GRAND COUNCIL SPEAKS

W.G.A.—Dwight P. Ely

The call of the bugle is clear enough; it's not at all hard to understand what it says. The call from the home front is not so definite, what with pressure from this source and that.

The duty of us who stay at home to support those who go to war is unquestioned. At the same time maybe we ought to remember that the thing we are fighting the Nazis and the Nippos about is our opportunity to live the American way. It would be foolish to win the war and neglect to keep alive American institutions which signalize life in a democracy.

Among these, I submit, is the college fraternity!

If we are agreed on this, then maybe the old, tired wheel horses of our brotherhood will have to forego the luxury of saying “c'est la guerre” and again lend a shoulder to Archi affairs local and national. The members of the classes of '31 to '41 who aren't called are badly needed to strengthen our alumni forces and support our active chapters. The men who are active need remember that their responsibility to their chapter is increased, not decreased, by the war.

Have I said enough? Drop me a line and let me know.

W.G.S.—Robert E. McClain

I am employed in the U. S. Engineer Dept. office here in Los Angeles. Since war broke out I have been on 24 hour call, but so far it has been a 10 hour day, seven day week, but as this is a 100 per cent plus co-operation project, I am only too willing to do my part.

W.G.L.—Arthur D. Pickett

This is a time for thought as well as action. We are reminded of the wave of patriotism sweeping the country at the start of World War I. It is much the same today. We all want to help as quickly and as much as we can. It is easy to overlook the future in an effort to take up arms. There is a war to win, but there will also be a peace, and every active member should be prepared for that peace with as much education as is possible. Those returning will increase in stature partly by the lack of competition from those left in the field. Education will help them to meet their future responsibilities.
DESIGN is not alone for architectural beauty or at least it isn’t if it is to be considered good design. Rather should utility, except in the case of statues, memorials, etc., be given just as much consideration as eye appeal and in the case of industrial structures, the utility angle should be given first consideration.

The design, construction and the equipping of the Firestone South American tire plant in São Paulo, Brazil, offered some unique problems in engineering and planning. There are certain requirements that are essential in such a job, starting with the selection of the site and only ending when the first tire is produced. Initial consideration naturally is given to the general location from a commercial standpoint. Involved are the potential market, availability of raw materials, climate, etc. Then follows selection of a definite site, wherein soil structure, water supply, transportation facilities, labor supply, labor conditions, land prices, terrain and tax situation play the most important part.

After the actual site had been purchased by the Firestone Company, the writer was given the assignment to design, build and equip the tire factory. Of course a company estimated budget was set up for the entire project with expectation that costs would be held within such budget.

Preliminary jobs such as a railroad siding, including two bridges, testing soil bed for allowable foundation load and drilling deep wells for cooling water supply were carried on simultaneously with the execution of the general factory building design. Certain features, desirable and in fact almost mandatory, in the design of a building for a rubber factory are good natural lighting, maximum natural ventilation and a minimum number of interior supporting columns. Floor construction must also be given more than ordinary consideration in the matter of live load per square foot, due to the heavy equipment involved as well as the continual transportation of heavy loads over it. For this reason the one story semicircular arch roof design, as illustrated, was selected and the entire construction, including a forty thousand gallon water tower, was executed entirely of reinforced concrete, except walls which were of locally manufactured brick covered with lime and cement plaster. I might call to attention here that the climate particularly lends itself to concrete construction in that the temperature seldom drops below forty-five degrees Fahrenheit the year around and naturally this practically eliminates the hazard of cracks due to extreme expansion and contraction. Another economic reason why concrete is so widely used in Brazil is the fact that up until the present time steel must all be imported and consequently is very expensive, while cement in large quantities is available locally. This cement has a slightly lower specific gravity ratio than that manufactured in the United States.

The side elevation of this design, as you will note, is somewhat reminiscent of that treatment often found in the works of old Italian architects and later of the so-called Palladian motif. However, the most important reason for the design was the results obtainable with the interior. Each of these vaults has a span of

Fred B. Toothaker, Demetrios*
Tire Plant for Firestone South American, São Paulo, Brazil
Fred B. Toothaker, Architect
forty feet and a longitudinal dimension of ninety feet with only one row of columns in the center giving forty-five feet unsupported length. The interior effect created in each individual vault, which springs from a point fifteen feet above the floor line, may suggest a similarity to the barrel vaulted ceilings of Renaissance and classic buildings, minus of course the decorative features.

Expansion joints are provided between the springer girders of each third vault. Ventilation and lighting are enhanced by two skylights in the top of each arch section; so constructed as to give permanent ventilation and are covered with translucent glass. These skylights, together with thirty-five percent controlled opening in the window area of the walls, create the effect of an aspirator and eliminate the necessity for any artificial ventilation whatsoever. In fact, by actual test in the same locality, this construction gave about ten degrees lower inside temperature during the middle of the day than the conventional saw-tooth or flat-roof construction. In addition, except on the darkest cloudy days, it is not necessary to use any artificial light during the daylight periods.

The steel reinforcing rods for the arch roof are placed along the curved path of the stress lines set up by the dead load. One-quarter inch rods were used both in the curved longitudinal as well as the straight radial reinforcement. Maximum thickness of the vaulted roof is two and three-quarters inches at the spring and two and one-half inches at the top. No extra roof coating was used except the concrete as poured and finished; a waterproofing compound being used at the mixer.

All concrete, including columns, roof and girders, was electrically vibrated when poured which resulted in an exceptionally smooth surface, free of the voids often found after forms are removed.

The concrete floors of mat type, unsupported by girders, were fifteen centimeters thick with three-eights inch smooth round rod reinforcement (deformed rods were not available). These were spaced on eighteen centimeter centers, running in both directions. The base on which the floor was poured was prepared by compressing the natural earth with power roller and then filling with fifteen centimeters of

*Photograph by Fred B. Toothaker*

APARTMENT HOUSE UNDER CONSTRUCTION
São Paulo, Brazil, 22 Stories, Entirely of Reinforced Concrete

Continued on page 22

Photograph by Fred B. Toothaker

TYPICAL REINFORCED CONCRETE CONSTRUCTION IN SÃO PAULO, BRAZIL.
EDITORIAL COMMENT

SPOTLIGHT ON AMERICA

PARAPHRASING the familiar saying:

"Some nations are born great, some achieve greatness, while others have greatness thrust upon them."

Our country was certainly not born with a silver spoon in its mouth. While we have tried to do well with our resources and opportunities, we have not in an economic or political sense set out to achieve greatness in the world.

But the world, more or less against our will, or in spite of our indifference, has pushed us out in front.

This opinion of our present position is not chauvinistic chest-thumping. It is a sober statement of fact.

The apparently sudden climax of our gradual involvement in the world war, a real world war this time, really marks our full-dress debut in the leading role. Whether we as individual citizens like it or not, we will henceforth have larger and larger stakes and interests of all kinds all around the world. And as befits our leading role, we will assume imperialistic manners in dealing with South America and the Far East, while we are honestly trying to be democratic both at home and abroad.

The significance of this for architects and all technically trained men is that many more of us may look forward to careers abroad. In the schools there should be provision for study of languages and history of South America and Far East and in general a broader outlook on world affairs. Individually and as a nation we can no longer afford to be simple country bumpkins.

However, several of the statements made are illuminating, and representative of average public opinion of the profession, e.g.:

Representative Dirksin of Illinois: "... we should consider the restrictions that are placed upon the building of houses. They may not cost more than $6,000, and difficulty is experienced even below that ceiling. Materials are not available. Obviously it does not warrant the services of an architect. . . ."

Representative Lanham of Texas, author of the Bill in question, is, to judge by his own statements and the allusions by other speakers, unusually well informed and sympathetic toward our profession. He said, as parts of an extended statement: "I gave an example of a powder plant in a rural community where we may put up some temporary but livable dwellings to serve for a brief period and of course, no architect is necessary in doing that. It would be foolish to prescribe that you have got to hire an architect to build those simple temporary dwellings."

Assuming a hypothetical argument between administrators of this bill and other agencies, presumably not actually quoting anyone else, he says:

"The Federal agencies could then say, 'All right, in the interest of economy we will not have any architects (Continued on page 27)"

THE WAR AND EDUCATION

The President of the United States:

"You young people should be advised that it is their patriotic duty to continue the normal course of their education, unless and until they are called, so that they will be well prepared for greatest usefulness to their country. They will be promptly notified if they are needed for other patriotic services."

That this is not an outmoded attitude is indicated by the fact that the White House has just referred to that August statement in replying to a request from the Association of American Colleges for a brief statement from the President urging college students to remain at their posts until called through the regular channels of selective service.

Notwithstanding the war, Great Britain has not only kept its schools going, but has instituted reforms in the system. Canada has maintained a broad program of education, with special emphasis on adult education.

The Chinese government, through the long bitter years since 1937 has maintained the position that as many as possible should remain in schools and colleges. Some of the most dramatic stories from China have been about the migration of whole universities to West China, where they are carrying on with the most primitive facilities.
"University of Minnesota Alumni Weekly":

WITH the coming of war, the University of Minnesota and other universities in the nation face two great responsibilities. First, as a great public service institution, the University must make available its trained personnel and its facilities to the national program of war effort. For the past year or more the University has been making its contributions to the emergency program of defense and now the demands upon the institution will become greater as the United States adjusts itself to the tempo of actual combat. In this modern warfare the universities of the land are recognized as mighty arsenals of ideas, trained personnel, laboratories and research specialists in all fields. All these invaluable resources will be placed at the disposal of the state and the nation in this critical hour.

The second responsibility of the University is that of maintaining its normal educational function throughout the period of international conflict. It is more important than ever that youth be trained, not only in the special skills which are essential to the nation at war, but also as intelligent citizens and able leaders both in time of war and in time of peace. While concentrating with the rest of the nation on the business of winning the war, the universities must also continue their function of preparing youth for the future.

Re: Deferment of Architectural Students

STATE HEADQUARTERS SELECTIVE SERVICE
St. Paul, Minnesota

December 5, 1941

BULLETIN No. 135-41
(Copy received by School of Architecture, University of Minnesota, Dec. 9, 1941.)

SUBJECT: Deferment of Military Service of Students in Architecture and Graduates in Architecture—Supplement to Bulletin No. 74-41, this Headquarters, dated May 10, 1941.

This Headquarters has concluded a study of scarcities in the field of Architecture. As a result of these studies from sources which are considered reliable, it is believed that we may anticipate an increasing shortage in this professional field. The studies point to a 30% decrease in architectural students in the country now as compared to 1930. The total graduates in 1941 were 409 as against 589 in 1930, based on statistics in 33 schools. The School of Architecture at the University of Minnesota is the main source of supply between Chicago and the North Pacific Coast; it serves the northwest region, including Wisconsin, Iowa, the Dakotas and Montana, as well as Minnesota itself. The school's enrollment for the last five years has averaged 100 students, and its graduates, 13. The number graduated next year will be proportionately small.

Graduates in Architecture may and do engage in many activities not related to the common understanding of Architecture. They employ themselves variously as construction and engineering draftsmen, inspectors, designers and superintendents of construction in defense projects and at army and naval bases. In industry they are included as supervisors, industrial designers, architectural draftsmen, production men, and, in rare cases, as tool designers. They may be found in any or all of the defense activities and in filling vacancies created by losses in normal industry. The requests for graduate architects at the University last year exceeded the number of graduates, and additional requests have likewise remained unfulfilled. It is believed that such requests for next year's graduates will exceed the supply to a greater extent.

At the University of Minnesota, there is a five-year course in the School of Architecture, one year of which is pre-professional. Since these students are being prepared for an occupation in which there are anticipated or existing shortages in this region, and to prevent further aggravation of these shortages, it is in the national interest that they may be considered for deferment during the fourth and fifth years of the course.

State registration to become licensed architects in Minnesota requires five years' engagement in active practice, with each year completed in architectural schooling equivalent to a year in practice. It is believed that the majority of architects engaged as such in normal architectural pursuits are 28 years old or over. Registration as architects is required only for those charged with the final responsibility of the preparation of plans and their execution. The unregistered men include draftsmen, detailers, designers and similar. These are younger men, and it is they who are going into the defense activities. Recent graduates in Architecture are possessed of the necessary qualifications demanded by many industries and include a broad field occasionally remote from Architecture itself, yet employing the basic studies in the course of Architecture. These readily become key men in critical occupations, the constant demand for those having the training a graduate possesses has developed a shortage in Minnesota and the surrounding states. Many graduate architects employed by architectural firms have left this employment to become engaged in various capacities in the national defense program.

Individuals who employ their architectural training in critical occupations which are a part of defense objectives, or which are of normal national importance,
Prof. Roy Childs Jones (Mnesicles) speaking before the Association of Collegiate Schools of Architecture, Chicago Meeting, 1941

ADJUSTMENT OF ARCHITECTURAL SCHOOL WORK TO CURRENT DEFENSE PROGRAM NEEDS

This subject brings up several questions, including:

1. For what does the customary architectural training make architects useful?
2. Should specific changes or additions to that customary training make him more useful?

The obvious uses of the architect lie, of course, as always—in civilian and military construction programs; in factory, community, and regional planning; in civilian housing, military cantonments, air and naval bases—a vast far flung program.

He has a purely military use in military construction, fortifications, map making, observation, and camouflage.

There is also the general proposition that, trained to organize diverse elements into orderly patterns, the architect can contribute effectively to the defense program in many different, and not necessarily strictly professional ways.

Considering all this, it may be asked, Why change the usual pattern of training? If it has developed the abilities necessary to carry on current construction programs, it has fulfilled its function. Probably right here lies the schools' main job—to carry on.

However, carrying on doesn't mean obliviousness to current—even temporary—needs. Natural interest, morale, even outside pressure, will inevitably produce at least some change in the training pattern.

The obvious one is the digging down into the program barrel for the old military subjects as problems. But we soon find these can't be quite the same as they were. For example, the old idea that rigid regularity is a proper expression of military efficiency conflicts immediately with the current principle of irregularity as protection from aerial observation and attack. This same principle must be extended from purely military compositions to factories, to housing groups, to whole cities.

Indeed, the question arises, has not the airplane changed architecture and town planning principles completely? The invention of gun powder brought cities out from behind their walls and people out into the open. Will not aerial warfare completely banish rectangularity in architectural compositions; banish great concentrations of people in cities; banish the rigidly mechanized pattern supposedly characteristic of industrial civilization's efficiency—even some times supposedly characteristic of "modernism" and "functionalism"?

Again, will permanency in buildings be a desideratum when whole industries and their satellite communities may expand or contract over night, or when whole cities may be periodically bombed out of existence?

Three things contribute to aerial protection: decentralization, irregularization, and temporalization. It happens also that these are three very definite trends in the current design of habitable space, induced by social, economic, and aesthetic urges.

Will these characteristics, their already evident trend vastly intensified by defense needs, come to completely dominate architecture? Are they some of the things we can make students aware of—perhaps even practicing architects, engineers, and clients aware of?

There is the further question of student morale—to encourage a mental adjustment to a new kind of duty and responsibility. This can certainly be furthered by a steady carrying on of basic training as a valid preparation for whatever may befall; and by an acquaintance with special possibilities for utilizing architectural skill as in military construction, in camouflage, and above all, by a method of attack, through orderly study and research, on any problem that presents itself.
LETTERS TO THE EDITOR

REGARDING THE A.I.A.

"I WAS impressed by your Editorial Comment and since I am somewhat active in the Institute I realize the causes, as well as the results, of the too great dignity and too little activity of the A.I.A. I hope you will continue to stress the fact that the codgers must be replaced by youth and youth organized in a common bond as Archis can be a potent force for the rebirth of the Institute. I know that the Institute will be greatly changed after the war. We in the Chicago chapter are gradually getting active young blood in to produce results. Just the other day I had lunch with a young architect who said he did not want to join the Institute because of the old men who were in control. I showed him the new list of officers and directors and told him how the reactionaries were being displaced—though some men of years are yet young. I told him of plans we have for the future, advertising, publicity, license law revisions and enforcement, paid executive secretary to pool information about clients, credit ratings, and contractors. In short, a useful organization which will do things but will need money to support. It must be done. This young man has applied for membership because he wants to help do these things..."

We have just received our first copy of The Archi, for which I wish to thank you personally. I am placing it in our Fine Arts Library for the benefit of our students and faculty. I feel certain they will find it as interesting as I have.

Sincerely yours,

GEORGE SIMPSON KOYL
Dean
School of Fine Arts
University of Pennsylvania

...The setup, format and general editing are very appealing, and the articles are of general interest. I am glad to see that you have included a reprint of Krouweloven’s prize-winning article—Arts in America—as well as Labatut’s paper on the Advanced Study of Architecture.

I thank you for your generous offer to have The Archi sent to Columbia regularly and gratis. You are familiar enough with our school to know our relationship with Avery Library. The Archi will be placed in Ware Library, but I do think that a copy should also be sent to Talbot F. Hamlin, Avery Librarian, for his records.

Sincerely yours,

LEOPOLD ARNAUD, Dean
School of Architecture
Columbia University

I am writing to acknowledge the receipt of the November issue of The Archi and to thank you for your courtesy in sending it to us. It is an interesting magazine and the feature of special value seems to me to be the inclusion of articles and speeches which would not otherwise come to the attention of the ordinary student.

Yours sincerely,

C. L. V. MECKS
Department of Architecture
Yale University

CHAPTER ETERNAL

The Archi has just learned of the death of Julian P. Crowgey, Polyklitos ’26 in Kingsport, Tenn. in 1936. He had taught architecture at Clemson for a year following his graduation, and later worked in New York City in the offices of J. Floyd Yewell and Alfred Hopkins. He is survived by his wife and a son Roddy. The Archi extends belated expression of sympathy to his family on behalf of the Fraternity.
CIVILIAN PROTECTION*

By Harry M. Prince

I STARTED working on studies of defense almost two years ago—back in April, 1939—and I have been at it continuously. It was an July 12 of this past year, however, that the Mayor, who is National Director of the United States Office of Civilian Defense, named me as the architectural representative on an American Mission to England, consisting of 6 members, to study first-hand, what had been accomplished, and how we Americans could benefit by their experience.

We sailed on July 12 by way of Clipper, stopping at Bermuda. From Bermuda our next stop was at Horta in the Azores. We found Horta to be somewhat antagonistic to Americans—not openly so—but you sensed and felt it. We were advised that this was brought about because of the fact that we had arrived shortly after some members of our Congress had advocated taking over the Azores by the United States.

Lisbon was the next stop. Now Lisbon today, I think, is probably the most interesting city in the whole world. Certainly, one would never suspect, on arrival in Lisbon, that a war was in progress. Money is very plentiful. Everybody seems to be active and busy, even the architects. Architecturally, the City of Lisbon was an eye-opener to all of us. I saw some of the new buildings that have been erected in the last few years and I think that they are doing a beautiful job. There are magnificent examples of our modern architectural trend. Lisbon, of course, is flooded with refugees. We were told there were 40,000 people in Lisbon waiting to get out.

From Lisbon we flew by way of the British Overseas Airways in a Dutch plane. We were told that this plane was taken out of the Netherlands just before the invasion. It still had scars of that trip. There were many patched bullet holes. It is interesting to note that as part of the camouflage, the Dutch crew who continue to operate the plane have printed a map of the Netherlands on one of the wings. The English state these Dutch crews are the finest flyers in the world. Certainly, one would never suspect, on arrival in Lisbon, that a war was in progress.

The day began at 6:30. After breakfast we reported to a representative of the Office of Home Security, who arranged our schedule to visit parts of England for observation. When we arrived at a designated spot our party broke up and each went on his appointed task. Naturally, the work I was interested in led me to the office of the City Engineer, or the City Architect, or City Surveyor, or whatever his title might have been, to study the phases on which I was to report. This usually took most of the morning.

Then the Mission assembled and went to the Lord Mayor's office to receive official greetings and to be given a general picture of civilian defense in that city. Back again in the afternoon for more studies and finally returning to London about 8 o'clock for dinner. After dinner up to our rooms to write up our notes. This schedule you will notice left us no room for social life and we were too tired after a day's work to think very much about that.

In my official capacity, acting for the Office of Civilian Defense, I cannot tell you some of the things you would like to know; many of these things were given to us in strictest confidence and with the definite understanding that they were only to be given to the Civilian Defense Director for his use and guidance.

England, in the beginning, set up a Civilian Defense Committee which reported to certain Ministers. This was found not to work. England finally did was to appoint a Minister called the Minister of Home Security. Originally Sir John Anderson—from whose name we get the designation of the "Anderson" shelter—was the first Minister of Home Security. In December, Sir John Anderson was relieved and in his place Mr. Herbert Morrison was appointed. All air raid precautions in England are directed and coordinated under his guidance. No military authority can give directions to Mr. Morrison. Mr. Morrison gives directions to the military and tells them what to do in relation to civilian defense. Of course this does not extend into the navy yards and military

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encampments, but outside of that the Minister of Home Security is supreme in all matters pertaining to civilian defense.

That makes a very sensible and proper set-up in my opinion. All bulletins are issued only through the Office of Home Security. The War Department does not issue any bulletins for public consumption. The plan used in England which was gained through hard, long experience is one from which I think we here can profit. Let the military do those things which properly belong to them. On the other hand, the Director of the United States Office of Civilian Defense should be in complete charge of the responsibilities of protection of civilian life.

Now, gentlemen, let us take a look into some of the things of particular interest to you as architects. There are now in England in the ARP services about 1,500,000 civilians. Only 500,000 of that group are paid employees. The other million or so are voluntary.

The architects, as always, were among the first to feel the effects of the war. There is no private building of any type now going on in England. Government agencies are doing what little work there is and these agencies have stretched out and taken into their fold all of these architectural men on whom they could lay their hands. Most of the members of the architectural profession, therefore, today are engaged in governmental work as paid employees.

The older men of the profession have found it very difficult to get along. Many are doing what is known as “First Aid Repairs.” This means the repairing of buildings that have been blitzed or bombed. The government finances these repairs only to the extent that the buildings may be made habitable. A panel of architects has been selected. From this panel architects are given these little jobs to do. Beyond that there is very little private work.

All of you gentlemen, I am sure, are familiar with the action of bombs and how bombs function. You know about the high explosive 2,000 pound bomb and about the more generally used 500 pound bomb, and about the incendiary 2½ pound bomb that is dropped by the hundreds, so I do not need to go into their technical phases.

In addition to all of this the Nazis have introduced into this war something never known before—a “land mine,” which is the same type of mine used in ship lanes, adapted for land use. It weighs about 2,000 pounds. Attached to this land mine is a parachute which has the effect of slowing it down and lessening the amount of penetration. When the land mine goes off it creates a concussion and suction far beyond the powers of explosive bombs.

Our Mission was advised, and we were able to verify this, that contrary to the general belief in this country, the great danger to human life is not from the direct explosive effects of these bombs. The great danger to human life is caused by fire, the indirect result of these bombs. I would say that 70 per cent, if not more, of all the damage to buildings existing in England today can be directly traced to the devastating effects of fire. High explosives disrupt water mains and other utilities. Gas mains are destroyed with the escaping gas adding to the fire hazard and contributing towards the spread of fire. The lack of water and low water pressure finishes the job.

I cannot give you the figures on casualties. However, the greater number of them was not caused by the direct action of bombs, but by shattering and splintering of materials and, even to greater extent, by the fragmentation of glass. It is a known fact that the great majority of those treated for injuries received their wounds above the waist.

Glass is without a doubt the second greatest hazard resulting from bombing; the first, as I have said, being fire. Let us take a quick look at the great danger of glass. People are not ordered to remove the glass from buildings, but it is suggested that they do so. In the first floor of practically all buildings in London, Plymouth, Liverpool, and other large cities, owners and tenants have not only removed the glass, but closed up openings solidly with reinforced bricks. In addition, baffle walls of masonry are build directly in front of the windows and exterior doors.

One of the most successful methods of glass protection is the following, which prevents the shattering of glass. The window glass is covered with some tacky material, such as varnish, and then over the varnish a thin ordinary curtain of net material is placed and then the curtain surface is revarnished. Ordinary chicken wire mesh placed in a wooden frame is then set about an inch away from the surface. This method prevents the shattering of the glass quite well. Heavy portieres add to the protection. But the real solution seems to be the closing up of the window openings entirely. Of course, you then have the problem of artificial ventilation and light.

After glass is once blown out it is never replaced. There are two reasons for that: first, it is silly to put back the very thing that causes danger; and, second, there is the scarcity of material. They have a number of substitutes for glass. Some are now being manufactured in this country. About this I am sure you will be told in one of the bulletins which will be issued by the Government later.

Of all the shelters that have been designed for outside use it is conceded that the simple corrugated iron shelter known as the “Anderson” shelter has stood up the best.

Now, as to the effect of bombs on buildings, fireproof, steel frame buildings with fireproof arches will stand anything but a direct hit. They are the only fairly safe, bomb-resistant buildings in England. In the
ordinary steel frame construction with concrete slabs, except for the action of a high explosive bomb, or a direct hit with a 2,000 pound bomb, any floor below the three top floors is considered safe enough not to require additional protection.

Concrete frame does not stand up as well as steel. Concrete structures of the monolithic type particularly, due to their rigidity of construction, have been known to break in sections; girders have been sheared off completely from the column and have caused great damage, but they are excellent protection against fire damage.

In my opinion, no building except a steel frame building or concrete monolithic type frame structure, even with its defects, can be depended upon in any form to withstand the effect of a high explosive bomb. A wall-bearing building will not stand up. It will completely collapse if the bomb is close enough. A frame building in any form is an invitation to the Hereafter unless some other protection is provided.

May I restate, too, that I think a Technical Committee should be appointed under the complete control of the United States Director of Civilian Defense. Civilian defense, I repeat, is a civilian matter and not a military problem. Civilian defense, in order to produce the magnificent morale that they have in England—that spirit which refuses to say or even admit for a moment that they will ever be beaten—must be organized and should be organized by civilians. I am sure that in the event of war we Americans, men and women, particularly the women, will do as well as they are doing in England.

Firestone

(Continued from page 15)

broken granite rock, also compressed. It was on this base that steel was placed before pouring the concrete. The dry cement method was used in top finishing the floor, giving an exceptionally smooth steel trowelled finish, which lends itself to easy cleaning without raising more than a minimum amount of dust.

Although oil paint is manufactured locally in Brazil, very little is used as there is practically no frame construction employed anywhere in that country. Rather, there is almost universal use of various kinds of wash paint with a water base for both inside and outside covering. We did, however, use oil paint for the inside walls up to dado height.

In view of the temperate climate our location, although just in the southern edge of the tropic zone, was tempered by an altitude of three thousand feet (forty miles from the seacoast). It was, therefore, unnecessary to provide any heating system. Our power house, primarily for producing processing steam (all electric power being supplied by outside privately owned hydro-electric company), was incorporated within the factory building proper which is more or less an innovation in industrial design. It has been later proven that this feature has economical and practical advantages.

A peculiar situation was encountered in planning the forty thousand gallon fuel oil storage tanks. While the clay soil was, by actual test, good for four thousand pounds, there was a ground water condition present which would tend to float any large tanks with bottoms placed over one and one-half meters underground. For this reason we used four joined circular reinforced concrete tanks, each of ten thousand gallon capacity, with outside safety chambers. These were two meters deep and set half above and half below the ground line.

The general plant and site drainage system presented a particular problem in that the elevation of the stream into which all drainage had to discharge was only one meter below our roadway and twelve hundred feet from the extreme point to be drained. As it is the writer's judgement that a dry line drainage system is essential, if continued grief is not to be encountered, you can see that we did not have inches to spare, but had to work jealously with every bit of drop available.

For controlling our water supply, we constructed a sub-surface reservoir of four hundred thousand gallon capacity, six meters deep and so located and designed that it could be fed by gravity through a sand and gravel filter from the small stream crossing the property. The walls and bottom were constructed of concrete with weep holes at various elevations, not only to take in any ground water available but primarily to relieve the enormous pressure exerted by such water. The gravity feed and filter were so planned and located as to enable it to be automatically cleaned by a gate that, when opened, would lower the stream level forty-five centimeters and create a back wash by gravity.

For lack of space I will not go into the details of construction of the numerous machinery foundations and pits, nor the installation of the tire manufacturing equipment, the majority of which was shipped from the States. I do want to state, however, that the entire job was a most interesting and educational experience, particularly to be handled in a foreign country where it was necessary to secure and form an organization of something under a maximum of four hundred employees, very few of whom could speak a word of English. I, together with three special equipment engineers whom I was permitted to bring with me from the States, do look with pride on the fact that we were able to produce the first automobile tire just eight months from the day we broke ground for the plant.
THE HABIT OF FREEDOM*
By Raymond Moley

WE SHALL emerge from this period with a vastly expanded plant. Already, since we started to re-arm, 784 new plants have been built with two billion dollars of government money. Many others have been built privately. We are improving our land and air transportation systems. What is to become of this plant after the war? Shall the new factories be left to rust? Shall the ships be left to rot away, as we left them once before? Shall the tens of thousands of skilled workers whom we have trained in the past two years be thrown on relief? And what is to become of the new products and processes that are getting themselves born in plants laden with defense orders? Inventive brains are working and laboratories are buzzing these days. There is a boom in the patent office. Priorities are harsh but useful teachers. Manufacturers are trying to find alternative materials for their products—"alternatives," as Mr. W. J. Cameron properly warns us to call them, and not "substitutes." Are these, too, to be thrown into the discard?

If our system of private enterprise cannot find the means to employ these new facilities, chaos will rise over us all. For these productive capacities can be liabilities as well as assets. Merely to enumerate them suggests, to the pessimist, the wife whose husband telegraphed her the news that he was broke. "Never mind," she replied. "You still have me and the children."

There is plenty that the pessimist can mirror darkly in the postwar world. We shall have a staggering public debt, a staggering tax burden. We shall have a bureaucracy unparalleled in this country, staking to the public payroll as a dog to a bone. We shall have unemployment—temporary or not, as we choose to make it—and sharpened poverty. Living standards will be down. Experience assures us that we shall have a kind of national hangover, a spiritual slump. And the temptation for some of us will be strong to scrap the works and try something or anything else.

But before we yield the floor to the pessimist, before we assume a crackup followed by some sort of Communist civilization, let's look at another postwar certainty. There will be 130,000,000 of us—130,000,000 people reared in the habit of economic freedom. Call it what you will—individualism, private enterprise—it means that Americans want to go where they please, work where they please, say and do as they please and take the risks that go with freedom. Two or three or five years are a poor match for hundreds of years in human history. Habit is stronger in all of us than any other attribute—reason included. You can write it in the book that despite "new days" and "new deals" the habit of economic freedom will still endure in the American people after this war—the habit of wanting to go and speak and work as they please. And as long as it does, private enterprise will endure. As long as it does, we shall have a secure base on which our economic life can move—a system capable of keeping our vast new plant operating, our people employed, our standards of living rising.

As men emerge into the light of civilization, their demands and needs increase. In these needs is the promise that our national consumption will run even with our capacity to produce. And in that balance lies our security. Our very needs can save us all from want. That truth, paradoxical as it seems, is the key to what we are and have.

EDITORIAL COMMENT: An entirely different point of view on post-war conditions is represented by James Burnham in his book The Managerial Revolution and his summary of the book in the November 1941 issue of Fortune, entitled "Coming Rulers of the U.S." The opinions and ideas of both of these writers are worthy of serious consideration by all technically trained men.

* Reprinted by permission from Mr. Moley's weekly column "Perspective" in Newsweek.

BOOK REVIEWS

AERIAL BOMBARDMENT PROTECTION
H. E. WESSMAN, C.E., PH.D. and WM. A. ROSS, M.C.E.
New York—John Wiley & Sons, 1942

"The true University is a collection of Books"—CARLYLE

The subject matter of this book is so timely that one might expect it to show evidence of having been hastily compiled to meet an urgent demand. It does meet such a demand and is also a well-organized, meaty volume of 361 pages plus a good index, and some bibliography.

The preface explains that the book is based upon the lecture material of a course given by New York University under the auspices of the Engineering Defense Training Program of the U.S. Office of Education, in collaboration with the A.S.C.E. and the A.I.A. The U.S. Army Ordnance Dept., Corps of Engineers and the British Government Air Raid Precautions publications were sources for some of the data.

There are chapters on fundamentals of engineering and dynamics pertinent to the problems and analyses of various materials, methods of construction and types of structures. For these chapters, the authors assume that the reader has a general knowledge of engineering. There are frequent references to actual effects of bombing in foreign countries, some of them illustrated.

There are also sections on Civilian Protection Policy, (Continued on Inside Back Cover)
CAMPUS CONFUSION
A Layman Comments on Cornell Buildings

By Romeyn Berry
from his regular column "Now, In My Time"
in the Cornell Alumni News

ONCE the football season is over, what is there for academic persons to talk about? Well, this year there is Olin Hall!

The consensus of the Quadrangle seems to be against Olin Hall—just architecturally, of course. So once again your reporter must file a minority report.

Olin Hall is substantially finished now—on the outside at least—and you can get a pretty good idea of what it is going to look like. It's going to look like a building devoted to the study of Chemical Engineering, if you ask me, and that's where all this difference of opinion starts.

I think a Chemical Engineering building ought to suggest in its architecture Chemical Engineering, which is, I take it, a grim, straightforward, realistic business. But the other side seems to resent all departures from the Collegiate Gothic school which was introduced at Ithaca in the Baker Dormitories and has since been echoed with varying degrees of emphasis in the Drill Hall, the Law School, Willard Straight, and the Chemical Laboratory. The critics forget that the Collegiate Gothic evolved at a time when the whole undergraduate body was preparing itself for holy orders, and college buildings were designed to close off all sight of the life terrestrial, to the end that the sophomore class might concentrate exclusively on the life everlasting. This makes the Collegiate Gothic suitable for a divinity school, but grotesque, we submit, for a bull barn, the biological sciences, and even a chemical laboratory.

The argument won't last long and is relatively mild now; mild in comparison with the adverse comment that was born with (1) the Sibley Dome ("the breast of the Campus"), (2) Goldwin Smith ("no architecture at all," Hi Corson said, "just a collection of roofs"), (3) Rockefeller Hall ("Public Grammar School No. 16," the stu-
(1) the Old College which was first known as the "Old College," and was later

(2) the Baker Laboratory which was characterized as "a US Post Office conferred by a Republican business administration."

Olin Hall, we submit, appears eminently suited to the uses for which it was designed. You won't mind it once your eye becomes accustomed to its departures from current fashions in campus architecture. And anyway, the comment on Olin Hall will prove a gentle breeze once the hurricane bursts over the new Hotel Cornell-Statler. There, my hearth, will be a controversy over art and architecture that will shake the hills and shatter rocks that once withstood the impact of the glacier!

Right now—today—before anyone else has said a word or dashed off a rough sketch—what would you do if called upon to design a structure to be placed upon the Cornell Campus, which structure must be in all respects a practical, operating hotel of thirty rooms and also a place of instruction wherein undergraduates are to be taught the mysteries of accounting, Hollandaise sauce, Southern hospitality, hotel engineering, and how to handle tactfully tough-looking alumni who arrive after midnight without baggage? Would you start with the idea of reproducing the Waldorf-Astoria in miniature? (Don't forget it was Boldt of the Waldorf who introduced the Collegiate Gothic at Ithaca.) A Central New York tavern of stagecoach days? An English inn? Or would you stick through thick and thin to the ecclesiastical implications of the Gothic for their moral effect upon the night clerk?

Anyway, it all goes to show that the Cornell of the moment is alive and neither dead nor moribund; articulate and not mute; free and not shackled. It shows that you can get a fierce argument around here on 'most anything at the drop of a bequest. Which is just as it should be in a University that is up off its heels again and back on its toes!

All of the buildings shown on these two pages are on the campus of Cornell University, Ithaca, N.Y.—Photographs courtesy of Cornell Alumni News.
"FABRICATOR IGNOTUS"

At first men try with magic charm
To fertilize the earth,
To keep their flocks and herds from harm
And bring new young to birth.

Then to capricious Gods they turn
To save from fire or flood;
Their smoking sacrifices burn
On altars red with blood.

Next bold philosopher and sage
A settled plan decree,
And prove by thought or sacred page
What Nature ought to be.

But Nature smiles—a Sphinx-like smile—
Watching their little day
She waits in patience a while—
Their plans dissolve away.

Then come those humbler men of heart
With no completed scheme,
Content to play a modest part,
To test, observe and dream,
Till out of chaos come in sight
Clear fragments of a Whole;
Man, learning Nature's way aright,
Obeying, can control.

The great Design now glows afar;
But yet its changing Scenes
Reveal not what the Pieces are
Nor what the puzzle means.

And Nature smiles—still unconfessed
The secret thought she thinks—
Inscrutable she guards unguessed
The Riddle of the Sphinx.

We continue our free correspondence course in professional practice with two easy lessons, one from Volume 6, the other from Volume 19.

Theodoric, the semi-barbarian Emperor, in Byzantine-Early Christian Ravenna wrote this to the architect whom he had appointed to look after all public buildings, city walls and aqueducts in Ravenna and Rome:

"These excellent buildings are my delight. They are the noble image of the power of the Empire, and bear witness to its grandeur and glory. . . . I give you notice that your intelligence and talents have determined me to confide to your hands the care of my palace. It is my wish that you preserve in its original splendor all which is ancient, and that whatever you add to it may be conformable to it in style.

"It is not a work of small importance which I place in your hands, since it will be your duty to fulfill by your art the lively desire which I feel to illustrate my reign by many new edifices; so that whether the matter be the rebuilding of a city, the construction of new castles, or the building of a Pretorium, it will be for you to translate my projects into accomplished realities. And this is a service highly honorable and worthy of any man's ambition: to leave to future ages the monuments which shall be the admiration of new generations of men.

"It will be your duty to direct the mason, the sculptor, the painter, the worker in stone, in bronze, in plaster, in mosaic. What they know not you will teach them. The difficulties which they find in their work you will solve for them. But behold what various knowledge you must possess, thus to instruct artificers of many sorts. But if you can direct their work to good and satisfactory ends, their success will be your eulogy, and will form the most abundant and flattering reward you could desire."

The second lesson is from Grandfather Upjohn (Richard). His clients on his most famous commission, the vestrymen of Trinity Church, New York, had been so long associated with Puritans and other non-conformists, that their churchmanship and ecclesiology were not quite up to his own opinions and taste. He knew that they would not in advance approve a cross on the spire, so he instructed the masons to carve one secretly, and then one day when the stone spire was all but completed, and there were no vestrymen snooping around, he ordered the cross set atop the spire and quickly had scaffolding removed.

When the horrified vestrymen discovered the infamous symbol of sacerdotism on their spire, he regretted the misunderstanding, etc., and quoted a generous estimate for re-erecting the scaffolding. He pulled another fast one in the plan of the chancel. He had shown it two bays deep, and when the vestrymen objected he changed the end bay to a vestry by indicating a partition, which he forget to build. (Note: Nowadays these items can be used most effectively on the Methodists, in fact they'll like you all the more if you do.)

Our first, true (and probably best) war story—in Craig, Colo., a fifty-year-old ex-sergeant of gunnery tried to enlist.

Recruiting Officer: "Sorry, but you're too old, and besides you haven't any teeth."

Ex-Sarge: "Wathell, I don't want to eat them Japs, I want to shoot 'em."

He is again a gunnery instructor in the U. S. Army.

For years we have been hearing about how long-haired and sappy architects are, how irrational, pipe-dreaming, trying to do impossible things, driving engineers simultaneously nuts and gray-haired. Well—how about a certain other field of technology, which
is supposed to be the fair-haired boy of all American science, engineering and technical virtuosity, the automobile industry. Look at the 1942 products. Did architects ever, in their balmiest, wackiest days do anything as goofy as the abortions which are supposed to be self propelled wheeled vehicles for human passengers? They look more like a dysentery amoeba crossbred to a Christmas tree bauble. And they spawn them off by the thousands. (Architects usually build only one of their miscarriages.)

To anyone who believes in the theory of art cycles (we don't mean beautiful bicycles), it is obvious that automobile design is in the last stages of decadence, about to drop off the end of the curve. It is certainly time for a purge or a reformation. The cycle has been short: the whipsocket models were of course the Primitive.

The last Maxwell was well along in the Archaic. The Model T Ford was an exceptional carryover of the Archaic, contemporary with Hupmobile and Franklin well along in the Development Stage. The Classic or Golden Age was just 10 years ago. Look at the nifty ads of 1931. They look like wheeled vehicles, which you could get into without bashing your cranium. Even the "pregnant" Buick of that period looks pretty trim compared to the present amorphous blobs of tin.

There must be plenty of intelligent level-headed engineers in the business who would like to put the engine at the rear where it belongs and the driver right up front where he can see the road without permanently elongating his neck.

But the sales department says, "No, No, public wouldn't buy." (Same alibi we use for doing so much Colonical architecture, and others for putting smoke funnels on diesel-driven ships.)

We suspect, however, that the cars are really designed in the advertising department, where they must have one Big Idea each year, with which they become completely hypnotized and intoxicated. We understand that the engineers have their backs to the wall, heads bloody but not bowed, still holding out valiantly against elliptical or tear-drop shaped wheels.

We drop a tear for the engineer. Perhaps the war will be his salvation. In two or three years shut-down, the long-haired boys may sleep off their binge, or the advertising "profession" will depart to sell bombshelters.

We have been trying to probe the secrets of whoever does the designing, and we are pleased to announce partial results of our researches. After a prodigious amount of observation, speculation, calculation, and consternation, we have a formula for the slope of the windshield:

\[ d = a \left[ \left( \frac{l}{r} \right)^{2} \left( \frac{v+g}{g-R} \right)^{n} \right] \]

\[ n = \text{nonsense} \]
\[ v = \text{viscosity of half melted sleet (On Feb. 20 extreme case)} \]
\[ g = \text{gullibility of American public—a constant} \]
\[ R = \text{sales resistance of American public (inverse of stock market index)} \]
\[ d = \text{difference from last year's model} \]

(determined by sales department by their secret formula based on U. S. Labor Department's wage index). Usually proportionate to sales resistance.

\[ l = \text{stooping ability—in which } l \text{ is height of user} \]
\[ r = \text{(Maximum } \text{of } \frac{g}{11^9} \text{, usually proportionate to sales resistance)} \]
\[ r = \text{belt size} \]
\[ b = \text{blinding angle—calculated for each } 10^9 \text{, latitude, so that from 10 A.M. to 2 P.M. when sun is brightest, approaching motorists are sure to be blinded by perfect reflection of the sun.} \]

The answer is \( a \)—the awful angle from the vertical in degrees of absurdity.

(P.S.—we are now working on a formula for the design of women's headgear.)

Architecture Makes Congress
(Continued from page 16)

at all. We will just build some standardized buildings that have already had architectural treatment!"

Mr. Lanham does not himself advocate dispensing with architectural services. The telling phrase is architectural treatment. There we are! Still regarded as merely the beauticians, the face-lifters, not as experts in basic planning and construction of buildings, adapted to particular conditions.

This is not a reflection upon the intelligence of the gentleman from Texas, but upon the whole architectural profession, which has, in large measure, failed to "sell" the more important aspects of our services.

The other questionable phrase is temporary but livable. The gentlemen in Congress and many other kinds of people, are kidding themselves about "temporary" buildings.

Anywhere north of latitude 40 a building to be livable must be sufficiently well built to stand indefinitely, with reasonable maintenance. If a building is so cheaply built as to fail or deteriorate seriously within a year or two, it is not worth building for any human use. If it is so built as to withstand a year of wear and weather, it will be good for five years or ten or more.

We still have with us many of these so-called temporary buildings erected during the last war. They have been a bad investment in every respect from the day they were built. There is a perfectly normal tendency to use such buildings as long as they will stand up and with the costly maintenance and repairs necessary, they cost more per cubic foot per year than simple buildings of normal construction.
ART IN EDUCATION*

By George Boas

It has frequently been observed that whereas the history, appreciation, and production of literature have been an integral part of American education for generations, the other arts have been singularly neglected. Many colleges have had courses in archaeology, some have even ventured into the history of music, but to think of painting, sculpture, and architecture as necessary parts of higher education is still far from common practice.

The determination of what composes a college curriculum has little logical basis. Curricula are usually determined by historical accident. Thus in most of the Eastern liberal colleges the nucleus of the courses was composed in the seventeenth and eighteenth centuries when education seemed—whatever the reality—to have existed mainly as training for the ministry. Clergymen needed Hebrew, Latin, and Greek for reasons which are too obvious to mention. The writer of these lines in 1909 entered a New England university where Greek and Latin were required for the Bachelor of Arts degree, where economics, political science, and sociology were all lumped into one three-semester course, where one year of any natural science was sufficient for the degree, and where art was relegated to a sleep course about plaster casts of Hellenistic and Roman statues, a course taken largely by football stars who needed a rest, and music was given by an itinerant professor who arrived from somewhere for an hour or so a week and then disappeared. But when it came to literature, we had a large department which had courses running from Anglo-Saxon to the Age of Victoria. We had courses in French and German and Italian. We had a department of history with courses considered almost as respectable as those in the department of Greek. In fact, if all the courses given in the university in any department which dealt with the past were classified as history, then fully 90 per cent of the courses sufficient and necessary for the A.B. Degree were historical. But neither painting nor sculpture nor architecture was history.

There are still colleges whose curricula are as strangely unbalanced. Where is the school which, recognizing that the arts are the one lasting contribution which a society can make to history, sets as part of its task their understanding and appreciation?

I am not attempting to argue that no man should go to his grave without having understood and appreciated the artistic masterpieces of the past. We know, of course, that there are no rules by which we can define education for all. It is precisely the existence of those three variables—the subject, the pupil, and the school—which makes so much discussion about education its aims profitless and abstract. Hence it would be foolish to argue that all people in all schools need training in the fine arts. At the same time it is possible and desirable to indicate what place such training should have in certain institutions.

All the arts seem to have had their origin in utilities. As late as the thirteenth century, the subject matter of painting and sculpture was their main raison d'être. These arts existed to teach a lesson. This does not mean that people did not enjoy the beauty of frescoes and miniatures and stained glass and statues; but I doubt whether it would ever have occurred to anyone to paint a fresco—or, better, to order one painted—simply for the fun of looking at its pattern.

Whatever the primitive purpose of a work of art, history shows us that when that purpose becomes obsolete or forgotten the work of art, instead of dying a natural death, goes right along being admired (or disliked) as if nothing had happened. Nothing is commoner than the shifting of character from one thing to another, sometimes from one extreme to its opposite. We have all seen plays which were written as serious social tracts or melodramas played with great success as farces, and we have reason to believe that at least one play, The Merchant of Venice, changed from being a comedy to being a serious drama. But what is still more astonishing is that when a tool loses its utility it frequently takes on beauty, and instead of being thrown away as useless it is treasured as objet d'art. This sounds like a naughty paradox, but if one wishes evidence that it is not let one look first at the modern living room with its candlesticks, fireplaces, and electrified oil lamps, and second at the museums with their collections of old watches, swords, suits of armor, ancient costumes, metal cooking utensils, keys, even fragments of architecture and textiles. One might without too great loss of sense define beauty as obsolete utility, and, though one would know little about its essence, one would at any rate know something of its history.

It must never be forgotten that at no time, even during the so-called "aesthetic" period, were the arts divorced from the rest of civilization, but on the contrary, they were so intimately a part of it that they gave it its characteristic temper and color. From the Age of Pericles to the Age of Victoria, it was the artists, poets, sculptors, architects, and, when they

* Condensed with permission of the author from the second-prize-winning essay published in the November 1941, Atlantic Monthly. The essay was submitted in the contest conducted jointly by the Atlantic Monthly and the American Institute of Architects, and was selected by a jury composed of: Francis Henry Taylor, Director of the Metropolitan Museum of Art, N.Y.; Wm. Emerson, Professor Emeritus, Massachusetts Institute of Technology; and Edward Weeks, Editor of the Atlantic Monthly.

The author is Professor of Philosophy in Johns Hopkins University, Baltimore.
Plato, who had little use for science and philosophy whose interest, ironically enough, is largely aesthetic. For when a scientific or philosophical theory is superseded it survives only as a work of art, as evidence not of truth but of the working of a human mind.

But what is more, one can read the science of the past more truly in the light of contemporary art than in the light of logic. For when a theory is false, and yet the work of a great mind, one is forced to wonder how so intelligent a being could have been so blind. How could Aristotle have believed that the velocity of falling bodies was a function of their weight, or Darwin have believed in the inheritance of acquired characteristics? Why did Newton spend so much time on the interpretation of the Book of Revelation? None of these men were morons after all, and, if they thought as they did, it was because their thoughts made sense to them. Unless one locates these men in the totality of their ages, one has no idea of what was the intellectual climate of their times.

Very few artists are original thinkers in fields outside their art. If one were to go through Shakespeare looking for original thoughts, in the sense of scientific or philosophic thoughts, one would be forced to the lamentable conclusion that Bernard Shaw was right about him. The same thing is true of Michelangelo. He contributed nothing to the history of philosophy; his contributions to the history of civilization need no appraisal here.

But when one reads Shakespeare one sees beyond the glorious poetry and the drama and the insight into human mentality, the suffering and the joy, the music, the voluptnuousness of the sounds, the intensity of the emotion of an age. Here is the funnel through which philosophy and science were poured into the public mind, transformed into language which would never be forgotten, though the origin of its thoughts would be lost. When one sees the "Last Judgment," one sees not merely a theological statement, but that statement in a form which was to become standard for generations afterwards. What such artists have done for civilization is not to invent new thoughts, but to present history and philosophy and religion and even science in such form that later ages will accept them as the culture of their times. When we think of the Age of Augustus we inevitably think of it in terms of Vergil, Ovid, Horace, and the architects who rebuilt a nobler Rome for the Emperor. Augustan Rome contained statesmen, generals, economists, engineers, astrologers, and other men of science and philosophy; but when the Italian Renaissance and the first French Empire tried to revive it they revived what they thought were its architecture and its sculpture.

The best reason for including the history of the arts in a college curriculum is that it is the truest cross-section of the history of civilization. The non-aesthetic activities of mankind which have meant anything to human life are preserved in them in the form in which their significance was deepest. They show us not only what was permanent in the past but also what changes the past underwent as it progressed into the present.

Let us take a single example.

All of us who have had at least the remnants of a classical education have heard some such phrase as "the Greek way of life." Plato, who had little use for barbarians, didn't think of Greeks as all of a piece; he knew that Spartans had a kind of civilization which was fundamentally different from that of Athens, and as for Aristotle, one has only to read his *Politics* to see how diverse he knew Greek cultures to be. Hence, if one asks where we derived the idea of the Greeks as an ideal, one finds them first in Alexandria, then in Rome, then in the Middle Ages, then in Renaissance Florence, then in classical France, then in neo-classic France and England, then in the nineteenth century everywhere. We find that the Greeks were a pastoral group of lyricists, were primitive Christians, were bestial idolators, were great philosophers believing especially in self-knowledge and moderation, were above all sculptors of nude bodies, were graceful and very clean-looking English undergraduates, were semi-savage bipeds whose poetry was rationalized myth and whose religion was bloodthirsty ritual.

Every age, in short, has had its own Greeks, but—and this is what I am driving at—the Greeks of every age survive only in the arts of each age, so that from the archaizing Romans through the mediaeval sculptors who put Aristotle and Pythagoras on their cathedrals, down to Paul Manship, we find a series of Greeks as *the* Greeks, and the choice they made and the types they fixed were made and fixed not through some inexplicable caprice but because numberless influences flowed into the minds of these men and others and emerged as the style of an epoch.

Similar remarks can be made about Greek architecture. It is only on recent times that archaeologists have dug up enough ruins of Greek buildings to generalize about them. The rest is tradition. But when Alberti tried to revive Greek architecture, he set a type which was no more like any real Greek building than Monteverdi's *Orfeo* was like an Aeschylean tragedy, and yet it became Greek architecture for several generations. I am sure that many a child in America thought of...
the Parthenon as something resembling the First National Bank in his home town, and it might not be an exaggeration to say that the architect of the First National Bank would probably have agreed.

It is easy enough to say all this, but no student will believe it until he has seen the evidence. A course in the history of art could be so devised that by means of lantern slides alone a teacher could easily untangle the various traditions which are twisted together to make our own and show their antecedents in visible form. Would that not be more impressive than a mere verbal account?

To see with one’s bodily eyes the history of the human mind in all its intricacies is, however, only one reason for giving to the fine arts a more prominent place in our programs than they have usually had. Another reason is that for which we study great works of literature. One doesn’t expect a student to read Shakespeare simply because Shakespeare had certain dates. If he were just a symptom of Elizabethan England, Sir Francis Drake would do as well. Shakespeare happened to produce plays which have continued to interest the reading public, plays in which almost every generation has found some nutriment. If a literature is lucky enough to have writers to whom successive generations have turned for inspiration, if for nothing else, we naturally feel that our students should know them as intimately as possible.

For, by perhaps an inexplicable desire to consolidate a tradition, men turn to the past and reinvigorate it year by year. They feel the need of an historical basis for their contemporary values. Even the men who like to overthrow the accepted standards will dig about in the past to find precedent for their new standards. Thus the French romanticists turned to Shakespeare as their predecessor and the classicists turned to Seneca. The Post-Impressionists turned to El Greco as a kind of early Cézanne. So in the nineteenth century the founders of new religious sects maintained that they were going back to the Gospels. And in our own time it is not unusual to find political radicals proclaiming that their most revolutionary theories go back to the Constitution.

III

It is particularly in architecture that the aesthetic tradition of a country is most permanently fixed. Not only are buildings because of their very stuff inescapable memories of the past, confronting you on every hand, recalling to your eye the aspirations and failures of your forefathers, but there seems to be less of a tendency in architecture to experiment with new forms. One has only to think of the survival of the Gothic, even when functionally unsuitable, to see how true this is. There is, I venture to say, no functional reason why colleges should be built in the Gothic style, particularly in America, where the first college buildings were in red brick “colonial”—but Gothic continues to hold such power over the builders’ imagination that many people would not recognize a college if it were not Gothic or derivative of Gothic. It may be weak-mindedness which does this, a lack of imagination, or a kind of superstitious reverence for what has been. But calling names does not solve problems—however persuasive it may be—and it is probable that human beings simply like to believe that they have authority for their novelties and are merely adding to a tradition when they are innovating.

Americans who have been born and brought up in New England or parts of the South and Middle West have before them a visible record of architectural tradition. They know what the form of American architecture was at least as early as the Federal period. The churches and mansions of their villages are a frame into which they fit, a background against which their lives can be painted. These buildings are like proverbs, a kind of homely unquestioned wisdom. But when men begin to move about into scenes which are unfamiliar, against backgrounds with which they have no historical relation, they hanker for evidence that they are still at home. So a traveler going into a church finds the words of the ritual comforting by their very familiarity, as when he sees his flag in a foreign port.

In America about the only external evidence of spiritual unity, besides our language, is our architecture. This is sometimes deprecated as standardization. Apart from the fact that most nations are much more standardized in speech, costume, law, and education than Americans are, we have been, one feels at times, somewhat intimidated by this form of criticism. The standardization of our urban architecture, even when it fills no useful material purpose, has the spiritual purpose of creating an American environment in which Americans feel at home. No further justification ought to be required. That is our language, and naturally it seems barbarous to foreigners. But most of us are in the condition of children who speak English correctly without knowing any English grammar. If the fine arts were an integral part of our curricula, we should understand why our aesthetic idiom is as it is and our great builders, from the anonymous carpenters who constructed the village cottages and churches of New England to Frank Lloyd Wright and beyond, would be looked upon as our Franklins and Emersons. The books of the latter group are more often than not covered with dust until a professor puts them on the list of required reading; the buildings of the former are seen and used in the daily lives of thousands.

We are, moreover, constantly complaining that our youth has no taste, that our cities are allowed to de-

[The first Gothic college buildings to be erected in America are usually said to be those of Kenyon College in Gambier, Ohio, which was founded in 1824.—Author]
generate into slums, that our walls are covered with hideous reproductions of bad originals, that our furniture is ugly, that our posters are banal—and most of this is true. But at the same time few raise the question of how a nation in which only the smallest fraction of the total population ever sees any first-rate paintings and statues or has been taught to understand the masterpieces of architecture which dot its cities, in which almost the whole body of students in the colleges can get a Bachelor's degree without ever hearing the names of men and women who have produced the masterpieces of art, could be expected to be otherwise. It has been said that our fathers talked sound English because they were brought up on the English Bible and Pilgrim's Progress. They absorbed into their speech the best speech of the past. They did not consciously try to imitate the style of the King James version. It became part of their spiritual substance. In the same way the village carpenter could build a house which was beautiful because he had acquired an architectural idiom which he never questioned. But young men and women who have no aesthetic idiom cannot be expected to do more than jabber like imbeciles when they are faced with a work of art. One painting is as good as another, so long as it is striking. They are no more made unhappy by ugliness than they are by bad grammar.

The pity of it is that we have an aesthetic idiom in America as we have a linguistic one. Like all idioms, it has grown out of the experiences of many peoples, adapted from traditions which have been twisted together to form a new and perhaps more resistant rope. To some of us with European training, educated in the older universities whose faculties looked to Europe for approval, this idiom seemed provincial, a kind of aesthetic patois. But Tuscan was a patois until Dante wrote the Divine Comedy. Any language remains a patois until people begin speaking it without shame.

IV

Twenty-five years ago it was considered singular to advocate the study of American literature in colleges. Part of this was due to snobishness, but part to the natural feeling that one doesn't study what one knows. After all, the study of English literature was not carried on at Oxford until fairly recent times. But a normal curiosity about the literary past not only made American college students better informed about the traditional literary figures, like the New England poets, but also helped them discover less well-known figures like Melville. Nowadays it is the exception to find a professor who is skeptical about the value of teaching American literature. To advocate the study of American art, and by "art" I mean architecture, sculpture, and painting as a minimum, will seem singular now to some readers, but there is every bit as much reason for our young men and women to be familiar with that as with literature. It is no more nor less important.

We have produced few if any poets who are read by Englishmen and Frenchmen as they read their own writers. So too we have produced very few artists whose works are known and cherished abroad. But that is irrelevant. If we were to study only the great, in the sense that Aeschylus and Phidias are great, we could lump all the arts into one course and be hard put to it to make it last out a scholastic year. But I am not advocating the imposition of a teacher's taste upon his students. To begin with, it would be futile; besides it would tell the students more about their teacher than about art. I am advocating more understanding and less judgment.

The way to reform education is by gradual pruning and cultivation, as one reforms a tree. I should not like to be thought of as a proponent of another educational reform. This paper is proposing an extension of the curriculum in order to satisfy a need which is expressing itself in the rise of new museums all over America, in the increased sales of books on art, in the spread of art departments in the universities, in the attention which popular magazines are giving to art. The Ph.D.s have pretty well disgusted everyone with literature by their isolation of writers from the general current of history. They study them as a boy studies birds' eggs, by blowing out the life that is within them first. To avoid this, it is necessary that the fine arts become an integral part of education from the lower school up, and not something that you take on Fridays for an hour. But that can be accomplished only if the teachers of history and of literature include the arts as a natural part of their courses. The growing popularity of museums will to some measure make that a normal development, but meanwhile the present generation of teachers and parents would do well to become at least aware of the current of history.
FACING FACTS*

By William Pope Barney, F.A.I.A., Philadelphia

THERE is no time for "talky talk," but rather for the facing of facts, some of which, while not flattering, should wake us up. Certainly these days demand the utmost of which we individually and as a profession are capable. I have often sensed a danger in meetings such as this—that in our enthusiasm for our profession and our understandable and even praiseworthy desire to be of ever-increasing service to society we let our imaginations run away with us until we lay out a program impossible of accomplishment and picture a future in which all the world will be at our door clamoring for a service which we alone can give.

WE MUST NOT DECEIVE OURSELVES

It is all very well to have imagination, but let us not be guilty of letting it run to such lengths as to assure us of our indispensability while we are at the same time seriously discussing the need of a series of national broadcasts to make the public "architect-minded." And speaking of sales promotion, we must remember that the wholesale merchandising of drawing and specifications is not just a matter of demand. It requires delivery, and, no matter how much the client assures us to the contrary, it requires personal supervision and follow-up by those both skilled and experienced. To listen to some of my friends, one would think architectural service was something you could produce in unlimited quantities, wrap up in a factory, seal with the stamp of the A.I.A., and always find the same quality when you unwrap it. Architectural service involves a personal relation of a personally skilled individual to his client. The fact that some very outstanding men in the profession have had a genius for organization as well as architectural ability and have built up large practices, is no reason for changing our conception of it as pre-eminently a personal service. It is not a mere merchandising of the work of our assistants. Being a personal service it involves a personal trust and understanding which cannot be built up overnight, and if by some superhuman salesmanship or natural emergency we treble our market overnight, we are in the gravest danger of great disappointment due to having to delegate vital matters to those not sufficiently matured by experience to know how to handle them, or we will undertake to carry too heavy a load ourselves, and come a cropper with equally disastrous results.

* From an address before the October convention of the Ohio Society of Architects, Toledo. Reprinted by permission from the Ohio Architect.

BY WISHFUL THINKING

The great projects which the all-out national effort is calling for demand a certain co-operation and co-ordination that wishful thinking would assure us that we architects have always had because we have been co-ordinating the structural, mechanical and design elements with almost unconscious effort for years. The effortlessness of this co-ordination comes from our familiarity with all the problems it presents, and our close personal relations over the period of years with those whose efforts we would co-ordinate. It rarely is a measure of our natural aptitude for co-ordination, as witness the hell of a time most of us had when we did our first housing project for the Government. Here we were, many of us, faced for the first time in our lives with the problem of co-operating with a great many hitherto strangers and had to co-ordinate their contributions and decisions so that work could go forward to a conclusion which would have some unity of purpose and clarity of intent. Certainly I say that the technique for such a job of co-ordination was not taught in college in my generation, nor the generation preceding mine, nor was it ever considered desirable. True, we learned that the architect was the commander-in-chief, but we always thought of his omniscience as something gained through the eyes and exercised on those rare occasions when we had to assert his prerogative by an ex-cathedra sort of dignified verdict—final and inevitable like the crack of doom.

CO-ORDINATION REQUIRES MASTERY

Now, some architects are born co-ordinators; in fact, they are so good at it that they do not even have to know much about architecture in order to get along pretty well, but as a profession we are individualists with strong personal convictions and considerable confidence in our own judgment, knowing, as we do, that that judgment is based on much hard work and experience. In a word, we are prone to be very enthusiastic about our own way of doing things. I do not criticize this. It is too closely akin to the divine urge of genius to be deprecated in a profession where creative effort is so much needed. But I do submit that it makes co-operation a thing we must consciously strive for rather than assume that we have to a rather unusual degree by virtue of being architects. In my own case, it has taken a world war to snap me out of this complacency, and I have had some growing pains in the process.

INSPIRATION OF THE EMERGENCY

I have been tremendously encouraged, however, in doing defense housing work recently to find that a new spirit which I have felt is shared by those with whom I have come in contact in Washington. These are men
I have known before and found in the past frequently not too helpful. Today it is different. A consuming zeal to get on with our total defense is evident on all sides. All seemed to be looking for a new technique for co-operating—a way of ironing out differences of opinion. We were actively trying to find a point where minds could meet rather than making those clear-cut statements of divergent views which are so dear to most of us. In my own case (and I think I am fairly typical), I found it was a matter of accent rather than content that had to be changed. I had the knowledge—so have we all. It was only the willingness to serve that had been lacking.

**Planning for a New End**

The country needs intelligent planners today, and it will need them tomorrow—infinitely more—clear thinkers who are trained and experienced to consider and analyze a problem, marshall their resources and produce a solution. You say surely we architects are that. I agree we are, but, again, I feel we have got to change the accent. Herefore we have been searchers for a perfection often unappreciated and sometimes even resisted by the clients. You all perhaps recall the story of Wilson Eyre, the father of distinguished domestic architectures in Philadelphia who was overheard answering the client's irate question, "Are you, or are you not, going to do what I want you to do?" "Madame, I am going to do something infinitely better than you want, only you can't grasp it yet." Now, this very thing that makes us good architects—this unquenchable thirst for improvement can be a terrible handicap in building an army cantonment unless behind and beyond it all is a consuming zeal to get ahead with the job. This zeal and this zeal alone is what entitles us as architects to a place in the national defense set-up. With this zeal we can transmute our single-mindedness from the goal of perfection of form to a perfection of timing and delivery.

**New Skills Not Salesmanship**

We come so near to being the answer to a nation's prayer that we are in danger of forgetting the things we still lack. We must keep abreast of the times, we need to know more about the new materials we must use; the new structural devices we must employ; the engineering we so unfortunately have completely delegated to others, the people we work with and the society we work for. These needs cannot be compensated for by salesmanship. In fact, the curse of our day in architecture, as in so many other things, is the belief that a clever tongue can substitute for a willing back; and that knowing the right people is more important than knowing your job.

**The Young Generation**

It is at meetings such as this that we can profitably come face to face with facts. You no doubt have heard that the public doesn't appreciate architects; and why should they, since we have missed the boat so many times in the past? As one who has missed some boats himself, I must say that the time of sailing changes so often these days that some missing is inevitable. But if I and my contemporaries have missed some boats, all architects have not. If you will allow me, I am going to talk about some whom I think we will find aboard—the younger men of the profession, the men who have graduated since 1929 and have had the worst break of any generation of architects now practicing. My reason for doing this is that I feel these men have something we who are older haven't always got; in fact, most of the things that critics of architecture and architects have taken the profession to task for the last twenty years. They are vitally and not theoretically interested in city planning and community problems; they are eager to learn: they are not given to stage scenery facades, but are zealous to make a real contribution to the evolution of a modern architecture; they are functional planners with some intellectual content in their design, and frequently are making improvement in structural technique. Let me read you a few excerpts from letters that have come before me in the last year. They are earnestly sincere appraisals of architects by architects, and they refer to men now in their early thirties.

**Praise**

"The most characteristic of his qualities is his tireless effort to learn everything that needs to be known to do architecture well, and his refusal to do anything based on whimsy or half-knowledge. Such an approach is likely to produce slow but sound and original results, without mannerism and without spectacular qualities."

"He is deeply interested in city planning and community problems, and has a general cultural development adequate to assure him a place in the intellectual life of his community. A man who has a strong purpose in life, attracting interest to himself and his work on the part of leaders in other fields. "He is doing quietly and without showmanship or great opportunity some very excellent work, fresh, carefully studied and sincere to the point of fervor. I would recognize his as an outstanding zeal for significant contribution to American architecture on the part of one who sees the problem clearly and moves directly toward a solution. His design shows feeling and a fresh enthusiasm which will go far."

"A man of thorough scholarship, an able designer, and, above all, a person of reasoned conviction and of
devotion to an idea. He has sensed the significant weakness in American architecture—namely, lack of intellectual content, and he is laboring incessantly to correct it, not as a matter of business, but as a professional obligation."

"He has come to hold an outstanding place among the younger designers in this country by virtue of the originality of his solution from the points of view of both function and design. This has often involved startling improvements in structural techniques."

"He contributes to the advancement of American design a thorough understanding of all the arts from the point of view of an active technician in sculpture, design of textiles, furniture and other accessories."

A WARNING

Certainly these are words of high praise, and I think they were deserved; in fact, I know some of them were, because I wrote them myself. And yet I am not completely reassured, and I do not believe my concern comes entirely from my skepticism of the universal and unfailing merit of plywood and glass in large, unbroken doses, because I have my streamline days when I was very enthusiastic over what is happening to architecture. It is when I come face to face with things that speak to the soul in a language of mastery of material and technique the artists' vision of the beauty of the world we live in—perhaps a Greek Tanagra figure, a Sertiman child, a Velasquez portrait—that much of the work today seems lacking in deep conviction of the possibility of any lasting perfection or principle. To these men I would recall that they have known no normal times, and, in their zeal to force a better world, have looked only ahead; it is behind that we must look to see the fruitage of generations of true culture.

THE FUTURE OPPORTUNITY

And now as to the future. I will not say that we are going to be indispensable, because when you come right down to it, the only thing that we can do that no other group challenges is to design a column and cornice that have feeling; but I will say we are going to be terribly needed. To be able to produce a finished building that, in their clarity, simplicity and beauty, are worthy of the new age that I confidently believe is coming, when the Nazi menace is a thing of the past, will be for architects and engineers the challenge of a century. To meet this challenge we will need a greatly increased number of trained men. I believe that the opportunity for young men entering these professions is greater now than it has been for fifty years.

THE ADVANCED STUDY
OF ARCHITECTURE*

By Prof. Jean Labatut, Princeton University

(Continued from November 1941 issue)

During the second year of Graduate College the qualified students applying for a Master of Fine Arts degree in Architecture develop their own program according to that aspect of the broad field of architectural design which has interested them most. In addition to architectural drawings or models, each thesis must include an oral and written justification of the social, economical, structural and aesthetic aspect of the solution.

During the student's two years in the Graduate College, I discuss architectural design with them, developing their creative power in organization of space, structure, and aesthetic expression. Problems are used as experimental ground for investigation and research in fields related to the subject. Informal discussions are the controlling factors which develop an effective method of approach, making the student crystallize his own thoughts by tangible reasoning, logic, and common sense.

Problems cover the approach of all phases of architecture from any form of space organization to the treatment of detail, structure and texture of materials, illumination and polychromy, from small units to landscape design and city planning.

Following my interpretation of architectural design, the space to be composed may be a room, a garden, a street, a city, or a region. Whatever the problem may be, the teaching of advanced architectural design is a question of stimulating the development of the student's creative power, to crystallize what is instinct or intuition, to summarize acquired experience, inspire confidence, arouse enthusiasm, encourage the student to think by himself, and make him discover the field of architectural design for which he is best fitted—in short, to develop the student's personality, whatever his future professional title may be: Architect, Industrial Designer, or City Planner. (To cite an example, one of my former students is coming back to Princeton as Director of the Bureau of Urban Research.)

While I want the student to learn how to draw, I make him conscious that for an organizer of space a drawing has no value except as a means to an end. Making abstraction of my personal choice, the student is completely responsible for his own work. I insist on the importance of the knowledge of limitations as the way to express freedom.

*An address delivered before the annual meeting of the Association of Collegiate Schools of Architecture, Chicago, May 10, 1941. Printed by special permission of Professor Labatut.
My approach to architectural design found in Princeton a great stimulant by what may appear at first sight a paradox if one looks through the wrong end of the field glass, that is, the opportunity to have the full use of the Department of Archaeology—that science becoming more and more precise, every day deeper and broader in scope. Several years ago, in one of my periodical proposals for improvement, I said: "to deny the past is wrong, to know too little about the past is worse."

These facts develop two types of students of architecture. The first type denies the past with a seeming conviction, dissembling ignorance, but he cannot avoid the necessity to analyze modern solutions; for example, a modern house, which is as well in the past and no less a matter of analysis than a Roman house or a Georgian house. The second type, with a conviction no less than "why be bothered," is taking refuge in a great past. By such interpretation of archaeology, they would be the reason why he should not imitate those very same forms. I heard of an architect of this type—considered a 'Pillar of Classicism'—who had a special floor reserved for offices to receive clients seeking modern expression.

"Where is conviction? Certainly not there..."

The past should be taken as a stimulant, not as a refuge. It is wise to step back, to take a better leap in the future only if one does not forget to jump after stepping back. The past should be, as in the case of the 1893 Chicago Fountain, an example of what not to do in another epoch, in another site, in another climate, for another client.

The mere ecstatic enthusiasm of the student for the past should give place to profound analysis; and his respect for the past will be greater, more sincere, and less superficial. By such interpretation of archaeology, he acquires the conviction that repetitions, recipes, mass production, superficial mechanical reproductions of the past, are expressions of a lack of respect for a great past.

Eclecticism is not the expression of respect for the past, but the testimony of superficial knowledge of all the values and greatness of that past, a proof of lack of refinement and visual sensibility, for the value of space, form, color, and, above all, lack of sensibility for mental and spiritual values.

This may be called theory, but I may say the theoretical training of today is more practical than the practice of the profession based on academism and eclecticism.

For those who do not give a hoot about design, or about the value of space and expression, designers are only theoreticians—one more proof of complete lack of sensibility.

The study of the interpretation of the past develops the student's sensibility, that faculty lacking so much in the profession of architecture today, in the making of programs, in the study of the problems, and in architectural judgments.

The better the "program," that genetic process, the better the solution.

As to architectural exhibits, they should never be interpreted and judged as a gymnastic of the hand on paper but as a gymnastic of the mind in space.

The judge as well as the teacher, should not act as the "patron," the "boss." They should make abstractions of themselves, of their personal solutions of the problem.

Progressive modern teaching of architectural design consists of following the student's mind and treating each one as a special case, developing a seed in the right ground, under the right climate, and not importing wholesale products (traditional or cubist) which may denature or annihilate the creative impulse and ferment that region of the student's mind for which a teacher should be the gardener and not a dictator.

It is in the latter attitude of the teacher that lies the error in both the academic and apprentice systems. If we consider for a moment these two old types of training, the apprentice system and the academic system, we can feel a tendency toward an attitude common to both that is a dictatorial type of training.

The educational part of the apprentice system of the Middle Ages was done through work on a specific job, under a "patron" or "boss." After a certain time the apprentice worked on another job, perhaps for another "patron" in another city. Going from one city to another, from one country to another, the job was the training and the bread.

Time of training and age of the apprentice were not taken into consideration. That was during the Middle Ages, during the Renaissance, and even the Father of Ages, during the Renaissance, and even the Father of the past was taken as a stimulant, not as a training, the apprentice system and the apprentice system, we can feel a tendency toward an attitude common to both that is a dictatorial type of training.

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ACTIVE CHAPTERS

Andronicus—U.S.C.

Before saying anything, the writer would like to convey the congratulations of the chapter on the past and first issue of the new Archi. It was received with tremendous enthusiasm and all remarked on the splendid caliber of the magazine.

News from Andronicus chapter is varied in text and interest. The most important of all is, of course, the present world crisis. Its effects were deeply felt here on the West Coast the first week of the war when ritual curtains were pressed into service as black-out drapes, air raid precautions were broadcast over the radios when they were transmitting, we had one complete black-out, and one was called off before it started. Since that time the only connection we have had with the war has been through visits from brothers graduated and in the service, and one of the active brothers has joined and been accepted in the U.S.C. Flying Escadrille of the Navy Air Corps. The draft is far-reaching but most of the brothers so far have been fortunate in securing deferments until graduation, or for a while.

In November and December we were happy to be hosts to Chuck Wiley—Mnesicles alumnus—who is on a traveling scholarship from Harvard and who spent several interesting weeks out in the “land of sunshine (?)”.

With the start of the new semester in February the university is inaugurating a three semester, all year-round program—a fall, spring, and summer semester to facilitate the grinding out of students in as short a period as possible.

The houses on campus are beginning to fly service flags and this chapter would have its flag spangled profusely, if we were flying one. We have many alums now shouldering rifles in various parts of the World—two were on Midway in the marines, a couple in Honolulu—as well as seven or eight in Hawaii doing defense work—and others from Washington to Virginia in the Marines, Navy, Army, and air corps of all branches.

Mnesicles—Univ. of Minnesota

Happy New Year—a greeting that Mnesicles wishes all its fellow chapters with its deepest sincerity as the clouds of war slowly begin to overshadow us. Decisions of what one should do or how we can serve our country best—in our armed forces, industry or continued technical study—all serious decisions that are shadowing their problems upon us. Many of our chapters have mastered their problems involving all the above channels.

Marin Behrens, John Anderson, John Whitlock and Brian Powers have recently begun their naval air training in Minneapolis and are to be transferred to advanced training schools in the south.

Wayne Kief was inducted into the army by the Selective Service Act early in the past year. Many more of us have received questionnaires and classifications bringing closer to us the reality of war and its effect upon our education at the present. Late measures taken by the faculty and legislature have exempted from the draft, all fourth and fifth year students in architecture. From this rises hope of the completion of our education before we serve our country in our chosen ways and being better prepared to do so.

Industry will probably be the field which most of us will enter upon graduation. Two of our brothers, Ansgar Raun and Orrin Field, have already accepted jobs at the Boeing Aircraft Company in Seattle. They will assume their positions the beginning of this year. Eugene Flynn, Forrest Hoganson, James Hussey and Lyle Swedberg also have contacted for jobs at Boeing but will not begin their work until the 29 of June, after graduation.

In school an attempt has been made to shorten the five year course for some of the fifth year students. Several have been allowed to take their thesis this quarter instead of during the usual spring quarter. Among these is Harold Bakke who also was initiated last year into the honorary architectural fraternity of our school.

Alpha Rho Chi had two successful parties in the
past quarter, a Homecoming Banquet and Party and a Christmas Pledge party. The latter having its decorations carried out in a general theme of mistletoe—although there was much doubt as to whether there was a necessity for it—is that right Flynn? The coming social event of this present quarter is the annual Inter Pro Ball sponsored by the Inter Professional Fraternity Council. Brother Harley Johnson, our representative to the council, was chosen as co-chairman of the ball and judging from what he says, it is the social event of the entire year of the entire University.

Well, I suppose that Alpha Rho Chi will tread on the usual lines—parties, Monday afternoon—and—alas—teas, all night stands in Design, and maybe if time permits we'll study a little. May I again extent to you, in closing, a most happy and successful new year.

JAMES HUSSEY, W.S.

Book Reviews (Continued from page 23)

Protective Concealment, Shelter Zones in existing buildings, Sanitation, etc.

While for some of the problems there is admittedly insufficient data and experience on which to base definite pronouncements or formulae, this book does apparently summarize the best knowledge available up to the present moment in the several related fields.

SPACE, TIME AND ARCHITECTURE
SIGFRIED GIEDION
Cambridge, Harvard University Press—1941

"... intended for those who are alarmed by the present state of our culture and anxious to find a way out. ..." This from the first sentence of the foreword of this remarkable book suggests that the author is a sociologist turned architect, or one of the sociologist-reformer-architects, not uncommon in our generation. However, this is misleading. The rest of the book shows that the author is a scholarly historian of architecture, who has a definite theory of history, which he states: "History is not static but dynamic. No generation is privileged to grasp a work of art from all sides: each actively living generation discovers new aspects of it. But these new aspects will not be discovered unless the historian shows in his field the courage and energy which artists have displayed. ..." This point of view can make history vital, when the historian knows his material as thoroughly as does Professor Giedion.

His analysis of the Baroque may convince those who have not been convinced by Geoffrey Scott that Baroque was a vital style distinct from the Renaissance. This is part of the author's demonstration of the inter-relation of painting, architecture and town-planning with the general spirit of an age. However only the first one-fifth of the book is devoted to general theories illustrated by history. The bulk of the book is a remarkably complete history and analysis of the Nineteenth Century, that period which was so troublesome to those who lived in it and to those of us who now try to explain it. The illustrations and captions alone would tell the story rather well. It is very trite to talk about not seeing the forest for the trees, but this is certainly a case in point. The Swiss professor, in America to give the Norton Lectures at Harvard, sees the whole forest as well as some important trees. He goes directly to the cast-iron loft buildings of the St. Louis water-front, and many other types of buildings which we have forgotten about in our avidity for European "culture." He senses the significance of Richardson and of the pre-1900 Chicago School more correctly than do most American architects. The variety and apparent confusion of XIX century European and American work is marshalled and analyzed to provide a much-needed background and interpretation of contemporary trends, exemplifying the author's theory of the function of the historian.

ARCHIS IN THE ARMY
Richard F. King—Fort McArthur, San Pedro, California.
Edgar T. Clinton '28—Fort Belvoir, Virginia.
Captain Carl A. Gerfen '31—2002 Vichy Road, Rolla, Missouri.
Ralph E. Koch '33—605 East Jackson Street, Paris, Tennessee.
Lieutenant James F. Whisenand '33—Hamilton Field, California.

Tr. Bn., Group 5 ERTC, Bldg., Fort Leonard Wood, Missouri.
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THE UNDERGRADUATE CHAPTERS


ANTHEM—Univ. of Illinois—Chapter House, 1108 S. 1st St., Champaign, Ill.; Russell Heter, W.A.; Warren Peck, W.A.A.; Daniel Boone, W.E.; Howard Ohme, W.S.; James Bigger, W.C.


DEMOCRATES—Univ. of Texas, Austin, Tex.


KALLIKRATES—Univ. of Virginia, University, Va.

MNESICLES—Univ. of Minnesota—Chapter House, 314 19th Ave. S.E., Minneapolis, Minn.; Anton Droppen, W.A.; Forrest Hoganson, W.E.; and James Huey, W.S.

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THEROS—Oklahoma A. & M. College, Stillwater, Okla.

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INDIANAPOLIS, William King, A.A., 604 E. 13th St., Indianapolis, Ind.; Russell Burkle, A.S., 431 Massachusetts Ave., Indianapolis, Ind.

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