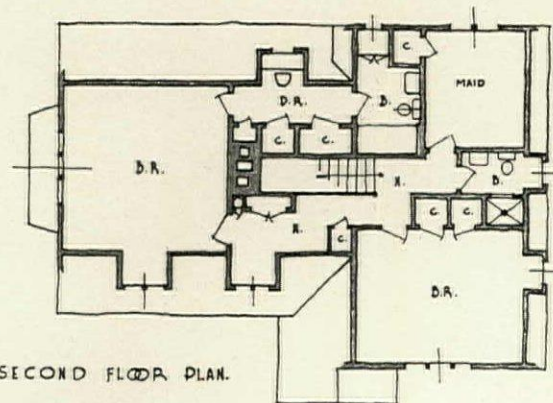




A RESIDENCE FOR MR. AND MRS. EDWIN MOTT DESIGNED BY GEORGE WELLINGTON STODDARD OF SEATTLE AND RENDERED BY HARRISON JOHN OVERTURF IN PENCIL ON TRACING PAPER. COLOR WAS APPLIED WITH PASTEL ON THE REVERSE SIDE BEFORE MOUNTING



FIRST FLOOR PLAN



SECOND FLOOR PLAN.



# GUPTILL'S CORNER



BACK AT THE OLD DESK AGAIN

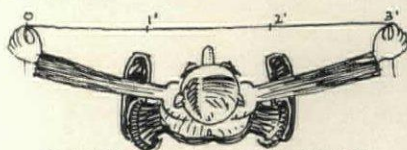
Yes, sir, vacation days are over for yours truly, as they are for millions of others, and I'm on the job again. And it's mighty nice to be here. But it's a bit hard to get down to work—I don't need to tell you how *that* is. I find myself turning back, in thought, to the summer, and I'm going to get off my mind, right now, a few odds and ends which I hope will hold a bit of interest.

We have all often noticed, on neglected plastered ceilings, that we can easily distinguish the location of laths and floor beams by their lighter tone in relation to the voids between. The other day I sat in the railroad station



HERE'S A QUESTION FOR YOU

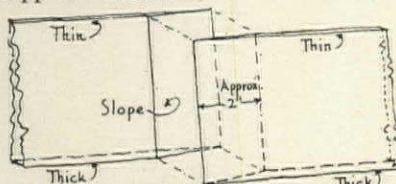
at Eagle Bridge, New York. Its interior walls and ceiling are sheathed with tongued and grooved boards, quite badly in need of fresh paint. Though the material was wood rather than plaster, it was nevertheless possible to detect the exact position and size of all the framing members; where the woodwork covered them it appeared lighter than elsewhere. The thing which first caught my attention was the manner in which a sort of truss of braces over a bay window stood out: then I noted that a light band marked the position of every framing member. What causes this? Send me the right answer and I'll print it with full credit.



BOARDS A YARD WIDE

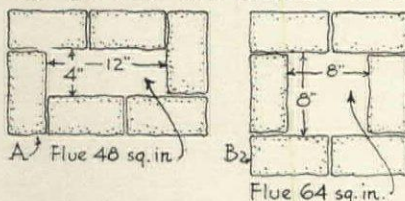
I have seen mighty wide boards in old houses around the country but can't recall ever noticing so many in any one structure as on a recent visit to a home in Maine. In the attic were any number of exposed roof boards, apparently of white pine, measuring about a yard each in width. As a matter of fact it took only fifteen or twenty to sheathe the whole roof!

On the other hand the clapboards on old houses in that part of the country are usually extremely narrow, showing only two and a half or three inches to the weather. Sometimes instead of being butted they are tapered at both ends to feather edges and then lapped. See sketch.



EACH CLAPBOARD TAPERED AT END

The different sizes and types of chimneys found in various parts of New England have always interested me. Which reminds me of a thing I learned years ago about the construction of small chimneys—a thing which may be new to some of you. There are many sections where it used to be the practice to build inexpensive "six brick" chimneys—chimneys in which there were six bricks to the course. These generally lacked the tile lining so common today. At A I picture a typical plan: alternate courses would break joint. For some strange reason this rectangular form usually took preference over the square type represented at B. But look. If we think of the flat surface of a brick as measuring 4" x 8", the plan at A gives us a flue approximately 4" x 12", or having a cross area of 48 square inches. Yet by the mere magic of rearranging these same six bricks to form a square chimney (B) we get a flue size of 8" x 8", with the cross area increased to 64

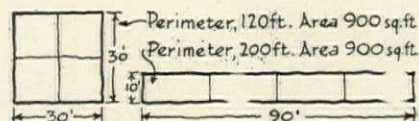


THE RECTANGLE VS. THE SQUARE

square inches. In other words, we create at no extra cost a flue a third larger, and having a better proportion so far as draft is concerned. And the square chimney is safer, too, having less tendency to lean and so to open at the joints.

This is merely one example of the old architectural argument of square

vs. rectangle. You draftsmen all know, of course, that it takes far less material to wall a square house than a rectangular one of like floor area. Suppose, for instance (to reduce the thing to simple terms), that we plan a square house with 900 square feet floor area: it would measure 30' x 30'. It would have a wall (perimeter) totalling 120 feet. But if the house were rectangular, 10' x 90' (to be extreme), it would require a wall measuring 200 feet against the former 120, or an increase of 80 feet—this is well over half the length of the original wall. (For convenience, I am forgetting thickness.) But, when it comes to partitions, the latter house could be cut into four rooms with only 30 running feet of partitioning, while the former would require 60 feet. But we still save on the four rooms, the square having 120' (walls) plus 60' (partitions), or a total of 180 feet, while the rectangle has 200' (walls) plus 30' (partitions), or 230 feet in all. An increase of 50', if my arithmetic is right, and yet both houses have the same floor area. Something to think about!



STRIKING AREA COMPARISONS

Why not send a few of your own wrinkles of this sort, and if suitable for publication I'll try to find space to run them, of course giving you credit.

Our tree sketch this month is of some old elms. I fear I haven't fully caught their scale, for they are truly enormous. Scale in all these things in nature is as important as scale in architecture. For our non-architectural friends let me explain that things can be "in scale" one with another (being of the right size or giving the correct impression of size), or "out of scale." Trees, in particular, can be so drawn as to appear very deceptive in this respect. The stone wall and barn in the present instance help to give a proper sense of size to the trees, but without such accessories it would have been very hard to judge them correctly.

This sketch was done very freely on kid finished bristol board, rather soft, with 4B, 5B, and 6B pencils. The next day it rained, and I was amazed to observe how the trunks, which had appeared so white in sunlight, were almost black when wet. That's one fine thing about such sketching: it teaches one to observe.

Now and then as I wander through New England I find myself thinking of the shrewd judgment of the build-





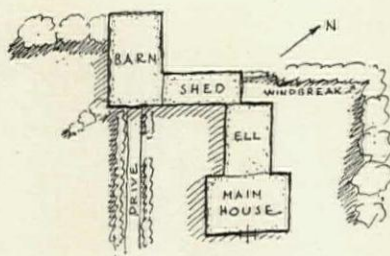
A GROUP OF GIANT ELMS AT GORHAM, MAINE, SKETCHED FROM NATURE IN PENCIL ON KID FINISHED BRISTOL BOARD

ers of our old houses. They were expert not merely at design, taken in the æsthetic sense, but at the very "functionalism" which we hear so much about today. They knew how to plan and execute according to local conditions. As a rule they chose their home sites surprisingly well, in sightly, well-drained locations. And they showed mighty wisdom in the placing of the buildings in relation to the points of the compass. I hope you will forgive me if I turn to Maine just this once more for a plan of a typical farm or village layout. See sketch. Here the barns are often "hitched" to the house. Granting that there is increased fire hazard in this arrangement, it must be remembered that when the prevailing depth of snow is considered—a depth which would often make it difficult after a storm to reach the stock, if in a detached barn—there is a strong argument in its favor. Customarily the whole group of buildings was pointed like a wedge towards the north

or northwest, from which direction commonly come the winter gales with their heavy snows. This planning provided, towards the south, a sunny dooryard in which, protected from the storms and warmed to the maximum degree by the sun, there was usually less snow than elsewhere, so the ground was bare early in the spring. Here, as a rule, was a portion of the driveway to the barn from the road, as well as every such utilitarian affair as the pump and the woodpile. I can recall instances when in my boyhood home, built on this general plan, the

kitchen windows towards the northwest were completely buried in snow while there was only a foot or two in the dooryard. Which saved a mighty lot of shoveling.

For added protection from the cold, houses were often "banked" about Thanksgiving time; brush, usually trimmed from spruce, fir, or hemlock trees, being brought from the woods (the Christmas tree was cut at the same time) and piled against the foundation. This broke the wind and held the snow. Sometimes straw, sawdust, or other materials were substituted. Hedges or low evergreens were frequently planted towards the north and west, and perhaps lined the driveway, serving a similar purpose. Storm windows afforded added protection. These were large fixed sashes fitted against the blind stops. So you see the old boys who built a century or more ago were capable of thought, and knew a thing or two besides how to design beautifully proportioned structures.





# S E R V I C E D E P A R T M E N T S

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**WANTED:** Drafting room drawing file approximately 30" x 40", equipped with eight or ten drawers, in good condition. Communicate with Gladys Turley, 404 Farmington Avenue, Hartford, Conn.

**WANTED:** Drafting table with horses. J. McDermott, 1982 Gleason Avenue, Bronx, New York.

**A. WEIMAN**, 3503 N. 13th Street, Philadelphia, Pa., has the following copies of *PENCIL POINTS* for sale: 1920, complete; all except October, 1921; 1922, complete; all except October, 1923; all except May and November, 1924; January, February, March, July, September and December, 1925; January through April and September through December, 1926; January through July, 1927; September through December, 1928; January and February, 1929; all except January, 1930; February, March, May, June, and July, 1931; July, August, and September, 1932; March, 1933. Will sell copies from 1920 through 1924 in one package, \$6.00. All other copies 20c each in quantities of 6 copies. Remittance with order, parcel post collect.

**WANTED:** Auto-Graflex 4 x 5, in good condition, preferably with tripod and case. State price, describe lens equipment and extras. Communicate with Service Department, *PENCIL POINTS*.

**WANTED:** The following copies of *American Architect*: May, July, September, and November, 1933. Must be in good condition, no pages torn out. State price.

**Albert M. Pyke**, 1409 West Boulevard, Los Angeles, Calif., has the following copies of *PENCIL POINTS* for sale: 1920, 1921, 1930, 1931, complete; January through May, 1923; November, 1924; October, November, December, 1929; all of 1932 except October; February, 1933. Also *White Pine Series*, Vol. 2, No. 5; Vol. 3, Nos. 2, 3, 4, 5, 6; Vol. 4, No. 6; Vol. 5, Nos. 2, 3, 4; Vol. 6, Nos. 1, 3. All in excellent condition. Make offer for whole or part, postage or express extra.

**Harry M. Sinclair**, Conway, Mass., has the following for sale: Universal drafting machine with scales; also issues of *PENCIL POINTS* and the *White Pine Series*.

## PERSONALS

**ARCHIE PROTOPAPAS**, *Architect*, has moved his office from 3026 29th Street to 25-32 35th Street, Astoria, Long Island, N. Y.

**ALFRED M. MARKS**, *Architect*, has reopened his offices at 541 Wood Street, Pittsburgh, Pa.

**HASSEL T. HICKS**, *Architect*, has opened a branch office in Beckley, W. Va.

**ARTHUR K. HYDE**, *Architect*, and **JOHN A. WILLIAMS**, *Designer*, are now associated for the practice of architecture and industrial design under the firm name of Hyde & Williams, with offices at 318 Woodward-Boulevard Building, Detroit, Mich.

## MANUFACTURERS' DATA WANTED

**BROCK & ROBERTS**, *Architects*, 307 Sherman Building, Corpus Christi, Texas. (Data on schools, hospitals, commercial buildings and residences.)

**CYR & CYR**, *Architects*, 524 Bay State Building, Lawrence, Mass.

**JAMES S. CRAIG**, *Architect*, 142 Balsam Avenue, Toronto, Ont., Canada. (Data on the various new materials for construction.)

**HASSEL T. HICKS**, *Architect*, Beckley, W. Va. (Complete data for new files.)

**PAUL W. HOFFERBERT**, *Architect*, Wilson Building, Anniston, Ala. (Complete data for new files.)

**ALFRED M. MARKS**, *Architect*, 541 Wood Street, Pittsburgh, Pa.

**DOMENIC A. VALVANO**, *Architect*, 122 S. Stiles Street, Linden, N. J.

**LOUIS ROSENBERG**, *Architect*, Greenfield Hill, Fairfield, Conn. (Data on domestic work, materials and equipment.)

**H. L. LIVAS**, *Engineer and Estimator*, Union Insurance and Realty Company, Durham, N. C.

**JAMES F. SILHANEK**, *Draftsman*, Rialto, Calif. (Data on residences and general work in small city.)

**SIDNEY I. KLEIN**, *Draftsman*, 5125 Greenwood Avenue, Chicago, Ill. (Data on quick estimating of buildings, and samples of new building materials.)

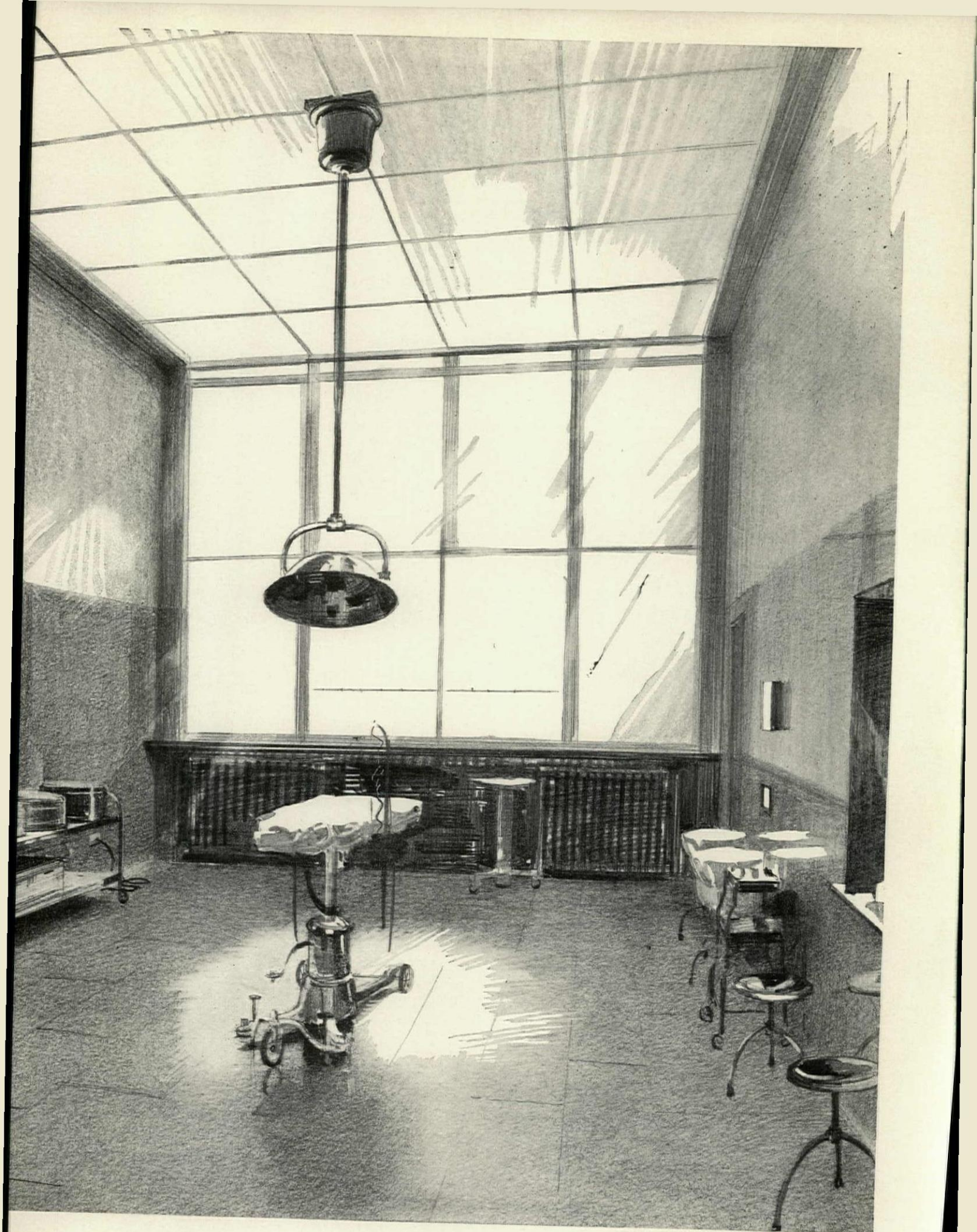
**JAMES W. ORMSBY**, *Draftsman*, 53 Leroy Street, New York, N. Y. (Data on construction, alteration, and store fronts.)

**ROBERT M. BINKELE**, *Student*, 225 W. Fairmount Avenue, State College, Pa. (Data for A.I.A. file, also on structural and decorative materials and data pertaining to Southern construction.)

**SIDNEY I. GROBSTEIN**, *Student*, 504 Monmouth Avenue, Lakewood, N. J.

**GENERAL BUILDERS CORPORATION**, Architects Building, Philadelphia, Pa. (Data for A.I.A. file.)





*Interior of Modern Operating Room*

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