

California Colonial Architecture - - Oct. 1935

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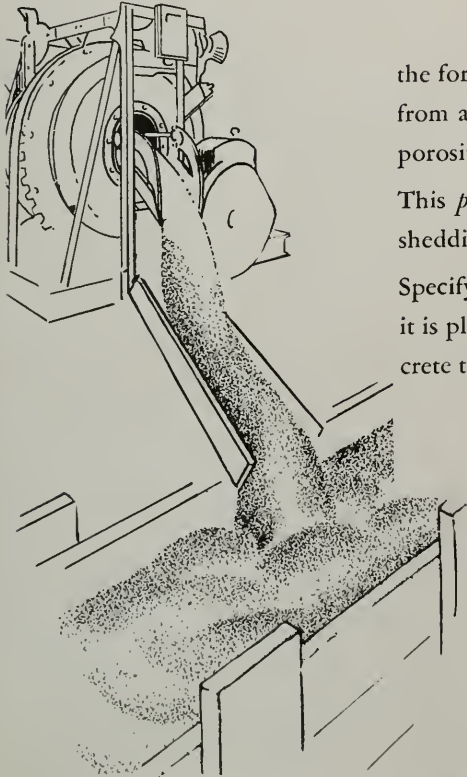
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# Notes and Comments

WHAT has become of all the unemployed draftsmen? Not so many months ago San Francisco, Los Angeles, Portland, Oregon, and Seattle, Wash., were filled with knights of the drafting table seeking employment for any number of hours and for almost any pay that the employer was willing to offer.

There were licensed architects, designers, detailers, specification writers; there were engineers (structural, civil and mechanical), there were construction managers, surveyors, and landscape men.

Where are they all today? What has become of this army of unemployed white collar professional men? Have they all obtained employment in their respective lines of endeavor or have they gone into some other field more profitable than what they were trained for?

A few months ago there used to be on an average of five to ten men a day call at the office of this magazine or herald the writer on the street, all seeking employment. Anything, anywhere, any time. Just give us something to do.

Month by month since the first of the year these untiring job seekers have become fewer and fewer. Since the first of September instead of requests for work the situation has reversed itself. Employers are in search of draftsmen. That can mean only one thing. The building industry is on the up-grade. Building permits substantiate this which should encourage the optimist; dissipate the pessimist; give the young graduate a brighter slant on life.

But the return of better conditions for our architects and engineers does not explain altogether this remarkable scarcity of good draftsmen. Offices are not so

crowded as to account for all the surplus unemployed. There must be a lot of good men still available. But where are they? Are they on relief and keeping under cover? Have they taken to some other vocation? Have they departed to some other clime?

Very recently an architect in Honolulu attempted to secure a capable designer and detail man for his office, promising a fine salary and permanent employment. At this writing the job is still open. From Reno, Nevada, came another urgent call for two or more first class drafting men. But no one could be found to go. The San Francisco Architectural Club was emportuned. The secretary combed the city for likely candidates to fill the opening. F.W.J.

A new dense flooring for factories, shipping platforms, etc., is said to be highly resistant to abrasion, water, and acid proof and noiseless. It is applicable to wood, concrete, or steel bases.

THE School of Architecture at the University of California has long been in need of a suitable building in which to house its valuable collection of architectural books. The Ark is admitted to be a firetrap and certainly no place to store records or literature not easily duplicated. At last, however, the school is going to have a place to store its treasures with assurance of safety. A fireproof annex to be joined to the main building by a glassed-in arcade will be built at a cost of \$15,000. Warren Perry, Stafford Jory, Will Corlett and Walter Steilberg, have helped with the plans, and if talent means anything the building should be a good one.

LANDSCAPE gardeners seeking novelties, are now offered a floating aluminum lily pad which conceals a 60 watt lamp beneath its metal skirts, and affords illumination at night. Another garden appliance is a small pump for recirculating water for falls, fountains, etc.

NORMAN PETERSON of Pine Knot, California, was an entrance student in the School of Architecture, University of California, at the commencement of the fall semester. Peterson prepared for college at the San Bernardino Junior High School. He has been devoting considerable time and study to the science, or shall we call it art, of building fireplaces. A lot of people think they know how to design and build a fireplace. But a recent survey has demonstrated quite to the contrary. Many fireplaces fail to draw, let alone throw out heat. They look nice and that's about all you can say for them. Peterson thinks there is room for a real, honest to goodness authority on fireplace construction. And maybe he's right.

HAROLD VANBUREN MAGONIGLE, F. A. I. A., New York architect, died suddenly on August 29 while visiting friends in Vergenes, Vermont. In recent years Mr. Magonigle was constantly in the country's architectural eye through his criticisms appearing monthly in "Pencil Points". ARCHITECT AND ENGINEER readers will recall Mr. Magonigle's recent criticism of Irving F. Morrow's house in San Francisco and Mr. Morrow's reply, published in this magazine.

THE 1934-35 officers of the State Association of Architects must have given a good account of themselves. Practically the entire board was reelected at the recent Santa Barbara convention.





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THE DECEMBER NUMBER

The December issue of THE ARCHITECT AND ENGINEER will be a special one; its subject, that movement in architecture called modern, and by many confused with the label "modernistic". The latter is a fugitive and empty imitation, a style; the former, a basically new approach to architecture, whose roots lie in the generation of the great Louis Sullivan.

It was Sullivan who gave impetus to the movement in the principle, "form follows function".

To architecture this was a principle as revolutionary, as upsetting, as energizing, as Einstein's relativity to the new physics.

Sullivan was a law-giver to the new architecture, unable himself quite to reach the promised land and the purely functional in form. It was Frank Lloyd Wright who in America carried the statement of functionalism toward fulfillment.

From Germany, France, Holland, the Orient, the younger generation came to him; worked as disciples in his Wisconsin studio.

Imitation of the new architecture has seemed easy.

"Seemed".

Thus a bastard pseudo-modernism has sprung up, with a surface of manner, a self-conscious and sterile stylism.

The December issue of THE ARCHITECT AND ENGINEER will avoid any presentation of this. Its intent is to make clear the distinction between pseudo-modern, the "modernistic" imitation, and that vital new architecture which is charged with potency for the future and giving it direction.

The functional conception is one utterly different from a stylistic one. The pseudo-modernist begins with an external picture, an effect. The modern, with the floor-plan, with a social conception of the needs of the users of the building.

The new architecture is based upon new uses of materials, and new conceptions of how to live life. Mobile walls, sliding roofs, open the house to the sun. A new space-feeling pervades. Its conceptions are organic rather than mechanical.

California is particularly rich in examples of the new architecture at its best. Its creators are in no unanimity whatever,—their work varies strongly. Lloyd Wright, Schindler, Neutra, lead. A generation of still younger men, notably Harwell Harris, follows. The south is adventurous; the north, conservative.

The December issue of THE ARCHITECT AND ENGINEER will present a representative summary of the work being done in California. Leaders and protagonists in the movement will speak for themselves. There will be a great deal of photographic illustration. And the typographic design, done by Pauline Schindler, editor of the issue, will further carry out the spirit of the whole.

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Vol. 123

October, 1935

No. 1

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Published monthly by THE ARCHITECT AND ENGINEER, INC., 621 Foxcroft Building, San Francisco, California. W. J. L. Kierulff, President and Manager; Fred'k. W. Jones, Vice-President and Editor; L. B. Penhorwood, Secretary. Los Angeles office, 832 W. 5th St. New York Representative, The Spencer Young Company, 299 Madison Ave., New York City. Subscriptions, United States and Pan-American, \$4.00 a year; single copy \$ .60. Canada and foreign countries, \$6.00 a year.



*A.I.A. Honor Award*

RESIDENCE IN PIEDMONT PINES, OAKLAND, CALIFORNIA  
FREDERICK L. CONFER, ARCHITECT  
JAS. H. ANDERSON, JR., ASSOCIATE

# The Architect & ENGINEER

October, 1935

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California seems on the verge of having an Architecture all her own. This is particularly apparent with the present revival of home building when a new freshness and change of style shows to a marked advantage against a background grown dull and stale through years of depression. During the recent "Dark Ages" material manufacturers and architects have had plenty of time to study matters other than actual production. They managed to work themselves into a busy frenzy of new ideas and new methods; partly to occupy their forced idleness, and partly in an endeavor to promote a revival of public interest. Now, the results of their efforts have become a real influence. There is a decided movement in California to incorporate these modern thoughts with the architectural traditions of this State, which has brought forth a style that is natural, practicable, and expressive. Such a development, based on fundamental principles, has always become a lasting and recognized period throughout the history of architecture. Therefore, in order that this present known "California Colonial" or "Monterey Colonial" style of architecture may be substantially classified, the following article may be appropriate in that an honest endeavor is made to trace its birth and growth.

## Style

### California Colonial

by Archie T. Newsom  
Architect

**A**RCHITECTURE has always been a permanent expression of the life and history of a locality or country. The problems and living conditions of a people have, without fail, created and developed a style that could ever afterwards be identified with the particular place for its inception. This is true of California, with its varied history of adventure, romance and color. From early exploration to present glory, it has had and still retains a lasting appeal. Perhaps the greatest physical evidence of all of these tributes is most readily seen in its structures, past and present.

When Father Junipero Serra finally reached the site of San Diego and began

the building of a continuous chain of Missions, he planted the seeds of an architecture as distinctive as that of any clime. Of course, whatever those early builders would do, they were bound to bring in the influence of their native Spain and Mexico. Perhaps that of Mexico had better be stressed more, as whatever might be attributed to Spain had, in turn, passed through the same primitive settlement and development in the growth of that Spanish colonization as later took place from Mexico into Alta California.

In a comparatively short number of years, these Franciscan Fathers and their organization had created a line of settlements from Mexico to Sonoma, each the





OLD HOUSE RESTORED, MONTEREY, CALIFORNIA

Photograph by Archie T. Newsom



OLD HOUSE IN MONTEREY, CALIFORNIA

Photograph by Archie T. Newsom

outgrowth of a Mission establishment. Then the trails and sea lanes began pouring in the adventurous pioneers, first principally from the south and Spain, later from most every part of the sphere.

The primary duty in the hearts of the fathers and brothers of the Franciscan Order was the Christianizing of the Indians along this virgin country of the Pacific Coast, and the great wonders of their work is better understood when we know what a low class of digger Indians they had to take in hand. Starting with this poor human material, the tireless missionaries raised these savages from a life of squalor to a plane where they became the invaluable workers and servants of the Church and settlers. They were taught the arts of weaving, cabinet making, building, pottery, iron work, and even painting. With the general use of this unusual labor, there immediately developed a style quite different, although analogous to the basic principles that were the foundation of a system of training. Therefore, through the original



TYPICAL OLD TYPE OF HOUSE IN MONTEREY, CALIFORNIA  
 Photograph by Archie T. Newsom

inhabitants, there began a period of life and art that could be nothing else but Californian. Its changes in development would, of course, depend upon many insuing conditions and history.

#### MATERIALS AVAILABLE INFLUENCE STYLE

The principal condition that determines the derivation of an architecture is the type of materials natural to the locality, and the restrictions thereby imposed on the builders. In the part of California where these earliest examples appear, this fact becomes quite evident.

Without long difficult hauls, wood was limited to scattered groves of short brushy trees and resort had to be made to such peculiar material as tules, adobe, and tile clay, using lumber only for posts, beams, rafters, doors, windows and furniture. Floors on wood joists, therefore, would not be practicable or economical, so there remained the tamped clay floor, or the burned tile slabs laid directly on the ground.



GENERAL CASTRO HOUSE AT SAN JUAN, CALIFORNIA  
 Photograph by Archie T. Newsom



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John Knox Ballantine, Jr., Architect



PLAN, HOUSE FOR DR. T. E. REYNOLDS,  
PIEDMONT, CALIFORNIA  
John Knox Ballantine, Jr., Architect

Stone and rock existed in quantity, but here again there was the problem of labor and transportation, so most walls were constructed of sun dried bricks of adobe mud, plastered over, except some of the more pretentious buildings, such as the Missions themselves. To give the necessary supporting strength, these walls were enormously thick. The use of plastered mud over adobe walls, put on by hand and made smooth with the palm of the hand or sacking, gave the soft, uneven surfaces that are so charming to us now. There followed the many coats of whitewash to protect this mud from the melting effects of



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rains. As further protection, roofs were framed with wide overhangs, both at eaves and gables.

In the roof construction, the lack of lumber, except for rafters, brought into use the tules and burned tiles, as mentioned. The tules were laid on the rafters and then covered with these orange red tiles that had been formed by the Indians, shaping the wet clay over their thighs. In time the moist air of the coast, with the fogs and dusty winds, started a growth of moss and lichens, creating the velvety textures in shades of old greens, blacks and yellows that our architects of today have been endeavoring

to imitate in the present colors of roofing terra-cotta.

At first, these early builders had to plan their construction along the simplest lines, evolving straight, low structures, frankly divided through into sections forming the various rooms, which were entered from continuous covered porches. Grouping these buildings together in connecting units finally resulted in a rambling style about a patio, giving a protected, sunny spot, sheltered from ocean winds and the ever present possibility of a pioneer's dangers, for after all, these Indians were, as yet, not far from savagery, and, in addition, the





MODEL OF LIVING ROOM BEFORE COMPLETION BY HAROLD WALLACE, HOUSE FOR DR. T. E. REYNOLDS, PIEDMONT  
John Knox Ballantine, Jr., Architect



DETAIL OF LIVING ROOM, HOUSE FOR DR. T. E. REYNOLDS, PIEDMONT  
John Knox Ballantine, Jr., Architect

hard life naturally brought forward lawless elements in the ranks of the settlers themselves.

When the broad acres of this new land became covered with flocks and herds and their storehouses overflowed with grain, hides, wool and tallow, these rancheros began thinking of a better life. Their standards of living rapidly progressed and their demands for conveniences and luxuries soon brought business and trade with the outer world. First the galleons of the Spanish main, then the Yankee clipper ships, sailed up the golden coast and dropped their anchors at nature's ready made harbors of San Diego, Santa Barbara, Monterey and San Francisco. For exchange, these colonists naturally asked for the articles foreign to their own production, receiving such additions as fine cloth, metals, furnishings, tools, ready made windows, doors and paints. The articles that related to their houses were supplied mostly from the Atlantic coast, and soon these primitive adobes, which originally were, and still remained somewhat Spanish in character, took on the details of American Colonial Architecture. Here we see the life and conditions of a period developing an architecture, influenced by Spanish, Mexican, Indian and finally North American Colonial, and becoming individual to this locality.

#### HOME BECOMES AN HACIENDA

Life now had become broader, with facilities for communication and transportation more easily attainable. The pioneer's home grew into an Hacienda, which, in those romantic days, was a hospitable haven for wayfarers, such as the dignitaries of state, priests, neighboring rancheros and trades people, traveling the long stretches of El Camino Real (The King's Highway).

Ample guest quarters were provided with facilities for food and comfort, so arranged as not to interfere too much with the daily life of the family, but still be re-

lated in a friendly way. Now and again, some craftsman, artist, or author might stop long enough to continue a work, or add some bit of interest to the development of the rancho; so a studio, workshop and chapel were added.

As always, the house was still the man's stronghold, with a certain feeling of security through the grouping of the buildings and connecting walls. About the Hacienda, a great part of the life was out of doors, whether it might be work play, or siesta; therefore, there would be various patios necessarily arranged in sympathy with the vital parts of the plan. As the mission was the foundation of the whole sequence of this progress, the predominating influence of the church was always evident, and



CARD BOARD MODEL OF LIVING ROOM BY HAROLD WALLACE, HOUSE FOR DR. T. E. REYNOLDS

John Knox Ballantine, Jr., Architect



HOUSE FOR DR. OULTON, BERKELEY, CALIFORNIA  
Edwin Lewis Snyder, Architect



RANCH HOUSE ON THE JAMES ROLPH, III, RANCH,  
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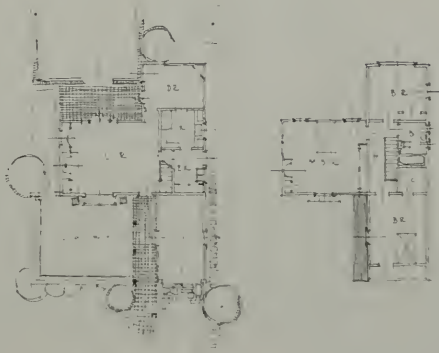


RESIDENCE OF MR. AND MRS. RAYMOND BOWERS, BERKELEY  
 Frederick L. Confer, Architect

much of the decoration and objects of art were of a decided ecclesiastical spirit.

In the port settlements and pueblos, there was a need for more extensive quarters, and better means of construction being available, the houses enlarged from earthen huts to two-story residences of brick, stone and tile, as well as the old sun dried adobe blocks. The porches rose from the ground and became long, overhanging roofed balconies connecting the upper rooms, which were reached by exterior stairways from walled in patios. Of course later, the stair became a part of the interior plan.

The Latin desire for romance and color was always prominent. Pots of flowers,



PLANS RESIDENCE OF MR. AND MRS. RAYMOND BOWERS, BERKELEY  
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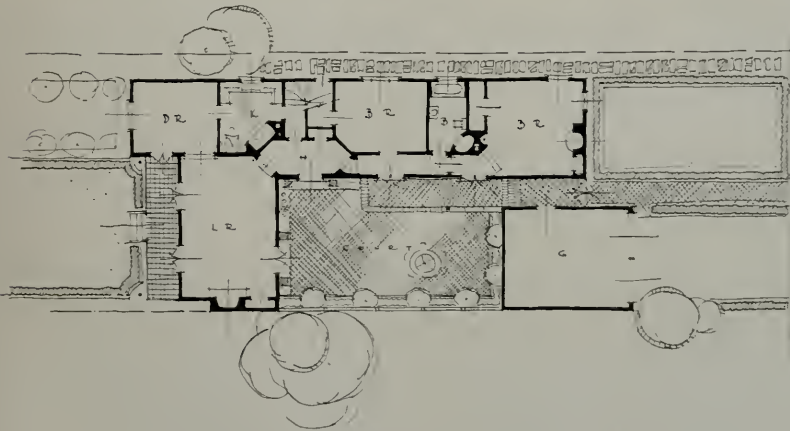


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Frederick L. Confer, Architect



PLAN, RESIDENCE OF MR. AND MRS. M. C. WANTZ, BERKELEY  
Frederick L. Confer, Architect

rugs and shawls hung from the porch rails. With the advent of paint, the buildings sparkled in colored window sash, borders about doors, and wainscots both in rooms and around the base of the exterior of the house. This last treatment was to hide the splash from the eaves, which would dash a spray of mud up and on to the white-washed walls. Here and there a whole surface would be given a soft tint of rose or salmon to relieve the eyes from the glare of white in the sun. From beams and porch roofs hung clusters of peppers, ears of colored corn, Indian pottery in woven grass nets, and olla jars of drinking water. Throughout the whole, there was always that touch of the art of the Indian worker.

#### COLONIAL INFLUENCE FROM THE EAST

As California became better known, its appeal was felt particularly in the young and growing states to the east, and the Yankee, from New England, established himself in these Pacific Coast centers. Here again, a still stronger American Colonial influence appears. Wall paper comes into use, as well as bits of paneling, mantels, door and window trim, and white wood work. Furniture of the Atlantic Coast becomes mixed with locally made mission handicraft.

As Monterey was the capitol, and was likewise the main seaport at that time, the best examples of the real California Architecture reached a distinctive development about that vicinity. Even today, there still remain many interesting and historical relics of those days of romance and adventure. Quite a few of these places have been rehabilitated and restored, but retaining that peculiar combination of influences that give this style its quaint charm. Due to the fact that this particular locality has so much still standing in a pure and original form, it is now very often referred to as "Monterey Colonial". This designation, no doubt, is

an aid in distinguishing the basic California Architecture from the present variations of Spanish, Mediterranean and Italian influences that predominate in the modern popular examples throughout the state. It is interesting to know that at the present time this colonial type is rapidly receiving more appreciation.

In a further study along the old El Camino Real and its byways, many worthwhile examples stand in their various states of repair, restoration, or ruin. In the town of Sonoma near the plaza one could spend hours browsing about the Mission, with the old Blue Wing Hotel across the way, where the bandit Murietta was once a frequent and familiar guest; then along the same street, where there can be seen buildings of later date, but patterned closely after those earlier structures. Also nearby is the old rancho of General Marino Vallejo.

Again on the northern outskirts of Oakland, is the restored Hacienda of Castro, with its two-storied porch, and attendant buildings, still clearly grouped about the protected patio. On south, the road leads past the remains of the Mission San Jose and on down to the village of San Juan, in San Benito County, with its Mission by the plaza. There stands another Castro abode, and the Plaza Hotel, both quite distinct in this California style.

On and on, the highway of romance leads south to Monterey, to Santa Barbara, thence to Los Angeles, and to San Diego. Along the way are many such places as the Rancho Camulos, where Helen Hunt Jackson based her story of "Ramona", and on to "Ramona's Marriage House" in the "Old Town" section of San Diego. In addition to the familiar landmarks generally seen by most visitors, the less known and forgotten examples without important political and historical reputations lay sleep-



ing on side streets and narrow lanes, and must be rediscovered by slow wanderings.

#### AND THEN—OUR OWN ARCHITECTURE

As the covered wagons trailed across the plains and the hordes of traders and immigrants sailed their wind-jammers up from the Horn, California filled with a populace far different from the early Spanish explorers. These later settlers were also pioneers who saw in the Pacific slope chances for future and new life. Taking the country as they found it, the easiest way was to alter what they could use and surround themselves with an atmosphere like that left far behind.

Then another step in development took place when upper stories and additions to the old houses were framed of timber, surfaced with ship-lap or boards and battens, and painted white. Shingles or split shakes appeared as roofing in lieu of the limited and slow supply of terra-cotta tiles. Colonial delicacy and taste added rapidly to the ever increasing transformation. From the desire for an appearance of cleanliness and of neatness, and through that feeling of starting anew, these argonauts gave the sturdy

dwellings of mission days a touch of freshness. Old work, as well as the recent, received a general baptism of white. Rafters, eaves, porch posts, and balconies; none escaped. Where expense had to be spared, whitewash was always a ready alternate.

With the great exodus of the forty niners to the gold fields, California's harbors became choked with abandoned ships. Here was a source of supply of any variety of materials and furnishings; cabinet work, hardware, lighting fixtures, even to the paneling from the cabins, and the flooring off the decks. The touch of the sea then entered into the evolution of an architecture.

California became the melting pot of not only races from many lands, but likewise of ideas, ideals, arts and modes of life. From this great boiling and filtering, there came forth among other distinctive products, a style of architecture that could be called her own; an architecture of history, romance, adventure; of strife and of happiness; influenced by the Indian, Spaniard, Mexican, and the Colonial, as well as the mariner from the seas.



DETAIL OF STATION IN SAN FRANCISCO, SHOWING  
SHELL MOTIF

# Oil Stations

by *L. Raymond White, Architect*

- *Leading Petroleum Companies are Fast Replacing Ugly Structures With Buildings Architecturally Correct*

**T**WO interesting problems of design are faced by architects who plan service stations for major oil marketers today. One is the demand for "continuity of impression," certain readily recognized characteristics in all stations to hasten recognition by motorists and promote sales. The other is the requirement that service stations shall be really architectural; not just sheds hastily bolted together. They should be buildings in which harmony of composition has been adapted to functional needs.

"Continuity of impression" is responsible for the public idea that service stations are all pretty much alike and are turned out by mass production methods in much the same manner as automobiles. As a matter of fact, no two service stations are alike. Every one is an individual problem. When the architectural staff has completed one station, they cannot sit back and enjoy the etchings on their walls while the construction department throws together a

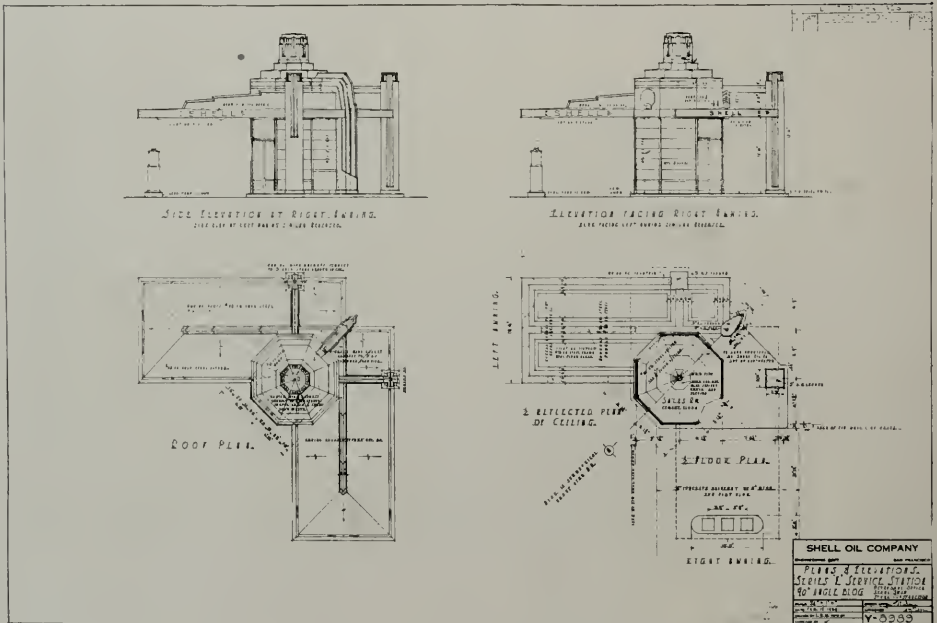
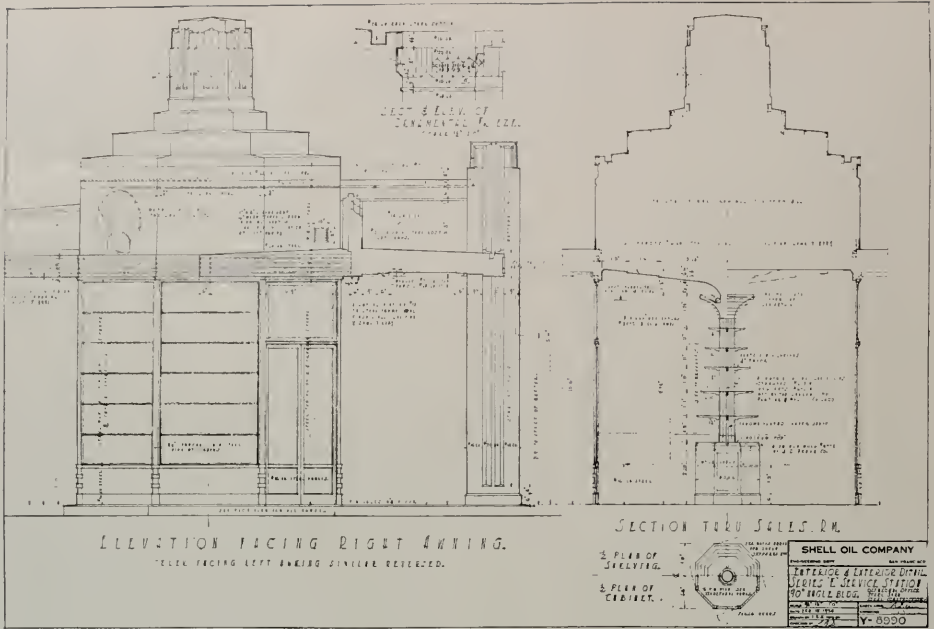
dozen or a hundred stations in different localities from one set of plans. The very next site leased presents an entirely new problem. No paper pattern can be superimposed and a new station "cut out" immediately. The lot may be a corner or in the center of a block or in a thin triangle. It may be oblong or square. Even if it has the same outward essentials as a lot on which a station already has been built, traffic conditions may be (probably are) different; adjoining structures certainly are different and there may be local conditions found nowhere else. Standardization is, impossible.

Given a site, the architect's first problem is to locate the "islands" or groups of pumps from which gasoline will be dispensed and which are the center of every station's activity. If possible, these islands are placed so that the motorist can come in and go out on the same street without having to cut across any thoroughfare or disturb the flow of traffic. There are many obvious reasons for



TYPICAL SINGLE AWNING COMBINATION UNIT, TURLOCK  
L. Raymond White, Architect





PLANS AND ELEVATIONS, DOUBLE CANOPY STATION,  
LOS ANGELES

L. RAYMOND WHITE, ARCHITECT



DOUBLE CANOPY STATION, CANTILEVER TYPE, LOS ANGELES  
L. Raymond White, Architect

this, but just one would be enough: A station into which a car cannot be driven easily will not get a profitable volume of trade.

With the pump islands located, the salesroom takes position almost automatically, either between the pumps or opposite them, so that station salesmen can reach and serve customers with greatest speed and efficiency. Changes in salesroom design are constantly being made as oil marketers seek ways to display accessory merchandise so that it may be seen by gasoline customers.

Larger stations include lubrication facilities which may be under the same roof as the salesroom or in a separate building. Here again the site dictates. If the lot is long and narrow, the "lubritorium" generally goes in a separate building. If the lot is square and compact, a combination unit is designed.



DOUBLE CANOPY STATION, CANTILEVER TYPE, LOS ANGELES  
L. Raymond White, Architect

Construction problems vary as much as the architectural problems. Naturally all stations have to conform to local building codes, which are properly strict in view of the inflammatory nature of the merchandise handled. It behooves the architect to know what is permitted and what is forbidden. In some localities, wood frame and stucco buildings may be erected. In others, all

cent years in the physical appearance of service stations. Not many years ago the merchandising of gasoline, motor oil and lubrication was in the same formative state as the automobile for which these products were made. It was inevitable, therefore, that service stations should be utilitarian only—Model T, so to speak. Often they were built so they could be taken down.



ROMANESQUE STATION, NEAR STANFORD UNIVERSITY,  
PALO ALTO, CALIFORNIA  
H. O. Alden, Architect

steel buildings are permitted and elsewhere nothing but concrete and masonry. Regulations for the construction of underground storage tanks with outlets to pumps are more uniform, as the fire hazard here is about the same in every locality and the underwriters have worked out excellent safeguards against accident. Incidentally, the station must be so laid out that the inlet valves of these tanks can be reached for refilling without interruption of station business.

Great advances have been made in re-

moved to another site in quick time, as traffic routes in cities had not become established, highway routes were often being changed, and the oil companies had to meet evolutionary situations as best they could.

While stability does not seem to be a characteristic of any phase of life today, petroleum merchandising has at least emerged from the kindergarten stage and the planning of service stations is no longer a matter of throwing up a shelter and setting up some pumps on a likely corner. Two factors control the architectural design of



service stations today. One is the policy of the major oil marketers of making their stations welcome in the neighborhoods where they are located. The second is the policy of achieving some "continuity of impression" which will help sell goods.

Shell Oil Company has laid down a policy that service stations built by the company must improve the appearance of each

The great majority of Shell stations, like those of other major oil companies, are built in business or residential sections where there is no special style dictated by surroundings. For such stations, Shell has created a modern design, certain features of which are retained for all stations. These features are the ornamental columns and beams supporting canopies, the horizontal



DOUBLE DRIVEWAY STATION IN SAN JOSE, CALIFORNIA  
H. O. Alden, Architect

location and be an asset, not a detriment, to surrounding property. In special cases, stations are designed to harmonize with their localities. The Shell service station opposite the Stanford campus in Palo Alto is Romanesque in design, carrying out in every detail the architectural style of the university buildings. The same policy was followed in building the Shell station in Westwood, home of the University of California at Los Angeles. Shell stations in Monterey and Santa Barbara follow the Spanish tradition, and so on.

band at sides of canopies which is carried around the building as a decorative motif, and the introduction of a painted red and yellow band at base of building. All stations are painted a pleasing cream color.

Canopies over pump islands vary with the location, one of the newest designs being the cantilever type which affords greatest visibility by the omission of supports. Varying ornamentation is used — tiles, fountains, urns, and the like, according to the station. Every site is landscaped with shrubs and other plants which make a rest-



DETAIL OF STATION IN WESTWOOD, LOS ANGELES, DESIGNED  
TO HARMONIZE WITH ARCHITECTURE OF UNIVERSITY  
H. O. ALDEN, ARCHITECT



DETAIL OF SHELL STATION IN OAKLAND, CALIFORNIA  
H. O. ALDEN, ARCHITECT



SPANISH TYPE STATION, CLAREMONT DISTRICT, BERKELEY, CALIFORNIA

ful background of green and turn a necessity of the machine age into a garden spot which often is the most attractive location in the neighborhood.

Continuity of appearance and easy recognition that here is a place where Shell products may be obtained are provided by the similar architectural features, continuous color schemes and signs in "company

colors". It should be noted that these signs are well-designed, and not at all blatant, so that while they cry Shell's wares in no uncertain terms, the shouting they do is harmonious and inoffensive.

In short, service stations like the cars they serve, have taken on "stream lines" and today are designed as much for beauty as for utility.



# Competitions

- *So-called Tandem Contests Violate Principles of Institute Code, Special Committee Rules*

**A**RCHITECTURAL competitions have always been a mooted topic for discussion, pro and con, by the members of the profession. Recently the Executive Committee of the Board of Directors of the Institute was asked to pass upon the fairness of the so-called "tandem competition" as practiced by some architects. The question was submitted in hypothetical form to the Committee on Competitions, Egerton Swartwout, chairman, as follows:

"Is it, or is it not, a competition when two, three, or more architects submit drawings for the same project at the invitation of an owner or building committee, with the understanding that no one of the architects shall present, or work upon his documents until the prospective client has received and paid for the work of his immediate predecessor, performing like duties?"

The reply of the Committee on Competitions was:

"There can be no question that this is a palpable attempt to evade the requirements of the competition code for reasons which may or may not be of particular importance to the owner."

The Board took action as follows:

*Resolved*, That in the opinion of the Board of Directors the form of so-called tandem competitions as reported by the Committee on Competitions in a letter of

April 8, 1935, violates the principles of the competition code of the Institute, and therefore is not approved; and be it further

*Resolved*, That the document of the Boston Chapter Committee on Ethics and Competitions, entitled "A Statement to the Architectural Profession," be published in *The Octagon* with the approval of the Board of Directors.

In accord with the second resolution above quoted, the document of the Boston Chapter is printed in full, as follows:

"The architects themselves, and not the public, are responsible today for most of the disabilities under which they are suffering. This has been true for years past and tragically true today. They have established in the public mind a definite impression that under certain circumstances professional services for which a substantial fee is legitimately charged, may be secured without any compensation whatsoever. The members of no other profession have placed themselves at such a disadvantage. A lawyer acting as head of a building committee was recently asked by an architect what he would do when approached by a man who, seeking his thoughtful professional opinion in solving a legal problem, told him that he intended to ask four or five other lawyers for corresponding opinions; that he would then consider these

opinions and decide which jurist to retain. He replied, 'I should kick him down stairs.' The principle of competition may be acknowledged as having a limited validity in respect to official architecture, but it is a highly questionable procedure against which the architectural profession should set its face as firmly as possible when applied to all other types of projects. There is reason to believe that this could be accomplished through a campaign of education. So long, however, as competition does obtain, no conditions other than those demanded by The American Institute of Architects should receive the sanction of an honorable practitioner. The architect who has pride in his profession, instead of implying to the public that he is held to the tyranny of a code, should feel bound to explain and vindicate its philosophy, for at least he knows that it provides the fairest field for a trial of skill. It will be found that in all relationships the public is prepared to accept exactly the valuation that the architect puts on himself and his own services.

"The Committee on Competitions of the Boston Chapter represents the Institute in its relation to competitions generally. In cases of doubt or uncertainty in architectural relations, if a careful study of the "Circular of Information on Architectural Competitions," A.I.A. Document No. 213, is not fully informative, the Committee should be consulted. This Committee finds that the so-called 'tandem' competition is a subterfuge to avoid code procedure, and as such is not only wholly without merit, but pernicious and inimical to the interests of the entire architectural profession. The Committee further believes that this type of competition is so palpable an evasion of the code as to be readily recognized, and consequently it becomes the manifest duty and privilege of every architect to conform to its provision in his relations with his cli-

ents. To do otherwise constitutes a breach of professional practice.

"There exists in the minds of certain architects the conviction that, during the present stagnation in the building industry, the Institute should lower its standards of professional practice, scrap the competition code and abandon all disciplinary action,—in effect, throw up the sponge and return to the dog-eat-dog cave-man procedure of fifty years ago. It is an utterly selfish and wholly illogical viewpoint, one that if followed would result in the complete demoralization of the profession. It is economic suicide from a business standpoint, and would result in all architects being held in general contempt, instead of only a proportion of them, as is now the case. A great deal of harm has already been done, and is continually being done every day, by the highly questionable scramble for a job, once it has been announced that somebody is going to build something. The esteem in which such architects are held is illustrated by the recent announcement of the selectmen of a country town who, contemplating building a town house, announced that: 'All drawings submitted will be pinned up on the wall, and every architect will be given a chance to sell his wares!' The equivocal position in which a distinguished architect recently found himself by agreeing to enter a questionable competition for a nominal fee, representing about one-fifth of his actual office expense, no jury, no professional adviser,—resulted in the selection of a 'dark horse' by the building committee, and the consequent loss of money and prestige by the distinguished architect. The 'dark horse's' prestige is now correspondingly enhanced, for he can and probably will say, 'I'm not afraid of competing with distinguished architects; I won out against one the other day. Their fine talk of 'ethics'

is all bunk, and they're not so hot anyhow!' The 'dark horse' is perfectly right, in this instance, at least. There is good reason to believe that if the distinguished architect had refused to enter the questionable competition, likely enough he would have been awarded the commission outright.

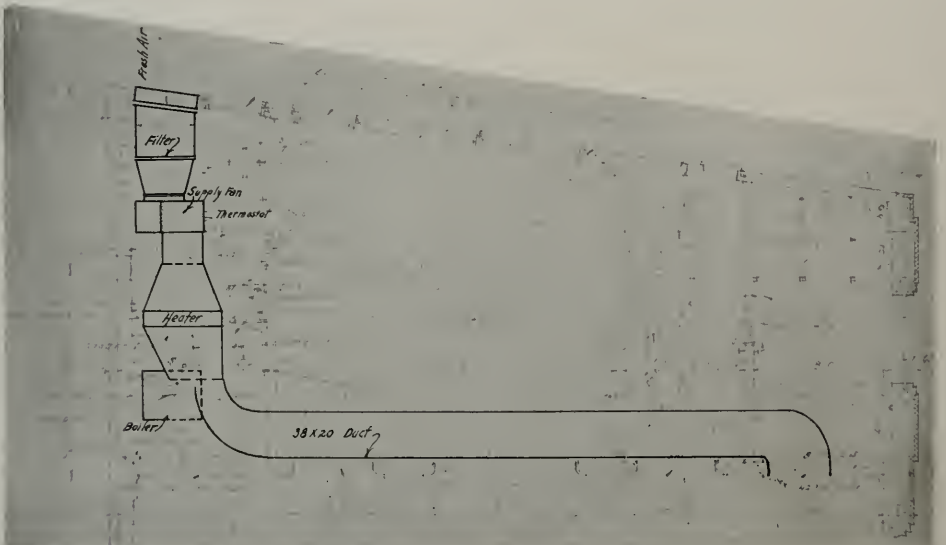
"We all know that a building committee delights to have architects make pictures for them to pass judgment on, while sitting in comfortable chairs, cross-examining the suppliant. The question is often posed,—How is the 'layman' to inform himself of the competence of an architect to solve his problem? The answer is another question,—How does the 'layman' inform himself of the qualifications of any professional man? Does he listen to a line of more or less high-powered sales talk, or does he judge by their works? It is a highly technical job, not only for the architect to solve a problem, but also for a committee, no matter how competent it may be, to evaluate its solution. It is a difficult job for a jury of experts to tackle; hence the 'Competition Code' and its safeguarding provisions. If there are a score or two architects for every job, only one is going to get it, so why spend vast sums, as is done every year all over the country by the architectural profession, with no return? Every time an architect enters a questionable competition, he wagers several hundred dollars to nothing on a twenty to one shot against him; often the odds against are even greater, for in many instances the job is 'fixed' for a favored one. Worse than that, when an architect cheapens the value of his services by offering to do work for nothing, or a purely nominal fee, it becomes a matter of deep concern to every practicing architect,

whether a member of the Institute or not. If Institute members stood solidly together against this practice, there would be everything to gain and nothing to lose. The reputation of the Institute would be greatly enhanced, and all architects would aspire to join it and share its benefits.

"Codes of ethics and professional practice are founded on sound business principles. They are subscribed to by all members when joining the Institute. Unless they are observed in spirit as well as in the letter, their business value will be greatly reduced. Some architects are prone to say when approached by a prospective client, 'I should like to submit sketches to you on your conditions, but the Institute rules forbid my doing so.' This is an utterly foolish and cringing attitude for a member of the Institute to assume. There is no compulsion for him to join; he may do as he pleases, but he may not hope to enjoy the benefits and standing that Institute membership gives him and disregard its obligations. If he wishes to enter unauthorized competitions or vary from the spirit of professional practice, let him be honest about it and resign from the Institute before so doing. A few architects have done this and their honesty in so acting is respected. They may have forgotten that 'The Institute is the shield under which all architects whether or not they claim membership seek shelter in time of trouble.' There never was a better opportunity offered than the present for putting our house in order. The enforced leisure of the past lustrum suggests not the scrapping of ideals, but a period of purification and renewed confidence in the integrity and sound judgment of the builders of the Institute."



WEST PORTAL BRANCH OF THE SAN FRANCISCO BANK, SAN FRANCISCO  
W. D. Peugh, Architect



PLAN, WEST PORTAL BRANCH, SAN FRANCISCO BANK, SHOWING  
LAY OUT OF HEATING AND AIR CONDITIONING SYSTEM



# Banks

- *Pioneer San Francisco Institution  
One of First to Install Modern  
Air Conditioning Facilities*

OF current architectural interest in San Francisco was the opening last month of two units of the San Francisco Bank, designed by W. D. Peugh, Architect. They are the Fillmore Street and West Portal Branches—the first a remodeled and the second an entirely new structure.

The West Portal Branch has an exterior of Italian Travertine marble, with entrance of Verdi Antinque marble and cast bronze grillwork. The interior has marble and bronze counters, grills and wainscoating. Facilities include safe deposit, trunk, fur, coin and book vaults.

Of special interest in these two new bank branches is the equipment provided for heating and air conditioning. The two are among the first complete air conditioning installations in buildings of this type and size in San Francisco. Inasmuch as the two units are somewhat similar, a description of the West Portal Branch will answer.

On the main and mezzanine floors of this building are approximately 80,000 cu. ft.

of space to be air conditioned. Central feature of the system is a gas-fired, fully automatic, American radiator boiler installed on the mezzanine floor. Intake air is passed through a glass filter and fan. Then, after being passed through an American blower flexi-tube heater, it is blown into the bank through grills at the ceiling.

The outstanding feature of the system is its automatic operation, facilitated by the use of easily controlled gas fuel. In the morning, the boiler is turned on by a clock and when the steam pressure is reached the clock starts the air fan. From then on, heat is controlled either by thermostat in the bank room or by a duct thermostat. When the bank room is up to temperature, the boiler is automatically shut off and ventilation alone is in effect. Also, should the outside temperature become too high, the duct thermostat will shut off the boiler. Thus, a comfortable and healthful atmosphere is insured within the bank at all times without supervision of any kind.



INTERESTING DETAIL OF A BERKELEY SPANISH HOME

# Paint

by Theodore E. Damm

● *"Save the Surface" Campaign  
Has Only Just Begun—Industry  
is Making Money But is Lax in  
its Promotion Work*

**I**F further evidence is needed to support the contention that the National Housing Act has benefited the paint business, it is to be found in the increasing number of painting jobs that have resulted from interest developed in repair, alteration and modernization work done under the plan of the Federal Housing Administration.

According to the latest Bureau of Census figures, paint sales increased 26.9% in July, and 16.7% for the first seven months of 1935, as compared with the corresponding periods of 1934, the volume for this year up to July 31st being approximately \$250,000,000.

While there is no absolutely accurate yardstick for measuring the exact benefits of the Better Housing Program to the paint industry, there is now available sufficient data upon which to base fairly reliable conclusions.

For example, an analysis of the pledges secured by canvassers in the local surveys conducted by Better Housing committees in 93 representative cities discloses that 23% of the total number of repair jobs pledged included exterior painting, and an added 14% covered interior painting and decorating.

On the basis of *dollar value* of work pledged, 16.5% represented exterior painting, and an additional 5% interior painting and decorating.

As of August 31st, 2,065,950 jobs had been pledged, covering work estimated to

cost \$526,794,000. Actual modernization and repair notes insured as of the same date numbered 359,078 for a total value of \$135,257,747. (This figure does not include any loans above \$2000 made under the provisions of the amendment to the National Housing Act permitting loans up to \$50,000.)

It is estimated that industry is doing \$5.00 worth of additional housing business for every Government insured dollar spent on repairs and improvements, in that the Better Housing Program, in making people property-improvement-conscious, has opened the doors of thousands of homes to industry's salesmen, who, because of the government's confidence in good credit character as evidenced by the offer of insured loans, brought out of hiding many millions in cash dollars.

It is calculated that the actual amount spent on modernization and repair work since August 1st, 1934, totals more than \$786,300,000.

Applying the aforementioned paint percentages to this figure—namely, 16.5% for exterior painting, and 5% for interior painting and decorating, or a total of 21.5% of the estimated \$786,300,000—the conclusion is reached that the paint industry has profited from the Better Housing Program to the extent of approximately \$169,000,000, including, of course, both labor and materials. Certainly a handsome figure in any industry's accounting records and very

convincing evidence that the National Housing Act, through its Modernization Credit Plan, has been a real boon to the paint business.

Continuing the study of the local surveys made in 93 representative cities, we find that the three industries which came nearest to the paint industry in value of work pledged did not benefit to a greater extent than 5.9%, as compared with the paint industry's 21.5%.

When it is taken into consideration that there is hardly a repair or alteration job that does not require the use of some paint, it can readily be seen why this industry has so greatly benefited from the National Housing Act. Also, the National Paint, Varnish and Lacquer Association, through its large and well organized membership, has been very alert to its opportunities and has taken active part in the Federal Housing Administration's program. There can be no denying the fact that the industries which have profited most are those which have most actively participated in the housing movement. It is an application of the well founded theory that "he profits most who serves best".

While the Federal Housing Administration has done a good job in giving wide publicity to the National Housing Act, there are still *too many* people who know *too little* about the Better Housing Program and the many advantages it offers to paint manufacturers, distributors, contractors, lending institutions and the general public. The paint industry hasn't even *begun* to "Save the Surface".

Compared with the average year's sales for the six years ending December 31, 1929, the pent-up demand on the industry, as a direct result of the depression, is estimated to be well over a BILLION dollars. The industry could double its annual volume and still not be realizing on 50% of its opportunities. The number of surfaces

throughout the country that are sorely in need of paint repairs is simply appalling. Most authorities now calculate that only about 15%—or at the most 20%—of the paintable surfaces in the United States are properly protected.

While there may seem to be no advantage in trying to fix the blame for the tardiness of this industry in capitalizing on its opportunities to a greater extent, a frank discussion of the matter may provide a working basis for future development. There can be no denying the fact that the average retail paint dealer and painting contractor is not as sales-minded as he should be. He is too much of a storekeeper—too content to follow the old trading post methods of waiting for customers to come to him instead of going out after new business.

And that is where paint manufacturers and their salesmen also have fallen down. They, too, have been content to stick to their old-fashioned competitive selling methods, rather than build their volume on "creative salesmanship". Instead of trying so hard to get a dealer to throw out the line he is carrying and replace it with a new stock of merchandise which is often no better than the one he is selling, it might be more advantageous to the manufacturer to seek an entirely new outlet for his line—to place it with some enterprising and sales-minded merchant who has never sold paint before. Certainly he would be doing more to increase the sales of the industry as a whole, and it is reasonable to believe that he would also more rapidly increase his own sales. In this respect, the paint manufacturer might well take a leaf from the sales manual of the resourceful specialty salesman in other fields, such as the electrical appliance, radio, oil burner, coal stoker and automobile industries. Is it reasonable to believe that the sales of these industries would have increased so rapidly if



their representatives had remained content to distribute their products through the old established retail stores? The answer is obvious! In today's highly competitive market it is not only advisable—it is positively necessary to resort to creative selling to building up a real volume of business.

There are certain very definite advantages in "creative salesmanship" over the strictly competitive type of selling, namely:

1. The salesman develops his own prospects, thereby forestalling competition.
2. He creates an opportunity for a sale which otherwise might never have been developed—at least not immediately.
3. His chances of making a sale on his own terms are far greater than if he were required to meet competitive prices.
4. He has an opportunity to realize a fair profit on his sales, whereas in competitive selling he must accept a lesser profit or no profit at all.

And now to come back to the National Housing Act and its benefit to the paint industry. This constructive piece of legislation has placed in the hands of the paint salesmen a most effective and much needed tool for increasing his sales, and one which is particularly adaptable to creative selling, namely, the so-called monthly installment or time-payment plan. In fact, modernization credit is the final answer to the property owner who has repeatedly put off his paint repairs because of lack of ready cash.

If there is still a paint manufacturer, dealer or painting contractor who does not understand the operation of the Modernization Credit Plan and the many advantages it offers him, it is high time that he fully acquaint himself with this powerful merchandising formula, which has contributed so much to the success of others.

It must be recognized that the average

person does not like to ask a bank for money. Therefore, generally speaking, he will not take the initiative in seeking a loan to make his paint repairs. However, such a person is usually quite willing and ready to have some enterprising paint dealer or master painter submit his application for a loan, or accompany him to a bank and request the loan for him.

While making full and frequent use of time payments to purchase many of the other necessities of life—and even some of the luxuries—the average citizen is still not sold on modernization credit to make paint repairs.

Also, there are some bankers who still are not convinced of the safety and soundness of character loans, repayable in monthly installments out of income, and with government insurance against loss, as a desirable variation from their ordinary banking procedure.

It is the job of the paint industry to sell the banker, as well as Mr. John Q. Citizen on the advantages of time payments as applied to the repair, improvement and protection of the American home.

Following a highly successful spring and summer season, the paint industry is entering upon what should be an equally profitable autumn period. However, it will not prove to be such if industry's salesmen, including local paint dealers and painting contractors, fail to aggressively carry their sales messages to the property owner. Past history has shown that there is a definite let down in paint sales during the month of September, some time due to unseasonable weather, but more often attributable to the almost willful neglect of the industry to continue to cash in on its opportunities.

It must be borne in mind that there are literally millions of properties in need of paint repairs, and that a large percentage of owners are already committed to the necessity of making such repairs.



SKETCH, STREET IN PERUGIA, BY V. H. REEVES

# Convention

by Harris H. Allen, A.I.A.

- *Good of the Profession Key Note of Eighth Annual Meeting of State Association at Santa Barbara*

CONVENTIONS of California architects alternate yearly between Northern and Southern California, and, unofficially, from the large urban business

most satisfactory locations for both accomplishment and pleasure.

Headquarters were at El Encanto Hotel, on the hill above the famous old Mission. It



EL ENCANTO HOTEL, SANTA BARBARA. HEADQUARTERS OF ARCHITECTS DURING STATE CONVENTION

centers to smaller communities where the delegates' interest is concentrated on their professional and organization problems and on the accompanying fellowship and enjoyment of California countryside attractions. Each type of meeting place has its advantages, and the recent 8th Annual Convention proved that Santa Barbara is one of the

is well named, for the ensemble of cottages and gardens commanding a breath-taking view over city and sea is truly enchanting. Incidentally, the courteous attention, the excellent service, the comfortable, even luxurious equipment, deserved and received the appreciation and thanks of the convention.

Attendance was good, with an unusually

large proportion of Northern architects, and more ladies than usual. There was evident an increased spirit of unity, and the expressed intention for still further and more efficient co-operation between the Sections. Both as to business and entertainment, the 8th Convention can be ranked as one of the most successful in the Association's history.

Many delegates arrived Thursday, October 3rd, enjoyed a social hour and informal dinner, followed for the executive boards by a full evening meeting. Friday morning the convention was formally opened with an address of welcome by Mayor E. O. Hanson, a talk on "The Architectural Consciousness of Santa Barbara," by Capt. Charles Gordon Davy, President of the Chamber of Commerce, describing the city as "Muy simpatico" to architects—and the report of President Harold C. Chambers, who dwelt on the better understanding and the improved division of activities between the Northern and Southern Sections and between the Association and the Institute Chapters. The secretary announced the decision of the executive boards to confine the Saturday morning session to architects only, as an executive session, their rule that all individual resolutions go through the resolutions committee in complete written form, and the appointment of the 1936 Convention committee with Harris Allen, chairman, and John K. Ballantine, Jr., assistant.

Committee reports followed. The professional relations committee (Lester Hibbard, chairman) reported the establishment and publication of standard fee system and standards of practice (see ARCHITECT AND ENGINEER, August 1935). The financial relations committee (F. H. Reimers, chairman) reported the satisfactory agreement with the State Veterans Welfare Board for loaning on architects' plans, and prospective arrangements with banks—emphasizing the effective assistance given by the Associated

General Contractors and the Producers' Council Clubs.

The recognition of architects' services by the F.H.A. was noted, and Charles Masten explained the formation of a Federal Savings and Loan Association in San Francisco, with some architects as directors and on the Appraisal Board. The public relations committee (C. H. Miller, chairman) reported series of broadcasts by architects, accompanying press items, and prospect of newspaper space through F.H.A. activities. The governmental relations committee (R. H. Orr, chairman) explained recent legislation in California which left the architectural profession in "statu quo" after a number of bills, not originated by architects, failed to pass. The convention passed a resolution from this committee appointing a permanent statewide legislative committee to study and keep informed of proposed legislation affecting architects and building construction. The report service committee (H. J. Michelson and R. H. Orr, chairmen) reported good returns and publicity value from the two services conducted by Architects Reports in the north and the Southwest Builder & Contractor in the south, and a resolution was adopted appreciating their services to architects.

The afternoon session Friday was started with George D. Riddle presiding, who introduced Burt L. Knowles, National Director of the Associated General Contractors of America, now touring the country. Mr. Knowles delivered an eloquent address stressing the friendly relations existing and desirable between architects and contractors, and pointed out what he considered were harmful effects on the building industry of certain W.P.A. policies. The chair was then turned over to Harris Allen to conduct an Open Forum, which included discussion of unification progress, following a report by Robert Orr; of points about architects' co-operation with F.H.A., explained



by Albert J. Evers of plan requirements by the Veterans Welfare Board, reported by William I. Garren; of Building Officials' experience with building codes and plans submitted, reported by J. C. Longueville; and some discussion about the proposed Uniform Code, which led to an announcement that the S.A.C.A. Code committee would request the State Chamber of Commerce to appoint northern and southern committees to devote a week or more in the near future, for consideration of the Code in its present state, and a definite report to the editors.

A garden tour through some of the beautiful Montecito estates, arranged by Miss Pearl Chase of the Community Arts Association, occupied the time until evening.

Another pleasant social hour, accompanied by charming Spanish music, preceded the Convention banquet. Chairman Winsor Soule introduced the speakers—Assemblyman Alfred W. Robertson, Senator Edgar W. Stow, Mr. L. Deming Tilton (Director of Planning for California), and Mr. Jere Hille (So. Cal. District Manager for the Veterans Welfare Board) with Mr. Manley Shulberg (Appraiser for the Board).

At the executive session Saturday morning William I. Garren presided. Besides action concerning various internal Association policies, resolutions were passed urging that the restoration of La Purisima Mission at Lompoc be completed; that enforcement of the State Highway Act be extended to minor highways, with the guidance of a trained Landscape Architect for roadside planning and planting; that the State Immigration and Housing Commission take steps to see that the State Housing Act be more adequately enforced; and thanking Santa Barbara officials and individuals for

their help in making the Convention a success.

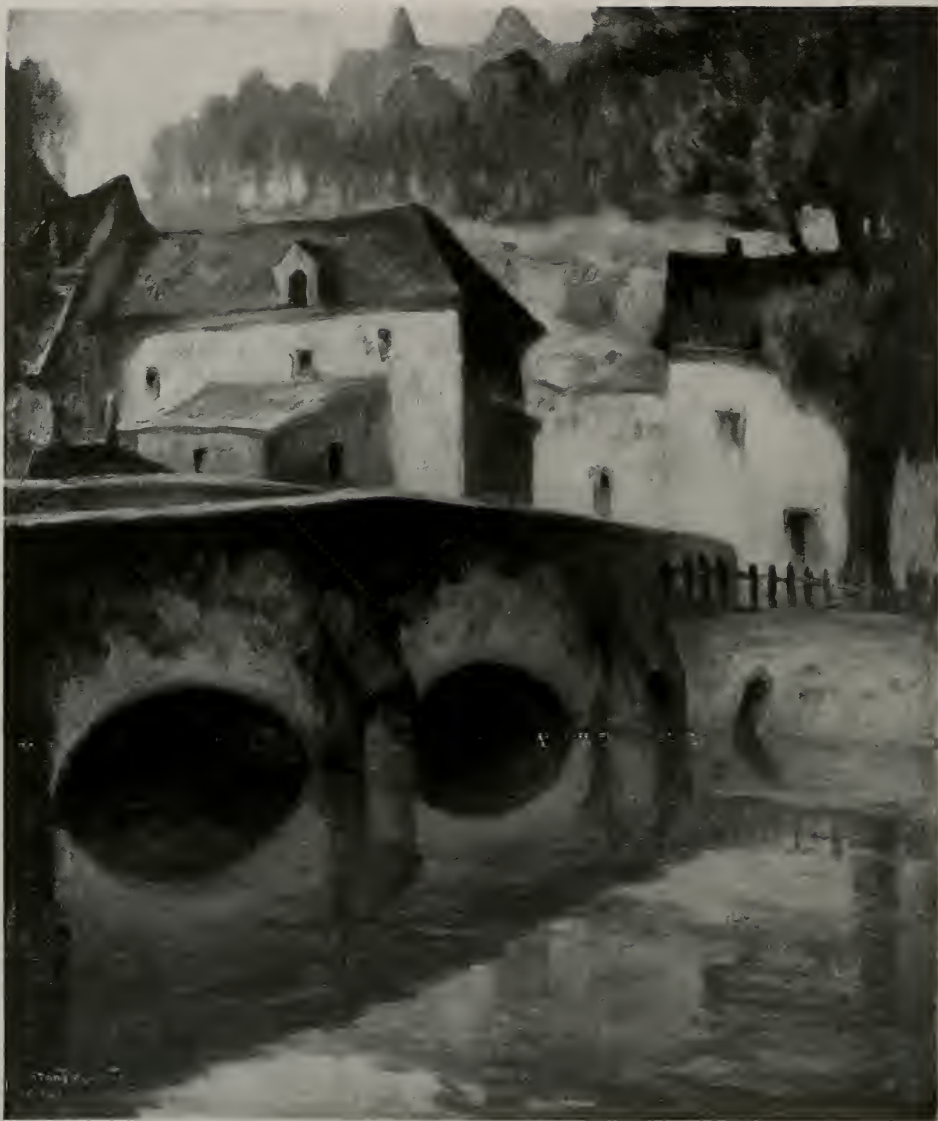
Another garden tour, this time through the picturesque Hope Ranch Park, entertained those delegates and ladies who did not enter the golf tournament at La Cumbre Country Club—where the Golf Dinner and Jinks were held, Harold Burket ably presiding, and Abe Appleton, assisted by Harris Allen, with various Volunteer Victims, offering a "Major Bowes Amateur Hour for Architects" which revealed unsuspected talents and hobbies. The presentation of golf prizes, tokens of friendship offered by a number of building material firms, completed the evening, and the Convention.

The new officers for 1936 are as follows:

State President, William I. Garren, San Francisco. Vice President, Lester H. Hibbard, Los Angeles. Secretary, Harold C. Chambers, Los Angeles. Treasurer, Otto Hintermann, San Francisco. Ex Officio, David J. Witmer, Regional Director A.I.A.

Southern Section: President, Lester H. Hibbard, Los Angeles. Vice President, George D. Riddle, Long Beach. Secretary, Harold C. Chambers, Los Angeles. Treasurer, Robert H. Orr, Los Angeles. Ex. Bd., Louis J. Gill, San Diego; Henry C. Newton, Los Angeles; W. S. McCay, Pasadena; A. M. Edelman, Los Angeles.

Northern Section: President, William I. Garren, San Francisco. Vice President, Harry I. Michelson, San Francisco. Secretary, Ellsworth E. Johnson, San Francisco. Treasurer, Otto Hintermann, San Francisco. Ex. Bd., Harry J. Devine, Sacramento; Charles F. B. Roeth, Oakland; John K. Ballantine, Jr., San Francisco; Roland I. Stringham, San Francisco.



# Beauty

- *Landscaping, Adobe Walls and Rustic Gates Lend Attractiveness to New Road to San Juan Bautista*

UPON the completion in 1932 of the San Juan Grade elimination project north of Salinas, California, the picturesque mission town of San Juan Bautista found itself some three miles off the main traveled Coast highway. The motorist wishing to visit the historic mission in the town was compelled to travel over the old and dangerous San Juan grade, or over an old winding graveled county road, known as the "Rocks Road" because of its origin at the Pinocate Rocks through which the new Prunedale Cut-off runs.

The motorist from the south or the Monterey Peninsula district, going to the San Joaquin Valley via the Pacheco Pass, was also obliged to travel over this same grade, or an inferior county road, or go on to Gilroy and thence over the Pacheco Pass.

In order to provide a somewhat better connecting road from the Prunedale Cut-off to San Juan Bautista, the 1933 California State Legislature made the above-mentioned "Rocks Road" a part of the state highway system, and it was immediately temporarily improved by applying an oil and screenings seal until a more satisfactory connection could be provided.

Led by Father Caffrey of the Mission San Juan Bautista, public spirited citizens

asked the Highway Commission to provide a more direct and adequate connecting road. As soon as funds were available the commission acted favorably upon this request and made the necessary allocation during the past biennium for the construction of such a connection, which is now completed and opened to traffic.

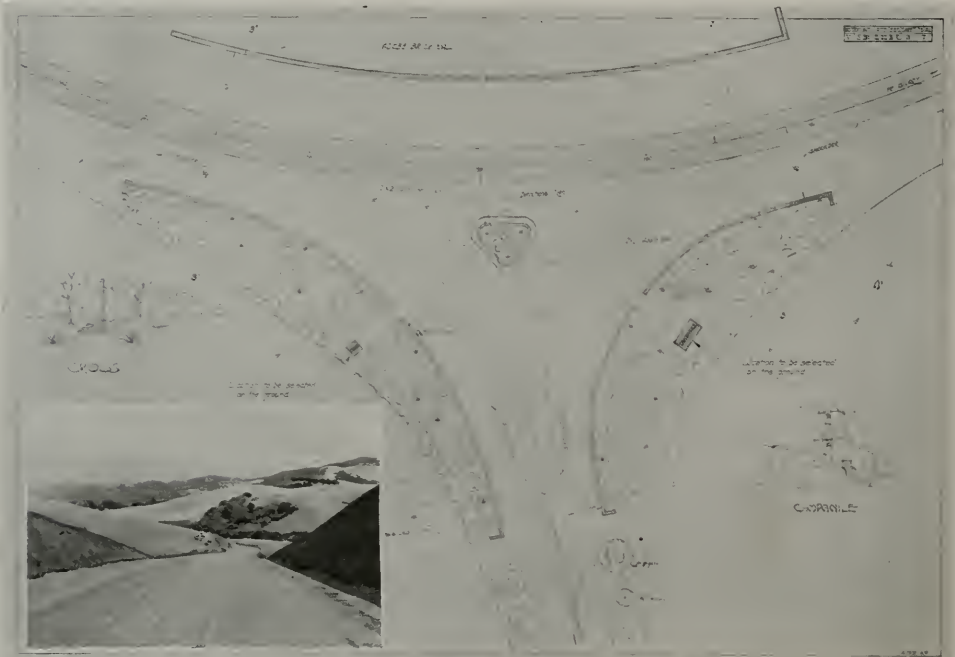
This connection, 2.6 miles in length, known as the "Rocks Road," runs easterly from a point on the Prunedale Cut-off, two miles northeasterly from the Pinocate Rocks, to the town of San Juan Bautista.

A feature of the work, when completed, will be the landscaping of a broad "Y" intersection with the Coast highway. The central portion of the "Y," between the traveled ways, has been left a foot or two above the road bed and will be enclosed with an adobe wall and rustic gates typical of the Spanish motif. Within this wall will be placed an appropriate directional marker indicating the San Juan Mission.

Along the outside edge of the two entrances, adobe walls will also be constructed. Back of these walls a generous right of way has been obtained, with the intervening area somewhat raised above the roadbed and will be planted with appropriate trees and shrubs. Within the park area to the north will stand a Campanile of mission design and in the southerly park area a large rough hewn redwood cross, both features being emblematic of the San Juan Mission to which the road leads.



CROSS AND CAMPANILE will mark this intersection of the new road to the Mission town of San Juan Bautista with the Prunedale cutoff, San Benito County, California  
 (Courtesy California Highways and Public Works)



BEAUTIFICATION PLAN to include emblematic structures and adobe wall at intersection pictured above. Inset shows portion of new State Route to San Juan Bautista



# Housing

by E. P. Conser

- *Replacement Work in Los Angeles Apartment Buildings Urged by Association Executive*

THOSE who study construction records and follow building trends closely usually look first at residential activity. An ambitious public works program, creation of a new civic center, erection of new office building skyscrapers, may swell the value of building permits, but there is only one sound gauge of a permanent trend in construction activity, and that is construction of single family residences.

When people start building their own homes or when a demand arises for new homes, we can be sure either that people have more money or they are willing to spend more money, or old homes have deteriorated and must be replaced by new ones, or that families which have been living together are ready to branch out and establish their own homes or that new families are coming into the community and an increase in population is taking place—it may be any one of a combination of all of these factors which underlies an increasing volume of new home construction.

In any event, when construction of single family homes is increasing it means that the community is expanding, and in ratio to the

extent of this movement, a demand will soon arise for new stores, new theaters, new service stations, new office buildings and new postoffices to serve the growing community.

Before going into a review of the recent trend in residential construction activity, let us consider some of the important underlying factors which cause this trend.

Demand for new housing accommodations arises when the supply of accommodations becomes inadequate—and not before.

In the case of apartment houses, the vacancy for the ten-year period prior to 1934 averaged approximately 22%. This means little until we consider the fact that most of such buildings are predicated upon an average vacancy of not more than ten per cent. Further, by analysis of price trends, we find that a 7% vacancy is the stabilization point beyond which prices rise and fall. You can appreciate then, that apartment rentals have been dropping, and property values declining accordingly throughout this period.

Last year surveys conducted every 60 days by the Apartment Association show an average vacancy of less than twelve per cent. This year, for the first time in 12 years, apartment vacancies were reduced below the stabilization point, and in February were at a low of 4%. The average for the year will be less than ten per cent.

\*From an address before the Construction Industries Committee, Los Angeles Chamber of Commerce. The author is secretary-manager of the Apartment Association of Los Angeles.

We can say definitely that rental rates have been rising since this time last year. During the summer the San Diego Exposition has been most helpful in maintaining occupancy at a point which may be considered normal for the first time in many years. With vacancy as of August 15 reported at 8%, there is still an ample supply of apartments, supplemented by still greater excess of hotel space, to accommodate the usual seasonal influx of temporary residents. We may be certain, however, that the housing business, as a whole, is facing its best season since 1924.

It is interesting to note here that the occupancy of bungalow courts, flats and single family homes follows a trend similar to that of apartments, except that the seasonal variation is nominal compared with apartments, and the vacancy lower in bungalow courts, still lower in flats and at the lowest point in single family homes, where it reaches a point approaching two per cent during the peak season and varies little during the year.

It is interesting to note that the up-trend in apartment house occupancy began late in 1932, and the same trend is carried out in other forms of dwellings, beginning in 1933.

The vacancy of which we speak represents in effect the surplus of housing accommodations over the requirements of both permanent and temporary residents.

To any person familiar with the housing industry, and this is borne out by investigation of governmental agencies, there are residing today in multiple-family dwellings an enormous back-log of families awaiting the first opportunity to move into a home of their own.

Why don't they move now? Why isn't building activity in single-family homes many times the volume of today? Why are we building less new accommodations than we did in 1919—15 years ago? Here is the reason.

Comparing building costs as given by the survey of the Federal Reserve Bank of New York, with rental rates, as indicated by the U. S. Bureau of Labor Statistics, we find that since 1923 building costs and rental rates have gone their own separate ways, and while the depression had a similar effect on both, rentals have yet to regain some of their lost ground before there can be any sound advance in construction for investment.

Using the 1914 index, rentals today are approximately at the level of 1914-18 — twenty years ago. In Los Angeles they are nearly 15% lower than 20 years ago.

While building costs have receded from the high levels of 1926-29, they are still nearly 100% higher than in 1914. If it was profitable to build for income purposes during the years 1914-24, which we know to be the case, and during which time the rental trend followed closely the trend in cost of building, then the gap between the cost of building today and rental prices must be more nearly closed. Although it is difficult to state just what increase in average rental income is necessary to permit profitable new construction of income properties, it is indicated the increase from depression levels must be somewhere *between forty per cent and one hundred per cent.*

There is a sound demand for single-family homes today because the over-supply of past years is nearly absorbed. Again, many people are able to enjoy a little luxury over and above the amounts they now have to pay for rent. But this trend in home construction can continue only as more people can afford to own their homes.

The one thing that will bring about a sustained demand for single-family home construction and the only thing — will be substantial increase in the cost of rent.

On a national scale rents have declined approximately 40% and are still near the

bottom. In Los Angeles the level of rents during 1921 to 1925 cannot be considered to be sound, and unquestionably was due to the impetus given to rental prices by sudden gains in population. But rents can be said to have reached a sound basis, in accordance with economic conditions in 1927. From this level they have been reduced nearly 50% and are still near the bottom. We know in Los Angeles that rentals have increased during the past year, but thus far that increase has been nominal, and from all indications has not as yet averaged ten per cent.

We are all interested in new construction, and new construction, as far as single-family homes are concerned, will come in substantial volume as soon as rents increase. People who are thinking of building today are still deterred by the fact that they can rent so cheaply, although the accommodations are less desirable than private homes.

Young couples who have passed five depression years in apartment houses are anxious to get into homes of their own as soon as they can afford it. But when they can still get a roof over their heads for \$25.00 a month, including utilities, laundry and a maid to sweep the kitchen, it is not common sense to venture into a home of their own when that home will cost not less than \$50 after they have paid the charges now included as rent.

There is so much talk of home construction that it is entirely logical that the uninitiated and the speculators should think as well in terms of multiple-family construction. But with building costs today nearly 100% higher than 20 years ago, and with rental income from residential properties at the same level, none but the ignorant or the unthinking would venture to build a so-called income property, knowing in advance that his investment would be a los-

ing proposition, except for the contingency that rents will immediately advance.

A recent upward trend in occupancy of all types of family accommodations, as well as other indexes of population gains, indicate there will be an increase in the permanent population of Los Angeles this year of at least 10,000 families. Let us assume these families are all to be placed in new housing. What type of housing will best serve the needs of the community?

Suppose we put them in a government low-cost housing project, consisting of multiple-family units built at an average cost of \$800 per unit, including materials and labor, or a total construction cost of \$8,000,000.

On the other hand, assume that private capital builds apartment houses of 30-units, the average size in the city. These accommodations will absorb from the distress market 335 vacant lots out of some 300,000 already subdivided in the city, most of which are on the distress market and pressing to be sold for any type of use which will contribute toward paying the taxes. According to building permits, the cost of multiple-unit construction averages at the present time slightly in excess of \$2,000 per family unit, and on this basis materials and labor consumed would total some \$20,000,000 or about 150% more than if these families were accommodated in low-cost housing projects.

Now suppose we were to provide single-family homes for this increased population. Out of 300,000 vacant lots in the city 10,000 would move off the distress market and into private hands, instead of the 335 for apartment accommodations. A review of building permits indicates that it costs approximately 60% more to produce a single-family unit than a unit in a multiple dwelling. Therefore, these 10,000 families would consume a total of \$32,000,000

in building materials and labor, as compared with the \$20,000,000 for apartment construction.

Construction work on 10,000 new homes would keep a lot of building contractors busy most of the year. The sale of 10,000 lots would be a boon to the real estate market and would spread sales among realtors throughout the city. It is reasonable to believe that every section of the city would be benefitted, and not just one or two isolated spots.

So much for new construction. We have seen the effect of over-financed building of multiple dwellings from 1926 on. That era could be repeated if spectators were permitted to misinterpret the facts surrounding the present occupancy conditions in multiple dwellings as well as single-family homes. But none of us who are interested in the welfare of our city and are selfishly interested in the real estate business, the mortgage business, the construction industry or the housing industry will permit a repetition of that era.

The mere fact that these structures were over-financed has caused enormous financial losses and has resulted in most properties being allowed to deteriorate without any attempt at proper maintenance since they were built. Add to this the fact that they were all hastily built, if not flimsily built, and we can appreciate the fact that hundreds of such structures are in dire need of complete rehabilitation. There has been a minimum of repairs and replacements during the depression, and because rents are still at near depression levels (the volume of modernization work in apartments has scarcely been touched) we will find im-

provement of existing structures will more than pay its way. Then the present obstinate opposition to the expenditure of any funds for capital improvements will disappear.

As an indication of the need for replacement work in apartment houses, consider the refrigeration systems alone. Apartment construction reached a peak some 12 years ago. Eleven years is almost a maximum life for unit refrigeration systems, and after five years I doubt if there is a system which does not give almost constant trouble. From the present time forward there is a continuing need for replacement of refrigeration systems, in accordance with the volume of construction of 8 to 12 years ago, or an average of over 30,000 units a year, involving an annual replacement cost of not less than \$1,250,000.

The normal life of various articles of apartment furniture of an average quality is from 4 to 11 years, and averages as a unit 7 years. Much apartment furniture has not been replaced in 12 years, and has been patched and scrubbed and polished until it is in hopeless condition today. That the replenishment of furniture in apartments already is showing a healthy increase is indicative of the approaching replacement of other less perishable items.

These are but a few indications of the need for extensive and intensive modernization work in this field. I could go on to point out the crying need for new decorations to create the most efficient use of light, and the need for embellishments in architectural design which could be applied to at least the fronts of our present shoe-box buildings.



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# « « « « With the Architects » » » »

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## TELEPHONE BUILDING

The Pacific Telephone and Telegraph Company has announced it will spend \$250,000 for a new exchange and office building at the intersection of Otis and McCoppin Streets, San Francisco. Plans are being prepared by the company's engineering department. Mr. Cobby, who was for many years head of the architectural office of the company, was recently given his retirement.

The new building is being designed as a six story Class A structure but for the present only two stories and basement will be built. A complete steel frame will be used with exterior walls of pressed brick and terra cotta. Bids for the general construction will be taken about the first of the year.

## L. H. NISHKIAN BUSY

New work in the office of L. H. Nishkian, structural engineer, Underwood Building, San Francisco, includes the structural design of a reinforced concrete auditorium for the Standard School District, cost \$100,000, Charles H. Biggar, architect, of Bakersfield; branch bank building at Daly City for the Bank of America; one story reinforced concrete addition to the Ressitar Bros. garage at Watsonville and a store building for the Bank of America at Napa.

## WILL CARRY ON FOR MR. SYMMES

When Edwin J. Symmes passed away in Bakersfield several weeks ago there was considerable unfinished work in his office. Mrs. Symmes wishes to go on at least with the incompleting work and she has commissioned W. C. Hays and Ira W. Hoover to carry on. Much of Mr. Symmes' work consisted of new school buildings and improvements to existing structures. Mr. Symmes was at one time employed in the office of Mr. Hays.

## MACHINE SHOP FOR SCHOOL

Messrs. Miller and Pflueger, architects of San Francisco, are preparing working drawings for a reinforced concrete machine shop at the George Washington School, San Francisco.

The same architects have recently taken bids for the construction of a new residence in San Francisco for an unnamed client.

## PRAISES SKYSCRAPER ARCHITECTURE

American skyscrapers are a definite form of art that expresses the work life of the country, according to Dr. Alfred Neumyer, professor of history of art at Berlin University, who arrived at Mills College recently after a tour across the country.

Dr. Neumyer declares that the skyscrapers are America's definite contribution to architectural art. While at Mills College, he will lecture on the history of art of the nineteenth and twentieth centuries as well as museumship.

Before going to the University of Berlin, Dr. Neumyer was leader of the educational office of the State Museum in Berlin. He is a novelist, playwright and newspaper writer.

## PERSONAL

WM. H. KNOWLES, 369 Pine Street, San Francisco, has been granted a provisional certificate to practice architecture by the California State Board of Architectural Examiners, Northern District, State Building Annex, San Francisco.

HOWARD G. ELWELL has moved from the town of Bell to Room 1005 Architects' Building, Los Angeles.

JOHN C. PAGE has been appointed chief of the engineering division of the Reclamation Service.

ARTHUR BROWN, JR., accompanied by Mrs. Brown and their two daughters, are spending a couple of months abroad. Mr. Brown attended the Congress of Architects in Rome as a representative of Northern California Chapter, A.I.A. The Browns will return in November.

ROBERT W. FORMAN, architect, of Oakland, was married recently to Miss Lillian E. Friedlaender of San Leandro, the culmination of a three months romance.

## LOS ANGELES OFFICE

THE ARCHITECT AND ENGINEER has arranged to have regular representation in Los Angeles at the Building Material Exhibit in the Architects Building, 832 W. Fifth Street, Telephone, Mutual 6306.

## SACRAMENTO STATE BUILDINGS

Modern treatment in design will characterize two new office buildings which the State of California will build in Sacramento next year at an approximate cost of \$1,200,000.

Twin structures are to be erected on the southwest and southeast corners of Twelfth and N Streets, fronting Capitol Park.

The building at the southwest corner will house the department of public works, with its divisions of highways, water resources, dam inspection and architecture.

The other will house the department of motor vehicles, inclusive of the division of registration, the California highway patrol and other law enforcement agencies and the division of adjustments and operators' licenses.

After the construction of the new buildings, the present Public Works Building at Eleventh and P Streets, also shared by the division of motor vehicles, will be used to house general state offices, probably including the new department to administer the unemployment insurance act.

Growth of the two departments in the past and the additional duties imposed upon them by recent legislation has made the construction of the new buildings absolutely imperative.

The public works department is concentrating all of its draughting staff in Sacramento, and also the division of architecture, through additional state building work and the administration of the school building safety law is back to full strength. A large crew of Federal engineers working on the Central Valley Water Project will have to be housed.

Each building will be set back twelve feet from the streets and adjoining structure, and will have a frontage of 240 feet.

## PROFESSOR GREGG HONORED

John W. Gregg, professor of landscape design at the University of California, has been appointed landscape architect for the All-American Canal to be built at Calexico, California, as part of the Colorado River project.

Notice of the appointment was received from Dr. Elwood Mead, who at one time was professor of irrigation at the University of California and who is now United States Commissioner under the Department of the Interior.

Professor Gregg will landscape a strip of land several miles long and develop recreational features on both sides of the canal.

Professor Gregg is familiar to readers of this magazine, he having served as an associate editor in landscape architecture, for a number of years.

## SAN FRANCISCO MUSEUM OF ART

Exhibitions at the Free Gallery, San Francisco Museum of Art, the latter part of the current month include Great Portrait Painting, Sunday, October 27, with gallery talk by Claudia Davis, and Eighteenth Century Portraits, October 30, with gallery talk by Katherine Field Caldwell.

Current exhibitions include contemporary sculpture, through October 20; Rivera painting and drawings through October 31 and French impressionists, to November 3.

The exhibition, "Thirty Years of Sculpture in California" has occasioned much interest. Many of the contributing artists are especially concerned with mural decoration, notably wood carving.

## ARCHITECTS VISIT BRIDGE

Members of American Institute of Architects, State Association of Architects, and Producers' Council Club, were guests of the Columbia Steel Company on an inspection trip of the San Francisco Bay Bridge, September 26.

E. J. Schneider, manager of the bridge department of the Columbia Steel Company, which is supplying and erecting all the steel and cables for the bridge, acted as host. The inspection proved most interesting. Employees of the company explained how splices are made on the wire and how it is wound on the spools prior to its delivery at the bridge for spinning.

## NEW OREGON STATE CAPITOL

An allotment of \$1,575,000 from the Federal works-relief appropriation for a new State Capitol building in Salem is among the major items of work approved by PWA. The building will cost \$3,500,000, the state having appropriated \$1,925,000.

The old capitol was destroyed by fire last April 26.

An architectural competition is being advocated.

## S. F. ARCHITECTURAL CLUB

The regular meeting of the San Francisco Architectural Club was held October 2 in the clubrooms at 130 Kearny Street. Discussion of plans for a Hallow'en dance, scheduled for October 26, as well as a number of other topics, occupied most of the business session. President Otto G. Hintermann presided.

# Chapter and Club Meetings

## NORTHERN CALIFORNIA CHAPTER

The monthly meeting of Northern California Chapter, A.I.A., was held at the Plaza Hotel, San Francisco, September 24. The meeting was convened at 6:30 P.M. with the president, Albert J. Evers, presiding.

The following were present: Harris C. Allen, Abe Appleton, John Bakewell, Jr., E. Geoffrey Bangs, Earle Bertz, Morris M. Bruce, Will G. Corlett, Albert J. Evers, Henry H. Gutterson, Raymond W. Jeans, Ellsworth E. Johnson, Mark T. Jorgensen, George R. Klinkhardt, Chas. F. Maury, Harry M. Michelsen, James H. Mitchell, Howard Moise, Irving F. Morrow, John B. McCool, George B. McDougall, Gwynn Officer, Keith Ponsford, Robert Stanton, Roland I. Stringham, Stanton Willard, Alfred C. Williams, John Davis Young.

A study of fees leading to conferences with a group from the Structural Engineers Association of Northern California upon an agreeable basis of fees to be paid by architects and engineering services has been a recent activity of the Committee on Practice, it was reported by the Chairman, Mr. Gutterson. The grounds upon which the engineering group based a proposed graduated schedule was explained and the existing conditions which prompted it were commented upon.

The matter was discussed by various members, with no unanimity of opinion. By motion of Mr. Bangs, seconded by Mr. Stringham, the matter was laid on the table for future consideration with the understanding that the committee would continue upon the work.

President Evers told of the recent request of the Institute to each of the Chapters that they undertake the raising of a fund equal to \$2 per Institute member, as a contribution to enable the Institute to renew curtailed activities. In response, the directors of the Chapter have forwarded \$188, as its share toward this working fund and have collected the per capita amount from those who voluntarily subscribed toward reimbursement of the amount to the Chapter.

Upon motion of Mr. Stanton, seconded by Mr. Bertz, it was voted that each member be assessed

\$2. for this fund and that contributors to date be properly credited as paid. It was further instructed that associates be requested to make voluntary contributions but not be assessed.

Recent accessions to membership were announced as follows:

Robert Stanton, A.I.A., Keith Ponsford, Associate and Lyle N. Barcume, Associate.

Messrs. Stanton and Ponsford were present and acknowledged the introduction.

The death of Edwin J. Symmes, A.I.A., was announced as having occurred September 10, 1935, and a committee composed of Messrs. Morrow, Perry and Hays offered the following resolution which was unanimously passed.

### WHEREAS

Our late colleague Edwin J. Symmes enjoyed long and universal esteem as architect and citizen; and

### WHEREAS

Not only his immediate associates, but his profession and his community find themselves poorer because of his loss; now therefore

### BE IT RESOLVED

That the American Institute of Architects, Northern California Chapter, at its meeting of September 24, 1935, formally record the sincere regret it feels at his passing; and further

### BE IT RESOLVED

That this resolution and the condolence of the Chapter be conveyed to his bereaved family.

Mr. Allen presented a statement in which he had set down his thoughts on the recent trend of the Honor Award exhibitions. In his opinion, these have disintegrated from the original form and intention of a display for recognition of architectural merit into narrow competitive lines. It also was regretted that public presentation of awards such as had taken place in Temple Emanuel have been dispensed with.

Mr. Allen's comments were accepted with appreciation and it was instructed that the full copy thereof be sent to David J. Witmer, Chairman of the A.I.A. Honor Award Committee, and to the Chapter Exhibit Committee.

Mr. Evers spoke of the spreading use of A.I.A. as a symbol by associates and prompted those present that this designation is reserved solely for Institute members.

The list of candidates for office for 1935-36 was presented by the nominating committee, John Bakewell, Jr., chairman; and accepted as follows: President, Will G. Corlett; Vice-President, Warren C. Perry; Secretary-Treasurer, James H. Mitchell; Directors, Albert J. Evers—3 years; Edward F. Frick—3 years; Gardiner A. Dailey—2 years.

These will be voted upon at the October meeting.

A letter from the California Society of Mural Artists was read which requested that architects give due consideration to local talent in the selection of artists for mural decorations.

No action was taken in response to the suggestion of Mr. Evers, that the Chapter start a movement to give support and force to the State Housing Act. He stated that the act had become a dead letter in many localities.

With the conclusion of business affairs, Mr. Moise gave a very interesting account of what had transpired in the 67th A.I.A. Convention which he had attended as delegate from this Chapter. His personal impressions and, further, a few words on the continuation of his trip eastward, proved highly entertaining.—J.H.M.

#### COMPETITION FOR OREGON CAPITOL

The Oregon Chapter, A.I.A., met the evening of September 17 at the Rathskeller. After dinner the meeting was called to order with President Aandahl in the chair.

Those present were: Messrs. Aandahl, Whitney, Knighton, Herzog, MacPike, Brookman, Schneider, Dougan, Jones, Dukehart, Sundeleaf, Foulkes, James, Jacobberger, Crowell, Bear, Beluchi, Parker, Doty, Johnston, Clausen, Morin, Wick, Stanton, Forrest, Smith and Wardner. H. Abbott Lawrence was a visitor.

It was announced that a lecture on acoustical treatment will be given at the Multnomah Hotel on November 11th. Regional Director Crowell spoke briefly. President Aandahl reported for the executive committee.

It was moved by Harold Doty, seconded and carried that the Chapter sell 100 tickets at 50c each to hear Mr. LeCorbusier, French architect, speak in Portland in December. Mr. Belluchi was appointed chairman of a committee to handle this matter.

Mr. Parker, chairman of the public works committee, made a report on the Capitol building situation, and read that part of the state planning board's report to the Governor recommending a competition and a method of procedure.

On account of a floor show in the room adjacent to the meeting, some of the older members seemed to be unable to concentrate on business, so the president moved the meeting bodily to the

office of Doyle and Associates. After calm had been restored, President Aandahl gave an interesting resume of Chapter activities relative to the Capitol from the time of the burning of the old building to date.

An extended discussion followed, concerned chiefly with the recommendation of the planning board relative to competitors, which report—previously endorsed by the Chapter—if adopted, would probably eliminate from the competition, younger men of a limited experience.

Mr. Jones moved that the Chapter go on record as favoring a competition for the Capitol building, limited to architects who were registered in Oregon and were residents of Oregon at the date of the burning of old Capitol building. Seconded by Mr. Whitney. Mr. Jacobberger moved an amendment that the competition be conducted in accordance with A.I.A. requirements, and the motion was carried.

Mr. Sundeleaf moved that the secretary write the State Board of Control, advising of the Chapter's action in reference to a competition as recommended by the planning board. Seconded and carried.

It was stated that, inasmuch as the Chapter has gone on record as favoring a competition for the Capitol building, all members of the Chapter are requested to refrain from soliciting the job, since such soliciting would be opposed to the best interests of the Chapter. With the consent of the meeting President Aandahl directed that this be spread in the minutes.

Applications for Associateships were received from H. Abbott Lawrence and Robert W. Turner and Sidney B. Hayslip. Privileged communications will be received by Secretary Wallwork until Oct. 17th.

#### SOUTHERN CALIFORNIA CHAPTER

At the September meeting of Southern California Chapter, A.I.A., J. J. Backus, superintendent of the Los Angeles Department of Building and Safety, was presented with a certificate of life membership in recognition of his services to the profession.

The presentation was made by Robert L. Burns, president of the Los Angeles City Council. A bouquet was presented to Mrs. Backus by Mrs. Edgar F. Bissantz. Mr. Backus was appointed superintendent of the department on January 3, 1905, and has held that office continuously ever since. He has been a member of the Chapter for a number of years.

Sumner Spaulding, president of the Chapter, opened the meeting and turned the gavel over to John C. Austin, who acted as chairman of the evening. A reception was held at 5 o'clock, followed by dinner and dancing.



SOMETHING NEW IN  
PLUMBING FIXTURES

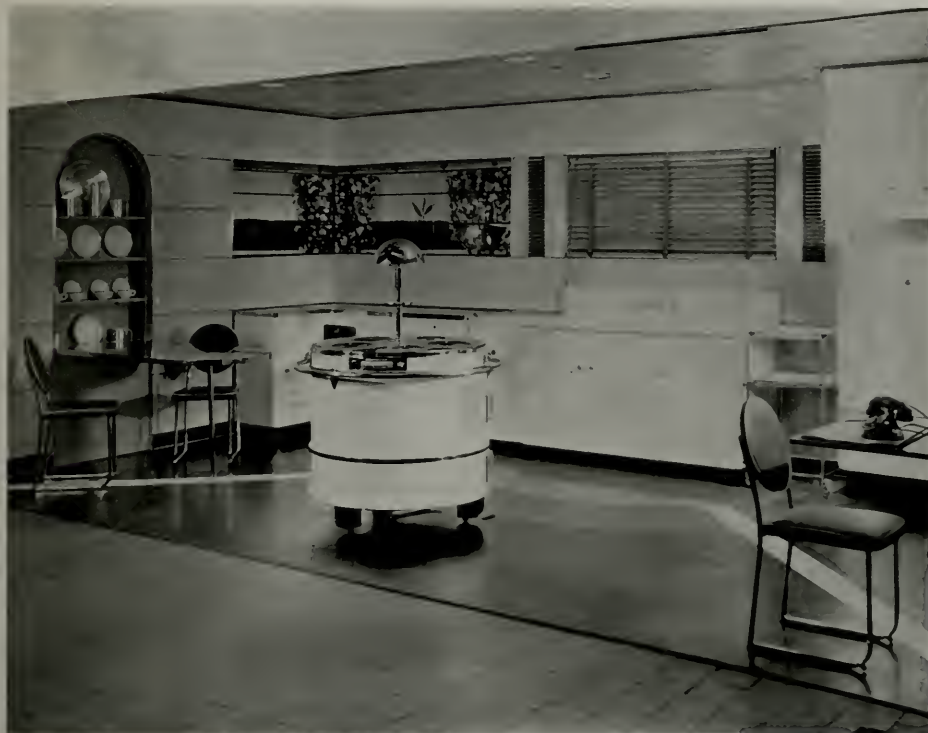
Entirely new style conceptions in design and coloring of plumbing ware and bath room arrangement are shown in the accompanying view of a model bath room exhibited by the Briggs Manufacturing Company at the Master Plumbers' show in Chicago recently.

Briggs new ware is made of drawn steel while advances in the art of ceramics makes available any color or color combination desired. Generally speaking, the new ware is streamlined and ultra-modernistic in every detail. Building stylists believe that this new mode in the styling of bath rooms and kitchens will provide an important appeal and stimulus in reviving activity in the construction industry.

How the plumbing industry is providing the impetus for a revival of building activity through the creation of new style appeals in the kitchen and bath room, is shown in the accompanying view of a model kitchen. The cabinet sink is an example of drawn metal construction which has started a new trend in plumbing style and utility.



MODEL BATH ROOM



MODEL KITCHEN WITH CABINET SINK OF DRAWN METAL

The sinks are available in any color or color combination desired. The enamel is acid resisting. The small unit at the left of the sink is a dish washing machine. At the right of the sink is a refrigerator.

In the foreground is a round electric stove which rolls on castors and permits cooking from any angle. The new drawn metal plumbing ware and stove proved to be the outstanding sensation of the Chicago plumbing show.

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## AMERICAN SOCIETY CIVIL ENGINEERS

The seventh annual convention of the San Francisco Section, American Society of Civil Engineers, will be held at the Sir Francis Drake Hotel, San Francisco, Friday, November 1. A unique announcement of the event gives the specifications and location of the various technical division meetings as follows:

Bridge Division—Contract (Bring your own system) Games Room.

Hydraulic Division, Cocktail Room.

Culinary, Empire Room.

Catwalk Division, Ball Room.

Legislation, Lobby.

Finance, 526 Rialto Building.

The nominating committee has reported in favor of the following officers for next year: President, Walter L. Huber; Second vice presidents, A. J. Cleary, F. C. Herrmann, Fred C. Scobey and Ralph G. Wadsworth. T. J. Corwin, Jr., will continue as secretary-treasurer.

At the last meeting of the San Francisco Section some time was given over to reports and remarks on California legislation as affecting the civil engineer by Walter L. Huber, chairman of the legislative committee; L. H. Nishkian and H. J. Brunnier. Mr. Nishkian's remarks will interest both architects and engineers. He said:

"At each session of the legislature the act licensing architects always comes up for amendment. Such amendments concern the engineer very seriously. Contrary to general opinion among civil engineers, these proposed amendments are of far more concern to the civil engineer than they are to the structural engineer because practically always the architects are willing to exempt the structural engineer. It behooves the civil engineer to be alert and to see that the proper practice of civil engineering is not limited in any way.

"In the last California legislature it was proposed to exempt structural engineers and only such civil engineers as were adjudged by the Engineers Registration Board competent to design buildings. We objected to the provision for two reasons. First, there are no reasons of public safety for any legal restrictions to be placed on the practice of competent civil engineers, and sec-

ond, we objected to any attempt to regulate the practice of civil engineers by provisions in an act regulating the practice of architecture.

"This measure (Senate Bill No. 507) was set for hearing before the Senate committee on governmental efficiency early one morning. The night before, the engineers' legislation committee met the representatives of the architects' and after a long session, the architects agreed to exempt the civil engineers in the same manner as were exempted the structural engineers. The following morning, however, just previous to the committee meeting, they informed us that they had changed their minds. We, therefore, went to the committee room not knowing what to expect for we were aware that the architects had employed two high powered lobbyists. When the bill came up it was proposed that all amendments be voted on without reading or discussion. Mr. Kennedy, our representative, prevailed on the committee to read the amendments so that we would know at least what they were. They were read, among them the amendment by Senator Scallin of Sacramento, exempting the civil engineer. At this point, Mr. Wm. Garrin, representing the architects, got the floor and stated that such an amendment would permit every surveyor to practice architecture. Mr. Scallin accepted this statement and withdrew his amendment, stating that he had been misinformed. The committee then decided to take a vote without further discussion. Efforts of Messrs. Kennedy, Brunnier, Huber, and others of our committee to get the floor were futile. We felt that we had lost the fight as everything seemed to be stacked against us. Quicker than I can tell it, the vote was taken and to the surprise and amazement of all of us, the bill was killed and we were safe for another two years."

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## ENGINEERS' STATE CONVENTION

The Structural Engineers of California are holding their annual State convention at Fresno October 18-20. Details of the meeting will be published in the November issue of *THE ARCHITECT AND ENGINEER*. Wm. H. Popert is chairman of the program committee. The main business of the convention will be a report and discussion on "Standardization of Engineering Fees and Practice." Headquarters at the Hotel Californian.

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## BRANCH BERKELEY LIBRARY

James W. Plachek, architect of Berkeley, is compiling plans for a one-story Spanish style branch library building to be erected at Hopkins Street and the Alameda, Berkeley, at an estimated cost of \$36,000. Construction will be of reinforced concrete with terra cotta tile roof.

## FEDERAL ALLOTMENTS, NORTHERN CALIFORNIA

PWA allotments for public work in Northern California were announced by President Roosevelt the first of the month and they have already had a stimulating affect on the building industry.

The grants totaled \$11,024,337 financing 147 projects.

The list of projects includes the following:

Centerville School, \$12,627; Warm Springs Grammar School, \$26,831; Alameda County Courthouse, \$19,350; Alameda branch library, \$29,148; paving work, Oakland, \$15,130; street improvements, Oakland, \$40,371; San Leandro reconstruction of school building, \$49,500; Berkeley library building, \$16,167; street paving and drainage, Oakland, \$232,565; construction sewer, Oakland, \$14,603; Piedmont School building; \$27,000; Oakland harbor improvements, \$121,855; Alameda electrical sub-station, \$87,950; Oakland School, \$28,125.

Albany School, \$27,000; Amador Valley Joint Union High School, \$25,250; Chico High School, \$45,000; Chico school district for elementary school building, \$39,273; Chico library, \$12,170; Arbuckle Union High School, \$81,818.

Martinez School, \$8591; El Cerrito City Hall building, \$10,695; Knightsen School, \$10,636; Martinez School, \$23,727; Selma School, \$28,215; Prairie school district, Fresno county, \$20,440; Fresno City High School, \$264,600; Mendota Elementary High School, \$14,308; Reedley Joint Union High School, \$45,000; Clovis High School, \$48,204; Orick school district, \$13,770; Eureka Municipal Auditorium, \$53,181; Bakersfield Union School district, \$17,101; Delano High School, \$17,951.

Oil Dale Standard School district, \$45,000; Arbin Home for Aged, \$19,407; Bakersfield Taft Union School, \$51,770; Hanford School, \$19,371; Hanford Hospital, \$42,849; Lakeport School, \$13,500; Susanville electric distribution system and

transmission line, \$44,929; Madera Union High School, \$21,005; San Rafael School district, \$40,909; Mill Valley City Hall building, \$24,300; Mariposa School, \$66,236; Ukiah sewage disposal plant, \$10,655.

Fort Bragg School building, \$8000; Merced School district, \$18,900; Hilmar High School, \$12,402; Atwater Hospital building, \$40,725; Merced School building, \$38,025; Dos Palos' water works system, \$28,308; Cedarville High School, \$22,500; Salinas Hospital additions, \$32,832; Salinas School, \$54,000; Alisal Union High School, \$13,500; Salinas High School, \$19,250; Napa School, \$11,454; Truckee School, \$14,727.

Auburn High School, \$28,390; Sacramento Junior College, \$221,000; Elk Grove High School, \$37,636; sewers for Sacramento, \$73,630 and \$308,098; Elk Grove schools, \$8187; water supply system, Galt county water district of Sacramento county, \$24,327; Del Paso schools, \$12,638; Walnut Grove schools, \$26,182.

Linden—Loan and grant of \$30,909 for high school gymnasium and community center.

Stockton—Grant of \$30,909 for high school gymnasium and community center; loan and grant of \$60,000 for addition to cotton warehouse; \$90,000 to sewerage system and sewage disposal plant.

Burlingame—Loan and grant of \$87,272, six elementary school buildings.

Millbrae—Loan and grant of \$53,922, extensions and additions elementary schools and equipment.

Redwood City—Loan and grant, \$34,545. Visitation Elementary School District school.

San Mateo—Grant, \$16,530. San Mateo School District.

Sunnyvale — Grant, \$25,602. Fremont Union High School District, library and swimming tank.

Palo Alto—Grant, \$12,700, removal and reconstruction gas distributing center and butane gas plant; \$218,000, electric power plant and transmission line.

# DALMO-PINECRAFT

## FACTORY ASSEMBLED ▾ PRECISION FITTED

### Automatic AWNING TYPE Windows



Shipped ready to install! Ready to provide the best of controlled illumination and draftless all-weather ventilation. Made in one, two, and three-sash units. Multiple sash fully automatic . . . all vents operated collectively by motion of lower sash, which disconnects for independent operation, and reconnects without use of manually operated clutches.

Write for Details and Architect's Specifications

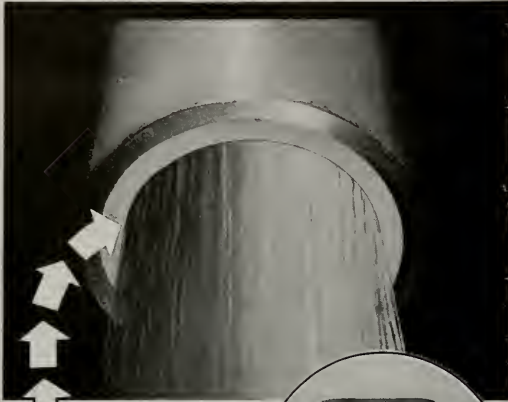
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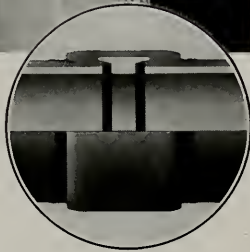




**FORGET about CORROSION in  
HOT AND COLD WATER LINES**



**CORROSIVE  
WATERS  
cannot touch  
the metal-**



*Section of National DUROLINE Pipe coupling and joint. (Note special highly corrosion-resistant joint compound on end of pipe and on threads.)*

The one purpose in mind when developing Duroline was to prevent the destructive action of waters that rust, corrode, or in any way attack unprotected metal pipe. Thus, when you use this highly improved cement-lined pipe for hot- and cold-water supply lines in office or public building, hospital, school or residence, you can forget about corrosion. NATIONAL Duroline Pipe is also particularly desirable for underground water mains and distribution lines, drainage lines, and lines carrying salt water and some chemical solutions. The cost is not a handicap, you pay just a trifle more than for galvanized pipe. For new construction, repairs or replacements, try out Duroline Pipe. In the meantime, write for Duroline bulletin which describes in detail the development and outstanding advantages of this modern product.

**NATIONAL TUBE COMPANY**  
Pittsburgh, Pa.

*Pacific Coast Distributors—COLUMBIA STEEL CO., San Francisco, Calif.  
Export Distributors—UNITED STATES STEEL PRODUCTS CO., New York, N. Y.*



Los Gatos—Grant, \$42,714, Union High School District, school addition.

Red Bluff—Grant, \$18,000, Union High School, gymnasium.

Tulare—Grant, \$14,829, memorial hall and Civic Auditorium; \$108,606, Union High School, school addition.

Watsonville—Grant, \$41,478, water distribution mains.

Redding—Loan and grant, \$76,364, school.

Yreka—Loan and grant, \$54,546, Dorris School District, Siskiyou County Elementary School and auditorium building.

Santa Rosa—Grant, \$110,250, County Hospital.

Sebastopol—Loan and grant, \$76,364, Union School District, school.

Petaluma—Grant, \$8262, Petaluma School District, school.

Sonora—Grant, \$20,641, sewers and sewage treatment plant; grant, \$15,021, street paving.

Woodland—Loan and grant, \$32,727, Clarksburg School District, Yolo county, additions to high school; grant, \$13,238, addition to City Hall.

Davis—Loan and grant, \$29,091, Davis Joint School District, construction school.

**CONTRACTORS MEET IN SAN DIEGO**

The fall meeting of the governing board of the Associated General Contractors of America, opened an initial session Monday, September 16, in the auditorium of the Palace of Hospitality on the Exposition grounds at San Diego, with a goodly attendance of construction leaders.

Burt L. Knowles, in his address to the contractors, praised the Public Works Administration and excoriated the Works Progress Administration and its method of conducting construction operations. He referred to Harry Hopkins, head of the WPA, as "a social service worker who apparently has no knowledge of construction." Mr. Knowles ended his speech with a ringing statement that "our industry believes that it has a debt of responsibility to the public. We believe that the public wants to know how this money is being spent, and our industry and our association proposes to tell the public and let the public render the verdict!"

The address of welcome to the contractors was delivered by A. E. Horst, past president of the Association, who spoke in the absence of President Nick F. Helmers who had been detained when the plane in which he was traveling was forced down. Mr. Horst pleaded for an application of the ingenuity which the industry has demonstrated in the design and execution of projects to underlying phases of the construction business. "Problems of market development and market protection," he stated, "are common to the entire industry, and a determination to give attention to



# Estimator's Guide

## Giving Cost of Building Materials, Wage Scale, Etc.

In many instances NRA prices are still in force. Another month may find some material changes in price quotations. A 10% rise is being considered. Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

NOTE—Add 2½% Sale Tax on all materials but not labor.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

**Bond**—1½% amount of contract.

### Brickwork—

Common, \$35 to \$40 per 1000 laid, (according to class of work).

Face, \$75 to \$90 per 1000 laid, (according to class of work).

Brick Steps, using pressed brick, \$1.10 lin. ft.

Brick Walls, using pressed brick on edge, 60c sq. ft. (Foundations extra.)

Brick Veneer on frame buildings, \$.75 sq. ft.

Common f.o.b. cars, \$14.00 job cartage. Face, f.o.b. cars, \$45.00 to \$50.00 per 1000, carload lots.

### HOLLOW TILE FIREPROOFING (f.o.b. job)

3x12x12 in. ....	\$ 84.00 per M
4x12x12 in. ....	94.50 per M
6x12x12 in. ....	126.00 per M
8x12x12 in. ....	225.00 per M

### HOLLOW BUILDING TILE (f.o.b. job)

carload lots.	
8x12x5½ .....	\$ 94.50
6x12x5½ .....	73.50

Discount 5%.

**Composition Floors**—18c to 35c per sq. ft. In large quantities, 16c per sq. ft. laid.

**Mosaic Floors**—80c per sq. ft.

**Duraflex Floor**—23c to 30c sq. ft.

**Rubber Tile**—50c per sq. ft.

**Terazzo Floors**—45c to 60c per sq. ft.

**Terazzo Steps**—\$1.60 lin. ft.

**Concrete Work** (material at San Francisco bunkers)—Quotations below 2000 lbs. to the ton, \$2.00 delivered.

No. 3 rock, at bunkers.....	\$1.65 per ton
No. 4 rock, at bunkers.....	1.65 per ton
Elliott top gravel, at bnkrs.....	1.75 per ton
Washed gravel, at bnkrs.....	1.75 per ton
Elliott top gravel, at bnkrs.....	1.75 per ton
City gravel, at bunkers.....	1.40 per ton
River sand, at bunkers.....	1.50 per ton
Delivered bank sand .....	120 cu. yd.

**Note**—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

### SAND

Del Monte, \$1.75 to \$3.00 per ton.
Fan Shell Beach (car lots, f.o.b. Lake Majella), \$2.75 to \$4.00 per ton.

Cement, \$2.25 per bbl. in paper sks.

Cement (f.o.b. Job. S. F.) \$2.90 per bbl.

Cement (f.o.b. Job. Oak.) \$2.90 per bbl.

Rebate of 10 cents bbl. cash in 15 days.

Calaveras White ..... \$6.00 per bbl.

Medusa White ..... \$8.00 per bbl.

Forms; Labors average 25.00 per M

Average cost of concrete in place, exclusive of forms, 30c per cu. ft.

4-inch concrete basement floor ..... 12½c to 14c per sq. ft.

4½ inch Concrete Basement floor..... 14½c to 16c per sq. ft.

2-inch rat-proofing..... 6½c per sq. ft.

Concrete Steps ..... \$1.25 per lin. ft.

### Dampproofing and Waterproofing—

Two-coat work, 15c per yard.

Membrane waterproofing—4 layers of saturated felt, \$4.00 per square.

Hot coating work, \$1.80 per square.

Medusa Waterproofing, 15c per lb., San Francisco Warehouse.

### Electric Wiring—\$12.00 to \$15.00 per outlet for conduit work (including switches).

Knob and tube average \$7.00 per outlet, including switches.

### Elevators—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, \$2800; direct automatic, about \$2700.

### Excavation—

Sand, 50 cents; clay or shale, 80c per yard.

Teams, \$10.00 per day.

Trucks, \$18 to \$25 per day.

Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

### Fire Escapes—

Ten-foot balcony, with stairs, \$75.00 per balcony, average.

### Glass (consult with manufacturers)—

Double strength window glass, 15c per square foot.

Quartz Lite, 50c per square foot.

Plate 75c per square foot.

Art, \$1.00 up per square foot.

Wire (for skylights), 35c per sq. foot.

Obscure glass, 26c square foot.

**Note**—Add extra for setting.

### Heating—

Average, \$1.90 per sq. ft. of radiation according to conditions.

**Iron**—Cost of ornamental iron, cast iron, etc., depends on designs.

### Lumber (prices delivered to bldg. site).

No. 1 common	\$30.00 per M
No. 2 common	24.00 per M
Selection O. P. common	35.00 per M
2x4 No. 3 form lumber	18.00 per M
1x4 No. 2 flooring VG	47.00 per M
1x4 No. 3 flooring VG	40.00 per M
1x6 No. 2 flooring VG	42.00 per M
1½x4 and 6. No. 2 flooring	50.00 per M

### Slash grain—

1x4 No. 2 flooring	\$37.00 per M
1x4 No. 3 flooring	33.00 per M
No. 1 common run T. & G.	28.00 per M
Lath	6.50 per M

Shingles (add cartage to price quoted)—

Redwood, No. 1	\$1.00 per bdle.
Redwood, No. 2	.80 per bdle.
Red Cedar	.95 per bdle.

### Hardwood Flooring (delivered to building)—

13-16x¾" T & G Maple	\$120.00 M ft.
1-1-16x¾" T & G Maple	132.00 M ft.
7/8x¾" sq. edge Maple	140.00 M ft.

	13-16x2¼" T & G	18x2" Sq. Ed.
Clr. Qtd. Oak	\$200.00 M	\$150.00 M
Sel. Qtd. Oak	140.00 M	120.00 M
Clr. Pla. Oak	135.00 M	107.00 M
Sel. Pla. Oak	120.00 M	88.00 M
Clear Maple	140.00 M	100.00 M
Laying & Finishing	13c ft.	11c ft.
10 ft.	10 ft.	10 ft.

Wage—Floor layers, \$7.50 per day.

### Building Paper—

1 ply per 1000 ft. roll	\$3.50
2 ply per 1000 ft. roll	5.00
3 ply per 1000 ft. roll	6.25
Brownskin, 500 ft. roll	4.20
Pro-lect-omat, 1000 ft. roll	12.00
Siskraft, 500 ft. roll	5.00
Sash cord com. No. 7	\$1.20 per 100 ft.
Sash cord com. No. 8	1.50 per 100 ft.
Sash cord spot No. 7	1.90 per 100 ft.
Sash cord spot No. 8	2.25 per 100 ft.
Sash weights cast iron, \$50.00 ton.	
Nails, \$3.50 base.	
Sash weights, \$45 per ton.	

### Millwork—

O. P. \$100.00 per 1000. R. W., \$106.00 per 1000 (delivered).

Double hung box window frames, average, with trim, \$6.50 and up, each.

Doors, including trim [single panel, 1¾ in. Oregon pine] \$8.00 and up, each.

Doors, including trim (five panel, 1¾ in. Oregon pine) \$6.50 each.

Screen doors, \$4.00 each.

Patent screen windows, 25c a sq. ft.

Cases for kitchen pantries seven ft. high per lineal ft., \$6.50 each.

Dining room cases, \$7.00 per lineal foot.

Labor—Rough carpentry, warehouse heavy framing (average), \$12.00 per M.

For smaller work average, \$27.50 to \$35.00 per 1000.

Marble—(See Dealers)

**Painting—**

Two-coat work .....	29c per yard
Three-coat work .....	40c per yard
Cold Water Painting .....	10c per yard
Whitewashing .....	4c per yard
Turpentine, 80c per gal., in cans and 75c per gal. in drums.	
Raw Linseed Oil—80c gal. in bbls.	
Boiled Linseed Oil—85c gal. in bbls.	
Medusa Portland Cement Paint, 20c per lb.	

<b>Carter or Dutch Boy White Lead in Oil (in steel kegs).</b>	Per Lb.
1 ton lots, 100 lbs. net weight.	103 <sup>1</sup> / <sub>2</sub>
500 lbs. and less than 1 ton lots	11c
Less than 500 lb. lots	11 <sup>1</sup> / <sub>2</sub> c

<b>Dutch Boy Dry Red Lead and Litharge (in steel kegs).</b>	
1 ton lots, 100 lb. kegs, net wt.	103 <sup>1</sup> / <sub>2</sub> c
500 lb. and less than 1 ton lots	11c
Less than 500 lb. lots	11 <sup>1</sup> / <sub>2</sub> c

<b>Red Lead in Oil (in steel kegs)</b>	
1 ton lots, 100 lb. kegs, net wt.	12 <sup>1</sup> / <sub>2</sub> c
500 lb. and less than 1 ton lots	12 <sup>1</sup> / <sub>2</sub> c
Less than 500 lb. lots	13c

Note—Accessibility and conditions cause wide variance of costs.

**Patent Chimneys—**

6-inch .....	\$1.00 lineal foot
8-inch .....	1.50 lineal foot
10-inch .....	1.75 lineal foot
12-inch .....	2.00 lineal foot

**Plastering—Interior—**

1 coat, brown mortar only, wood lath	Yard \$0.60
2 coats, lime mortar hard finish, wood lath	70c

2 coats, hard wall plaster, wood lath	\$ .80
3 coats, metal lath and plaster	1.25
Keene cement on metal lath	1.30
Ceilings with 3/4 hot roll channels metal lath	.75
Ceilings with 3/4 hot roll channels metal lath plastered	1.50
Single partition 3/4 channel lath 1 side	.85
Single partition 3/4 channel lath 2 sides 2 inches thick	2.75
4-inch double partition 3/4 channel lath 2 sides	1.30
4-inch double partition 3/4 channel lath 2 sides plastered	3.00

**Plastering—Exterior—**

2 coats cement finish, brick or concrete wall	Yard \$1.10
2 coats Atlas cement, brick or concrete wall	1.35
3 coats cement finish, No. 18 gauge wire mesh	1.50
3 coats Medusa finish, No. 18 gauge wire mesh	2.00
Wood lath, \$5.50 per 1000	
2.5-lb. metal lath (dipped)	.17
2.5-lb. metal lath (galvanized)	.20
3.4-lb. metal lath (dipped)	.22
3.4-lb. metal lath (galvanized)	.28
3/4-inch hot roll channels, \$72 per ton	
Finish plaster, \$18.90 ton; in paper sacks.	
Dealer's commission, \$1.00 off above quotations.	
\$13.85 (rebate 10c sack).	
Lime, f.o.b. warehouse, \$2.25 bbl.; cars, \$2.15 lime, bulk (ton 2000 lbs.), \$16.00 ton.	
Wall Board 5 ply, \$50.00 per M.	
Hydrate Lime, \$19.50 ton.	
Plasterers Wage Scale	\$1.25 per hour
Lathers Wage Scale	1.25 per hour
Mod Carriers Wage Scale	1.10 per hour

**Composition Stucco—\$1.60 to \$2.00 sq. yard (applied).**

**Plumbing—**

From \$65.00 per fixture up, according to grade, quantity and runs.

**Roofing—**

"Standard" tar and gravel, \$6.00 per sq. for 30 sqs. or over.  
Less than 30 sqs. \$6.50 per sq.  
Tile, \$20.00 to \$35.00 per square.

Redwood Shingles, \$11.00 per square in place.  
Cedar Shingles, \$10 sq. in place.  
Recot, with Gravel, \$3.00 per sq.  
Slate, from \$25.00 to \$60.00 per sq. laid, according to color and thickness.

**Sheet Metal—**

Windows—Metal, \$2.00 a sq. foot.  
Fire doors (average), including hardware, \$2.00 per sq. ft.

**Skylights—**

Copper, 90c sq. ft. (not glazed).  
Galvanized iron, 25c sq. ft. (not glazed).

**Steel—Structural**

\$100 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities \$80 to \$90 per ton cost of steel; average building, \$89.00.

**Steel Reinforcing—**

\$85.00 per ton, set, (average).

**Stone—**

Granite, average, \$6.50 cu. foot in place.  
Sandstone, average Blue, \$4.00, Boise, \$3.00 sq. ft. in place.  
Indiana Limestone, \$2.80 per sq. ft. in place.

**Store Fronts—**

Copper sash bars for store fronts, corner, center and around sides, will average 75c per lineal foot.  
Note—Consult with agents.

Tile—Floor, Wainscot, Etc.—(See Dealers).

**SAN FRANCISCO BUILDING TRADES WAGE SCALE**

Established by The Impartial Wage Board November 9, 1932. Effective on all work January 1, 1933, to remain in effect until June 30, 1933, and for so long thereafter as economic conditions remain substantially unchanged.

This scale is based on an eight-hour day and is to be considered as a minimum and employees of superior skill and craft knowledge may be paid in excess of the amounts set forth herein.

CRAFT	Journeyman Mechanics	CRAFT	Journeyman Mechanics	CRAFT	Journeyman Mechanics
Asbestos Workers	\$6.40	Iron Workers (Bridge and Structural)	\$9.60	Stair Builders	\$7.20*
Bricklayers	9.00	Iron Workers (Hoisting Engineers)	10.00	Stone Cutters, Soft and Granite	6.80
Bricklayers' Hodcarriers	5.60	Laborers (6-day week)	5.00	Stone Setters, Soft and Granite	8.00
Cabinet Workers (Outside)	7.20*	Lathers, All Other	8.00	Stone Derricksmen	7.20
Caisson Workers (Open) Water Work	8.00	Lathers, All Other	6.80	Tile Setters	8.40
Carpenters	7.20*	Marble Setters	8.00	Tile Setters' Helpers	5.00
Cement Finishers	7.20	Marble Setters' Helpers	5.00	Tile, Cork and Rubber	7.20
Cork Insulation Workers	7.20	Millwrights	7.20*	Welders, Structural Steel Frame on Buildings	9.60
Electrical Workers	8.00	Mosaic and Terrazzo Workers (Outside)	7.20	Welders, All Others on Buildings	8.00
Electrical Fixture Hangers	7.00	Mosaic and Terrazzo Helpers	5.00	Auto Truck Drivers—Less than 2,500 lbs.	5.00
Elevator Constructors	8.68	Painters	7.00	Auto Truck Drivers—2,500 lbs. to 4,500 lbs.	6.50
Elevator Constructors' Helpers	6.08	Painters, Varnishers and Polishers (Outside)	7.00	Auto Truck Drivers—4,500 lbs. to 6,500 lbs.	6.50
Engineers, Portable and Hoisting	8.00	Pile Drivers and Wharf Builders	8.00	Auto Truck Drivers—6,500 lbs. and over	7.00
Glass Workers (All Classifications)	8.00	Pile Drivers Engineers	9.00	General Teamsters, 1 Horse	5.50
Hardwood Floormen	7.20*	Plumbers and Hodcarriers (See wage scale under Plastering).		General Teamsters, 2 Horses	6.00
Housemovers	6.40	Plumbers	8.00	General Teamsters, 4 Horses	6.50
Housemiths, Architectural Iron (Outside)	7.20	Roofers (All classifications)	6.40	Plow Teamsters, 4 Horses	6.50
Housemiths, Reinforced Concrete, or Rodmen	7.20	Sheet Metal Workers	7.20	Scraper Teamsters, 2 Horses	6.00
		Sprinkler Fitters	9.00	Scraper Teamsters, 4 Horses	6.00
		Steam Fitters	8.00		

\*Established by Special Board

**GENERAL WORKING CONDITIONS**

- Eight hours shall constitute a day's work for all crafts, except as otherwise noted.
- Where less than eight hours are worked pro rata rates for such shorter period shall be paid.
- Plasterers' Hodcarriers, Bricklayers' Hodcarriers, Roofers' Laborers and Engineers, Portable and Hoisting, shall start 15 minutes before other workmen, both at morning and at noon.
- Five days, consisting of not more than eight hours a day, on Monday to Friday inclusive, shall constitute a week's work.
- The wages set forth herein shall be considered as net wages.
- Except as noted the above rates of pay apply only to work performed at the job site.
- Transportation costs in excess of twenty-five cents each way shall be paid by the contractor.
- Traveling time in excess of one and one-half hours each way shall be paid for at straight time rates.
- Overtime shall be paid as follows: For the NOTE: Provision of paragraph 13 appearing in brackets ( ) does not apply to Carpenters, Cabinet Workers or Stair Builders.
- first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturday (except Laborers), Sundays and Holidays from 12 midnight of the preceding day, shall be paid double time. If, respectively of starting time, overtime for Cement Finishers shall not commence until after eight hours of work.
- On Saturday Laborers shall be paid straight time for an eight-hour day.
- Where two shifts are worked in any twenty-four hours, shift time shall be straight time. Where three shifts are worked, eight hours' pay shall be paid for seven hours on the second and third shifts.
- All work, except as noted in paragraph 13, shall be performed between the hours of 8 A. M. and 5 P. M.
- In emergencies, or where premises cannot be vacated until the close of business, men reporting for work shall work at straight time.
- Any work performed on such jobs after midnight shall be paid time and one-half up to four hours of overtime and double time thereafter (provided, that if a new crew is employed on Saturdays, Sundays or Holidays which has not worked during the five preceding working days, such crew shall be paid time and one-half. No job can be considered as an emergency job until it has been registered with the Industrial Association and a determination has been made that the job falls within the terms of this section).
- Recognized holidays to be: New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day, Christmas Day.
- Men ordered to report for work, for whom no employment is provided shall be entitled to two hours' pay.
- This award shall be effective in the City and County of San Francisco.

these important factors through coordinating industrial action should be the objective of every Chapter of the national association."

Charles H. Purcell, California state highway engineer, delivered an informative and intensely interesting illustrated lecture on the San Francisco-Oakland Bay Bridge.

W. Frank Persons, director of the U. S. Employment Service at Washington, flew out to the convention to outline the views of his department on "Construction Labor Supply and Regulations."

Governor Frank F. Merriam addressed the conclave on the importance and significance of California's new law to license contractors. The Governor spoke with warmth and appreciation of the high standard of ethics maintained within the construction industry and paid tribute to the accomplishments of its members who are contributing to the country's outstanding construction achievements.

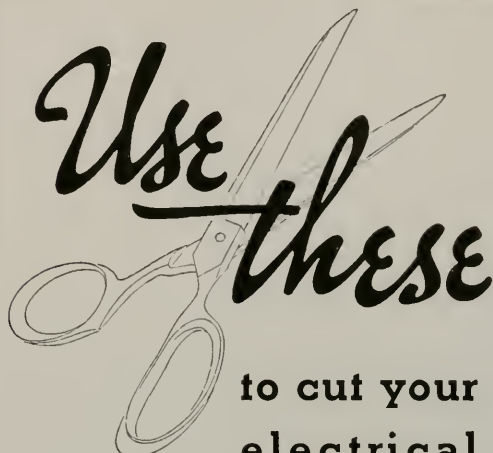
Wm. G. Bonelli, director of professional and vocational standards of California, delivered one of the most pertinent talks of the session, dealing with the functions and powers of the California Contractors' License law. He stated that he believed that a standard of cooperation had been developed in California to the point where it is safe to invest a board with supervisory jurisdiction. "For that reason," he said, "the new contractors' license law set up a board from the industry to regulate the industry." Mr. Bonelli pointed out that the new board will have some difficult but nevertheless, definite problems to face, among which would be the problem of establishment of some set of pre-requisites for licensing contractors.

Geo. B. McDougall, California State Architect, spoke about the building program of the state of California, and dwelt at some length on the problem of construction and rebuilding of the schools.

W. E. Reynolds, assistant director of procurement, U. S. Treasury Department at Washington, outlined the reorganization which has taken place in the Procurement Division of the Treasury Department and mentioned many of the problems they were meeting daily. He stated they planned to have three hundred and fifty-one jobs out to construction by March 1, 1936, and that at the present time Federal buildings were going out for bids at the rate of three and four a day. Mr. Reynolds said the Government favors the contract method on all Federal buildings.

The national highway program was discussed at length by Dr. L. I. Hewes, deputy chief engineer, U. S. Bureau of Public Roads.

The final public session was presided over by A. B. Ordway, president of the Northern California Chapter, AGC, and was devoted to the



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discussion of the Federal Housing Administration. The speakers included Fred W. Marlow, district director of FHA and David J. Witmer, western regional director, American Institute of Architects. Mr. Witmer delivered a thoughtfully prepared paper on the subject of cooperation between the architects and the building contractors.

### ROYAL FLOOR COMPANY MOVES

Architects, contractors and individuals interested in the latest in floor coverings, are invited by the Royal Floor and Linoleum Co. to visit its new showrooms at 1930 Van Ness Avenue, San Francisco. Here are displayed, in the most effective manner, samples of the newest creations of leading manufacturers of linoleum and rubber tile floor coverings.

The result of months of planning, probably the most interesting features of the beautiful new Royal Floor headquarters are the unique display facilities for the showing of samples to architects and clients. The entire interior and store front was remodeled affording the utmost in facilities for efficient handling of floorcovering jobs, large or small.

Incidentally, there seems to be a trend toward Van Ness Avenue locations for firms in the building equipment and accessories field.

### PREPARING FOR EXAMINATION

Seven architectural designers, William Bartholet, Frank M. Smith, Jr., Ted Carroll, Frank M. Edmands, Fred J. Rogers, Ed Dofsen and Earl Montgomery, are taking an intensive course of study in preparation for the license examination to be held in December by the Washington State Board of Examining Committee of Architects. The course is being given under the general direction of Harlan F. Thomas, director of the School of Architecture, U. of W., who is personally teaching the history of architecture.

George Gove of Heath, Gove and Bell, Tacoma, is handling the problems in design.

Jack Sproule is giving instruction in structural engineering under the supervision of Director Thomas.

The mechanical subjects are being given by a group of Seattle engineers.

### PROVISIONAL CERTIFICATE

Eugene V. Ward of Stanford University has been granted a provisional certificate to practice architecture by the California State Board of Architectural Examiners, Northern District.

### SHELL OIL STATIONS

The Shell Oil Company will build new service stations at Grass Valley and Redwood City. L. Raymond White, architect for the company, is preparing the plans.



ORIGIN OF NAMES OF  
CALIFORNIA COUNTIES

This is the second article in the series giving derivation of the names of California counties, the first appearing in September:

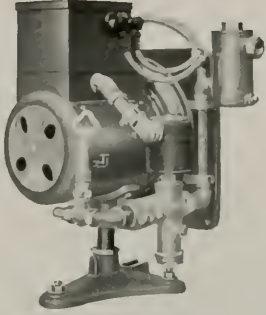
**Colusa County**—Created February 18, 1850. This is one of the twenty-seven original counties of California. The name of this county in the original act of 1850 was spelled "Colusi", and oftentimes in newspapers was spelled "Coluse". It was the name of an Indian tribe living on the west side of the Sacramento River. The exact meaning of the word "Colusa" never has been determined although the late Hon. John P. Irish, in a letter to Prentiss Maslin, offered a solution. He wrote:

"I note that you find no meaning or translation of the Indian word 'Colusa', the name of the tribe from which the county was named. The late General Will Green, who went there while the tribe still was a strong body and associated with them so much as to acquire a knowledge and quite free use of their language, told me that the word 'Colusa' means 'scratcher'. When a member of the tribe married, it was the privilege of the bride to begin the honeymoon by scratching her husband's face. The young women so uniformly availed themselves of this privilege that a newly married man always was known by the deep scratches upon his face inflicted by his wife. From this tribal custom the tribe was known as Colusa or the scratchers. General Green always was so correct in the knowledge he acquired and imparted as to such matters that I am very certain this is the exact and correct meaning of the word 'Colusa'."

For the last eighty years, Colusa county has made steady strides in stockraising, dairying, fruit and nut culture and general farming. Before gold was discovered in nearby counties, the section now known as Colusa was practically isolated, the census of 1850 reporting 115 residents. When a few of the other counties experienced an influx of fortune seekers, many saw possibilities in Colusa for growing wheat, barley and other grain products to feed the miners. This was the beginning of progress.

In Colusa are thousands of acres of rich valley soil, the depth of which is almost unbelievable. Wells have been drilled to 300 feet without striking bedrock, and experts agree that probably a soil depth of 1000 to 1500 feet could be shown. Approximately 225,000 acres are devoted to almonds, deciduous and citrus fruits, alfalfa, wheat, barley, corn, beans, rice and melons alone while 19,387 acres are rice fields and 11,000 acres are given over to almonds. It is estimated Colusa has 240,800 head of cattle, sheep and hogs. Population: 10,258. Area: 1140 square miles.

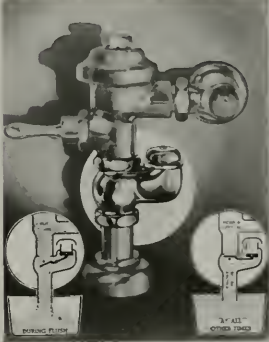
**Contra Costa County**—Created February 18,



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1850. One of the original twenty-seven California counties. This county originally included what now is known as Alameda county, and because of its relationship to San Francisco county, on the west side of San Francisco bay, it was called in Spanish Contra Costa, or "opposite coast", lying as it does on the opposite coast or eastern shore of San Francisco bay.

Although one of California's smallest counties, Contra Costa combines farming, manufacturing and desirable living conditions to such a high state that the wealth per capita has ranked first among all counties in the United States for years. Statistics show a population density of 110.1 per square mile as compared with the state average of 36.5. The county raises over thirty farm products and has more than fifty factory products. One-eighth of the world's oil output passes through Contra Costa County, with four of the largest oil refineries in existence operating.

As the deep waters of San Francisco Bay, San Pablo Bay and Carquinez Straits provide accessibility for ships of all descriptions, Contra Costa is the only county in California boasting ten harbors of commerce.

Almost in the geographic center of the county, Mount Diablo towers to a height of 3900 feet, commanding a view of the territory embraced in at least thirty-five of California's fifty-eight counties.

Three of the greatest bridges in the nation enter Contra Costa from two neighboring counties, the Southern Pacific bridge across Suisun bay, the Carquinez bridge across Carquinez Straits, and the Antioch bridge across the San Joaquin river at Antioch. Population: 78,608. Area: 714 square miles.

(Next month: Del Norte, Fresno and Humboldt Counties)

### HAS MUCH RESIDENCE WORK

Frederick L. Confer of Berkeley reports plans completed or on the boards for houses in Forest Lane, Berkeley, Happy Valley, Orinda and Vallejo, Solano County. They will cost from \$5,000 to \$9,000 each.

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## THE TERMITE SURVEY

The preliminary phase of the San Francisco Termite Survey has ended, and an extensive program of building inspection inaugurated. The Federal Government has appropriated the sum of \$444,540 from the WPA funds for the conduct of the survey, to which the City of San Francisco has made an additional appropriation of \$33,000, making a total of \$477,540 available for the completion of the local survey.

In the preliminary phases of this survey, special emphasis has been placed upon the education and training of men in proper methods of making inspections, and upon instructions in identifying different forms of wood-destroying organisms. There is now available a considerable number of men, many of whom are college graduates, who have completed the course of training and are now capable of undertaking the intensive work of building inspection. The survey will employ 433 men on full time for one year. It is estimated that there are approximately 100,000 buildings within the city limits of San Francisco. Detailed reports of inspections made are furnished property owners free of charge.

Inspection headquarters have been established in the fourteen assembly districts into which the city is divided. The work of inspection will be completed through these district offices, and the final reports transmitted to the survey headquarters at the Washington School, Mason and Washington Streets, where the statistical and scientific analysis of the reports will be accomplished.

W. R. Shaw, Ph.D., of the University of California Extension Division, will supervise the biological studies, and E. Ross Ellis, a recent graduate of the University of California College of Forestry, will assist in directing the inspections.

This survey is the first of its kind to be undertaken and will provide a very accurate analysis of conditions to be overcome in a constructive revision of the San Francisco Building Laws.

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## STEEL SHOWS WAY

Indications of an upturn in the heavy industries, particularly privately financed building construction, are found in an analysis of steel production for the first half of 1935 just made by American Iron and Steel Institute.

During the second quarter of the year the output of steel for building purposes increased by 14 per cent over that for the first quarter, and it was the largest for any three-month period since the second quarter of 1934, when the total was swelled by public works construction.

A sharp spurt in buying of fences and steel for various uses on the farm occurred in the second quarter, and increasing purchases by many other industries, including railroads, were shown. The automobile industry, however, apparently retained its position as the largest single market for steel.

The increased demand in the second quarter for steel products used in building coincided with gains of nearly 100 per cent over the first quarter in residential building contracts, and of 25 per cent in non-residential contracts as reported by the F. W. Dodge Corporation. By contrast, public works contracts were down 10 per cent from the first quarter and 52 per cent below the average for the first two quarters of 1934.

Nearly 1,232,000 gross tons of the steel products which are largely used in construction such as structural shapes, steel plates and piling, concrete reinforcing bars, galvanized sheets, butt-welded pipe, nails and conduits were produced for sale by the steel industry in the second quarter of this year.

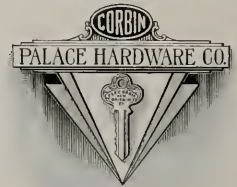
This tonnage is 14 per cent above the total of 1,079,000 gross tons of these products produced in the first quarter of the year and represents about 19.3 per cent of the total tonnage produced in the quarter. First quarter production of steel building materials amount-

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ed to only 16.2 per cent of total production.

Total production for sale of steel products in the second quarter was 6,411,213 gross tons, down four per cent from the first quarter total of 6,661,995 gross tons.

Steel consumption by the automobile industry in the second quarter as indicated by the production for sale of merchant and alloy bars, sheets, except galvanized, and strip steel of each of which the automobile and parts industry is by far the largest user, was about 425,000 gross tons, or 15.5 per cent below the first quarter.

Total tonnage of these products amounted to only 36.1 per cent of the total production in the second quarter, while first quarter tonnage of these products was 41.1 per cent.

Purchases of steel by farmers for fences, fence posts and bales ties in the second quarter were more than 30 per cent ahead of the quarter preceding, and 7.5 per cent above the second quarter of last year.

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surface, saturated with resin and baked under pressure.

The result is a laminated sheet of steel, terne alloy, felt, and resin-impregnated paper. The sheet has steel's strength, but it neither looks, nor feels, nor sounds like steel.

This new material has been suggested for furniture interiors of office buildings, store fronts, radio cabinets, and other applications where steel's strength and low cost are advantageous, but where the appearance of marble, various kinds of woods, or any colored finish is desired.

**G.G. CAT-WALK**

For the first time in history a complete crossing of San Francisco's harbor entrance, from anchorage to anchorage of the Golden Gate Bridge, has been effected and workers on the mighty span are walking dry-shod over what once was looked upon as an insurmountable water barrier.

All the catwalk, or foot bridge sections of the span are now in place.

Work has started on the telephone and electrical signal system to be used during the cable spinning operations. It is estimated by Chief Engineer Strauss that all this work will have been completed in less than a month's time, following which the actual spinning of the cables will commence.

On the Marin side all work, other than the cable spinning, has been temporarily completed and the steam shovel, used in excavating for the footings of the approach viaduct and the abutment, has been moved to the San Francisco anchorage site in readiness to start excavations on this side.

**SUB-STATION**

Following an \$87,409 PWA grant, construction work on Alameda's new electric sub-station will get underway as soon as Federal funds are made available. William R. Paulson, general manager of the light plant, has announced.

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The new sub-station, to be located on Buena Vista Avenue, between Grand and Everett Streets, will be constructed at an estimated cost of \$195,422, with the Board of Public Utilities raising \$108,013 of that amount.

Included in the project will be the construction of a new and centralized fire alarm system to replace the present one at the foot of Park Street.

### ENGINEERS REPORT ON DAM SAFETY

Exhaustive studies and tests show there has been no downstream movement of the rock fill San Gabriel Dam No. 2, and that the structure is safe, according to a report submitted to the board of supervisors by C. H. Howell, chief engineer of the Los Angeles County Flood Control District. Suggestion is made, however, that consulting engineers be appointed to inspect the dam and report their conclusions at some time in the immediate future.

Mr. Howell quotes from a report by Paul Baumann, assistant engineer, who compiled the data relative to settlement of the rock fill and the tests made as follows:

"No downstream movement of the dam along the stream bed has occurred. Due to the methods of construction used, a large amount of vertical settlement was inevitable, but a large portion of this settlement has already taken place. Additional settlement will certainly occur, but it is impossible to predict its exact amount. The timber facing, designed to an additional settlement of some thirteen feet, should last throughout the settlement.

"It is proposed to load the dam and fill the reservoir in increments, holding the water surface at predetermined levels. By doing so, the settlement as described can be induced gradually. Several seasons may be required to effect final consolidation. The above method is the most practical way whereby Dam No. 2 can be brought into

(Turn to Page 80)

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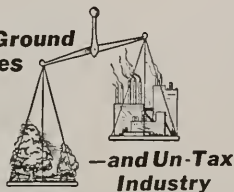
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The December issue of *The Architect and Engineer* is to be a special one. Its subject: *The Modern Movement in Architecture*.

It will be a representative summary of the best modern work of the coast. We are a little tempted to set beside it a few examples of the worst also.

For there is modernism. And there is pseudo-modernism.

One has its roots deep in profoundly-based convictions and principles, a new form-sense. The other is a meaningless imitative gesture.

The typographical makeup of the December issue will be designed by Pauline Schindler. And its advertising will constitute an illustrated portfolio of those factors which constitute the stuff of modern architecture.



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**SAN GABRIEL DAM**  
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condition for full service.

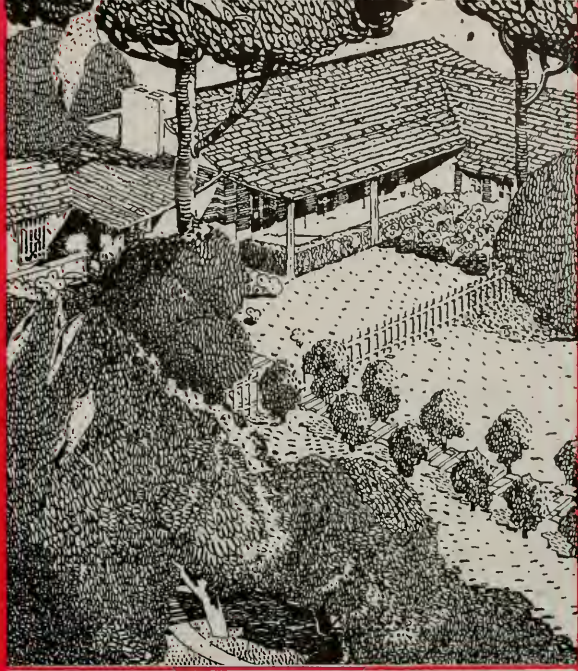
"The dam has sufficient weight to support the full water pressure. This stability is greatly increased moreover by the interlocking and wedging of the dam section between the irregular shaped abutments. It is believed that the flattening of the downstream slope to 2 to 1 is advisable in order to provide additional security in case a severe earthquake occurs when the reservoir is full."

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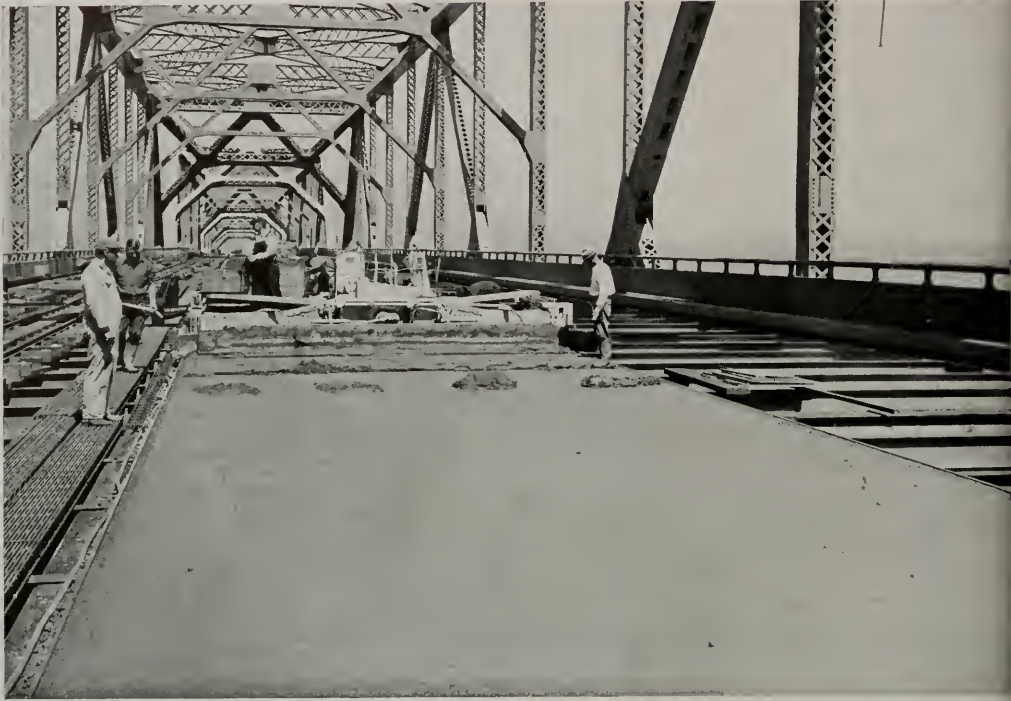
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Early this year ~ A HOPE . . . .

Now ~ AN ACTUALITY

A return of sustained, healthy activity in Residence Construction. October was a Million Dollar Month in value of Northern California homes financed through the National Housing Act. Building permits in the Western States have averaged nearly \$10,000,000 monthly during the first nine months of this year, an increase of almost 100% over the same period last year. There is every indication that 1936 will see an even greater increase. Release of funds for financing, lack of available rental properties, accompanied by an upswing in rents, urgent need for improvements and modernization, the return of general business prosperity . . . all are factors in the very definite trend toward what may well become a major boom in residence construction. Producers of building materials are appraising media for aggressive sales promotion during the coming year. Publications serving the building industry have shared in the "lean years" along with the producers. Some were not able to weather the storm and ceased publication. Others resorted to skipping numbers. Only those firmly entrenched with a definite editorial background and "reason for publication" have been able to "carry on" without omitting numbers or reducing publication standards. Such a journal is *The Architect and Engineer*, which has faithfully served its field for Thirty Years, without the loss of a single issue, and now, with "better times" in sight, pledges continuance of its constructive editorial policy . . . based on the knowledge that it is only by being of maximum interest and service to its readers that it may be of greatest value to the advertisers.

*The*  
ARCHITECT  
AND ENGINEER

San Francisco



Los Angeles



# Notes and Comments

FROM all accounts Los Angeles is feeling the effects of a real building revival. There is more unadulterated optimism in the Southern California city than for several years. Rosy, indeed, is the 1936 outlook. The building material manufacturers, already getting busy, are preparing for an increased output of their products by adding new equipment and building factory extensions.

It's in the air.

This confident feeling of better conditions is spreading to the North. San Francisco architects are reopening their down town offices. Draftsmen are getting back into harness. Real jobs are beginning to loom. The first of the year will witness awards of many big building contracts—a great number of them made possible by Federal allotments. Besides these government-aided jobs, there is promise of increased private speculation and investment. A condition we shall welcome. Right now architects tell us there are earnest inquiries from prospective builders of office buildings and apartment houses. Meanwhile manufacturers are wondering if they won't need more space to take care of more business which seems about ready to break.

AND while we are on the subject of a building revival, let's quote a paragraph or two from the October *Tide* under the caption "Boom".

"It will burst in the Spring of 1936 and skyrocket us all to prosperity.

"It will be that savior, or re-birth, or justification, or jab in the arm, so craved these last dark years.

"Bankers are making friendly appraisals. Brokers are recom-

mending stocks. . . . Manufacturers are expanding.

"From brick makers to lace curtain manufacturers, business men the country over are watching sharp for the bandwagon, determined to get a good seat. For, say they, it's about to begin—the building boom of the late '30's.

"Here's how they reason it.

"That there's a shortage of houses has long been well known. Some say it's as high as 2,000,000. It's a big one all agree.

"Shortages, however, don't make booms. It's filling them that does."

THE growing importance of town planning is felt by many of the universities, as indicated in the second annual report of Dean Joseph Hudnut of the School of Architecture, Columbia University. Dean Hudnut calls attention to the importance of including, as an essential part of the curriculum in architecture, some sustained and organized experience in the science of town planning. With his approval of such a course the Dean says:

"The swift and undirected growth of great industrial cities, together with a more compassionate and responsible attitude toward human misery, have brought into being in our time that more comprehensive and realistic study of civic environment which deserves to be called a science. The conception of a city pattern which shall be neither evolved by the compression of a living organism into a geometric mold, nor yet the result of the blind and accidental operation of economic forces, has slowly taken shape in the public mind. The political adjustments which will in part make possible the realization of such conceptions are in process of formation. A

new principle—that of planning and building for the better life of the community as a whole—must soon gain the ascendancy, and it is highly probable that the next hundred years will witness a vast replanning and rebuilding which will completely transform the outward aspects of our cities.

"The town planner, whose activities comprise a vast coordination among engineers, lawmakers, sociologists, and technicians of every kind, must be assured of the co-operative activity of architects, whose individual buildings must be harmonious and ordered elements in his organically conceived patterns. The conception of a city as a composition of related structures and open spaces—of buildings and the traffic ways which serve buildings—must overcome in the mind of the architect the conception of a city as a mere aggregation of highways whose frontages afford opportunities for the practice of his art.

"It should be one of the purposes of architectural education to give the architect an immediate sense of this responsibility to his community, and an understanding of the relation of this art to community life."

THE Editor has received from Robert B. Stacy-Judd an interesting reply to Professor Kramer's recent criticism of Mr. Stacy-Judd's series of articles in this magazine on "Maya Design", but lack of space compels postponement of publication for a month or two. Mr. Stacy-Judd, by the way, will shortly produce a new book on Mayan architecture—called "Mother of Empires", and to use his own words, it will be "decidedly revolutionary in thought".



# The Architect & ENGINEER

Vol. 123

November, 1935

No. 2

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Henry Carlton Newton and Robert Dennis Murray, Architects

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Published monthly by THE ARCHITECT AND ENGINEER, INC., 621 Foxcroft Building, San Francisco, California. W. J. L. Kierulff, President and Manager; Fred'k. W. Jones, Vice-President and Editor; L. B. Penhorwood, Secretary. Los Angeles office, 832 W. 5th St. New York Representative, The Spencer Young Company, 299 Madison Ave., New York City. Subscriptions, United States and Pan-American, \$4.00 a year; single copy \$.60. Canada and foreign countries, \$6.00 a year.



RESIDENCE FOR KUBEC GLASMON, COLD WATER CANYON,  
CALIFORNIA

HENRY CARLTON NEWTON AND ROBERT DENNIS MURRAY, ARCHITECTS

# The Architect & ENGINEER

November, 1935

## Sane Design

- *Good Architecture Reflected in the Work of Henry Carlton Newton and Robert Dennis Murray*

There follows a few random thoughts on Architecture by Mr. Murray — thoughts which every architect will appreciate. The modernists may differ with him to some extent, but generally speaking, what Mr. Murray says the profession will understand as a frank interpretation of our present day—shall we say architectural progress?

**T**OO many people think of Architecture as some vague "arty" work dealing only with Greek temples, Egyptian tombs or Roman Basilicas. Architecture is of all the Arts, the one most constantly before our eyes. Nine-tenths of our lives are spent in or among buildings, yet how many of us get any real pleasure from good Architecture?

There has been too much of the "over-stuffed" idea in small house design—trying to cram towers and battlements and this and that into one little home. There are so many examples of good houses in Southern

California planned in a sane, sensible way that show rational and real progress and good taste, that it seems a shame to neglect the most important phase of American architecture and hurriedly throw together an unsightly muddle of lumpy plaster, red tile, plate glass "picture windows," and porte cocheres resembling hang-man's scaffoldings, all in one spot.

### ARCHITECTURAL LABELS

"California Provincial," "Outdoor Colonial," "Monterey," and every kind of "Rey" to houses with would-be Queen Anne fronts and Mary Ann rears, seem to be the rage now.

Why do they all have to have labels? Here in Southern California we are developing residential architecture which should not have to have a ponderous tag of any sort hung upon it.

Why do we strive to imitate styles unsuited to our climate and mode of living?

EDITOR'S NOTE: The work of Newton and Murray is interesting from the standpoint of their handling of styles adapted to everyday use. A lavish copying of periods is not evident. The work of this firm shows originality and a refreshing absence of present day tendencies to indulge in "stunt" designing.

Our automobiles don't have to be Queen Anne or Julius Caesar. If some of our stylists had their way, we would be driving around in machines disguised as Roman chariots with the motor concealed under the ornamental dash.

Recently we were driving with a hard-boiled banker who had little time for our architectural attempts at "quaintness." As

Yet we don't have to discard all our traditions either. Patios, porches, and balconies with a Mediterranean influence fit our conditions admirably. The so-called modern trend or modernistic, (call it what you will) seems to follow too much one formula. On a rocky slope its the same pipe-columns and overhanging masses of masonry as it is at the sea-shore or on a



RESIDENCE FOR KUBEC GLASMON, COLD WATER CANYON, CALIFORNIA  
Henry Carlton Newton and Robert Dennis Murray, Architects

we passed by some wild looking Cuban Spanish atrocities the banker remarked: "Now we are leaving the Cubinola neighborhood and getting into the *Cute Colonial*." We continued through row upon row of quaintness, or rather architecture dripping with sentimental *puedo* - picturesqueness. Finally, in great disgust, he grunted, "If anyone lived in this atmosphere long enough they'd get this way themselves."

level city lot. It's as illogical as some of our attempts to out-Spanish-the-Spanish. And it is this matter of style that has a lot to do with most of our houses, particularly with the women. Why not a good logical modern American house? That doesn't mean it has to be devoid of romance and grace and pleasing proportions and even tradition. We have enough practical traditions without resorting to rusty village pump-heads protruding from Moorish-tile





DETAIL, RESIDENCE FOR JOHNSTON TODD,  
PASADENA, CALIFORNIA

HENRY CARLTON NEWTON AND ROBERT DENNIS MURRAY, ARCHITECTS



RESIDENCE FOR JOHNSTON TODD,  
PASADENA, CALIFORNIA  
Henry Carlton Newton and  
Robert Dennis Murray, Architects

table tops to give atmosphere (if not water).

#### NO NEED FOR CAMOFLAGE

We have developed new, pleasing and practical materials. Why not use them in a logical way without trying to conceal them or make them look like something they are not. All of which reminds us of the dismayed old rancher who confidentially asked, "Say, what is all this 'Toiler Jouy' stuff my wife's been talking about anyway? If she thinks she's goin' to get me to sleep with dark blue wall paper the color of a 'jigilo's' shirt, with silver wreathes all over it, just to be stylish, then I'll pitch a tent outside."

One of the first requisites of a house is

that it should be in harmony with the site and its conditions. Stock plans sold like bunches of bananas or loaves of bread, have never been very satisfactory (and often as capable of giving some people indigestion). Almost every house is an individual problem. By the time a stock plan is juggled around to fit special conditions it is apt to look like something a Florida tornado has left in its wake. And then who wants to live in plan number 999 anyway? Most of the pleasure in having a house is in planning it to fit one's personal needs, (certainly not just in paying for it.) If the day ever comes when all the people are billeted in stock houses assigned to them by the Government then along with Patrick Henry we say "Give us death."

A conglomerate mass of modern labor saving devices and efficient gadgets surrounded by walls, of course doesn't make architecture. However, there is no reason why we can not incorporate a reasonable number of modern contraptions in our houses to make living comfortable.

#### THE ALL-ELECTRIC KITCHEN

A kitchen is pretty much of a laboratory which should be easy to keep clean. Attractive colors and arrangement of fixtures can be accomplished with a little intelligent planning without having the room look like a starkly ugly operating room. Dust catching antiqued moldings and elaborately channeled woodwork, seem pretty silly. It would be well to consider all-electric kitchens (the bills that go with them notwithstanding) But if Madam Housewife has an inhibition about cooking with anything except gas then there are good gas ranges on the market and the Madam can gas herself all she wants. In other words, well arranged kitchens are preferable to picturesque kitchens. Monel metal, tile, enameled iron, rubber and wood, make good sink tops. There are compositions that may be satisfactorily used. Toe space under the

sinks, flush panel doors, good lighting and many other items, are essential. The processes in preparing meals and in serving them, and the number of steps that may be saved should be studied.

A bath room may be decorated as a formal boudoir even to carpet on the floor, or it may be simply handled in laboratory fashion with tile or phenol formaldehyde compositions, wall paper, sanitas or in various ways.

#### GLASS AREAS OVERDONE

Not to harp on modern monstrosities but there is a certain type of such house absolutely devoid of privacy where the rooms flow or leak or ooze into each other or out onto outdoor terraces, or outdoor living rooms, as they are sometimes called. All of which doesn't seem to be entirely practical, particularly when it is difficult to tell where the bath room leaves off and the breakfast room begins. We have lots of sunshine here in Southern California (we have perhaps over-done the mention of it). Why do we need tremendous glass areas which are heated on warm days by the sun's rays and again have to be heated from within on cold days. Think of your fuel bills (if you intend living in a glass house, you'd better not, for it might upset you). Not to throw stones, but all of this over-doing of glass exteriors is expensive. Thermos glass and double windows run into money. The window cleaning must be quite an item, too.

The question is often asked, "Do you think the modern adaption of the Monterey style or Colonial style will be good a few years from now or are they just fads? The answer is: Good logical architecture will always be good. From a purely artistic standpoint a correct composition is always good. Greek architecture of the ancients is still beautiful after thousands of years. The better Pompeian work is still good architecture. Our mode of living may



DETAIL, RESIDENCE FOR SIDNEY GLASS.  
FLINTRIDGE, CALIFORNIA  
Henry Carlton Newton and Robert Dennis Murray, Architects

change, while new appliances and conveniences are continually being invented which influence our mode of living regardless of style.

Greek classical architecture, Gothic architecture and all styles were modern architecture once. We cannot build a house and expect to have it absolutely up to date ten years from now, at least as far as equipment is concerned. But we can build a house that will have as much charm, or even more, when the planting has developed and the whole ensemble mellowed, ten years from now. The good styles of architecture are always a joy. They don't change like last year's hat or dress. A great deal of



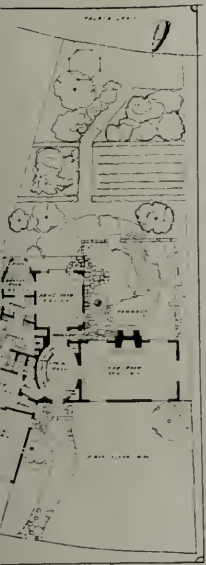


ELEVATION AND LOGGIA, RESIDENCE FOR SIDNEY GLASS,  
FLINTRIDGE, CALIFORNIA  
HENRY CARLTON NEWTON AND ROBERT DENNIS MURRAY, ARCHITECTS

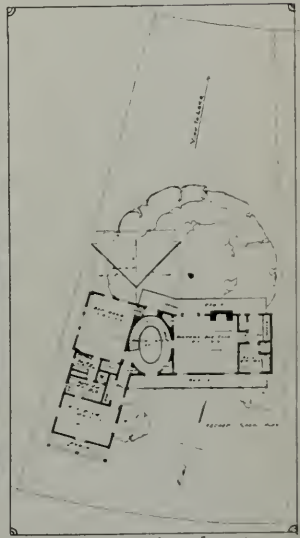




OUTDOOR LIVING ROOM, RESIDENCE FOR E. F. MARSHALL,  
TOLUCA LAKE, CALIFORNIA  
Henry Carlton Newton and Robert Dennis Murray, Architects



STREET VIEW, RESIDENCE FOR E. F. MARSHALL,  
TOLUCA LAKE, CALIFORNIA  
Henry Carlton Newton and Robert Dennis Murray, Architects





STAIR HALL, RESIDENCE FOR E. F. MARSHALL,  
TOLUCA LAKE, CALIFORNIA  
HENRY CARLTON NEWTON AND ROBERT DENNIS MURRAY, ARCHITECTS



LIVING ROOM, RESIDENCE FOR CLARK DOWNEY,  
BRENTWOOD, CALIFORNIA

Henry Carlton Newton and Robert Dennis Murray, Architects

skill and knowledge are required to properly interpret these styles and fit them to our particular needs and conditions, be it a Colonial or a so-called modern house.

### SOME MODERN FADS

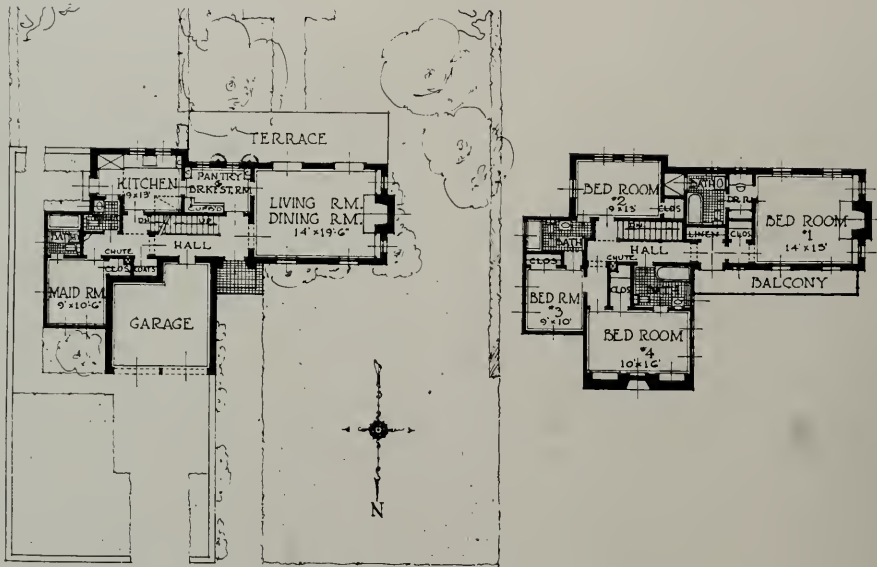
Now we seem to be passing through a phase of Rumpus Room and Doll's-House Breakfast Rooms, which are doubtless harmless enough even if many of them are not useful. In larger houses a mania for billiard rooms once took the country by storm. After frenziedly using them for a few months they become stately morgue-like places with their shrouded tables.

Architecture is more than a matter of concocting something "cute or quaint." At the best it is hard to really do something of real architectural merit whether the house is small and informal or large and stately. There is much to be known about the principles of design, texture, color and most of all "restraint." That does not mean that a well designed house is not more interesting than one of these wildly cute things, de-



ENTRANCE DETAIL, RESIDENCE FOR  
CLARK DOWNEY, BRENTWOOD CALIFORNIA

Henry Carlton Newton and Robert Dennis Murray, Architects



·FIRST FLOOR PLAN·

PRELIMINARY SKETCH, RESIDENCE FOR JAMES LYNN,  
BEVERLY HILLS, CALIFORNIA

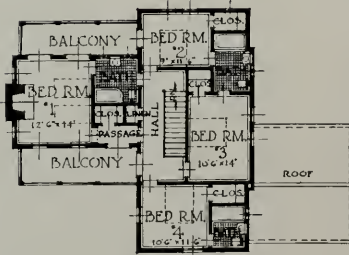
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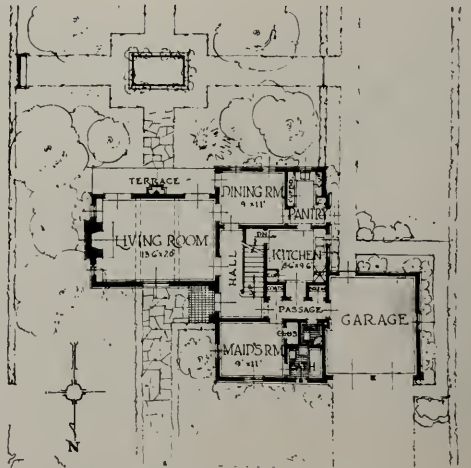


RESIDENCE FOR JOHN WAGNER, LOS ANGELES  
HENRY CARLTON NEWTON AND ROBERT DENNIS MURRAY, ARCHITECTS

signed sans knowledge of architectural principles, or the principles of scale, proportion, unity and the many other laws (we might call them) which are applicable to modern or traditional houses or any kind of a building.



SECOND FLOOR PLAN



PRELIMINARY STUDY, RESIDENCE FOR PAUL KUENZEL,  
 PALOS VERDES, CALIFORNIA  
 HENRY CARLTON NEWTON AND ROBERT DENNIS MURRAY, ARCHITECTS



RESIDENCE FOR T. FENTON KNIGHT, LA CANADA, CALIFORNIA  
Henry Carlton Newton and Robert Dennis Murray, Architects



RESIDENCE FOR JAMES LYNN, BEVERLY HILLS, CALIFORNIA  
Henry Carlton Newton and Robert Dennis Murray, Architects





LIVING ROOM, RESIDENCE FOR CHESTER WURSTER,  
LOS ANGELES  
HENRY CARLTON NEWTON AND ROBERT DENNIS MURRAY, ARCHITECTS





STAIR HALL, RESIDENCE FOR CHESTER WURSTER,  
LOS ANGELES  
HENRY CARLTON NEWTON AND ROBERT DENNIS MURRAY, ARCHITECTS



MUSIC STUDIO FOR STANLEY WILLIAMS, LOS ANGELES  
Henry Carlton Newton and Robert Dennis Murray, Architects



DETAIL OF ENTRANCE,  
MUSIC STUDIO FOR  
STANLEY WILLIAMS,  
LOS ANGELES

Henry Carlton Newton and  
Robert Dennis Murray,  
Architects



RESIDENCE OF WILLIAM A. JOHNSON, SAN MARINO, CALIFORNIA  
Henry Carlton Newton and Robert Dennis Murray, Architects



MOTOR COURT, RESIDENCE FOR HARRY G. JOHANSING,  
FLINTRIDGE, CALIFORNIA  
Henry Carlton Newton and Robert Dennis Murray, Architects





PATIO, RECTORY FOR PARISH OF ST. PAUL THE APOSTLE,  
WESTWOOD, CALIFORNIA

HENRY CARLTON NEWTON AND ROBERT DENNIS MURRAY, ARCHITECTS





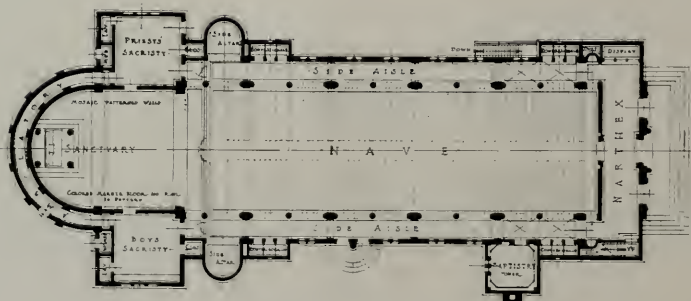
CHURCH AND RECTORY, PARISH OF ST. PAUL THE APOSTLE,  
WESTWOOD, CALIFORNIA

HENRY CARLTON NEWTON AND ROBERT DENNIS MURRAY, ARCHITECTS



MAIN ENTRANCE, CHURCH OF ST. PETER AND ST. PAUL,  
WILMINGTON, CALIFORNIA

Henry Carlton Newton and Robert Dennis Murray, Architects

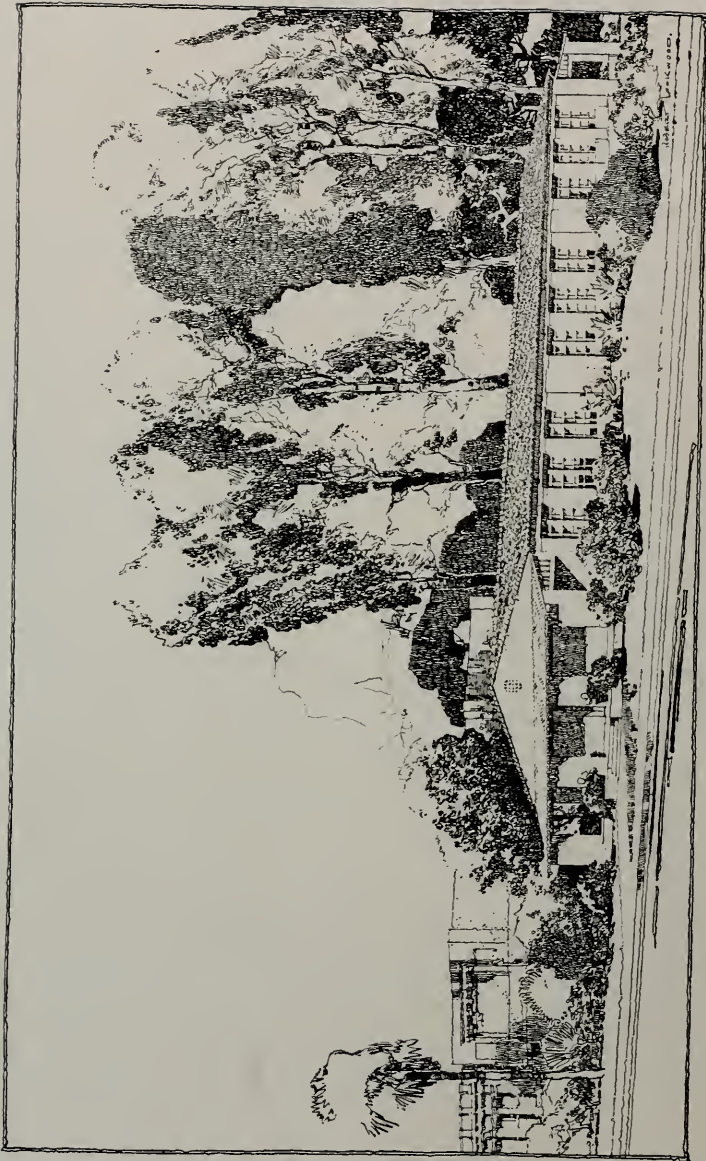


PLAN, CHURCH OF ST. PETER AND ST. PAUL,  
WILMINGTON, CALIFORNIA

Henry Carlton Newton and Robert Dennis Murray, Architects



MAIN ALTAR, CHURCH OF ST. PETER AND ST. PAUL,  
WILMINGTON, CALIFORNIA  
HENRY CARLTON NEWTON AND ROBERT DENNIS MURRAY, ARCHITECTS



LANKERSHIM ELEMENTARY SCHOOL, LOS ANGELES COUNTY  
HENRY CARLTON NEWTON AND ROBERT DENNIS MURRAY, ARCHITECTS



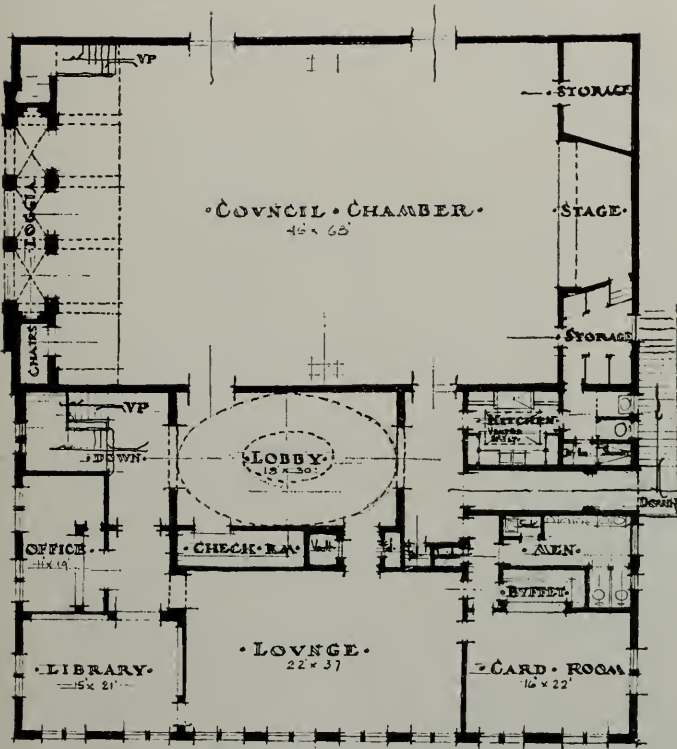


MAIN READING ROOM, EAGLE ROCK PUBLIC LIBRARY,  
EAGLE ROCK, CALIFORNIA  
HENRY CARLTON NEWTON AND ROBERT DENNIS MURRAY, ARCHITECTS



ELEVATION, CLUB BUILDING FOR KNIGHTS OF COLUMBUS,  
LOS ANGELES

HENRY CARLTON NEWTON AND ROBERT DENNIS MURRAY, ARCHITECTS



• SECOND FLOOR PLAN.  
SCALE  $\frac{1}{8}'' = 1'-0''$

SCHWAB

PLAN, CLUB BUILDING FOR KNIGHTS OF COLUMBUS,  
LOS ANGELES

HENRY CARLTON NEWTON AND ROBERT DENNIS MURRAY, ARCHITECTS



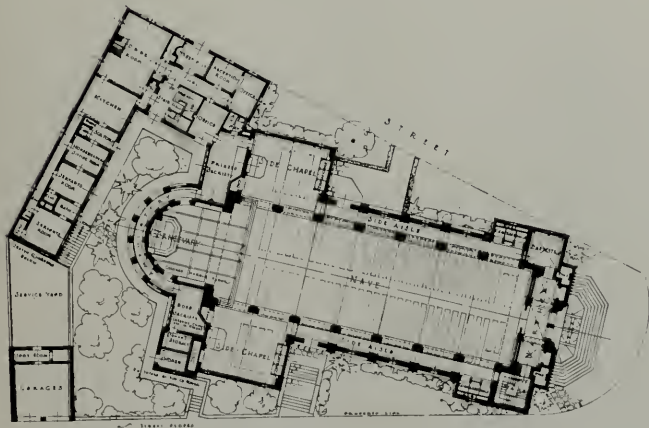
DETAIL OF MAIN ALTAR, CHURCH OF OUR LADY OF  
PERPETUAL HELP, DOWNEY, CALIFORNIA

HENRY CARLTON NEWTON AND ROBERT DENNIS MURRAY, ARCHITECTS





CHURCH OF THE PRECIOUS BLOOD, LOS ANGELES  
Henry Carlton Newton and Robert Dennis Murray, Architects



PLAN, CHURCH OF THE PRECIOUS BLOOD, LOS ANGELES  
Henry Carlton Newton and Robert Dennis Murray, Architects



DETAIL OF ENTRANCE, CHURCH OF ST. ANTHONY,  
GARDENA, CALIFORNIA

HENRY CARLTON NEWTON AND ROBERT DENNIS MURRAY, ARCHITECTS

# W-P-A

What Price America

by **Burt L. Knowles**

- *Administration Criticized for Advocating Day Labor in Place of Contract-Force on Large Federal Projects*

ONE of the problems which seems to be causing the Washington Administration extraordinary concern is that of devising the means and agencies through which almost five billion dollars shall be spent for public works. That the expenditure of this huge sum is a task of gargantuan proportions no one will deny; and yet, it should not prove to be a particularly perplexing problem if the Administration will only follow the rules of the game—the rules and regulations which it laid down for itself when the program was devised in the first place. We will discuss those rules in just a minute.

I am not going to talk on this subject concerning its aspects as an industrial problem. The ravishing of the general contractors' industry is not exactly a mere incident in the economic life of this country. The emasculation of an industry that is the largest employer in the land can hardly be

classed as a minor operation. To render impotent a business that is normally the second largest in the United States, a business that returns to the pockets of the workers a larger proportion of the dollars they receive than any other major industry, is in the normal course of events, an issue worthy of a more than casual observance and study. That the construction industry is being thus ravished by the Administration is a fact beyond dispute, and the effects of the government's program are daily becoming more and more alarming.

The problem of spending this five billion dollar fund certainly is not to be considered by the Administration as a political problem. The disposition of this money should not be influenced in any way by political partisanship or expediency. Those in charge of the administration of this immense fund have a duty and a responsibility to the men and women of this country who are supplying it, and there is one thing

Excerpts of an address at the eighth annual meeting of the California State Association of Architects at Santa Barbara, September 5, 1935.

that this huge fund of nearly five billion dollars absolutely must not be—it must not be a *campaign fund!* And the Administration should realize that it must avoid in the allocation of the funds and in the manner in which public works are performed even the “appearance of evil”.

#### A SOCIAL PROBLEM

The “brain - truster” will tell you that this is a social problem. The taxpayer says that it is not only a social problem, but it is an economic problem as well, and if the economic factors which form the basis of the Act which established this fund are ignored in its administration, the taxpayer is becoming increasingly aware of the fact that his tax dollars are being squandered and he is beginning to ask embarrassing questions.

Of course, this is both a social and an economic problem, but we can demonstrate beyond peradventure that if the Administration will but follow the rules laid down for it, every good social purpose for which the fund was created will be fully served and the money will be spent with the greatest possible economy.

Now, let us consider for a moment these rules to which I have referred — The bill provides for the performance of construction work of useful, permanent character. In other words, for the production of construction which is to some extent, at least, self-liquidating. The taxpayer has a right to expect tangible, permanent, assessible valuation. In other words, he has a right to expect something for his money. That is one of the provisions of the bill which created this fund.

There is another important rule which the law lays down for the administration of this fund—a rule which provides that in the expenditure of this money the facilities of private industry are to be utilized to the greatest possible extent. That rule was not

in the bill as it was originally framed, but was added as an amendment thereto—an amendment which was offered and sponsored by the Associated General Contractors of America, and we are proud of it! We know from years of experience and from thorough investigation that only through the awarding of construction contracts under a competitive system to qualified experienced contractors can satisfactory results be obtained.

Another modification of the law which established this fund was made by Congress. This consisted in the ear-marking of funds for specific departments and for specific classes of operation.

Still another rule has been laid down, purporting to govern the expenditure of the Emergency Relief Fund. This rule is an executive order of no less a person than the President of the United States himself, wherein he declared that works costing in excess of \$25,000, should be performed under the direction of PWA — presided over by Mr. Ickes; and that projects estimated to cost \$25,000, or less, might be handled by the WPA—presided over by Mr. Harry Hopkins.

We have still another assurance from the President as to the way and manner in which he proposed to spend this money for construction. He has stated that it is his intention to utilize the facilities of the building industry to the full.

#### THE ADMINISTRATION'S POLICIES

Now, I propose to cite a few instances of what has happened and what is to be expected if the Government pursues the policies which it seems to have adopted. The evidence I am about to offer is not hearsay testimony—it is the result of my own observations.

As I was about to leave Topeka, Kansas, on my way west I was informed that it was very doubtful if I would be able to



get to Denver as a dam in eastern Colorado had failed, washing out railroad tracks and wrecking the town of Holly, Colorado. A great deal of damage had been done and serious loss of life had been averted only through the heroism of the telephone operator and his wife who had warned the people of the impending disaster. Feeling that this was something that might prove interesting, and at the risk of being seriously delayed, I took the train and proceeded to the point where the tracks had been washed out and made an investigation. I found that this dam which had failed under its first test—a test for which it had been specifically built—namely, the protection of the town of Holly and contiguous districts from inundation, was the product of the “brain-trusters” first born child—CWA, and that it had been completed by FERA, the unworthy successor to CWA. I learned that its cost, according to those best qualified to judge, was about twice what it would have been had it been constructed by experienced contractors. It seems that the dam was so poorly constructed that competent engineers pronounced it unfit even to retain a small quiet lake to be used as a swimming pool and recreation center by the community. Now, where is the responsibility for the poor construction of that dam to be placed? Had this dam been built by men who knew their business, experts in construction, capable of designing and building structures of a permanent and useful character, it would not have failed, but if it had, the Government would have known where to place the responsibility. However, it was built under the direction of two administrations presided over by Mr. Harry Hopkins. Upon whom should the responsibility for this disaster, rest, if not upon those who advocate and permit the employment of such work by “pants” pressers, button-hole makers and leaf-rakers, and without the direction of com-

petent contractors, with a direct pocket-book interest in the successful completion of their contracts.

#### ANOTHER EXAMPLE OF FOLLY

Permit me to cite another example—I desired to see one of the CCC camps that had been built by the day-labor method at the instance of WPA. I had the plans and specifications for one of these projects and I visited the camp with those plans and specifications in my hand, inspecting it from one end to the other. I found a project that was not built by any means in accordance with the plans and specifications upon which general contractors had based their estimates. The low bid on that particular job was about \$20,000. I was informed that its cost to the Government was about \$23,000, and the Construction Quartermaster in charge of the operations informed me, when asked as to the details of his cost accounting on the project, that his manner of keeping his costs had been prescribed for him. He had not included one cent for engineering expenses, for supervision, for equipment use or depreciation, for overhead, or for compensation insurance. All of these items, of course, were included in the contractors’ estimates, together with a profit to which he would be legitimately entitled. Furthermore, the contractor has to pay taxes on his property, and he hopes some time to be able to pay income taxes again! Having a reasonable amount for the actually reported cost of this project, what then becomes of the reported cost of \$23,000? Every one of these items of expense are an actual cost to the Government in its day labor operations with the single exception of profit. In one instance which I discovered twelve CCC camps were bid upon the same day by contractors and upon learning what the bids were, this youngest child of the “brain trusters” WPA said—“The jobs will cost too much

if built by contract—so we will do them ourselves—and they did!”

Our Government seems to be thoroughly blind to the fact that to invite bids from contractors involves considerable expense on their part merely for the bidding. Again, and more often than not, when the Government undertakes a day labor operation it does not follow the plans and specifications laid down for a contractor to bid upon. In this particular CCC camp which I inspected there wasn't a door frame on the project, except in the outside doors. Interior doors were hung to the studding. There wasn't a window casing in the camp. Both door frames and window casings were clearly shown on the plans and required by the specifications. And then these government officials have the effrontery to tell the taxpayer that the Government and its agencies can perform construction work cheaper than the contractors!

#### DAY LABOR VS. CONTRACT

I visited an Army post in one of our western states, and upon arriving found the construction quartermaster in the deepest gloom. He said there had been allocated to this post several months before a little less than \$1,000,000 for permanent improvements. He immediately prepared plans and specifications in anticipation of taking contractors' bids, as he was informed that the work was to be done under PWA regulations. He had been ready to take bids for nearly three months during which time, however, he was prevented from doing so on account of the disagreement in Washington as to how the work should be managed—whether by PWA, as he had been instructed previously, or by WPA, under the direction of Mr. Hopkins. The latter had prevailed and he was obliged to do the work on a day labor basis despite the fact, as he himself stated, it was work which could be done economically only by contractors on a competitive basis.

The improvements consisted of the following: about 8 miles of concrete paved roads, 6 miles of concrete sidewalks with incidental gutters, culverts, drains, etc.; a complete storm and sewer system, natural gas installation with heating and cooking in all the buildings, with necessary trenches, piping and equipment; complete modernization of all the buildings with new plumbing and new electrical wiring. This construction quartermaster said to me:

“Can you imagine my despair when I tell you that I have been allowed the sum of \$990.00 per man year for this project. Do they think that plumbing fixtures grow on the sage brush out here!”

Any man familiar with construction knows full well that work of this character cannot be performed even under the most favorable conditions for less than between two and three times this sum, and yet this work has been taken over by Mr. Hopkins' WPA!

You will be interested perhaps to know that for every ten men working on this project, one only can be a skilled worker. The rest of them are unskilled. It is of peculiar significance that one of the regulations on this work requires that if a workman reports for work, even though he may not be able to do a stroke of work on account of weather, or for other reasons, he is to receive a full day's pay. This quartermaster informed me that he was permitted only two percent of his labor costs for his supervisory force and that he could only recommend the personnel which had to be referred to the local political committee and approved by Washington.

Please let me quote the words of another prominent public man—I refer to Harold Ickes, Secretary of the Interior, and Public Works Administrator. Heavens knows he holds no brief for the contractors as industrialists. His words on this point, however,

[Please turn to Page 58]

# Portfolio

of Views of the Moderne Home  
of Mr. and Mrs. Cedric Gibbons  
(Dolores del Rio) Santa Monica,  
California.



STAIR DETAIL, RESIDENCE OF MR. AND MRS.  
CEDRIC GIBBONS, SANTA MONICA,  
CALIFORNIA

Douglas Honnold, Architect



EXTERIOR VIEW OF OBSERVATION WING, OVERLOOKING  
TENNIS COURTS, RESIDENCE OF MR. AND MRS.  
CEDRIC GIBBONS, SANTA MONICA

DOUGLAS HONNOLD, ARCHITECT





STREET VIEW OF RESIDENCE OF MR. AND MRS.  
CEDRIC GIBBONS, SANTA MONICA, CALIFORNIA  
DOUGLAS HONNOLD, ARCHITECT



DRESSING ROOM AND PLUNGE, RESIDENCE OF  
MR. AND MRS. CEDRIC GIBBONS, SANTA MONICA, CALIFORNIA  
DOUGLAS HONNOLD, ARCHITECT



LIVING ROOM, RESIDENCE OF MR. AND MRS. CEDRIC  
GIBBONS, SANTA MONICA, CALIFORNIA  
DOUGLAS HONNOLD, ARCHITECT



YERBA BUENA ISLAND TUNNEL of San-Francisco-Oakland Bay Bridge project as it will appear when completed. Illustrations Courtesy California Highways and Public Works.



DOWN TO THE CORE. With the tunnel completely concreted and steel lined by novel construction methods, a steam shovel begins removal of thousands of cubic yards of rock from 58 by 76-foot bore. Article on Page 58.



# The Law

by Anthony J. Kennedy

● *Position of the Structural Engineer  
with Respect to Present  
Day Legislation*

IN the March issue of the *Atlantic Monthly* for this year one of the articles by an English scholar comments upon the illogical processes of our speech. As one of his illustrations he used the word "engineer." In England this title is reserved for those who engage and follow the profession of engineering—designers or constructors. In the United States, on the other hand, the same designation may indicate the vocation of a janitor who attends boilers, an operator of a steam shovel, or the driver of a locomotive.

An entirely separate article in the same magazine further illustrated the indiscriminate use of the word "engineer" to designate occupational pursuits. This particular article was a treatise on the physiology of fishes in explanation of a phenomena of submerged floating. I cite the article, by Chas. B. Stewart, not for its scientific content but for its concluding remarks:

"A bird cannot long withstand hunger, therefore, a bird whose food supply is not of a kind to be had constantly, or on the wing, is provided with a crop, which is equivalent to a workman's dinner pail or the tank on a locomotive. This is a very admirable

arrangement; but to take it up here would be to go into a quite different department of *animal engineering*."

Since that time I have patiently waited to learn of another article in which the writer would expound the principles of the science of "animal engineering."

This to me, and I suppose to you, was an entirely new and distinct branch of engineering science.

These two examples quite vividly recall an incident of the last legislative session. One of the followers of the last Legislature was a rousing Epic. He was an individual desiring radical legislative amendments. He classified himself as an "engineer." His purpose in Sacramento was to have the Legislature adopt a program which would constitute an economic revolution. I once asked him in what line of "engineering" he was engaged. His serious answer was: "I am up here representing the people. I am a social engineer."

With these examples in mind, if the bill of 1931, restricting the use of the title "structural engineer" to those civil engineers who had passed a qualifying examination, served no purpose other than to preserve the title for the professional man engaged in the design and construction of

EDITOR'S NOTE.—An address delivered at the convention of the Structural Engineers Association of California at Fresno, October 19, 1935.

buildings, it at least has the benefit that it differentiates that group from the steam shovel operator, the physiologist, and sociologist.

In tribute to those members of your group, however, who had the foresight to appraise the advantages that would flow from the enactment of legislation placing the "structural engineers" in a group apart, let me say that the accuracy of designation was not the only benefit. The legislation providing for restrictions on the use of the title "structural engineer" was passed in 1931. During the very next session of the Legislature, in the year 1933, one of the major catastrophies of the state occurred. This was the earthquake in the Los Angeles area. The great lesson learned from the calamity was that the school buildings of the state were structurally so unsafe that they constituted an ever present hazard and a death trap to the school children and teachers required to use them. Fortunately, nature had timed her shock so that the buildings were unoccupied and the awful consequences of wholesale slaughter was through the whim of nature averted. Chilling realization of the horrible disaster which might have been wrought, resulted in an imperative demand that the conditions shown to exist by the earthquake of 1933 should be forthwith remedied so that in the future the schools of the state would be sound in engineering design and construction and structurally safe. The Legislature appreciated the full import of the problem and immediately set into operation the wheels of legislative machinery to provide the protection theretofore lacking.

The problem of the Legislature was to have on the statute books a measure to assure that school buildings would be properly designed and constructed and the work done by competent men. Lo and behold, the class of men specialized in such work stood separated as a group apart from

other professional men. In 1931 the classification of "structural engineer" had been approved by the Legislature and the Legislature immediately used the classification it had approved to require that for school buildings constructed in the future the plans should be drawn and signed by either an architect or a structural engineer. With slight reflection on your part you can reach your own conclusion as to whom the Legislature would have designated to perform these acts if the title "structural engineer" had not been approved by the 1931 Legislature.

This leads to the conclusion that there are reciprocal advantages to the public and to the engineers or other professional men in accurate and special legislation. In a day and age when so many of the functions of business and commercial and professional dealings are matters of legislative scrutiny and the subject of legislative enactment, both business and the professions should maintain an interest in affairs that ultimately affect their standard of ethics and their livelihood. The civil engineer and the structural engineer have a vital interest in present day legislative policy. The code of ethics of this group has been tremendously affected by the provisions of laws relating to structural engineers. The restriction of the use of the title adds to the prestige of the holder of the title and classifies him as a professional man of scientific attainments. This restriction allows the structural engineers to establish and enforce a rigid code of ethics raising the standards of this specialized group and such a code of ethics is indispensable to a profession that renders high public service. And the public interest has been served! The structural engineers being a close cohesive unit at the time the Field enactment was entrusted to their care were able to coordinate their efforts, to formulate rules and principles of scientific building construction that in many in-

stances worked a complete revision of former theories of building practice in the interest of safe construction.

The structural engineer has obtained a status and with the work of accomplishment completed it is to be remembered that it is the duty of the group and of the individual in the group to preserve and protect for their own and the public's benefit the legislation entrusted to them and the administration of which is placed in their hands.

Again the Field Act may be used as an example. It is agreed by anyone who has investigated the subject that it has been of incalculable benefit to the people of this state. It will take many years and perhaps another major catastrophe to fully emphasize the wisdom of this legislation. The burden of the responsibility for the protection of that statute is mainly and almost exclusively with the structural engineers of this state. As you have been advised, that measure was a subject of severe attack at the last session of the Legislature. Criticisms were made against it upon a dollar and cents viewpoint and expressions of dissatisfaction in some quarters were so vigorous that a repeal of the statute was threatened. This antagonism reached its fullest expression in the passage of the resolution authorizing an investigating committee to investigate the operation of the Field Act. That investigating committee has already been appointed. It has not as yet held any meetings. Shortly, however,

it will start to assemble data upon the effect of the acts, its benefits and disadvantages, so that it will be able to render to the next Legislature a concise report with recommendations for continuance or repeal of the legislation or amendments affecting it. This committee will have to be guided in its deliberations. And in its function to ascertain the facts relative to the operation of the act no group is in a better position to inform and advise the committee than the structural engineering association. They know the conditions which gave rise to the statute; they know the problems that has been confronted in giving the statute effect; they know the benefits that have been rendered by the operation of the statute; they are in a position to judge as to the method of the administration of the statute by the state departments; they should be in a position to estimate its cost in terms of value, in dollars and cents, and in the human value of life and property. The structural engineers acquired a specialized practice from the Field Act through legislation enacted. Their interest in that legislation cannot cease. What course the investigation will take resides with them and it is their duty to the public and to themselves to see that proper data is presented to enable the committee to make legitimate recommendations. Public duty, your own private successes in your profession means that each one of you must quicken your ear towards the legislature and make it a truly representative body to you by having it reflect your interest.



LILY POND IN PRIVATE ESTATE



"THE GARDENER"  
WOOD RELIEF BY  
JACQUES SCHNIER.

Exhibited at  
San Francisco Museum  
of Art.



# Termites

by John G. Kreer

● *A Discussion of the Use of  
Arsenic Compounds as a  
Wood Preservative*

**T**HE termites and their works have been publicized to such an extent that architects generally are now aware of the menace they provide and are seeking the best ways and means to safeguard against them in designing new structures.

Many individuals engaged in the art of wood preservation have foreseen that it would be necessary to take some steps to chemically treat lumber used in the building of homes and other types of structures. They have been earnestly at work during the past decade or two, developing the impregnation of wood so as to provide a material that would preserve all the high qualities naturally inherent in lumber as an element of construction, yet effectively remove the hazard of attack by fungi or termites, in order to provide in wood a satisfactory element of permanent construction. The most important progress has been made in the development of methods providing permanent fixation in the wood of water-borne toxic salts. The earlier conception of chemical treatment sought a single ingredient that would remain the same in the wood as in the treating solution or the original dry salt from which the solutions were prepared. There was a gen-

erally believed doctrine that only quite soluble materials could be toxic. As long ago as 1912 Wehmer published in *Chemische Zeitung*, Page 1106, the suggestion that highly toxic effects might be found in chemicals relatively insoluble in water provided they were soluble in the secretions delivered by fungi to break down or dissolve cellulose so that it could be assimilated by them for food supply. Elfving, in 1918, further developed this idea in a Swedish publication "Tinska Velensk" Soc. Forhandl, Volume 61, Efd. A., No. 15. With this guiding principle established, a great many practical investigators have experimented with chemicals that, when dried out of water solution, in contact with wood fibres, would deposit such relatively insoluble compounds on the fibres that leaching of the preservative would be effectively prevented, but, on the other hand, would be soluble in the secretions within or deposited outside of organisms capable of breaking down cellulose such as the fungi, certain types of bacteria, and the single celled organisms used by the termite in his intestinal tract to pre-digest his food. Such toxins intimately bound into the fibres of wood and put into solution by the same secretions that broke down the cellulose

into soluble form would then be absorbed along with the food supply. As this principle was developed, many earlier observations took on new importance and the efficacy of certain chemical combinations for which there had seemed to be no very clear explanation, found justification in a partial fixation that had unwittingly been attained.

Dr. Karl H. Wolman, many years ago, announced the principle that the variation in specific toxicity of any one chemical to different fungi was so great as to preclude the likelihood that a single chemical compound could be depended upon for effective wood preservation. Each individual chemical of the very large number that he investigated might prove highly toxic to most of fungi, but always there seems to be some one species that proves to be an exception and are not destroyed by even relatively large quantities. This led to the theory that a successful preservative to be really dependable under all sorts of conditions must be a complex of a number of different chemicals carefully selected to reinforce each other in toxic effect and of sufficient variety to provide against all known classifications of fungal resistivity. Among the chemicals, so chosen by Dr. Wolman, were certain salts of chromium, which besides their toxic value, presented certain worth-while physical and chemical characteristics, including passivation of the treating solution and of the impregnated material against oxidation or rusting of contacting metals.

Thirty years ago, these mixtures came into use and have been employed in nearly every country of the world, with a successful record of accomplishment in protection against decay and termite attack. About ten years ago, intensified study of fibre fixation for preservative chemicals led to the discovery of the true principle of fixation of a group of chemicals by salts of chro-

mium. A suspicion of the existence of some such action had been expressed as far back as 1912, but it was not until some ten years ago that the work of Dr. Wolman, in collaboration with Dr. Hans Pflug, definitely established this functioning of chrome salts and the correct proportioning to accomplish the desired purpose advantageously. Making use of water-soluble salts of fluorine, of arsenic, of chrome and of certain organics like nitrated phenol, treating solutions are formed which, as they concentrate during the drying period in intimate contact with wood fibre, are precipitated no longer as freely water-soluble substances but as very difficultly soluble, or nearly insoluble chemical compounds, tightly bound into the wood fibres.

The discovery of a chemical complex that would so dry out of the evaporating solution and yet retain its full toxic value, has proved to be a most important step in the art of wood preservation and makes available to architects and engineers a treated wood thoroughly safeguarded against premature destruction, while it does not impart any objectionable characteristics at all to interfere with the use of such wolmanized lumber in building construction.

It may be of general interest to the readers of THE ARCHITECT AND ENGINEER to consider the components of this modern wood preservative. A wood preservative, of course, may be modern in spite of thirty years of service back of it. It does not begin to count as a wood preservative at all until a decade or more of successful service establishes its first claims to recognition. While exactly the same ingredients are used, the modified proportioning of these ingredients that has brought about high fixation of the chemicals within the treated wood marks a forward step of such importance as to justify the term "modern".

The toxic value of fluorides has long

been known. A large percentage of the roach powders in common use everywhere consist wholly, or in large part, of fluoride. Since termites belong to the roach family, being a collateral branch that separated off perhaps one hundred million years ago, it is quite understandable that the fluorides will prove destructive to them as they do to the roaches. On the other hand, fluoride solutions have been used as a preservative dip for meats. This service became quite extensive in the movement of beef from South American points to Europe prior to the development of refrigeration chambers on shipboard. While in the United States it has not been looked on favorably for treatment of foodstuffs, it is apparent that in the low concentrations in which it would be present, fluoride would not be poisonous to man.

Arsenic is so widely distributed in nature that it would be very difficult to secure absolutely arsenic-free food supplies. In small dosage it has been employed in the treatment of malaria and other diseases. It is extensively used for spraying in orchards. Arsenic, in concentrated form, is an active poison, and when presented in such shape as to be assimilable in the blood, is not readily eliminated so that a certain cumulative effect develops. It is, of course, evident that to be effective in wood preservation any chemical must be toxic. Nevertheless, it is quite possible to have such toxic chemicals so deposited within wood that the resulting product is entirely safe for all contacts by human beings or domestic animals. The original powerful toxic effect must be retained, but released only when the preservative and the wood fibres together are dissolved by the special digestive secretions of the attacking wood destroyers. And that is just what is accomplished with suitable chrome salts and arsenic salts, drying out in contact with wood

fibres. "*The resulting difficulty soluble chrome arsenate is so securely fixed that leaching or exudation no longer can occur*".

About one hundred years ago, in an effort to obtain commercial advantage over a competitor, a theory of arsenic poisoning by arsene gas formed from arsenic treated wall-paper was first promulgated. Based on half truths and guesswork, it ran its course in a political atmosphere where scientific facts were discounted or distorted. A vast amount of publicity was secured and seeds of distrust of arsenic in any form were broadcast to such an extent that the use of arsenic pigments in wall-paper was very nearly discontinued. Even today, with ample knowledge of the real facts readily available, the Gosio gas, or arsene gas scare is periodically invoked when it seems possible to make use of it to frighten the public away from some competing product that employs arsenic. Now it happens that arsenic, in properly safeguarded form, has been found to be the best material for protection against termites—almost a specific poison to them. It may therefore, be of interest to briefly cite some pertinent references on this subject:

Article by Dr. Walther Hausmann published in the *Z.f. Hyg. u. Infek.* 1906, 53-509, gives the results of his experiments as to possible poisonous effects of these gases. Hausmann exposed white mice in chambers containing strong concentrations of the gas. After two months, no ill effects could be observed in the mice, but rather the reference: "They became stronger and livelier".

In Sweden in the year 1913, Harold Huss carried on experiments, the report of which is given in a 43-page article in the *Z.f. Hyg. u. Infek.* 1913, 76-361. Huss tried fifty different species of molds, ten

different genera, and three of the more important wood-rotting fungi on arsenic culture media. He reports confirmation of previously published findings, that only a very few molds, of which *penicillium brevicaulis* is one, have any power of evolving these arsenic gases and that they are always very much more frail and perishable than other types of molds. He found none of the wood-rotting fungi that were studied capable of evolving such gas, and after various tests and experiments comes to the conclusion: These arsenical gases evolved by fungi possess only a negligibly poisonous quality.

Another rather exhaustive report of experiments made by Germund Wirgin in collaboration with Ivar Lagerberg is included in the official reports of a Swedish Commission for the study of this subject, in which tests of the possibly poisonous quality of arsenic mold gas were carried out on butterflies, gnats, flies, frogs, birds, mice, rats and rabbits. During the year or more of tests on rabbits, observations were extended to blood tests and urine analyses. Mice lived eight months in highly concentrated atmosphere of these gases with their strong garlic-like smell, without any observable signs of poisoning. Seven rabbits lived for ten months in such atmosphere, without observable ill effects; then, after two and one-half months' exposure to arsenic-free air, were again exposed to the arsenic gas atmosphere without noticeable effect. The urine analysis gave arsenic content up to 1.5mg. of metallic arsenic equivalent per day compared to the normal amount in rabbits not exposed to the gas, of 0.07 mg. per day. Other insects exposed continuously for a year remained unaffected by these gases. Wirgin and Lagerberg further mentioned that for more than a year they themselves worked many hours daily in a laboratory air, reeking with this mold arsenic gas, without ever becoming aware of

any sickening effects or symptoms of illness.

There are a large number of other laboratory investigations. In chemical laboratories where the chemistry of arsenic has been quite thoroughly investigated, it seems to be definitely established that the arsenic mold gas is not the arseniureted hydrogen, of virulently poisonous characteristic, that is represented to be formed by such mold action. As Hausmann says, we are forced to conclude that the gases evolved by these molds are non-poisonous to mice, and while there is every reason to doubt such wall-paper poisoning ever having occurred, if it did occur, it was surely not due to gaseous arsenics evolved by molds, but would have to be attributed to finely divided powdered arsenic dusted from the walls by mechanical means. Going back a little into the records that were established in connection with the arguments about possible formation of poisonous gas from wall-paper, we find Mr. C. F. Chandler, a Chemist and Sanitarian, at that time in charge of the Health Department of the City of New York, expressing the following opinions:

That after consulting the best physicians in the city, he could not find any case of arsenical wall-paper poisoning ever having occurred in New York City. That he had carefully considered the whole subject, read everything that was published and concluded there was nothing in it, for which reason, no action was ever taken by the authorities of New York. That in a search of German and French journals, alleged cases which had occurred in 1846, 1866 and 1876, were based on very meagre evidence. That in his opinion, based upon his study of the subject, it was impossible for such a thing to take place.

Mr. Alfred Fletcher in *Ure's Dictionary of Arts, Manufactures and Mines* says: "It is stated that in a medical work, an in-



stance is noted in which injury had been received by those living in rooms decorated with these (arsenical) colors: surely, were the proximity of such materials injurious, it would not be necessary to search in recondite books for the registry of isolated cases. The fact of the large extent to which such materials have always been employed is sufficient proof that there is no danger attending their use."

A trenchant summary of the effect produced by a study of the historic literature of this subject is embodied in the following citation closing a report made by a careful investigator in 1928, as follows: "I wish to say that although I have never become sick from the biological effect of Gosio gas, that I have gotten pretty sick of the poor and disorderly, and ostentatious work done by the majority of the investigators, as revealed by the literature on the subject." Many careful investigations led to the conclusion that any hazard which might conceivably be attributed to the use of arsenic in wood preservation is so remote as to be negligible. For example, it is incomparably less than the hazard of explosion from a gasoline tank. It is quite possible to devise a set of artificial conditions by means of which the gasoline tank of an automobile might be exploded with disastrous consequences to occupants of the car, but nobody thinks of refusing to ride in an automobile on this account, nor to propose legislation forbidding the use of automobiles with gas tanks.

Another hazard advanced as a partisan argument against the use of arsenic is that a fire might release arsenic fumes which would be dangerous, especially to firemen. In the first place, there is plenty of evidence that most of the arsenic contained in treated lumber would remain behind in the ash; but even assuming that all arsenic present could

be volatilized and escape into the smoke, it must occur there as an inorganic oxide, most probably the arsenious oxide  $As_2O_3$ , and what hazard there might be, would depend on the amount of arsenic in the smoke and the degree of exposure to inhalation of the smoke. In an average building of treated lumber there might be present a total arsenic content in the impregnated salts to produce some 200 grams of arsenious oxide. The combustion necessary would involve a volume of at least 20,000 cu. ft. of a rapidly rising mixture of air and smoke per second, in which there would be 0.0005 grams of the poison per cu. ft. Calculating the amount of air breathed in a full 30 minutes exposure (far beyond what might occur since the amount of carbon monoxide in the smoke would render any person unconscious in a much shorter time) would provide 0.00075 grams of  $As_2O_3$ , in the smoke inhaled. Even of this amount of arsenical dust inhaled, certainly not more than half would be absorbed—the balance being exhaled. The influence of 1/3 of one milligram of  $As_2O_3$  would have no significance unless one were so exposed daily for a period of years. It is evident that this hazard is even less worthy of consideration than the previously discussed arsene gas scare.

The salts of chrome by themselves evidence an appreciable degree of toxicity. As has already been mentioned, their striking value lies in a remarkable effect on other toxic materials, to produce difficultly soluble forms without breaking down toxic values and fixing such precipitated insolubles onto wood fibres. In the dye industry, chrome salts have long been used as mordants to fix coloring matter; and they are found in use in the tanning of hides, to provide peculiarly water-resistant leather. They have long been known for passivat-

ing effect against corrosion and are employed in the chemical industry for lining autoclaves and other apparatus exposed to oxidizing effects. Chrome-plating of metals is a familiar method of preventing rust, and a suitable proportioning of chrome as an ingredient in the manufacture of steel has lately been developed to provide a rust-resisting metal. Dr. Wolman's discovery of the true effects producing fixation and the proper proportioning to bring about such fixation of otherwise water-soluble wood preservatives is one of the noteworthy contributions to the art of wood preservation.

Phenol is more commonly known in its commercial form as carbolic acid and its extremely toxic value is well established. It is one of the principal toxic ingredients of creosote. When nitrated, or chlorinated as a sodium salt, it becomes water-soluble and at the same time shows a striking increase of toxicity. As used in Wolman Salts, it forms complex molecules with some of the other ingredients, and besides the additive value of the individual toxicities, there is found a striking supplementary increase in the efficacy of the resulting compound to inhibit the growth or kill various wood destroying fungi. These phenol compounds are particularly effective against all forms of molds and with a strong tendency to concentrate in that portion of the treated wood near the surface, establish a barrier against mold attack ever, by any possibility, reaching the substrata.

Millions of feet of Fluoride - Phenol - Arsenic - Chrome treated lumber have been handled in loading and unloading, and erection. Barns, cattle sheds, chicken coops, dwellings, factory buildings and structures of all kinds have been in use without one case of reported injury or damage.

## WHAT PRICE AMERICA?

[Concluded from Page 42]

have a deep significance and I commend them to the careful consideration of the National Administration right now! Here are Mr. Ickes exact words: "Force account work is more expensive. When any town comes in with a proposal for force account work, it means that they have a political machine—or that they want one!"

## TUNNEL

Pictures on Page 48

A novel method of excavating the world's largest bore tunnel in Yerba Buena Island, as part of the San Francisco-Oakland Bay Bridge project, was conceived by Chief Engineer Purcell and his staff. The novelty is that they first build the tunnel and then dig it out.

Altogether three bores were drilled through the island for the tunnel, two at either lower side and one in the crown. All were blocked out into a horseshoe-shaped excavation through the rocky island. This excavation is then concrete and steel lined from three to five feet thick before the inside or core of the tunnel is dug out.

With the tunnel completely lined for most of its length of 540 feet, a power shovel enters the portal to remove the thousands of cubic yards of rock within this 58 by 76-foot bore. Through this bore a four-story building could be pulled upright.

In the photo a huge power shovel may be seen dwarfed by the size of the mouth of this tunnel through which 30,000,000 vehicles and 50,000,000 train passengers can speed annually after the opening of the bridge about the time of the California-Stanford big game in November, 1936.

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# « « « « With the Architects » » » »

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## ARCHITECTS' EXAMINATION

The semi-annual examinations by the State Board of Architectural Examiners will be conducted simultaneously in Berkeley and Los Angeles, December 16, 17, 18 and 19.

Candidates must register not later than December 1.

A class of more than thirty applicants for certificates is expected to take the four-day series of tests in Berkeley. The examinations will be conducted at the University of California campus for the Northern district and at the University of Southern California for the Southern district.

The first two days will be devoted to problems in design, the third day to engineering, and the fourth to ethics and office practice.

## LIVESTOCK PAVILION

Bids for constructing the first unit of the San Mateo Livestock Pavilion will be opened at Sacramento, December 3, by the State Division of Architecture. The first unit cost is estimated at \$640,000. The completed pavilion will cost \$1,500,000. Plans call for a one-story reinforced concrete and steel building, 300 by 400 feet, containing a horse show arena, stadium seats for 10,000 persons and stalls for 300 horses, dormitory rooms for grooms and attendants. The building was designed by W. D. Peugh, architect of San Francisco.

## TOWN HALL

Plans have been prepared by Dragon & Schmidts, architects, Whitecotton Building, Berkeley, for a two-story frame and stucco city hall at El Cerrito. The estimated cost is \$28,000.

The same architects are also preparing plans for alterations to the El Cerrito firehouse to be made following the construction of the city hall.

## OAKLAND FACTORY

Plans have been completed by William E. Milwain, architect, 1503 Oakland Avenue, Oakland, for a one-story industrial building to be erected on East 18th Street for Mother's Cake and Cookie Company. The cost is estimated at \$30,000.

## TO OPEN SAN FRANCISCO OFFICE

S. Charles Lee, architect, of Los Angeles, will open an office in San Francisco, in order to give closer attention to a number of Northern California projects for which he is the architect.

Mr. Lee has moved his Los Angeles office to his own building at 1648 Wilshire Boulevard, Los Angeles.

Working drawings have been completed by Mr. Lee for a one-story frame and stucco town hall at Quincy to cost \$25,000.

## COUNTY HOSPITAL ADDITION

The Monterey county supervisors have received bids for the construction of a tuberculosis ward addition to the county hospital in Salinas to cost about \$50,000. Plans prepared by Chas. Butler of Salinas call for a 1-story frame and stucco ward to contain 22 beds, a barracks building to accommodate fifty persons, a steel water tower and new well. A steam heating system will connect with the main plant of the hospital.

## INFORMATION BUREAU

The Association for Advancement of Home Building is now located in the Architects Building, Los Angeles, and is under the direction of Herbert J. Mann. According to its prospectus the organization has a considerable number of the city's representative architects enrolled in its membership. The association's main purpose is to provide the prospective builder with practical, reliable and disinterested information about building.

## COUNTY HOSPITAL

The Sonoma county board of supervisors will receive bids November 21 for the construction of a reinforced concrete county hospital at Santa Rosa. This is one of the first of the new PWA building projects to be placed on the market in Northern California. A grant of \$110,000 has been allocated toward the work by PWA on an estimated total cost of \$245,000. The unit will have a capacity of 200 beds. It was designed by John I. Easterly.

## ANOTHER FOR ROY KELLEY

H. Roy Kelley of Los Angeles, has been awarded first prize in the annual competition of House Beautiful for the best house of eight rooms or less completed during the last year. Richard Frederick King, also of Los Angeles, receives first prize for the best house of nine to twelve rooms in the same competition.

Mr. Kelley, graduate of the School of Architecture at Cornell University, has won many prizes for residential work. This is the third successive year he has won first prize in the House Beautiful contest. His latest prize winning work is the residence of the Misses Gail and Marie Houston at 1515 Club View Drive, Westwood.

Mr. King graduated from the School of Architecture at University of Southern California in 1926. His winning effort was the home he designed for Dick Powell, film star, at Toluca Lake.

## SAN FRANCISCO MUSEUM OF ART

The following exhibitions are scheduled for November and December at the San Francisco Museum of Art:

British Sporting Prints—through November 27.

Contemporary Mexican Painting—through November 27.

Gothic and Renaissance Tapestries—through December 15.

Hamilton Easter Field Memorial and Collection of American Painting—through December 1.

Annual Exhibition of the San Francisco Society of Women Artists—November 15 to December 15.

Exhibition of Designs for Ballet, Opera Costumes and Stage Sets—November 21 to January 30.

## CITY ENGINEER RETIRES

C. M. Thomas, city engineer, of Burlingame has resigned to retire after forty years in the engineering profession. Mr. Thomas was appointed to succeed James S. James as city engineer of Burlingame in May, 1929, and during his long administration he designed and had charge of many large city projects.

Before coming to Burlingame, Thomas was with an engineering company in Long View, Wash., and previously was in private practice in Portland.

He is succeeded by his assistant, Cecil Longson.

## SAN FRANCISCO SCHOOL

The San Francisco Board of Public Works on November 27 will receive bids on the last of the city's PWA school building projects financed under the 1933 program. Bids will be opened on that date for constructing Agassiz elementary unit of twelve classrooms to be located at Barlett and Twenty-second Streets. Masten and Hurd are the architects. The estimated cost is \$179,000.

## PERSONAL

HENRY A. MINTON, architect of San Francisco and Oakland, is enjoying a two-months trip to Manila. He is accompanied by his daughter, Mary Julia Minton, who will marry Lieut. Com. William Phillip McGirr, U.S.N., in the islands.

RUSSEL RAY has opened an office at 4367 Oakwood Ave., Los Angeles. Mr. Ray was formerly located in Santa Barbara.

GEORGIUS Y. CANNON, has moved his office from 901 Beaux Arts Building, Los Angeles, to Room 519 Security Building, 117 East Colorado Ave., Pasadena.

RICHARD E. LYTEL and LAMONTE SHORETT, both graduates of the School of Architecture, University of Washington, recently formed a professional partnership and established a studio at 1003 Securities Building, Seattle.

TRACY A. F. MOBERG, architect, has resumed active practice with office in Room 468, Skinner Building, Seattle.

CHARLES HAYNES, architect, recently resumed active practice in Seattle. He has opened an office in the 814 2nd Avenue Building, formerly known as the Mehlhorn Building. During the past several years Mr. Haynes has been active in Southern California.

BJARNE H. MOE and GEORGE W. GROVES, have become associated and have established a studio at 2318 Second Avenue, Seattle.

CARL F. GROMME, architect, has moved his office from the Masonic Building to the Freitas Building, Fourth and B Streets, San Rafael.

## MAY BE HEADED THIS WAY

[*The Octagon*]

A man impersonating Royal Barry Wills, architect of Boston, in possession of a bronze medal which was awarded to Mr. Wills in the 1934 Better Homes in America Competition, has been presenting himself to architects for the purpose of cashing worthless checks.

Mr. Wills has furnished the information that the man in question called at his office seeking a position and removed the medal from his office at that time. Mr. Wills describes him as thirty years old, slim, sandy mustache, and wearing a black double-breasted suit.

W. H. I. Fleming, architect of Washington, whose generosity was recently imposed upon by this man's hard luck story, describes him as follows:

Age thirty, six feet tall, weight one hundred forty pounds, dark complexion, and no mustache.

Regardless of varying descriptions this imposter should be easy to identify. Architects approached by him should reach for the telephone instead of the check book.



## CONVENTION OF STRUCTURAL ENGINEERS

The fourth annual convention of the Structural Engineers' Association of California was held at Fresno October 18 and 19. President John B. Leonard opened the convention with a review of the activities of the Association during 1935, and recommended the adoption of measures which will result in closer cooperation between the engineer, the architect and the building official, and by so doing, benefit the building industry as a whole.

David Merrill, managing secretary of the Pacific Coast Building Officials Conference, in reporting on the convention of the building officials, stressed the need and desirability of closer contact between engineers, architects and building officials and stated that the officials, at their own convention, had taken the necessary preliminary steps which will make this cooperation of immediate benefit to the industry. President Leonard appointed a committee of four, Murray Erick and A. M. McConnell of Los Angeles and H. J. Brunner and L. H. Nishkian of San Francisco, to report on ways and means of effecting closer cooperation between the structural engineer and the building official.

Two half-day sessions were devoted to a discussion of the report of the building code committee dealing with the proposed revisions of the rules of the Division of Architecture, relating to the safety of design and construction of public school buildings in California. The original rules became effective in April, 1933, and their operation has been closely studied by the code committee during the last year. The changes recommended by the committee were discussed in considerable detail on the floor of the convention. Final action on the recommended changes of the committee is to be taken independently by the northern and southern associations.

Papers on subjects of general interest to the profession were read at the final session. Murray Erick and H. J. Brunner presented papers on the subject of "Relation Between the Engineer, Employer, and Employee," and L. J. Waller and L. H. Nishkian reported on the subject "Engineering Fees and Practice." The final paper entitled "The Structural Engineer and Legislation", was presented by Anthony J. Kennedy, attorney-at-law of Sacramento, and is printed in full elsewhere in this issue.

### STRUCTURAL ENGINEERS

The California State Board of Registration for Civil Engineers has issued structural permits to Robt. C. Kennedy of Oakland and Wallace E. Belcher, Los Angeles.

New certificates of registration as civil engineers have been granted Albert Ayer Peters of Sausalito and Jno. S. Gallagher, Los Angeles.

### ENGINEERS INSPECT DAMS

On Wednesday, October 23, through the courtesy of Fred H. Tibbetts, chief engineer of the Santa Clara Valley Water Conservation District, members of the San Francisco Section, American Society of Civil Engineers, inspected the dams of the District, now at various stages of construction.

The party first visited the Coyote Dam, (earthquake-proof straddling the Hayward Fault), following which the dams at Calero, Almaden, Guadalupe, Vasona, and Stevens Creek were visited. One excursion committee included O. W. Peterson, chairman; R. G. Cone, D. R. Warren, and S. D. Bechtel.

### COAST ARCHITECTS HONORED

The following Pacific Coast architects have been named on Standing and Special Committees of The American Institute of Architects to serve until the convention of 1936:

Finance—Edwin Bergstrom, Los Angeles.

Practice—Harris C. Allen, San Francisco; Ralph C. Flewelling, Los Angeles; Walter E. Church, Portland, Ore.; Albert M. Allen, Seattle, Wash.

Judiciary—David J. Witmer, Los Angeles.

Public Works—Henry C. Newton, Los Angeles; Armond R. Bean, Portland; Carl F. Gould, Seattle.

Education—Ellis F. Lawrence, Portland, Ore.

Competitions—Albert J. Evers, San Francisco.

Structural Service—John J. Donovan, Oakland; Henry C. Newton, Los Angeles; Wm. H. Crowell, Portland; Joshua H. Vogel, Seattle.

Preservation of Historic Buildings—Irving F. Morrow, San Francisco; Wm. P. Lodge, San Diego; Henry F. Withey, Los Angeles; Jamison Parker, Portland; Paul Richardson, Seattle.

Registration Laws—A. M. Edelman, Los Angeles; Warren C. Perry, San Francisco; John V. Bennes, Portland.

City and Regional Planning—Reginald D. Johnson, Los Angeles.

Standing Accounting—Henry H. Gutterson, San Francisco.

Honor Awards—Raymond W. Jeans, San Francisco; Arthur Loveless, Seattle.

Schedule of Charges—A. H. Albertson, Seattle. Sub-committee on Health and Safety—Albert Farr, San Francisco; Carl F. Gould, Seattle.

Housing—Harris C. Allen, San Francisco; Eugene Weston, Los Angeles; Walter E. Church, Portland; Wm. J. Bain, Seattle.

## SOUTHERN CALIFORNIA CHAPTER

At the October 15th meeting of the Southern California Chapter, A.I.A., Dr. W. S. Ford, chief deputy superintendent of the Los Angeles Board of Education, spoke on the subject of school building needs in Los Angeles. He called attention to the many temporary and antiquated structures that are in use today and the necessity for providing safer and more suitable housing. Doctor Ford's talk was illustrated with lantern slides.

Treating with the present aspects of modern school house engineering, Murray Erick, structural engineer, stated that there have been no recent changes in engineering practice and no new theories developed, although the Field Bill has brought about distinct changes in construction. He said that Southern California schools suffered in the earthquake of March 10, 1933, because of inadequate design and the use of materials that were not adaptable. Mr. Erick believes that a mistake is made when an architect is not engaged to supervise his work.

Elmer Grey spoke of several incidents in the early life of H. Van Buren Magonigle, New York architect and Institute member, who died several weeks ago. Mr. Magonigle's contributions to *Pencil Points* were widely read and discussed.

The following members and guests attended the meeting: A. C. Zimmerman, Edward Cray Taylor, Ed Cline, Harbin Hunter, Graham Latta, Carleton M. Winslow, Sumner Hunt, Douglas McLellan, J. J. Miller, Ralph Flewelling, Henry F. Withey, Elmer Grey, Ben O'Connor, M. L. Barker, J. E. Allison, C. Raimond Johnson.

Dr. W. S. Ford, Murray Erick, William Richards, Henry Carleton Newton, R. Germain Hubby, Joseph Kaiser, Richard Neutra, H. C. Chambers, Walter Davis, George Adams, J. J. Backus, Albert C. Martin, Samuel Lunden, Eugene Weston, Jr., Walter L. Reichardt, Paul Robinson Hunter, Raphael Nicolais.

## S. F. CHAPTER ELECTS OFFICERS

The regular meeting of Northern California Chapter, A.I.A., was held at the Plaza Hotel, San Francisco, at 6:30 P.M., Tuesday, October 29, Albert J. Evers presiding.

It being the annual meeting, Mr. Evers delivered his presidential report of activities during the year and offered suggestions for a more widespread interest in the affairs of the profession.

Reports of Committees were submitted and accepted with thanks as follows:

Committees on practice, competitions, legislation, public information, education, building laws, entertainment, membership and exhibits.

Co-operating organizations submitted summaries of the activities of the groups to which they are assigned. These included the San Francisco Federation of Arts, California Roadside Council, Architects' and Contractors' Conference Board, State Association of California Architects, San Francisco Housing Association, Advisory Committee to Art Commission, Producers' Council Club and the Advisory Committee to the Board of Public Works.

A number of the reports contained valuable recommendations toward future policy and program.

It was moved by Mr. Miller and carried that the Chapter, authorize payment in the pro-rated amount of \$35 toward the traveling expenses of Messrs. Meyer and Steilberg to Los Angeles in connection with the Uniform Code.

The suggestion was made to the Exhibit Committee that in subsequent exhibits the contractor's name appear on Honor Award Certificates.

Officers were then elected for the year 1935-36. In accordance with the recommendation of the nominating committee which was submitted at the September meeting, the following were elected:

President, Will G. Corlett; vice president, Warren C. Perry; secretary-treasurer, James H. Mitchell; directors for 3 years, Albert J. Evers and Edward L. Frick; director for one year, Gardner A. Dailey.

With the newly elected president in the chair, the following business was introduced:

Active co-operation with the State Association in making the State Housing Act effective was urged by Mr. Johnson and approved.

It was instructed that information concerning building loans to veterans be included in the next notice to members.

Mr. Hays moved that the Chapter extend its hearty appreciation to Mr. Evers for his faithful and valued leadership during the years of his office. Unanimous approval was signified. It was directed that a fitting resolution be drafted in committee and that printed copy thereof be presented to the retiring president. Messrs. Perry, Hays and Gutterson were so appointed.—J.H.M.

## CONTRACTORS LICENSE LAWS IN WESTERN STATES

Laws requiring the registration of contractors are now in operation in California, Arizona, Utah, Nevada, Idaho and Montana. In the first three mentioned states all general and subcontractors must register; in the last three mentioned only public works contractors and subcontractors on public works jobs are required to have licenses.

California was the first western state to enact a contractors' license law, approved June 13, 1929. Montana is the last to adopt such a law, enacted by the 1935 Legislature of that state. A contractor's license bill was introduced in the 1935 session of the Oregon Legislature but it failed to pass.

California's law has been progressively amended at each succeeding session of the Legislature to correct deficiencies and strengthen provisions for its enforcement. Under amendments passed at the 1935 session administration of the law has been vested in a board of seven members recently appointed by the governor, but which has not yet organized. All the members of the board are contractors actively engaged in business for the last five years and they will serve without pay. Under the amended law contractors are classified for the first time as "general engineering contractors," "general building contractors" and "specialty contractors."

The California Contractors State License Board, as it is officially known, consists of one engineering, three general building and three specialty contractors. They are authorized to appoint a registrar, with approval of the director of professional and vocational standards, who will be executive secretary of the board; also a deputy registrar and other assistants and subordinates to administer the law, all to be under civil service. The law further provides that the board "under such rules and regulations as it may adopt shall have the power and authority to examine, classify

and qualify applicants for contractors licenses under the provisions of this act."

The license fees remain unchanged, \$10 for an original license and \$5 for renewal, all licenses expiring at the close of the fiscal year, June 30.

As under the old law any undertaking on which the contract price is less than \$200, is exempt, "provided, however, that the exception shall not apply in any case wherein the work of construction is only a part of a larger or major operation, whether undertaken by the same or a different contractor, or in which a division of the operation is made in contracts of amounts less than \$200 for the purpose of evasion of this act, or otherwise."

### ARIZONA

The Arizona law "regulating the business of contracting, requires registration of all corporations, firms, associations or individuals doing construction work for a lump sum, fee or compensation other than wages, without limitation as to cost of the work, but does not include material suppliers who do not fabricate their products into the work. Exemptions include work done by authorized representatives of Federal or state government or political subdivisions thereof; trustees or officers of a court; construction or repair of reclamation works; construction for agricultural purposes; operations of public utilities and sole owners of property improving same for their own use.

Foreign corporations are required to qualify under Arizona laws to do business in that state to be eligible to a license.

License fee is \$10 per year and license is good until expiration on June 30 of the fiscal year in which it is issued. Application for renewal must be filed with registrar not later than July 30 of each year with fee of \$10, otherwise the license is renewable only on payment of a fee of \$20.

Penalty on conviction of violation of the law, or conspiracy to violate it, is a fine of not less than \$100 nor more than \$500, or imprisonment

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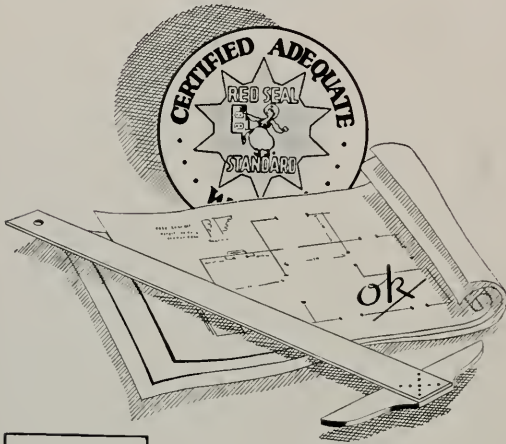
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provides YOU with expert advice and technical information—at your own drawing board.

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Your city or county electrical inspector inspects for safety—Red Seal inspectors for adequacy, both are necessary in any good wiring installation.

Put Red Seal Wiring in the next home you design... it will help to make another satisfied client.

The Red Seal expert technical advice and inspection service costs you nothing, of course.

*Pacific Coast Electrical Bureau*

447 Sutter Street, San Francisco  
601 W. 5th Street, Los Angeles

in county jail for not more than six months, or both, at discretion of the court.

The law is administered by a registrar, appointed by the governor for a term of two years. H. C. Sparks is the present registrar and his office is in the Arizona State Building, Phoenix.

## MONTANA

Three classes of licenses are issued in Montana, as follows:

Class A entitles holder to do any public work without limitation as to value of any single project and the fee is \$200.

Class B entitles holder to construct any project the value of which does not exceed \$50,000, and the fee is \$100.

Class C entitles the holder to do any work the value of which is not in excess of \$25,000 and the fee is \$25.

Penalty for conviction of any violation of the act is a fine not to exceed \$500 or imprisonment in jail for not more than 6 months or both.

James H. Stewart is chairman and George Fowler, secretary of the state board of equalization, Capitol Building, Helena, Montana.

## IDAHO

The Idaho state law of 1933 applies only to public works contractors who undertake any project estimated to cost more than \$5000, including both general and subcontractors. The law is administered by the state commissioner of public works as registrar.

License must be issued or denied within 30 days after filing of application and runs until expiration of the calendar year in which it is issued. Fee for an original license is \$100 and for renewal \$50; application for renewal must be made before March 1 following expiration. The license is non-transferrable and must be signed by both the registrar and licensee.

Penalty on conviction of any violation of the law is a fine of not more than \$300 or imprisonment for not more than 6 months in jail, or both.

## NEVADA

The Nevada state law of 1931 provides for "registering public works contractors" only who undertake any contract the total value of which exceeds \$10,000, but includes also subcontractors who do any part of a public works contract, the value of which also exceeds the sum mentioned. The law is administered by the state controller as registrar.

Licenses must be issued within 10 days after receipt of applications, must be signed by the licensee and are non-transferrable. A fee of \$200 must accompany the application and the license runs until expiration on June 30 of the fiscal year in which it is issued.

Penalty for violation of the law on conviction is a fine of not more than \$500 or not more than 6



# Estimator's Guide

## Giving Cost of Building Materials, Wage Scale, Etc.

In many instances NRA prices are still in force. Another month may find some material changes in price quotations. A 10% raise is being considered. Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

NOTE—Add 2½% Sale Tax on all materials but not labor.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight and cartage, at least, must be added in figuring country work.

Contract—1½% amount of contract.

### Brickwork—

Common, \$35 to \$40 per 1000 laid, (according to class of work).

Face, \$75 to \$90 per 1000 laid, (according to class of work).

Brick Steps, using pressed brick, \$1.10 lin. ft.

Brick Walls, using pressed brick on edge, 60c sq. ft. (Foundations extra.)

Brick Veneer on frame buildings, \$.75 sq. ft.

Common f.o.b. cars, \$14.00 job cartage. Face, f.o.b. cars, \$45.00 to \$50.00 per 1000, carload lots.

### HOLLOW TILE FIREPROOFING (f.o.b. job)

3x12x12 in. .... \$ 84.00 per M

4x12x12 in. .... 94.50 per M

6x12x12 in. .... 126.00 per M

8x12x12 in. .... 225.00 per M

### HOLLOW BUILDING TILE (f.o.b. job)

carload lots.

8x12x5/2 ..... \$ 94.50

6x12x5/2 ..... 73.50

Discount 5%.

### Composition Floors—18c to 35c per sq. ft.

In large quantities, 16c per sq. ft. laid.

Mosaic Floors—80c per sq. ft.

Duraflex Floor—23c to 30c sq. ft.

Rubber Tile—50c per sq. ft.

Terazzo Floors—45c to 60c per sq. ft.

Terazzo Steps—\$1.60 lin. ft.

### Concrete Work (material at San Francisco bunkers)—Quotations below 2000 lbs. to the ton, \$2.00 delivered.

No. 3 rock, at bunkers.....\$1.65 per ton

No. 4 rock, at bunkers.....1.65 per ton

Elliott top gravel, at bunkers.....1.75 per ton

Washed gravel, at bunkers.....1.75 per ton

Elliott top gravel, at bunkers.....1.75 per ton

City gravel, at bunkers.....1.40 per ton

River sand, at bunkers.....1.50 per ton

Delivered bank sand.....120 cu. yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

### AND

Del Monte, \$1.75 to \$3.00 per ton.

Fan Shell Beach (car lots, f.o.b. Lake Ma-jella), \$2.75 to \$4.00 per ton.

Cement, \$2.25 per bbl. in paper sks.

Cement (f.o.b. Job. S. F.) \$2.90 per bbl.

Cement (f.o.b. Job. Oak.) \$2.90 per bbl.

Rebate of 10 cents bbl. cash in 15 days.

Caleveras White .....\$6.00 per bbl.

Medusa White .....\$8.00 per bbl.

Forms, Labors average 25.00 per M

Average cost of concrete in place, exclusive of forms, 30c per cu. ft.

4-inch concrete basement floor .....12½c to 14c per sq. ft.

4½ inch Concrete Basement floor.....14½c to 16c per sq. ft.

2-inch rat-proofing.....6½c per sq. ft.

Concrete Steps .....\$1.25 per lin. ft.

### Dampproofing and Waterproofing—

Two-coat work, 15c per yard.

Membrane waterproofing—4 layers of saturated felt, \$4.00 per square.

Hot coating work, \$1.80 per square.

Medusa Waterproofing, 15c per lb., San Francisco Warehouse.

### Electric Wiring—\$12.00 to \$15.00 per outlet for conduit work (including switches).

Knob and tube average \$7.00 per outlet, including switches.

### Elevators—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, \$2800; direct automatic, about \$2700.

### Excavation—

Sand, 50 cents; clay or shale, 80c per yard.

Teams, \$10.00 per day.

Trucks, \$18 to \$25 per day.

Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

### Fire Escapes—

Ten-foot balcony, with stairs, \$75.00 per balcony, average.

### Glass (consult with manufacturers)—

Double strength window glass, 15c per square foot.

Quartz Lite, 50c per square foot.

Plate 75c per square foot.

Art, \$1.00 up per square foot.

Wire (for skylights), 35c per sq. foot

Obscure glass, 26c square foot.

Note—Add extra for setting

### Heating—

Average, \$1.90 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

### Lumber (prices delivered to bldg. site).

No. 1 common .....\$30.00 per M

No. 2 common .....24.00 per M

Selection O. P. common .....35.00 per M

2x4 No. 3 form lumber .....18.00 per M

1x4 No. 2 flooring VG .....47.00 per M

1x4 No. 3 flooring VG .....40.00 per M

1x6 No. 2 flooring VG .....42.00 per M

1½x4 and 6, No. 2 flooring .....50.00 per M

### Slash grain—

1x4 No. 2 flooring .....\$37.00 per M

1x4 No. 3 flooring .....33.00 per M

No. 1 common run T. & G. ....28.00 per M

Lath .....6.50 per M

### Shingles (add cartage to price quoted)—

Redwood, No. 1 .....\$1.00 per bdle.

Redwood, No. 2 .....80 per bdle.

Red Cedar .....75 per bdle.

### Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple.....\$120.00 M ft.

1-16x2¼" T & G Maple .....132.00 M ft.

7/8x3½ sq. edge Maple .....140.00 M ft.

13-16x2¼" ¾x2" 5-16x2" T&G Sq.Ed.

Clr. Qtd. Oak .....\$200.00 M \$150.00 M \$180 M

Sel. Qtd. Oak .....140.00 M 120.00 M 135 M

Clr. Pla. Oak .....135.00 M 107.00 M 120 M

Sel. Pla. Oak .....120.00 M 88.00 M 107 M

Clear Maple .....140.00 M 100.00 M

Laying & Finishing 13c ft. 11 ft. 10 ft.

Wage—Floor layers, \$7.50 per day.

### Building Paper—

1 ply per 1000 ft. roll .....\$3.50

2 ply per 1000 ft. roll .....5.00

3 ply per 1000 ft. roll .....6.25

Brownskin, 500 ft. roll .....4.20

Pro-act-o-mat, 1000 ft. roll .....12.00

Sisalralt, 500 ft. roll .....5.00

Sash cord com. No. 7 .....\$1.20 per 100 ft.

Sash cord com. No. 8 .....1.50 per 100 ft.

Sash cord spot No. 7 .....1.90 per 100 ft.

Sash cord spot No. 8 .....2.25 per 100 ft.

Sash weights cast iron, \$50.00 ton.

Nails, \$2.50 base.

Sash weights, \$45 per ton.

### Millwork—

O. P. \$100.00 per 1000. R. W. \$106.00 per 1000 (delivered).

Double hung box window frames, average, with trim, \$6.50 and up, each.

Doors, including trim (single panel, 1¾ in. Oregon pine) \$8.00 and up, each.

Doors, including trim (five panel, 1¾ in. Oregon pine) \$6.50 each.

Screen doors, \$4.00 each.

Patent screen windows, 25c a sq. ft.

Cases for kitchen pantries seven ft. high, per lineal ft., \$6.50 each.

Dining room cases, \$7.00 per lineal foot.

Labor—Rough carpentry, warehouse heavy framing (average), \$12.00 per M.

For smaller work average, \$27.50 to \$35.00 per 1000.

Marble—(See Dealers)

**Painting—**

Two-coat work .....	29c per yard
Three-coat work .....	40c per yard
Cold Water Painting .....	10c per yard
Whitewashing .....	4c per yard
Turpentine, 80c per gal., in cans and 75c per gal. in drums.	
Raw Linseed Oil—80c gal. in bbls.	
Boiled Linseed Oil—85c gal. in bbls.	
Medusa Portland Cement Paint, 20c per lb.	

**Carter or Dutch Boy White Lead in Oil** (in steel kegs).

	Per Lb.
1 ton lots, 100 lbs. net weight.....	103 <sup>1</sup> / <sub>2</sub> c
500 lbs. and less than 1 ton lots.....	11c
Less than 500 lb. lots .....	111 <sup>1</sup> / <sub>2</sub> c

**Dutch Boy Dry Red Lead and Litharge** (in steel kegs).

1 ton lots, 100 lb. kegs. net wt. ....	103 <sup>1</sup> / <sub>2</sub> c
500 lbs. and less than 1 ton lots.....	11c
Less than 500 lb. lots .....	111 <sup>1</sup> / <sub>2</sub> c

**Red Lead in Oil** (in steel kegs)

1 ton lots, 100 lb. kegs. net. wt. 121 <sup>1</sup> / <sub>2</sub> c	
500 lb. and less than 1 ton lots 121 <sup>1</sup> / <sub>2</sub> c	
Less than 500 lb. lots .....	13c

Note—Accessibility and conditions cause wide variance of costs.

**Patent Chimneys—**

6-inch .....	\$1.00 lineal foot
8-inch .....	1.50 lineal foot
10-inch .....	1.75 lineal foot
12-inch .....	2.00 lineal foot

**Plastering—Interior—**

	Yard
1 coat, brown mortar only, wood lath.....	\$0.60
2 coats, lime mortar hard finish, wood lath 70	

2 coats, hard wall plaster, wood lath.....	\$ .80
3 coats, metal lath and plaster .....	1.25
Keene cement on metal lath .....	1.30
Ceilings with 3/4 hot roll channels metal lath	.75
Ceilings with 3/4 hot roll channels metal lath plastered .....	1.50
Single partition 3/4 channel lath 1 side.....	.85
Single partition 3/4 channel lath 2 sides 2 inches thick .....	2.75
4-inch double partition 3/4 channel lath 2 sides .....	1.30
4-inch double partition 3/4 channel lath 2 sides plastered .....	3.00

**Plastering—Exterior—**

2 coats cement finish, brick or concrete wall .....	Yard \$1.10
2 coats Atlas cement, brick or concrete .....	1.35
3 coats cement finish, No. 18 gauge wire mesh .....	1.50
3 coats Medusa finish, No. 18 gauge wire mesh .....	2.00

Wood lath, \$5.50 per 1000.	
2.5-lb. metal lath (dipped) .....	.17
2.5-lb. metal lath (galvanized) .....	.20
3.4-lb. metal lath (dipped) .....	.22
3.4-lb. metal lath (galvanized) .....	.28
3/4-inch hot roll channels, \$72 per ton.	
Finish plaster, \$18.90 ton; in paper sacks.	
Dealer's commission, \$1.00 off above quotations. \$13.85 (rebate 10c sack).	
Lime, f.o.b. warehouse, \$2.25 bbl.; cars, \$2.15	
Lime, bulk (ton 2000 lbs.), \$16.00 ton.	
Water Board 5 ply, \$50.00 per M.	
Hydrate Lime, \$1.50 ton.	

Plasterers Wage Scale .....	\$1.25 per hour
Lathers Wage Scale .....	1.25 per hour
Head Carriers Wage Scale .....	1.10 per hour
<b>Composition Stucco—</b> \$1.60 to \$2.00 sq. yard (applied).	

**Plumbing—**

From \$65.00 per fixture up, according to grade, quantity and runs.

**Roofing—**

"Standard" tar and gravel, \$6.00 per sq. for 30 sqs. or over.  
 Less than 30 sqs. \$6.50 per sq.  
 Tile, \$20.00 to \$35.00 per square.

Redwood Shingles, \$11.00 per square place.  
 Cedar Shingles, \$10 sq. in place.  
 Roofing, with Gravel, \$3.00 per sq.  
 Slate, from \$25.00 to \$60.00 per sq. laid according to color and thickness.

**Sheet Metal—**

Windows—Metal, \$2.00 a sq. foot.  
 Fire doors (average), including hardware \$2.00 per sq. ft.

**Skylights—**

Copper, 90c sq. ft. (not glazed).  
 Galvanized iron, 25c sq. ft. (not glazed)

**Steel—Structural**

\$100 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities \$80 to \$90 per ton cost of steel, average building, \$89.00.

**Steel Reinforcing—**

\$85.00 per ton, set, (average).

**Stone—**

Granite, average, \$6.50 cu. foot in place.  
 Sandstone, average Blue, \$4.00, Boise, \$3.00 sq. ft. in place.  
 Indiana Limestone, \$2.80 per sq. ft. in place.

**Store Fronts—**

Copper sash bars for store fronts, corner, center and around sides, will average 75c per lineal foot.  
 Note—Consult with agents.

Tile—Floor, Wainscot, Etc.—(See Dealers).

**SAN FRANCISCO BUILDING TRADES WAGE SCALE**

Established by The Impartial Wage Board November 9, 1932. Effective on all work January 1, 1933, to remain in effect until June 30, 1933, and for so long thereafter as economic conditions remain substantially unchanged.

This scale is based on an eight-hour day and is to be considered as a minimum and employees of superior skill and craft knowledge may be paid in excess of the amounts set forth herein.

CRAFT	Journeyman Mechanics	CRAFT	Journeyman Mechanics	CRAFT	Journeyman Mechanics
Asbestos Workers .....	\$6.40	Iron Workers (Bridge and Structural) .....	\$9.60	Stair Builders .....	\$7.20*
Bricklayers .....	6.00	Iron Workers (Hoisting Engineers) .....	10.00	Stone Cutters, Soft and Granite .....	6.80
Bricklayers' Hodcarriers .....	5.40	Laborers (4-hour week) .....	5.00	Stone Setters, Soft and Granite .....	8.00
Cabinet Workers (Outside) .....	7.20*	Lathers, Channel Iron .....	8.00	Stone Derrickmen .....	8.00
Caisson Workers (Open) Water Work .....	8.00	Lathers, All Other .....	6.80	Tile Setters .....	8.00
Carpenters .....	7.20*	Marble Setters .....	8.00	Tile Setters' Helpers .....	5.00
Cement Finishers .....	7.20	Marble Setters' Helpers .....	7.20*	Tile, Cork and Rubber .....	7.20
Cork Insulation Workers .....	7.20	Millwrights .....	7.20*	Welders, Structural Steel Frame on Buildings .....	9.60
Electrical Workers .....	8.00	Mosaic and Terrazzo Workers (Outside) .....	7.20	Welders, All Others on Buildings .....	8.00
Electrical Fixture Hangers .....	7.00	Mosaic and Terrazzo Helpers .....	5.00	Auto Truck Drivers—Less than 2,500 lbs. ....	5.50
Elevator Constructors .....	8.68	Painters .....	7.00	Auto Truck Drivers—2,500 lbs. to 4,500 lbs. ....	6.00
Elevator Constructors' Helpers .....	8.00	Painters, Varnishers and Polishers (Outside) .....	7.00	Auto Truck Drivers—4,500 lbs. to 6,500 lbs. ....	6.50
Engineers, Portable and Hoisting .....	8.00	Pile Drivers and Wharf Builders .....	8.00	Auto Truck Drivers—6,500 lbs. and over .....	7.00
Glass Workers (All Classifications) .....	6.80	Pile Drivers Engineers .....	9.00	General Teamsters, 1 Horse .....	5.50
Hardwood Floormen .....	7.20*	Plasterers and Hodcarriers (See wage scale under Plastering) .....	8.00	General Teamsters, 2 Horses .....	6.00
Housemovers .....	6.40	Plumbers .....	8.00	General Teamsters, 4 Horses .....	6.50
Housemills, Architectural Iron (Outside) .....	7.20	Roofers (All classifications) .....	6.40	General Teamsters, 4 Horses .....	6.50
Housemills, Reinforced Concrete, or Rodmen .....	7.20	Sheet Metal Workers .....	7.20	Scrapper Teamsters, 2 Horses .....	6.00
		Sprinkle Fitters .....	9.00	Scrapper Teamsters, 4 Horses .....	6.00
		Steam Fitters .....	8.00		

\*Established by Special Board

**GENERAL WORKING CONDITIONS**

- Eight hours shall constitute a day's work for all crafts, except as otherwise noted.
- Where less than eight hours are worked pro rata rates for such shorter period shall be paid.
- Plasterers' Hodcarriers, Bricklayers' Hodcarriers, Roofers' Laborers and Engineers, Portable and Hoisting, shall start 15 minutes before other workmen, both at morning and at noon.
- Five days, consisting of not more than eight hours a day, on Monday to Friday inclusive, shall constitute a week's work.
- The wages set forth herein shall be considered as net wages.
- Except as noted the above rates of pay apply only to work performed at the job site.
- Transportation costs in excess of twenty-five cents each way shall be paid by the contractor.
- Traveling time in excess of one and one-half hours each way shall be paid for at straight time rates.
- Overtime shall be paid as follows: For the

- first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturday (except Laborers), Sundays and Holidays from 12 midnight of the preceding day, shall be paid double time. Irrespective of starting time, overtime for Cement Finishers shall not commence until after eight hours of work.
- On Saturday Laborers shall be paid straight time for an eight-hour day.
- Where two shifts are worked in any twenty-four hours, shift time shall be straight time. Where three shifts are worked, eight hours' pay shall be paid for seven hours on the second and third shifts.
- All work, except as noted in paragraph 13, shall be performed between the hours of 8 A. M. and 5 P. M.
- In emergencies, or where premises cannot be vacated until the close of business, men reporting for work shall work at straight time.

- Any work performed on such jobs after midnight shall be paid time and one-half up to four hours of overtime and double time thereafter (provided, that if a new crew is employed on Saturdays, Sundays or Holidays which has not worked during the five preceding working days, such crew shall be paid time and one-half. No job can be considered as an emergency job until it has been registered with the Industrial Association and a determination has been made that the job falls within the terms of this section).
- Recognized holidays to be: New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day, Christmas Day.
- Men ordered to report for work, for whom no employment is provided shall be entitled to two hours' pay.
- This award shall be effective in the City and County of San Francisco.

NOTE: Provision of paragraph 13 appearing in brackets ( ) does not apply to Carpenters, Cabinet Workers (Outside), Hardwood Floormen, Millwrights, or Stair Builders.

*Reilly Transparent Penetrating  
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Central Building, Seattle

months in jail, or both, at discretion of court.

Henry C. Schmidt is state controller and ex-officio registrar, Carson City, Nevada.

### UTAH

Utah state law of 1933 embraces the general provisions of the original California State Contractors' Law, requiring all general and subcontractors undertaking any work costing more than \$200 to be registered.

The original license fee is \$10 and fee for renewal the same, all licenses expiring on December 31 of each year. A license must be issued within 10 days after filing of application.

Violation of the law is punishable by fine of not more than \$500, a jail sentence of not more than 6 months, or both.

### BOOK REVIEWS

By EDGAR N. KIERULFF

**SPECIFICATION DOCUMENTS for Building Materials and Construction.** Classified and arranged by David H. Merrill, Assoc. Mem. Am. Soc. C. E. and Theodore C. Combs, Assoc. Mem. Am. Soc. C. E. 522 pages, cloth, \$5.00, fabricoid leather, \$7.50. Published for the Pacific Coast Building Officials Conference by R. C. Colling and Associates, Los Angeles.

Architects, engineers, contractors, building officials, and in fact, all who have to do with the

construction of homes or business and industrial buildings, bridges and highways, will find this book of unusual value.

It includes under one cover for the first time all specifications referred to in the Uniform Building Code under which 150 cities and counties in the United States operate. These documents are legally a part of the Code, and are required to be filed with city or county clerk. Until now they have been found only in pamphlet form separately and several only in typewritten or mimeographed sheets.

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compiled from many sources, classified and arranged for ready reference. Nearly every major engineering and technical society has assisted in their preparation. The publishers mention among the sources the following: American Society for Testing Materials; American Concrete Institute; National Fire Prevention Association; National Board of Fire Underwriters; Underwriters' Laboratories, Inc.; American Welding Society; American Wood Preservers Association; U. S. Department of Commerce, Bureau of Standards; American Institute of Architects; American Society of Mechanical Engineers; American Society of Refrigerating Engineers; and the Research Department of the Pacific Coast Building Officials Conference.

The text of "Specification Documents" is amplified by many drawings and illustrations. The book is so bound that it will open flat at any page.

### A HOUSING PROGRAM FOR THE UNITED STATES.

A report prepared for the National Association of Housing Officials. Publication No. 48, Chicago. Public Administration Service, 1935. Pp. v & 41. Fifty cents.

Some months ago the National Association of Housing Officials issued a slim pamphlet entitled "A Housing Program for the United States," endorsed by over eighty leaders in the housing movement and in government. This pamphlet has already gained acceptance as the most comprehensive and well ordered statement of the principles underlying a public housing program yet presented in the United States.

Its recommendations carried particular weight because of their origin. During the fall of 1934, the Association sponsored a visit to fourteen American cities by a group including Sir Raymond Unwin, former President of the International Federation for Housing and Town Planning, probably the leading expert in the field; Mr. Ernst Kahn, economist and former manager of housing projects at Frankfurt a/M; Miss Alice Samuel, a representative of the British Society of Women Housing Estate Managers; Mr. Henry Wright, planner and designer of pioneer low-cost housing projects in this country; and Mr. Ernest J. Bohn, of the Cleveland City Council, president of the Association.

At the conclusion of the tour, the party drafted a report, a summary of which was presented to a distinguished group of American leaders in the housing movement, in a four-day conference at Baltimore. That summary, revised in the light of their discussion, was issued as the pamphlet already mentioned.

Since then, many requests have been received for the full report upon which the summary was based. This full report, largely drafted by Sir Raymond Unwin, is now made available.



## ORIGIN OF NAMES OF CALIFORNIA COUNTIES

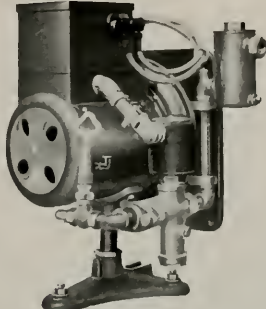
This is the third article in the series giving derivation of the names of California counties, the first appearing in September:

**Del Norte County**—Created March 2, 1857. The name of this county signifies "the north", and the county being situated in the extreme north (west) corner of the state derived its name from its geographical position.

This county, one of California's favored spots of natural charm, is a land where the waters of the Pacific wash a shore line of rare beauty, where mammoth redwood trees, giant firs, cedars, pines and verdure-clad valleys are cut by crystal-clear streams winding through forests and rock-ribbed canyons. Del Norte is not an agricultural county as the government forest reserve covers 78 per cent of the land area. Acres suitable for cultivation aggregate 90,000, of which 36,965 are under cultivation. With no railroads, Del Norte until recent years was California's last frontier. But state highways have made it easily accessible and Crescent City harbor, now under construction, is destined to become the sixth major harbor on the Pacific coast. It will provide an outlet for millions of tons of copper, gold ore, lime rock, 80 per cent of all the known chrome ore in the nation, silica, marble, manganese, coal and billions of feet of lumber. Del Norte hopes that eventually an air base will be established at Crescent City as it lies about midway between San Francisco and Puget Sound, making it a logical position for government-owned aircraft. Population: 4739. Area: 1024 square miles.

**Fresno County**—Created April 19, 1856. The word "Fresno" in Spanish signifies "ash tree", and it was because of the abundance of mountain ash in the mountains of this county that it received its name.

Fresno is California's sixth largest county. After losing 2000 square miles for the creation of two new political subdivisions it remains three times the size of the state of Delaware. Fifty years ago the county was a part of arid plains; wheat growing was a gamble against the rainfall; sheep and cattle roamed over immense areas; and land was almost free, so unpromising were conditions without irrigation. Today approximately 550,000 acres are irrigated and 1,493,477 are under cultivation. Fruit orchards cover 300,000 acres, or nearly 469 square miles, and the county ranks second in the state with 10,334 farms. The United States Department of Agriculture rates it as one of the richest counties, agriculturally, in America. Fresno produces 27 per cent of the country's

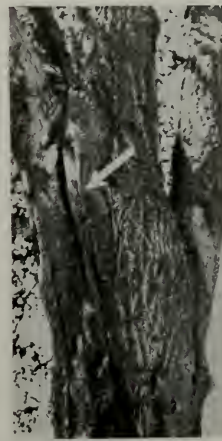


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Kettleman Hills, one of the oldest oil-producing districts in California, are in western Fresno. Statistics show that Fresno county has a greater consumption of electricity per capita than any other section of its kind in the United States.

In addition to a portion of General Grant National Park, Fresno has many beauty spots for the lovers of the outdoors. Population: 144,379. Area: 5950 square miles.

**Glenn County**—Created March 11, 1891. This County was formed out of the northern portion of Colusa County, and derived its name from Dr. Hugh J. Glenn, who, during his lifetime, was the largest wheat farmer in the state, and a man of great prominence in political and commercial life in California.

Practically every commercial farm product grown in California can be successfully produced in Glenn county. Alfalfa is one of the major crops, yielding from five to six tons per acre with five cuttings, and the acreage is increasing steadily, due to the never-failing demand for dairy products. Glenn is one of the leading counties in dairying in the Sacramento Valley.

A large portion of the beautiful California National Forest and the Orland Project of the United States Bureau of Reclamation are in this county. The Orland Project, of which the city of Orland is the business and geographical center, is the only government irrigation project lying wholly within California. It comprises 20,750 acres, with 146 miles of canals and laterals, 92 miles of which are concrete lined.

One of the largest irrigation districts west of the Rockies is the Glenn-Colusa. Its construction and later improvement entailed a cost of approximately \$6,000,000.

Great bands of sheep roam the foothill and mountain ranges and this section produces some of the earliest and best lambs in the state. In Western Glenn are deposits of copper, manganese, sandstone and soapstone. During the World



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War, large quantities of chromite swelled the country's mineral production. Population: 10,935. Area: 1337 square miles.

*Humboldt County*—Created May 12, 1853. This county derived its name from Humboldt Bay which was named for Baron Alexander von Humboldt, the eminent scientist, by Captain Ottinger of the ship *Laura Virginia*.

Known as the "Redwood Wonderland", Humboldt combines every known economic attraction with the advantages of mountain, forest and coast scenery, a world port and a famous highway. Industries range from the growing of flowers to the shipping of lumber and live stock, with butterfat, lumber, wool, beef, fruits and berries as the principal products. For 108 miles this county stretches along the scenic coast of Northern California, separated from Oregon by Del Norte county and with an average width of 35 miles between the Pacific Coast and Trinity. Rhode Island and Delaware could be placed within its boundaries and there would be 543 square miles to spare.

Motorists entering from the south over the famous Redwood Highway gradually enter Humboldt's primeval forest of giant redwoods stretching for 75 miles. There are 400,000 acres of redwood timberland. The cutting of timber and its manufacture into lumber give employment to 7,000 men whose annual pay roll check exceeds \$10,000,000. Some of the largest lumber mills in the world are located in Humboldt. Stock raising is an important industry. A recent United States farm census gives the county 100,000 head of sheep and 80,117 head of cattle. Humboldt is famed as a dairying district. The county is proud of its port at Eureka which during the past several years has handled \$25,000,000 worth of water-borne commerce annually. Population: 43,233. Area: 3575 square miles.

NEXT MONTH—IMPERIAL, INYO,  
KERN AND KINGS COUNTIES

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## DRAFTSMEN ORGANIZE

In Los Angeles a local Chapter of the American Society of Draftsmen has been launched with headquarters at 424 South Broadway. It is a non-profit corporation organized for the advancement of the profession of drafting and all its kindred arts. It will be the Society's aim to compile useful information pertaining to the profession and disseminate this data to the members with a view to unite, promote and standardize the profession in all of its various branches. Professional zeal will be fostered by establishing just and equitable principles and developing a broad acquaintance-ship among persons engaged in this work.

The movement in the South is reported to have met with an encouraging response and with improved conditions in the building industry a large membership is anticipated. The movement is national in scope and letters of inquiry have been received from draftsmen in virtually every state.

The immediate objectives of the Society are: To—

1. Establish drafting as a profession, through publicity and a program of constructive activities.
2. Establish minimum requirements to qualify a draftsman under the various classifications.
3. Protect and improve the ethics of the drafting profession.
4. Make this movement national in scope by the starting of chapters in the larger municipalities.
5. Operate a Placement Bureau for the purpose of placing men in positions commensurate with their ability.

Members of the board of directors of the Society are:

Henry Wall, president, Los Angeles City Planning Commission.

George Lane, vice-president, Union Oil Company, Engineering Department.

Dave Springmann, Union Oil Company, Engineering Department.

Bert Julio, registered civil engi-

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fornia.

Forrest Burke, Automobile Club  
of Southern California.

J. G. Gilbert, Texas Company,  
Engineering Department.

### STYLISTIC TRENDS

Taking cognizance of a new  
stylistic trend in home designing,  
the Federal Housing Administra-  
tion, through Miles L. Colean, di-  
rector of the Technical Division,  
has issued a report on the Divi-  
sion's findings for the guidance of  
field officers.

Mr. Colean finds the "modern  
design" to be more than a new  
method of exterior treatment. He  
finds this exterior treatment to be  
simply the final expression of fun-  
damentally related developments  
in plan and structure.

Designed primarily to aid valua-  
tors in rating modern structures,  
Mr. Colean has produced a report  
that includes a detailed analysis of  
the movement. He believes it to  
be of great present vitality whose  
sound elements are those arising  
from the desire to produce dwell-  
ings better fitted to present day  
living than those to which we  
have become accustomed.

Coincident with the appear-  
ance of the modern dwelling so  
designed is the home which pre-  
tends to be modern but whose new  
fashioned dressing is divorced  
from planning or structural trend.  
For the latter, Mr. Colean sees but  
a short life, believing new designs  
can prevail only when developed  
as a result of modern needs and  
a new mode of living.

Mr. Colean says in part:  
"Modern planning tends to ig-  
nore the principles of balanced ele-  
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which, for instance, characterize the Georgian or French Renaissance styles. It approaches the layout of the elements of a house strictly from the point of view of the use to which the rooms are to be put and to the functional relationships between rooms. Rooms combining several of the functions of living and the elimination of rooms devoted to special functions are frequent.

"The elimination of housework due to carefully studied functional relationships and the increase in comfort arising from the determination of spaces by their intended uses, obviously increase the amenities of living.

"More novelty, whether in plan, structure or exterior appearance, which is unrelated to underlying economic, social or climatic factors is not likely to have a long duration. Similarly, novelty in exterior appearance which is unrelated to logical developments in plan or structure is likely to earn the same fate.

"The concept of the modern house as a perforated box or an assemblage of grotesque shapes no longer prevails. Although it is true that simplicity of the forms to be dealt with and the abandonment of decorative features puts a heavy burden upon the imagination of the designer, it is nevertheless possible to produce a house which is pleasing to the eye, readily adaptable to topographical features and otherwise harmonious with its environment."

Modern architecture, Mr. Colean believes, has begun with a rationalized plan, has partially proceeded to a rationalized elevation and may proceed further and produce a structural system and a vocabulary of materials peculiarly suited to it.

"If it can make this third step," concludes Mr. Colean, "its justification in breaking away from the traditional handling of forms and materials will be strengthened and its chances of permanence as a true style will be greatly augmented."

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Of the Architect and Engineer, published  
monthly at San Francisco, Calif., for October  
1, 1935.

State of California }  
City and County of San Francisco } SS.

Before me, a notary public in and for the  
state and county aforesaid, personally ap-  
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duly sworn according to law, deposes and says  
that he is the Business Manager of The Archi-  
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☞ The December issue of *The Architect and Engineer* is to be a special one. Its subject: The Modern Movement in Architecture.

☞ It will be a representative summary of the best modern work of the coast. With it a few examples of the worst.

☞ For there is modernism. And there is pseudo-modernism.

☞ One has its roots deep in profoundly-based convictions and principles, a new form-sense. The other is a meaningless, imitative gesture.

☞ The typographical makeup of the December issue will be designed by Pauline Schindler. The advertising will consist of an illustrated portfolio of those factors which constitute the stuff of modern architecture.



# Classified Advertising Announcements

All Firms are Listed by Pages, besides  
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Star (\*) indicates alternate months.

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**GRADE SEPARATIONS**

The details of the Federal emergency grade separation program in California, involving 39 projects in 17 counties, to be financed principally with the \$7,500,000 of Federal Works Progress Funds allocated to California, have been announced by Director Earl L. Kelly of the Department of Public Works.

In releasing the list of projects for publication, Director Kelly said:

"The program is already underway with projects now being advertised and the Division of Highways is making every effort to speed up engineering plans and specifications, right of way negotiations and all preliminary details necessary to having men at work on the projects by December 15th as required by the Federal government.

"I am confident that at least \$5,000,000 of the \$7,500,000 Federal funds allocated to California under the Federal Emergency Relief Apportionment Act of 1935 will be under contract or advertised by that date, providing work for many men now on relief rolls which was the primary purpose of Congress in passing the act.

"While the major part of the expenditure will be taken care of by the Federal funds, the Government will not pay for any right of way or property damages and such funds must be provided by the State when the projects are on state highways, or by counties and cities on other roads or streets.

"The Government has placed several restrictions with regards to the way this money will be spent. It is required that the money be apportioned to the various railroads according to their mileage in the state; that at least 25% of the money be spent off of the Federal Aid Road System and at least 30% to 35% in municipalities or metropolitan areas.





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# THE ARCHITECT AND ENGINEER

AN ISSUE ON MODERN ARCHITECTURE

NUMBER

*How*

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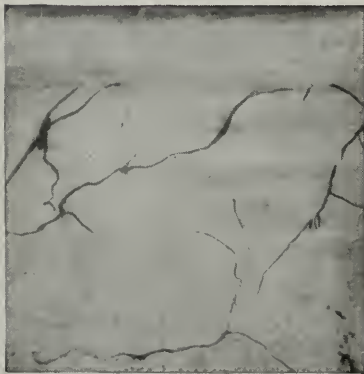
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# The Architect and Engineer

VOLUME 123 NUMBER 3 DECEMBER 1935

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 ARCHITECT AND ENGINEER, INC., 621  
 Building, San Francisco, California. W.  
 Ruff, President and Manager; Fred'k. W.  
 Penhorwood, President and Editor; L. B. Penhor-  
 wood, Secretary. Los Angeles office, 832 W. 5th  
 Street, New York Representative, The Spencer Young  
 Company, 299 Madison Ave., New York City. Sub-  
 scription price, United States and Pan-American, \$4.00  
 per year, single copy \$ .60. Canada and foreign  
 \$6.00 a year.

### ACKNOWLEDGEMENT

for their generosity in allowing the use of many  
 illustrations in this issue on contemporary creative archi-  
 tecture. Our thanks to The Architectural Record,  
 The Graphic, The Southwest Builder and  
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# NOTES AND COMMENTS

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The appearance of the preliminary sketch for the San Francisco Exposition, celebrating the opening of the Bay bridges, comes as something to be viewed with alarm,—were it not for the reassurance we have that this is not only very preliminary, but also probably has little to do with the ultimate actuality. It serves merely as a teaser.

Yet tease us it does.

The sketch announces in a preliminary way the general intent on the part of the Commission that the architecture of the Exposition shall be "modern". Unfortunately, it is less modern, as here shown, than "modernistic".

This issue of *The Architect and Engineer* has as its intent not only the presentation of a slice of the excellent modern work now being done on the Pacific coast,—equalled, in quality and in quantity nowhere else in the country,—but also the drawing of the distinction between the modern and the pseudo-modern.

The preliminary sketch of the Exposition could very well serve as an example of the pseudo-modern,—an empty style which, as Irving Morrow points out in an article later in the issue, is comparable with the sterility of "l'art nouveau" a generation ago.

No mere manner has survival value. Style to have validity must be a bi-product of a body of conviction, or principles, of basic essentials. Manner by itself, unrelated to these, has no reason for existence. It rightly offends those who take architecture seriously.

The Paris Exposition of 1900 was a horrendous example of style. It influenced its period wickedly, and accounts for much of the worst that arose in the structures immediately following. It was entirely unenduring, however. There was nothing in it to last; nothing to affect life positively.

The Chicago Century of Progress Exposition, however, occurring at a time of high interest and vitality in the movement for a contemporary creative architecture, necessarily had to accept its momentum. It will be remembered that a bitter struggle arose over the issue whether Frank Lloyd Wright should be invited to direct the architectural integration of the exposition. Either all or none, was the verdict. It is impossible to illus-

trate the central principle of organic integration fractionally,—and yet it is this which provides the keynote, the basis, of his work, and the work of all great moderns in architecture.

Wright was therefore left out. Individual "moderns" were invited to participate. Paul Cret and others drawn from various parts of the globe, did clever units in an un-unified whole. If you could abstract such single separate parts from the whole, they could be very much enjoyed, in a confused and interrupted way. There was abundance of "style", and even, within the confusion, of individual examples of taste.

Every great exposition tends to influence the architectural orientation which follows it. As a result of the Chicago Century of Progress Exposition we can expect, and we already observe, a development of "modern" building which has the unfortunate imbalance of style without content, lacking that essential relatedness of parts to the whole which underlies all good architecture. Nevertheless, the Chicago Exposition has at least helped to correct some of the worst tendencies in the pseudo-modernism which preceded it,—the silliness of empty geometrization, the tastelessness and the banality. There were good examples of the new space-feeling; there was inventiveness and freshness and vitality.

The San Francisco Exposition should logically take the next step in architecture. That is, a development of organic and three-dimensional thinking, of integrated relatedness of all parts to the whole. Architectural commissions for expositions are of necessity beset by many political pressures and motivations. Here is a major situation which offers opportunity for genius to operate—if we can allow ourselves the luxury of the selection of genius, instead of submitting to the forces of political expediency.

Architects have suffered frustration for so many years that it would be no wonder if there were a rush here to seize power, irrespective of talent.

A commission may decide: "We've got the power. We'll use it". Or, on the other hand, it may ask: "Who are the men, here, yonder, anywhere at all on the planet, who are most brilliantly equipped to create significantly and momentarily in basic modern terms?"



MASONITE ROOM IN BARKER BROS. TEMPO SHOW

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A MOUNTAIN-TOP RESIDENCE FOR MADAME GALKA E. SCHEYER, IN THE SANTA MONICA RANGE OVERLOOKING HOLLYWOOD TOWARD THE SEA.

RICHARD J. NEUTRA, ARCHITECT. GREGORY AIN, ASSOCIATE.

The house was built about the idea of a gallery for modern pictures. An equally important consideration was the sort of life its inhabitant desired to live there,—sunny, free, informal, out-of-door living, combined with a highly developed aesthetic emphasis.

The living-room, which constitutes the gallery, is therefore open to the south completely, with a commanding view of a panorama of many miles



# THE ARCHITECT AND ENGINEER 1935 DECEMBER



from the city to the sea. Its low doors of glass slide wide open with a push of the finger, upon a long outer gallery or balcony, wide enough for dining or resting. It is protected by an overhanging cantilevered roof, which protects the room from glare, and makes possible a soft reflected light for the pictures hung within.

These are hung upon walls of pearl-grey. They are illuminated at night when desired by portable electric lamps at floor level.

Of equal charm with the rest of the house is the bath-dressing room. No severity of sanitary emphasis dominates here. The frames of the small window-panes serve as shelves for minute sculptures from China, Bali, and New Mexico. Over the bathtub hangs a painting of Picasso.



The G. E. Scheyer residence, Los Angeles.  
Richard J. Neutra, architect. Gregory Ain, associate.

The living room with doors rolled open at night.

Entrance to the house is by way of a stairway from below, through an antechamber opened by automatic push-button from above. Privacy is thus assured for the living quarters above. Beyond the house at the side is a small intimate bit of garden, contrasting comfortably with the scale of the panorama commanded from the upper gallery. The garden is reached from the kitchen for informal meals, and from the sleeping room for sunning. An out-of-door tub of concrete, is set in the grass and fringed with green fronds, for leisured bathing.

**F**ORM follows function. With this principle modern architecture begins.

Liberation from the forms of tradition in architecture has at the same time meant liberation of the imagination to conceive new ways of life, new forms with which to frame and condition it.

An entirely new vocabulary of form was called for.

In the architecture of Frank Lloyd Wright there was an alliance of the principle of functionalism with a genius for space-form relationships. A timeless, an almost or quite classic, quality pervades these. Abandoning the symmetry of former periods, he took architectural form a step further. Like Schoenberg, like Stravinsky, he added the riches of new dissonance never before conceived.

The architecture of Wright,—heavy as some of it still is with ornament, not quite freed from the generation from which he is sprung,—flows part into whole, and part into part, plantlike, organic. It comes strangely alive.

Beside it, much of that work called "modern", and all of that to which the terms "moderne" and "modernistic" apply, is sterile or dead.

"The purpose of construction is to hold things together; architecture, to move us." With these words, le Corbusier acknowledges the essential emotive quality which makes a building come alive. In much recent work, the form fails to move us; it is purely functional, nothing more. But there is a quality inherent in the architecture of greatest of the moderns, which adds to the functional principle that essential difference between the mechanism and the organism. There is a living relationship between space and space, the three-dimensional plenum. The pure functionalist, operating in terms of reason alone, brings forth something less rich in feeling content, empty of that essence which distinguishes the work of art from the merely competent solution of a problem.

In our country Wright, and in Europe Mies van der Rohe, le Corbusier, have in some way been able to communicate something of this essential intangible to the creative individuals of the newer generation in architecture. In our time it is increasingly to be seen and felt as a pervading quality. Like the elements of "dynamic symmetry", it is doubtless reducible to reason; it has a mathematic, a logos, of its own. And like the piercing quality of sunlight, it is more difficult to communicate in words than to experience directly.

This intangible is some sort of an architectural vitamin. It is that quality or function which distinguishes the machine from the living organism.

**T**HERE is a good deal of very natural confusion at this point in the development of contemporary architecture, among those who have not quite put salt on the tail of this intangible.

Many of them are traditionalists at heart, reluctantly persuaded, recalcitrant in the realm of feeling; "trying" to be "modern" without the urge of a driving subjective necessity.

It is unfortunate for such temperaments to essay this transition. They work best in the time-period to which their own nature responds. And there is still need of them.

Further confusion has resulted from the cluttering of the streets of cities with facile, stylistic, and insincere, perversions of the basically modern in architecture. The brilliant early work of the movement in Europe, as well as of Wright and his school in the United States, was promptly followed by a stream of pseudo-modern imitations. They were, however, related to the essential bases of this work, about as are the syllables of a parrot to the utterance of a creative thinker. It is unfortunate that style is a thing so easy to imitate. Style was never an objective in the movement; it was merely a resultant, a bi-product.

**N**EVERTHELESS, although a high degree of awareness of the new form-vocabulary and its three-dimensional riches, is desirable in the creators of an architecture suitable to our time, its problems can be met upon a purely functional basis. If he begins with the social data which dictate his floor-plan, each item will fall logically into its place, the design creates itself as though spontaneously out of its own rationale. If he maintains complete functional integrity, avoids all pitfalls of arbitrary "effect", restrains himself from premature consideration of how the thing will LOOK, it will in the end be at least logical, honest.

Its very honesty will give it an aspect of clarity. And the eye will have pleasure in its integrity. That added pleasure in a form which has been allowed time on the drafting board to come alive, to make the transition from the mechanical to the organic, depends of course upon the seminal genius of the architect.

**N**OT merely physical necessity, but new social attitudes, require a new architecture. The development of a machine civilization, the perfecting of new and synthetic building materials, the multiplication of devices for efficiency in the mechanics of living,—these all serve and help to make possible a new type of building.

But there is in addition to these, a social reason for change. The desire to live simply and sunnily, to relate indoor more intimately with out-of-door living; the release of civilized men from the claustrophobia which made the primitive dwelling a fortress against fear,—these constitute a summons to a new architecture and determine its direction.



New social attitudes require a new housing. The spirited younger generation feels discontent in the mansions its fathers have prepared for it. In order to feel altogether at home, it must build its own.

**T**HAT dwelling is not "modern", because not functional, which lacks the quality of comfort. Clutteredness is not comfort, although the individual with an inferiority feeling, who is perhaps psychologically unsure of himself, perhaps arrays a multiplicity of possessions about himself, to reassure himself.

As we gain a greater general psychological health, we need fewer and fewer of these bulwarks of self-assurance. We become less and less afraid of bare space; we are, on the contrary, refreshed by it. In a civilization clamorous with sound and riotous with spectacle, the eye seeks gratefully for quiet regions of space uninterrupted by the uninvited and the irrelevant, free of decor. Silence becomes the dearest sound, the sought-for music.

The beauty of parts inter-related within the whole; of colors which have regard for one another; of rightness and suitability of material and texture; these supercede the pleasure other periods took in the single item of beauty, unrelated to others or to any totality, centered in solitude.

The relatedness of all parts, both functionally and spatially, is perhaps what causes, in a fine modern design, that sense of the organic on the part of the beholder. That well-proportioned relatedness results for us in a psychological affect, a feeling of well-being and inner satisfaction.

A deep delight in proportions is not new. The high development of classic Greek civilization was communicated into the proportions of its structures. Yet the Greeks were strangely limited dimensionally. Spengler based the primary hypothesis of his interpretation of the Greek culture upon this two-dimensional limitation of their experience.

We in our time experience dimension differently—a counterpart of our change from Euclidian to Einsteinian mathematics. The three-dimensional thrust in the architecture of our great moderns, is witness of an advance of consciousness beyond that of the Greek culture. It is the proof of our right to a new architectural vocabulary, indeed our need of one.

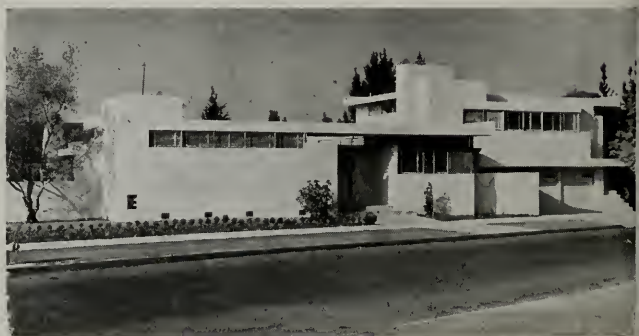
Our period has found a new language of proportion,—not only in architecture but throughout the arts,—a new form by which to communicate a content not yet thoroughly known. The artist is a man blindly bringing to birth an unforeseen content.

It is peculiarly right that this birth effort should fall to modern architecture to accomplish. For architecture not only speaks a language; it fundamentally conditions social growth, ripening, and change.

—P.G.S.



PATIO, THE G. G. BUCK RESIDENCE  
R. M. Schindler, Architect



THE G. G. BUCK RESIDENCE, LOS ANGELES  
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RESIDENCE FOR MR. AND MRS. G. G. BUCK, LOS ANGELES  
R . M . Schindler, Architect



LIVING ROOM, RESIDENCE FOR MR. AND MRS. W. E. OLIVER, LOS ANGELES  
R . M . S c h i n d l e r , A r c h i t e c t





RESIDENCE: W. E. OLIVER.

ARCHITECT: R. M. SCHINDLER.

LOCATION: THE LOT, FLAT IN THE CENTER, TOPS A RIDGE AND OVERLOOKS SILVER LAKE, LOS ANGELES.

PROGRAM: RESIDENCE FOR A SMALL FAMILY.

LAYOUT: THE BUILDING IS PLACED ON THE HILL-SLOPE SO THAT THE FLAT PORTION OF THE LOT MAY BE USED AS A PATIO. IN ORDER TO PRESERVE THE FOUR IMPORTANT VIEWS PERMANENTLY, THE HOUSE IS PLACED AT AN ANGLE WITH THE LOT LINES. THE GARAGE IS DUG INTO THE HILL, AND PROVIDES A ROOF TERRACE FOR A PLAY-ROOM.

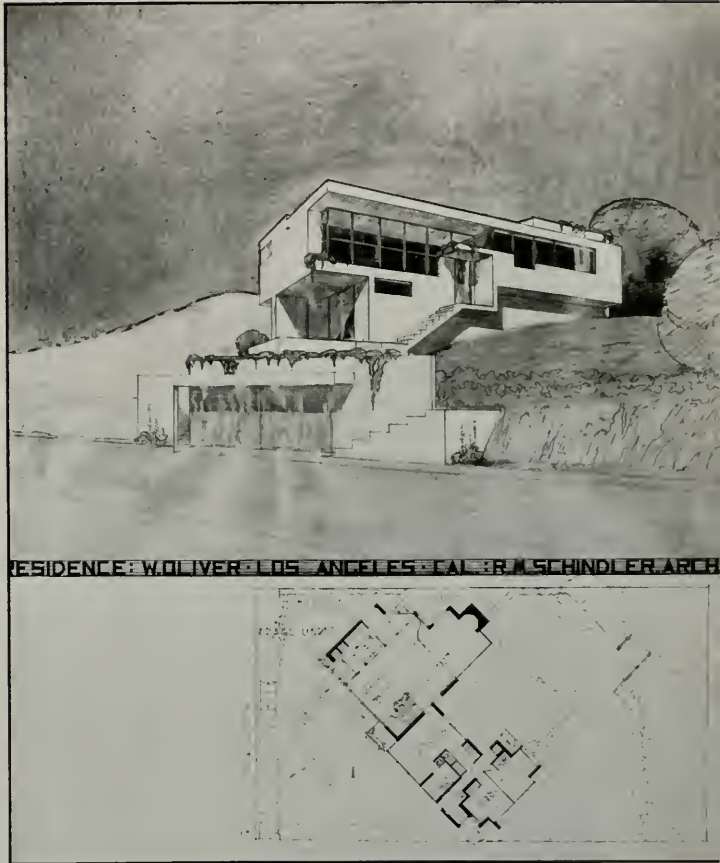
ARCHITECTURAL SCHEME: THE DEED OF THE LOT CALLS FOR A SLOPING ROOF. IT WAS USED TO INCREASE THE CEILING HEIGHT OF THE MAIN PORTION OF THE HOUSE, BUT TO REINFORCE THE SPACE UNITY FOR THESE ROOMS, ALL PARTITIONS ARE MADE OF FRAMELESS GLASS FROM THE DOORHEIGHT UP. THE SAME TREATMENT OF THE OUTER WALLS CONNECTS THE HOUSE WITH THE GARDEN. THE STREET, WHICH IS SEEN AT A DISTANCE, FROM BELOW, THE HILL IS STRONGLY ARTICULATED. THE GARDEN FRONT INSURES A HOMELIKE CHARACTER FOR THE PATIO BY A SMALLER SCALE AND A MORE DELICATE GRAMMAR.

CONSTRUCTION: WOOD FRAME, DUE TO LIMITED BUDGET. THE SAME STUCCO FINISH AND COLOR (TAN-YELLOW) FOR INTERIOR AND EXTERIOR. SLIDING SASH OF CADMIUM PLATED SHEET METAL.

THE OLIVER RESIDENCE  
R. M. SCHINDLER, ARCHITECT



Above, patio, looking toward the living room.  
Below, looking through the living room to the patio and the lake beyond. Stairway to upper playdeck for the children. The island situation of the lot on the hill makes possible this high degree of openness, without violation of privacy.



Floor plan, and entrance aspect from the roadway below. The Oliver residence.



# FURNITURE AND THE MODERN

## A THEORY OF INTERIOR DESIGN BY R. M. SCHINDLER

**T**HE contemporary house is not a new variation in style but a radically new conception.

The Interior Decorator who is called upon to furnish a conventional house finds a group of separate box-like rooms which he proceeds to fill with copies of ancient furniture pieces. His working equipment is some sort of a knowledge of the earmarks of the various styles, seasoned by a varying quantity of personal taste. The furniture is bought at a store by the piece or the set. The owner who has the deciding influence selects pieces which seem especially effective on the sales-floor. The design or pattern which can command attention amidst the surroundings of a furniture store is likely to be unfit to join a quiet, harmonious group at home. The average fashionably decorated house therefore repeats the atmosphere of the store, only slightly improved by a more conscious attempt at a color scheme.

In contrast with this, the modern architect who has become the space architect, sees the house as an organism in which every detail, including the furniture, is related to the whole and to the idea which is its source. This eliminates the possibility of selling contemporary interiors across the counter unless present sales techniques be completely revolutionized. The contemporary designer who tries to co-operate with the ordinary furniture producer will fail to achieve thorough results. Both the interior decorator and the store manager indicate a good grasp of their limitations by declining to handle contemporary work at present. Therefore the field is left entirely to the architect—the space architect.

During our time a new conception of architecture is being born, with an import which far exceeds the startling variations in the other arts. The old saying that "architecture is the mother of the arts" needs restating. Music, poetry and painting use motifs of the period of their birth through which to express their time. Creative architecture cannot stop at this but must visualize the life of the future, and develop a frame to receive it. It does much less express the present than to form the channels through which we may escape from it. The musician may use the shrillness and the speed of our transition period to enrich his moods and his language. The architect must steer us away from unhealthy whirls in our development towards a life which will satisfy our deeper instincts as human beings. And the house, like any personality, finds its fulfillment not in efficiency, practicability, structural obviousness, or stylistic loyalty alone, but in achieving "charm."

### SPACE ARCHITECTURE

The architect of the past saw the building as a mass of structural material which he carved. His medium of expression was the same as the sculptor's; mass form.

The architect of our time is discovering a new medium; space. The house of the future is a symphony of "space forms"—each room a necessary and unavoidable part of the whole. Structural materials, walls, ceilings, floors, are only means to an end: the definition of space forms. They lose their individual importance and are simplified to the utmost—a simple weave of a few materials articulates space into rooms.



# H O U S E

Contemporary work is architecturally important only as it enlarges our consciousness of this new medium. Most of the slogans used to praise new work ballyhoo superficial and transitory traits. Functionalists, internationalists, mechanists, are fighters in a literary arena which is apart from the workshop in which a new architecture is being developed.

# A R C H I T E C T

However, the architect is a new hand at furniture designing, which accounts for many of his recent mistakes. During the period of his initiation, striving strenuously for unity, he tried to make the furniture an integral part of his architectural scheme without sufficient regard for its use. The resulting lines and materials fitted admirably into the setting; but the furniture remained angular and unwieldy. The realization of this defeat threw him into the camp of the mechanist. He called the house a "machine to live in"; the chair a "machine to sit in"; forgetting entirely the basic differences between house and machine.

The essential characteristic of the machine is its capacity for exact repetition—its effort is one-dimensional. Yet the essence of life is variation. In direct contrast with the limited power of a machine. The house which helps articulate us must allow further variation. It must be four-dimensional.

The machine is merely our tool for production and our wonder at its achievement hardly justifies our taking it into the parlor. The sloganist who in an industrial era preaches "living in a factory" repeats the period of the primitive agriculturist who took the livestock (his production machines) into the livingroom.

The "functionalist's" attitude towards form is as primitive as is the mechanist's attitude towards life. He overlooks the fact that the structure of our machine is still infantile. It has remained a loose conglomeration of working parts and has not yet grown to become an organism. Respect for the achievement of the engineer should not induce us to substitute his form-stuttering for a fully developed form-language. The "functionalist's" chair usually remains a "contraption to sit in", on a level with the products of the nursery; combinations of pieces of wood, metal and string obviously fastened together by the little boy who likes to putter around.

Furniture cannot be designed according to such one-sided slogans. Its matured form is the result of many complex forces to which the architect must submit and which he must keep in proper relations. Unless eggs, sugar and flour have merged to become untraceable in the whole, the combination is not yet a cake.

The architect should not be blinded by temporary constantly changing products of inventiveness. His task leads beyond his own period: the creating and framing of a more human life by means of his new medium—space.

## NATIONAL CHARACTER

If we speak of civilization, we mean that part of human enterprise which in sheer self-defense struggles to mold human surroundings to respond to its needs. Whereas the animal is satisfied to meet the hardships of the outer world by a slow biological process of adaptation, the human mind carried the conflict into the enemy's territory by boldly civilizing it. The only point of view from which such civilisatory efforts can be judged is a pragmatic one. Their application is international. They may be reproduced and reused endlessly as long as their purpose is in demand.

This is in direct contrast with all traits of culture. The problems of culture are the problems of growth and development of the human being himself. Its products are

the result of self-realization. Dealing with personality (individual or group) they are unique phenomena of historical meaning. They are connected with a definite period of human development, not subject to conscious will. As the constellation at their source can occur only once, a repetition or recurrence of historical phenomena is impossible.

This gives the essential difference between the product of the engineer and that of the architect. The former's intent is entirely civilisatory, whereas the architect is both the child and the creator of a culture. His source is the life character of a group, nationally, racially, or locally defined, a source emitting a subtle unconscious influence to which he is forced to submit.

As a mere product of the civilisatory urge, all shoes might be alike. Compare, however, the shoe of Japan with our western one. The former is a geometrically shaped sole, which is actively held in place by the toes. It is related to the form of the foot only by its size. It may be understood as a piece of the floor covering lifted out and carried along for protection.

The western shoe, on the other hand, adapts itself closely to the human foot. It tends to become a layer of an artificial skin, following the foot's motion with the same pliability as the natural skin. Its shape is a dynamic conventionalisation of the human foot, not comprehensible through abstract geometric formulae. The significance of this difference becomes clear if you can follow its traces, or similar ones, through all the products of the human mind.

Compare the stiff, concealing Japanese "obi" with the flowing European sash, the eastern head support of wood or porcelain with the western pillow of eiderdown, and you will see the application of this realization to furniture design. Although furniture may have civilisatory use, in its ripe form it has undoubted cultural meaning. All thoroughbred western furniture will show dynamic conventionalisations of biological parent forms. And this is the real reason why we had to abandon the early stiff architectural designs of Frank Lloyd Wright and others—their unpractical unwieldiness being only a superficial excuse for the switch towards the "Functionalist."

## THE FLOOR

One of the important forces which subconsciously affect our furniture designs is supplied by the floor. Our conception of the significance of the floor changes with time and locality, and our furniture follows the development.

Historically there are two separate arche types of houses and consequently two distinct meanings of the house floor.

The one originates with the idea of the tent, the igloo, etc. Its essence is mobility and its scheme based on the idea of a sheltered bed rather than a house. Consequently its floor is contrasted with the ground outside. It is covered with textiles, and serves as a place to lie and sit upon directly. The need for mobility was first during the period of nomadic life, and became obsolete as soon as agriculture settled locally. That is the reason why the tent never reached a very high stage of development except in one country, Japan. Here the constant earthquake danger enforced a specification for house building which is akin to the one of the nomad—lightness, flexibility, ease of rebuilding. The Japanese house shows us the tent in its mature development. Its idea and origin explains why the Japanese divests himself of his shoes on the threshold, why he sits and lies on the floor, eliminating a necessity for furniture.

The second ground type of the house has the "cave" as its mother. It is static, permanent, and protects not only the bed but all of life's actions. The floor is understood to be part and continuation of the ground outside. Close contact with its roughness is objectionable and this leads to the invention of furniture: instruments to suspend the body and its attributes some distance above the floor. Instead of placing primary emphasis on textiles, this floor conception forms an incentive for inventing hard floor finishes, pavings, tiles, etc.

The urge to refine finally includes the out-of-doors. It submerges drainage and sewage below the street level. It leaves the way open for our present wish to join the indoors with the out-of-doors and to make garden and house one.

This battle to civilize the floor and remove its objectionable characteristics again reacts on our furniture design. Contemporary pieces lose the excessive height of the historical products—medieval chairs, etc.—and tend to bring us closer to the floor, until in recent years we are able to sit again on low pillows without losing social caste.

## SYNTAX

The artist's meaning is conveyed through the articulation of his medium—a language. It is subject to a grammar, similar to our vocal language and becomes understandable only to persons who are sensitive to relationships established amongst the elements of its vocabulary. The furniture designer has the following possibilities of form relationships at his disposal:

### 1. Repetition.

The most primitive relationship is numerical, the one of the row. Its possibilities range from the monotone to the tremor of the broken line.

### 2. Style.

Style is achieved by a similarity of form-vocabulary and form-feeling in all units which may remain separate entities. It is the main tool for harmony of the interior decorator, whose lack of real kinship for past styles reduces his language to stammering a few form words out of the period he imitates.

### 3. Form Continuity.

The various units are joined into one form-scheme of higher order through continuity. The artist uses this means of forging his details into an organism. The average interior decorator stops at the arranging of "groups" as closely connected as his imagination allows. Each room contains several such groups (mantel, candlesticks, picture, etc.) which are re-used endlessly and with slight variation. They make good photographs for publication purposes, but fail utterly to establish organic unity in the room.

### 4. Space Definition.

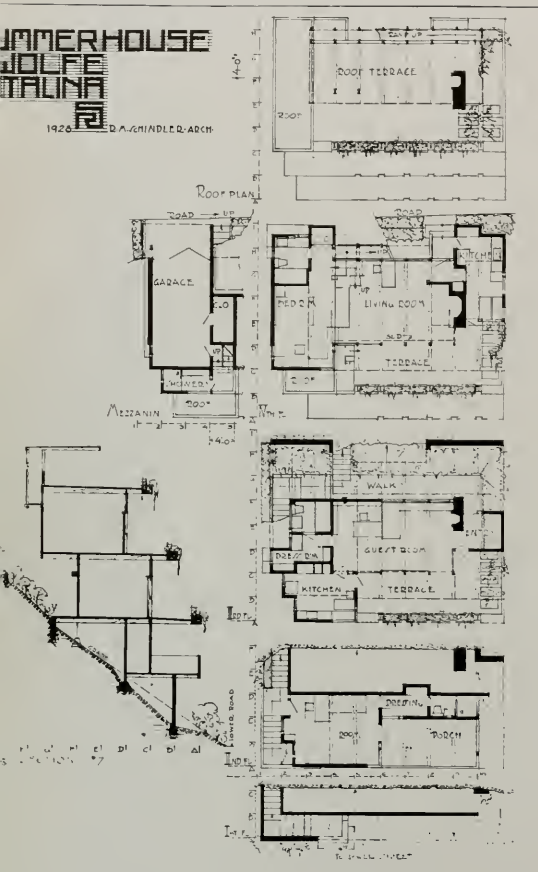
The new contribution of the space architect and the style-forming force in all contemporary work is space definition. The furnishings thus mold the space-form of the room. The period styles attempt at a convex-plastic form expression. All efforts to modernize such design through the use of futuristic, modernist form elements are therefore a contradiction of the essential element.

Furnishings lose more and more the character of convex-plastic individual pieces which clutter up the room. They merge instead with the house, leaving the room free to express its form.

This series of articles on the principles and problems of furniture design, will be continued in the January issue of *The Architect and Engineer* with a discussion by Schindler of The Contemporary House, Its Composition and Scale; on Furniture and Posture; on the Organization of the Room; and on Lighting.

**WOLFE HOUSE**  
**WOLFE**  
**CATALINA**

1926 R. M. SCHINDLER ARCHT.



Built in four receding layers upon a steep hill slope, the house is rooted into the hill without excavation. The rooms, with their seaward orientation, open upon garden terraces.

THE WOLFE SEA-EDGE HOUSE AT CATALINA ISLAND  
 R. M. SCHINDLER, ARCHITECT





ROOF TERRACE AND UPPER ENTRANCE FROM THE  
ROAD. THE WOLFE SEA-EDGE HOUSE, CATALINA ISLAND  
R. M. Schindler, Architect



THE RING PLAN SCHOOL.  
A PROJECT.  
by Richard J. Neutra, A. I. A.

For the traditional listening school, classrooms with four substantial walls, floors, ceiling, windows, and some provision for heat, light, and air are sufficient. In these schools the teacher does the thinking, planning and initiating, while children sit passively accumulating information about the world in which they live.

In the modern active school, children learn not alone through reading about what others have done, but by doing also.

What adult could not learn in the classroom the facts about driving an automobile and pass 100 per cent on examination? Having thus "learned" who would voluntarily drive an auto for the first time down one of the busy thoroughfares of today? The case is identical with the procedure of the listening-inactive school. True education is not teaching **about** doing things. It is **doing** things that facilitates child learning. School buildings planned for places to acquire facts through motionless receptivity defy every effort of administrators and teachers to meet present demands of progressive educational practices.

The three R's school building was not meant to be used as a miniature community. Yet we have done little to adapt it to our changed social and educational needs. Progress in school planning has been chiefly along the lines of architectural beauty and structure and improved sanitation and decoration.

The traditional floor plan of the classroom with adjoining cloak hall prevails. In this inadequate setting teacher and children, to keep abreast of modern thought and to meet its insistent demands, are called upon to overcome almost insurmountable difficulties. The removal of the difficulties and the provision of a school environment adapted to progressive educational methods entails no more than an enlightened point of view on the part of architects and others in charge of school planning.

# A REVISION OF THE CONCEPT OF THE SCHOOL BUILDING

A NEW PLAN FOR CALIFORNIA SCHOOLS  
RICHARD J. NEUTRA, A. I. A.

The earthquake of 1933 which revealed the structural obsolescence of various types of buildings, also presented the urgent necessity of redesigning the school plants in the Los Angeles City School District. Such a situation following a catastrophic event as in the case of the London fire in the seventeenth century, the New York conflagration at the beginning of the nineteenth, the Chicago disaster of the seventies, or the Japanese earthquake of a dozen years ago, offers not only a pressing obligation, but also a great opportunity. In all these cases the rebuilding was not only an attempt to eliminate future danger of similar damage by the introduction of new structural security, but an up-to-date adaptation of the planning to new modes of use and function, which had arisen previous to the disaster, but only now developed a possibility of material realization by a rejuvenated building activity. Thanks to these ill-fated occurrences, London became not only more fire proof, but an example of city planning to Continental Europe; New York overtook her old rival, Philadelphia; Chicago, with her first American city plan, her famous park belt and water front projects, earned the admiration of other cities on both sides of the Atlantic.

The principles of elementary education commonly accepted today call for a new and more flexible type of plant, which in its deviations from the traditional one requires experimental planning conservatively rechecked, and based on careful discussion with the managerial forces of the contemporary public school, with experts in curricular design, with teachers actively engaged in modern classroom procedures, with experts in physical training, illumination, hygiene, sanitation, structural engineering, landscaping, school furnishing.

The school plan shown establishes a one-story structure for twenty-five classrooms, including kindergarten; auditorium; administration offices; dispensary; lunch room; and physical training grounds. School corridors and stairways are economically eliminated. Great emphasis is laid on the intimate relation of interior and exterior spaces.

Each interior classroom is practically duplicated in floor area by an outdoor classroom, into which it opens by means of a wide glass door sliding under a roof overhang. Each classroom is further equipped with a two compartment work and storage space where the materials are handled which play such a significant role in the activity curriculum. There is light influx provided for in a manner that makes the grouping of children independent of a strictly one sided fenestration, and does away with the necessity for fixed seating arrangement, which interferes with any satisfactory unit of experience training.

Through this modern method, academic subjects are taught in close relation to the structural projects of the pupils, which often tend to extend the activity into the out-of-doors. The provision of a patio for such work unburdens the floor area of the room.

Fire risk for the children is practically nil, on account of free exits to the outside grounds. Earthquake risks are minimized by the one story character of the classroom wings, without any heavy superstructure, bulky roof, or attached dead loads.



THE CORONA AVENUE PUBLIC SCHOOL, LOS ANGELES  
RICHARD J. NEUTRA, ARCHITECT

This building is in accord with advanced principles of education, long hindered by the old-type classroom. It is undertaken as an experiment by the Los Angeles Board of Education, and looked upon with high interest by Boards in other cities, with heavy building programs to carry out. Clean lines, economy of cost, and safety against earthquakes, are afforded by the building. Simplicity and frankness of structure supercede the monumentality of other periods.





THE CORONA AVENUE PUBLIC SCHOOL, LOS ANGELES  
RICHARD J. NEUTRA, ARCHITECT

Each class-room opens out upon its own patio, a space for play, for class-room project activities, for the construction of miniature towns and historic models. A large part of the school life can thus be spent out of doors, and all of it is freed from the cramping influences of nailed-down desks and chairs in the typical school room of the old order reached by long corridors.



THE N. KOBLICK RESIDENCE, ATHERTON. RICHARD NEUTRA, ARCHITECT

## PROBLEMS OF PRE-FABRICATION

by Richard J. Neutra A. I. A.

**W**ILL the trade in that dwelling commodity, called livable house, be taken away from contractors? Will architects stop designing it? Pre-fabrication discredits old practices; it seems to make some clean-cut, sound promises. Why then is it slow in succeeding?

Technologically, not only promises, but numerous solutions, are at hand. Full shop-fabrication appears in many ways almost ready to reduce the building-site to a short-term assembling yard.

Psychologically, the matter is not sufficiently solved to secure financial backing for the industrially fabricated house; and piecemeal financial underpinning does not help much. Possibly it does harm in demonstrating half-raw results.

Industrial pre-fabrication of habitation is being announced by enthusiasts as today's great chance for capital investment and delectable returns. Why does not capital grasp this chance? Answer: There is no way known to ascertain whether a quantity acceptance will exist, when the market opens.

Is acceptance not insured if we offer:

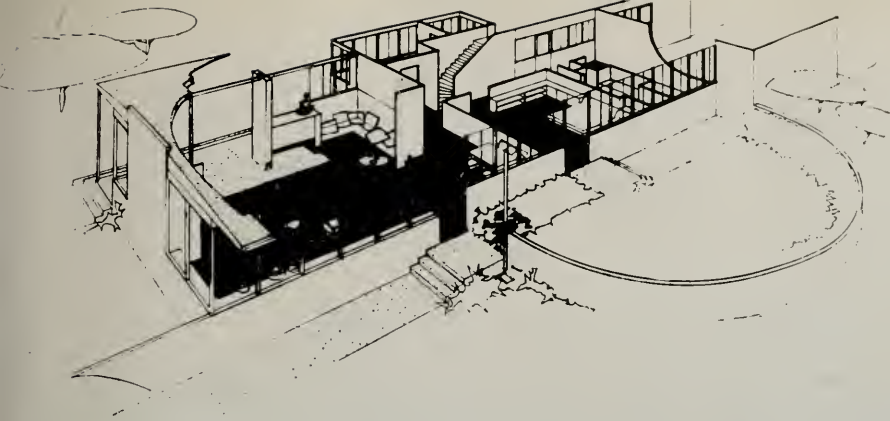
Low cost?

Smooth functioning of displaced equipment?

Quality with durability and low upkeep for a definite term of amortization?

Will not the pre-fabricated "house of the future" indeed offer this? And who could resist such an offer?

Well, the house of the future rises beyond a period of transient experimentation which so far, however, no experienced capitalist group wishes to finance. Low cost, smooth functioning, timed durability, and quality, are the by-product of a carefully modelled and perhaps yearly remodeled quantity production. It requires an expensive and definitely directed laboratory research in the co-ordination and integration of many elements. The problem is one of neatly joining all the parts to a consistent and combined performance, that will convince. Just what constitutes a livable environment at this historical moment becomes an issue of a high-priced campaign of convincing. To pay for the maintenance of laboratories, test executions, high-grade research-workers' salaries, may spell bankruptcy if sales on a large scale cannot soon be induced. Quantity sales cannot be secured except by a costly nation-wide advertising program. This again is senseless before the machinery set-up for production is at hand, so that orders can immediately be answered with deliveries. It looks like a vicious circle.



Big finance returns to the crucial question: Can pre-fabricated houses be sold in ten thousand lots, if only in such quantity can they be distributed at reasonable price and superior quality? No big manufacturer in the United States has, for example, yet succeeded in standardizing inter-city busses so that a machinery set-up for light all-metal frames has proven justified. This is characteristic, and speaks through analogy. The first motor-car models were developed by tinkering little mechanics, not by strong companies; and they were scarcely in conflict with accepted mass standards. The grandparents of most car owners of today had no private vehicles of transportation, and had no relation to the problem.

The well-integrated, standardized, pre-fabricated, assembled house is in conflict with mass prejudices, which have first to be dissolved. Obliging concessions to individualistic formal diversification threaten the manufacturer with economic failure. Model-consciousness would have to be created in consumers, as has been done in the automotive field. The hand-made house cannot be camouflaged, without losing prefabrication advantages. His heart-breaking small-scale efforts pave the way to an increasing confidence on the part of an increasing fraction of consumers. Each of his exemplary executions which, while individually put up easily prove themselves adaptable to series fabrication, gains the interest of manufacturers in neighboring fields of production. Each publicity success of his work brings the hesitant capitalist a step closer toward financing this experiment.

Recognizing many years ago the factors described above we have faithfully endeavored to give many individual jobs entrusted to us a character which would easily lend itself to series production. We further attempted to introduce meritorious materials in which strongly entrenched manufacturing interests are invested. This is opening a vista on new markets for steel, diatom, asphalt, etc.

We have combed the housing field to demonstrate the advantages of typification, wherever least prejudice resists it. Standardization of the elementary school, of the drive-in retail market, of the highway auto court and restaurant, the vacation cabin, municipal beach resorts, gasoline stations, has been attempted. A special study has been carried out to attack with the practice of prefabrication such dwelling problems which ordinarily offer difficulties in field construction: distance from sources of supply of skilled labor and construction equipment; unwillingness of lending institutions to give financial support or to take risk on thus handicapped projects. A principal case of this last sort is the hillside home to be erected on slopes of more than twenty degrees.

On the whole, we cannot doubt that a program of elimination of most of the field work and transforming the premises into a local assembling yard has gained ground in the United States. But I am fairly satisfied that there is left a significant role in this performance for the individual architect-engineer, within the limits of a period which marks the transition from field to industrialized shop work in the production of the human dwelling for the many.

I expect that the professionally skilled, conscientious planning expert will remain in demand and gain in prestige, while thousands of thoughtless jerry-builders may well find threatening competition in a systematically organized mass-fabrication.

## T H E B A R



BAR AND COCKTAIL LOUNGE, THE HOTEL SHORELAND, CHICAGO  
DESIGNED BY J. R. DAVIDSON

Materials and colors:

Floor covering: Three tones of brown velour carpet.

Walls in cocktail lounge: Pale gold tekko.

Ceilings: Light coral.

Walls in bar-room: Zebra flexwood.

Walls behind bar counter: Stainless steel, glass, and lacquered wood.

Upper part: Light yellow. Entire ceiling, light yellow.

Bar counter: Blue front, black ebonized mahogany tops; stainless steel back.

Canopy over bar: blue.

Seats: plain blue fabricoid.

Tables: Chrome metal base and glossy black formica top.

Lighting, entirely indirect.





BAR AND TAVERN, HOTEL KNICKERBOCKER, CHICAGO  
DESIGNED BY J. R. DAVIDSON, OF LOS ANGELES

Several existing odd rooms were combined for this bar and tavern. The combination of room shapes developed interesting perspectives and corners, which helped to create its atmosphere. Various ceiling levels and columns were designed to conceal existing vent ducts and plumbing pipes.

Materials and colors: the bar:

Ceiling and walls before bar, dark purple-brown. Bar-counter and wall behind it, crimson red lacquer. Ceiling, copper. Niches with shelves and windows, pale yellow. Footrail and counter trim, back bar and apron above counter, all of copper. Lighting, indirect.

Materials and colors: the tavern:

Walls and ceilings, varying shades of grey and tan.

Murals designed and executed by Miss Congdon.

Ceiling fixtures, polished copper. Tables and chairs, dark blue. Table tops, solid mahogany. Chair seats, pigskin.

Floor, accotile in light and dark grey, dark and light blue, dark and light purple-brown.

BED ROOM, THE HOTEL SHORELAND, CHICAGO  
DESIGNED BY J. R. DAVIDSON.

Hedrig Blessing





Hedrig Blessing

## T H E   H O T E L   B E D R O O M   R E V I S E D

Remodelled bedrooms in the Hotel Shoreland, Chicago. Designed by J. R. Davidson.

A demand for more condensed quarters in residential hotels has resulted in combining living and sleeping facilities in one room.

The furnishings of these single rooms, planned originally for bedrooms only, were too valuable and well-constructed to be replaced entirely by new pieces.

In the room shown, the highboy, easy chair, and desk chairs were remodelled. The studio couch utilizes existing box spring and mattress. Cover and slipcover for pillows to match, are especially tailored. Book and radiator cover are new but very simple in design. Desk is especially designed, with top of black Formica.

These and other model rooms were repeated, each through the same respective riser in the building, where the floor plans are identical. Variation was obtained with differences in colors, in accessories, in hardware, and other detail.

T H E S H O P



THE BACHELORS' HABERDASHERY, WILSHIRE BLVD., LOS ANGELES  
DESIGNED BY J. R. DAVIDSON  
Zebra wood panelling. Rug designed in relation to the floor plan of furniture arrangement. Smooth sleek technique with roughish masculine textures for upholstery.





## THE RESTAURANT

DESIGNED BY J. R. DAVIDSON

Exterior: of stone in warm tones of tan and salmon.

Interior: burnished copper ceiling and trim with indirect lighting.

Within the next hundred years a great deal of building is going to happen. Its nature and quality is being determined now in the schools of architecture. The lives of our children and grandchildren will be decisively conditioned by the youths who now sit before their drafting boards in these schools, evolving their first architectural concepts.

In Germany, the Bauhaus at Dessau, had, until Hitler, a healthy energizing influence upon European building. The very structure in which the school was housed, was a stimulant to fresh thinking.

This is now, however, banished, as is the flat roof from German residence design. There is supposed to be something subversive about the flat roof; the sloping covering has been ordered back.

Certain individuals in Europe have decisively influenced the modern movement in its early period,—Van der Rohe; Oud in Holland; le Corbusier, now lecturing in the United States. In Wisconsin, in our own country, the Taliesin Fellowship, on the hundred-acre estate of Frank Lloyd Wright, is a school of forty or so students. Under the stimulus of the personality of Wright, these students work in an atmosphere of practical idealism and imaginative freedom. Their recent group product, the major city plan shown at Rockefeller Center, was a witness to the liveliness and breadth of their work.

University schools of architecture suffer from the cramping limitations of political expediency. The beaux-arts tradition may not be waived. An "objective" mingling of "modernism" with tradition brings about confused results. The modern spirit is a revolutionary one and cramped in the presence of the aunts and the uncles.

Too often the members of the university staff are themselves so seasoned in old ways of thinking that they fail to experience within themselves the essential life feeling which makes necessary a basically new architecture. There is therefore a nostalgic staleness about their teaching concerning "modernism", which is to

them an alien, sterile, superficial, and perhaps annoying temporary phenomenon.

On the Pacific Coast an effort has been made in one of the university schools of architecture to develop a graduate school under the leadership of Neutra. If eventually this reaches fulfilment, an important step will have been taken. For there is a constant stream of young men coming to these creative leaders in the modern movement, asking for an opportunity to develop in the atmosphere of their studios.

In the schools devoted to the plastic and graphic arts, courses in architecture have necessarily crept in. In some of them, such as the Chouinard School in Los Angeles, the Rudolph Schaeffer School of Design in San Francisco, there is the sort of teaching which provides an approach to modern feeling in three dimensions. Indeed, a three-dimensional form-aesthetic, combined with an intelligent understanding of the social forces converging in our time toward change, are ideal prerequisites for the study of architecture.

The signature of such a teacher as Rudolph Schaeffer can be seen again and again throughout the city of San Francisco. A cafeteria, a shop window, a great department store, designed by himself or his students, communicate his own developing space-sense, and influence the taste of a city.

So in the south also, the influence of certain creators affects general tendency. It is markedly evident that in the last few years mushroom pseudo-modernism is being overcome; the new modern work going up is not shockingly bad as it was before 1929. Some of it is startlingly good. A far higher level has been attained there at last, the result of the patient agonizing struggles of the original few.

Go through the city, and in addition to the works of these "standard" moderns shown in this issue, you will find an apartment house, a group of residence studios, a small house, compelling scrutiny. Some of them good; some of them not quite yet good,—but increasing in integrity, beauty, in three-dimensional organization, in general excellence.



## THE HENRY COWELL RESIDENCE Forest Hills, San Francisco MORROW & MORROW ARCHITECTS

The design of the house was developed from a rigorous solution of highly-detailed living requirements presented by the client. There are four levels, with the garage at the top. The living room is above the bedrooms. The steep slope of the hill made basement excavation unnecessary. Materials and colors:

Exterior wood treated with a bleaching oil on east, south, and western exposures. Yellow creosote stain on the northern surface.

Windows, all steel sash. Living room, natural colored celotex. Floors and wainscot, Philippine mahogany.

Fireplace, turquoise blue tile.

Exterior frame of redwood ship-lap siding, with soffits of overhangs of lemon yellow. Main entrance, blue green. Metal sash, violet.



ROOF PLAN



SECOND FLOOR PLAN

Scale of feet



FIRST FLOOR PLAN

HOUSE FOR HENRY AND OLIVE COWELL  
Forest Hills, San Francisco  
MORROW AND MORROW, ARCHITECTS



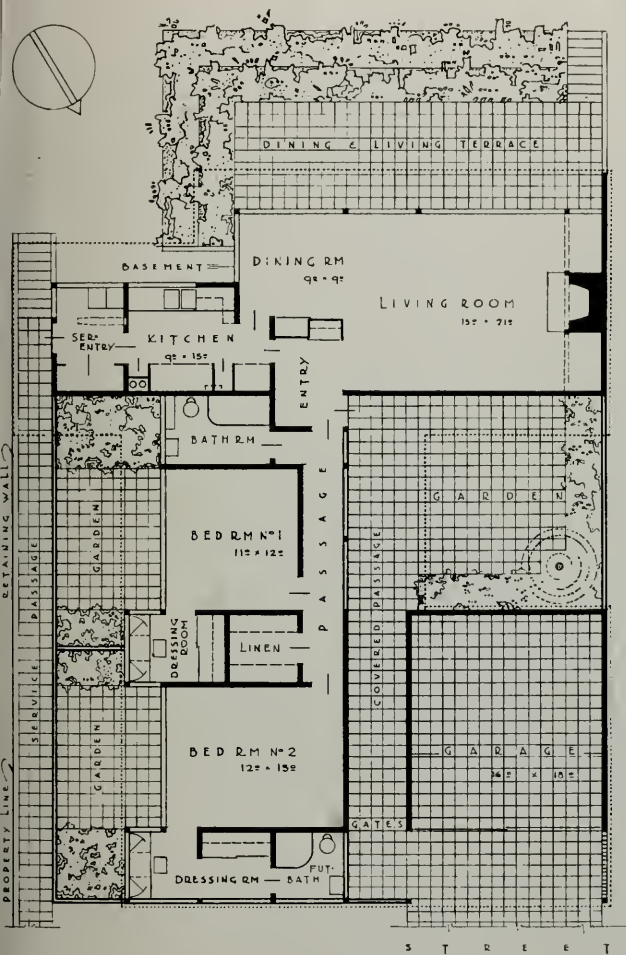


THE PAULINE LOWE RESIDENCE IN ALTADENA.  
HARWELL H. HARRIS, ARCHITECT

Designed for a forty-foot lot without vista, this little house nevertheless achieves a great deal of out-of-door privacy. The entrance approach is by way of a walk skirting the garage by a covered passage into a quiet garden bit. Each of the two bedrooms opens upon its own garden space also, the room continuing uninterruptedly into the garden by way of wide sliding doors.

Chinese grass rugs, unpainted celotex, and a series of windows making use of translucent glass-cloth, are materials which help to emphasize its somewhat Japanese simplicity and lightness of design.





FLOOR PLAN, THE PAULINE LOWE RESIDENCE  
 HARWELL H. HARRIS, ARCHITECT

The floor plan, after achieving honorable mention in a recent "House Beautiful" contest, won honors for a second time only shortly later. But not for its originator. A floor plan of basic identity with it, descriptive accompaniment and all, was submitted by two Chicago architects in the General Electric competition, and won a prize of \$2,500.

Delicate questions of plagiarism arose and remain unanswered. The idea that an excellent architectural solution should become the property of society,—a parallel to the socialization of medical knowledge,—was not questioned. But whether a prize for a solution by one architect, should be received by another who adopts it in toto, is a question of professional morality.



DINING PATIO, THE HOUSE OF PROFESSOR GRAHAM LAING,  
PASADENA. HARWELL H. HARRIS, ARCHITECT

THE FIREPLACE



FIREPLACE DETAIL, THE PAULINE  
WELLS RESIDENCE. HARWELL H. HARRIS, ARCHITECT

Fred Dapprich



FIREPLACE DETAIL, THE GRAHAM LAING RESIDENCE.  
HARWELL H. HARRIS, ARCHITECT



Roger Sturtevant

A BEACH HOUSE FOR MR. AND MRS. ROBERT SHAW, POINT RICHMOND. WILLIAM WURSTER, ARCHITECT

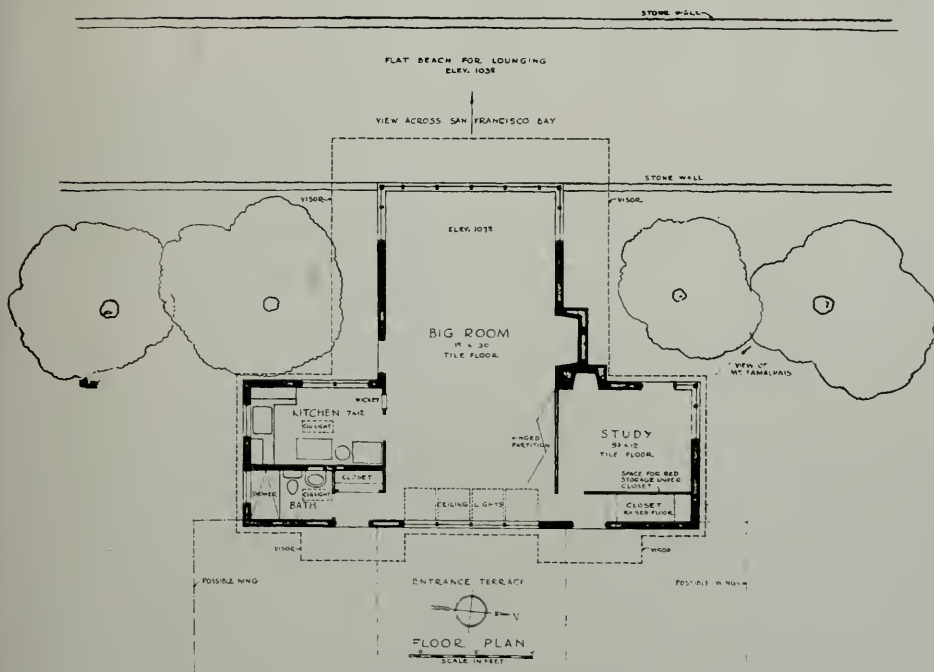
This house shares with the Kauns', shown on preceding pages, the sandy cove and eucalyptus grove facing San Francisco Bay. Also of minimum cost, it has utilized a beautiful new structural material, an aggregate of warm sand-color, which, reinforced by steel, provides inner and outer walls of the structure and needs no further surfacing or color treatment.





LIVING ROOM, SHAW BEACH COTTAGE, POINT RICHMOND. WILLIAM WURSTER, ARCHITECT

SANDY BEACH WATER AT HIGH TIDE  
ELEV. 1008



A HOUSE FOR MR. & MRS. ROBERT SHAW  
RICHMOND SHORE CALIFORNIA  
JUNE 4, 1935

WILLIAM WILSON WURSTER,  
ARCHITECT  
H. L. VAUGHAN - LANDSCAPE ARCHITECT



Brett Weston

A BATH BY R. M. SCHINDLER  
Integration of the part with the whole.

The mere replacement of new equipment for old, does not constitute a full realization of the possibilities of the kitchen. Like the bath, it has made a long evolutionary struggle. Having made a successful transition from scullery to place of sunlight-cleanliness, and efficiency, it is ready for the next developmental step; the arrangement of its separate units into a composition of organic integration. No form separate and unrelated to the others; all of them realized as parts of a unified whole.

The substitution of handsome or picturesque units cannot take the place of such organization. Once light and order and functional adequacy are achieved, the form-relatedness of parts is what constitutes beauty in a kitchen.

A KITCHEN BY RICHARD NEUTRA





A STUDIO RESIDENCE FOR EDGAR D. TAYLOR, BERKELEY.  
MICHAEL GOODMAN, ARCHITECT. JOHN FINN, CONSULTING CHEMIST.



INTERIOR,  
EDGAR D. TAYLOR STUDIO.  
MICHAEL GOODMAN, ARCHITECT.

**THE OWNER:** an artist, desired a house of minimum necessity, with simplest possible upkeep, and possible omission of plaster and wall paint. One large room desired, with much wall space. Hence windows are few, but with light evenly distributed.

**ORIENTATION:** Hardly any view, and windy exposure from the west. Hence economical placement of windows and ventrolite window to control the prevailing wind. Left extremely small.

**CONSTRUCTION:** Chemically weather-proofed white-pine plywood veneer  $\frac{5}{8}$ " thick, nailed over building paper to earthquake-resisting wood frame with wood joist floors. On the inside, white pine plywood  $\frac{1}{4}$ " thick, nailed over studs. Bracing value thus afforded is very great.

**INSULATION:** was found unnecessary, because heat loss resistance of this well is equivalent to that of a wall with 4 inches of solid siding, or 24 inches of brick.

**EXTERIOR FINISH:** Chemical treatment of exterior walls and doors to preserve the natural color and grain of the wood. Trim, redwood. Basement, cement finish. Shingles painted. Roof decks finished with tar and gravel.

**COST:** Including hot air furnaces, refrigerator, stove, gardening, and concrete flower boxes \$3700.



Lange-Resettlement Administration

## HOUSING FOR THE MIGRANT WORKER

**I**N CALIFORNIA there are over a hundred and fifty thousand human beings who live on wheels. They are the migrant agricultural laborers, their wives, and children,—upon whose work seasonal agriculture in California depends for the harvesting of its crops.

They have no fixed homes. They must move wherever the crops call for them. Beets, peas, lettuce, melons, walnuts, oranges,—these all have their season. A month, six weeks, three months perhaps. When the fruit is ready, pickers may be needed in hundreds, in thousands. An army of them arrives,—from nowhere?—on wheels; camps by the roadsides or in the river bottoms; and when the picking is over, disappears. Where?

Something on wheels is all they have of home; a mobile dwelling, which serves on the way to the job, and on the job itself.

The expansion of California agriculture on an industrialized basis and a vast scale, thus opens the first chapter in the demand for mobile housing in quantity.

The Rural Resettlement Administration has very logically undertaken the job of solving at least the most urgent social problems arising from the homelessness of this large group of the population. In California it has built, and administers, two camps for migrant workers. They are sanitary units primarily. They provide a supervised camping ground, where workers' own tents and their varied vehicles are arranged in orderly street-like rows. Bathing and laundry facilities are provided, and a modicum of physical decency thus becomes possible.

Marysville, California, calls itself on Chamber of Commerce posters "the peach bowl of the world," and requires every year during the peach-picking season an army of four thousand workers in addition to its own normal population. Here the first camp for migrant workers was recently opened with due pomp and ceremony, by the Rural Rehabilitation Division of the Resettlement Administration.

A felicitous choice of a camp director has established there an atmosphere of general neighborly goodwill, a beneficent change from the inescapable squalor of the squatters' camps which had originally arisen on the very same ground, and about which this camp was built at the height of the season. High point of the dedication exercises



occurred when a conflagration consumed, while the spectators cheered, the two wooden outhouses which had provided the total sanitary equipment for eleven hundred campers.

Unless, or until, the owners of orchards and farms provide adequate camp facilities for these seasonal workers, state, county, or federal housing of some at least minimal sort must be provided.

Tugwell, on his recent visit to the Pacific coast, approved the general program of the Resettlement Administration to build from fifteen to twenty such camps in agricultural and seasonal industrial regions. Sanitary units, tent platforms, and sterilizing plants, are included in the program for these. The first two camps built have been relatively experimental as to planning,—organic design, and the skillful solution of the problems arising in this new social-architectural organism, have still to be developed. Three preliminary conferences on Housing for Migrant Workers in California have been held, with Hugh Pomeroy as chairman and the Resettlement Administration sponsors. Reports on the preliminary social survey by Professor Paul Taylor, have been discussed; problems and objections to a program of housing for migrant workers considered; and a general psychological readiness for the undertaking of this responsibility by the Resettlement Administration, developed.

A next step is the perfecting of the basic plans for these camps.

But in addition to these, there are part-time farm-homes to be planned. The initial program calls for the building of 400, in numbers of four or five or six or so to a given region. They are not to be highly standardized; individuation and adaptation to the environment are a part of the intention. The home designs will therefore vary, no two alike. Placed with reference to available employment on farms and industries, their purpose is to stabilize the lives of migratory workers, and those of the 37,000 children in California who are a part of the problem. They will substitute for a squalid squatter situation, the possibility for workers and their families to integrate with community life. Architects of social imagination are now called upon for the solution of the problems of design, within limits of minimal expenditure, for these homes. Pre-fabrication of utility units will doubtless play a part. But we are fortunate in the open-mindedness of the Resettlement Administration, and in its desire to relate these homes to the landscape and the general social environment, and to the individuals who will occupy them and become their eventual owners. Adobe in New Mexico? Pre-fabricated walls of synthetic materials for California? Each locale requires its own solution. It is not to be sought on a mass-production basis.

Lange-Resettlement Administration



## MOBILE HOUSING CALIFORNIA 1935

But beyond this, lies another question. What of mobile housing? Is not this situation of 150,000 human beings on wheels perhaps one requiring the perfection of some sort of a mobile habitation also? Trucks, trailers, and battered improvisations on wheels now house this huge army of the road. Occasionally a horse provides the motor energy,—he can browse tax-free.

From the early gypsy-wagon to the first all-metal stream-lined trailer, complete with efficiently equipped kitchen and sleeping quarters; electrically lighted by connection with the motor battery; ventilated, cushioned, and cupboarded,—a long step.

Luxurious trailers have already reached a high level of design in the west. Airplane engineering and stream-lining, following close upon the earlier concepts of mobile housing as put forth in New York by Buckminster Fuller, have resulted in the achievement of a beautiful and compact little dwelling on wheels.

The house on wheels to be designed for the migrant worker and his family will of course differ from this. Social questions will be added to the original problems of economy and efficiency. Shall the house-on-wheels for the migrant worker open out, with folding doors and the possibility of additional rooms for periods when the car is at rest for a longish period? A more general consideration of the design of mobile housing is called for.

A conference on the subject, summoned by the Resettlement Administration, and bringing together architects, engineers, social experts, and those who know intimately the plight of the migrant worker, would come not at all amiss, and might initiate an important new chapter in the history of architectural design and of social planning.

Lange-Resettlement Administration



# MODERN ARCHITECTURE AND COMMON SENSE.

By IRVING F. MORROW, ARCHITECT.

What follows is not an orderly exposition of modern architecture. It is merely a discussion, in the light of common sense, of certain objections which have become part of the stock in trade of critics of modern architecture.

**Innovation in Architecture Is Presumptuous.**—If this view had maintained from the beginning, there never would have been any precedents. All traditions started as innovations.

**Modern Architecture Is Not Beautiful.**—Those who discuss aesthetic matters like to believe that beauty is something transcendent and immutable. Reduced to lowest terms, argument on the subject generally amounts to this—beauty is what the speaker likes, and he likes it because he is familiar with it. No objective definition of beauty is possible.

Modern architecture can readily be shown to be bad if you confine your consideration to the bad examples—which is equally true of any other style. Nobody with a modicum of critical faculty would assert that all examples of any style are either good or bad. An opinion which is founded on the abandonment of discrimination is a prejudice.

No movement can be judged on the showing of isolated examples or personalities. Advocates and detractors alike have shown a surprising disposition, for instance, to assume that modern architecture stands or falls, as the case may be, with Le Corbusier. Le Corbusier is a valuable propagandist; but his argumentative temper has won him a prominence entirely unjustified by his ability in the handling of form, which is very mediocre.

**Novelty Is Unimportant.**—Sometimes yes, and sometimes decidedly no. Each case can be evaluated only on its intrinsic merits. To assume that novelty as such must be pernicious is no less uncritical than to assume that it must be significant. Novelty has at least this important presumption in its favor — if experience proves it to be valid, it has enlarged the resources of the art.

**The Reputed Novelty of Modernists Are Not Original After All; Precedents Can Be Found for All of Them.**—To disparage a thing because it is at one and the same time novel and derivative is naive, to say the least.

The implication of this criticism is that modernists will

be chagrined to learn that they have ancestors. As a matter of fact, creative designers generally know more about their genealogy than the critics who stumble on recondite relationships.

**Modernists Are Merely Charlatans Striving to Shock.**—

On the contrary, there never has been a time when a greater amount of conscientious effort was applied to the detailed solution of specific problems. Creative designers are interested primarily in appropriateness to current conditions of execution and use. When circumstances point to novelty, they do not fear it; but in the last analysis it is more in the nature of a by-product. The hangers-on may seek surprise for itself. But the hangers-on will always be hanging on to one thing or another—to just what makes little difference.

**All Modern Designers Use The Same Features.**—To allege in one breath that modernists strive only for novelty, and in the next that they all do the same things is another of the methods devised by the critics for eating their cake and having it.

It is adduced as a weakness that all modernists use flat roofs, "ribbon" and corner windows, pipe rails, projecting shelves and canopies, and so on. It is accepted as entirely natural, however, that all classicists use columns, cornices, balusters, modillions, garlands, etc.: that all gothicists use pointed arches, buttresses, label molds, trefoils, quatrefoils, cusps, etc. In other words, the real objection is not to the common use of architectural motives, but to the fact that the vocabulary is unfamiliar, hence irritating. Anybody is entitled to his personal preferences; but the attempt to rationalize prejudices does not inspire confidence in a critic.

**Modern Architecture Is Not Human.**—Pressed on this point, the critic will add something about human nature never changing—a statement which is supposed to clinch any discussion when argument on its merits fails. What is human to you is what you are sufficiently familiar with to enjoy, and all taste is notoriously changeable. People who from infancy have been conditioned to the conception that only the obsolete is artistic will naturally resent a contemporary expression.

**Modernists Are Continually Explaining Their Architecture.**—Likewise critics are continually denouncing it. It is true that a work of art is valid only when it is its

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Following are condensed descriptions of Helena earthquake photos taken by a staff photographer of Pacific Builder and Engineer:

1—Northeast wing of Helena's new \$500,000 high school as it appeared after the major quake of Oct. 31. Note the complete collapse of the wing. Twenty-five employees of West Coast Construction Co., Seattle, general contractors on the building, were in this structure three minutes before it collapsed.

2—Same scene after the major quake of October 18, but prior to the shake of Oct. 31. Many Helena buildings which suffered relatively minor damage on Oct. 18, experienced major damage or total loss on Oct. 31.

3—Illustrating the same "before and after" theme is this picture of the East side Bryant School on Oct. 18.

4—Same school on Oct. 31 showing additional damage.

5—Apartment at Gem and Breckenridge streets. Wood frame, heating and brick veneer.

6—Old stone building used as office for Montana State Liquor Warehouse. Face of stone hewn and plastered. Face is backed up with loose stone.

7—Condition of resident hall at County Poor Farm, completely wrecked at 9:47 p.m. Oct. 18. Not one of the old people sleeping in this building was injured.

8—East end of National Guard Armory, Oct. 18.

9—Residence at 1506 Boulder Ave., living room in ruins; wood frame kitchen intact.

10—Old stone warehouse at 1322 Bozeman, used by Montana State Liquor Board. Liquor is being removed on the day following the earthquake. A power shovel demolished the balance of the building.



11—National Biscuit Company warehouse. Masonry construction without any bracing.



12—Chimney at St. John's hospital. Oct. 18. The shake on Oct. 31 caused the hospital itself to be evacuated, the patients being carried to Butte by train.

13—Careful perusal of this picture will reveal that a large truck is all that holds up the roof of the H. Earl Clack & Co. service station on Helena Ave., near the N. P. depot. Frame roof on timber supports.



14—Residence of Dr. W. E. Treise, 628 N. Ewing. No sheeting or bracing.

15—N. P. depot on Oct. 31. Clock stopped at 11:37 a.m., exact time of major tremor of that day. Depot is roped off and is not now being used.



16—Damage to parapet walls at Shrine Temple, Oct. 31. View taken on west side of building. East side is in about the same condition.



(Illustrations courtesy Pacific Builder and Engineer)

## THE MONTANA EARTHQUAKES

Engineers who visited Helena, Montana, following the series of earthquakes which began October 12 and have continued intermittently are agreed that few if any of the more important structures in the city were designed to resist earth tremors. Like Long Beach and Santa Barbara, the city has had to learn of its structural needs from costly experience. Three of the 1000 or more tremors which Helena has experienced since October 12 were major earthquakes.

The earlier tremors had greatly weakened scores of buildings which later suffered further damage, and even complete collapse. The October 31 quake had a heavy movement for four seconds, followed by lighter movement for 20 seconds. The epicenter was within four miles of Helena, northeast. The intensity was 16% of gravity, dominant period, .2 second.

Possibly the most startling loss was the partial demolition (army engineers estimate the loss at 75%) of a new high school erected last summer at a cost of \$475,000.

The construction was termed by H. M. Engle, civil and structural engineer for the Board of Fire Underwriters of the Pacific, as "a modern, fireproof building not yet occupied. . . . The construction was at least average and perhaps better—the wreckage cannot be accounted for by the usual alibi of 'poor construction'. Although it can be attributed to poor design so far as earthquake resistance is concerned, this is hardly a reflection on the designers, since the design was adequate for normal conditions and conformed to general practice in the Helena district. Previous to these shocks Helena has never been recognized as seismically active."

Part of the foundation stood on solid rock, part of it on filled-in material.

Damage to structures of inferior or antiquated construction was of the usual sort and offers nothing new to the structural engineer.

As pointed out by Mr. Engle, structural conditions in Helena were comparatively poor, the majority of mer-

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Commercial Exchange Building, Los Angeles. Picture on left shows building before cut in two; Photo on right shows appearance of building after rejoining the two sections.

## 13 STORY OFFICE BUILDING CUT IN HALF AND MOVED FIVE FEET

**A**N ENGINEERING and construction project which has attracted the interest of architects and engineers throughout the country has recently been accomplished in Los Angeles. A thirteen-story office building was literally cut in two and one section moved back five feet to conform with new property lines. The two sections were subsequently rejoined.

The alterations necessary in connection with this building gave the owners a very difficult problem to solve, since Olive street frontage, which was affected by the widening of the street, provided space for three fine offices on each floor, from the second to the thirteenth inclusive; also, a very modern and splendidly equipped corner storeroom, formerly occupied by the Owl Drug Company.

There seemed no alternative to cutting off this end of the building, which would greatly depreciate the value of these offices and storeroom because of the resultant loss of space as well as the demolition of the most valuable store and most desirable corner offices. After careful consideration and investigation, the owners of the building commissioned Walker & Eisen, architects, to draw plans preparatory to cutting off this end of the building. Although many engineers had been consulted, this solution was thought to be the only feasible one, and was about to be carried out, not only at great cost, but with anticipated loss of future rental revenues and considerable inconvenience to tenants, as well as jeopardizing the architectural design of the Eighth street front of the building.

However, before actual work was begun, it was decided to obtain the advice and opinion of George R. Kress, of the Kress House Moving Company, whose experience over a period of twenty years has included many difficult engineering feats similar to this identical problem, in buildings of lesser height. The plan which Mr. Kress suggested to the owners was so convincing for desired results and yet so audacious and revolutionary in operation, that it met with great opposition from many prominent builders and construction engineers.

The plan outlined to the owners was to cut and remove an eight-foot six-inch section of the building at a point about fifty feet east of the Olive street line of the building, where the light court begins, which would reduce in size only two offices on each floor, and shorten the corridor which lay between these offices. The problem was to move the Olive street portion of the thirteen-story building easterly the necessary five feet, thereby allowing the building to comply with the street widening specifications.

It was necessary for Walker & Eisen to draw new plans to meet with this idea of alteration, so that when the building was rejoined, the architectural treatment would be preserved.

The Kress Company's structural engineers, headed by Murray Erick, had to design their part of the work to insure the structural qualities of the building and to design new sub-footings upon which the portion of the building moved, including its own footings, would rest in its new location. A few of the more important problems to be worked out were:

One, the maintenance of that portion of the building moved in a level and plumb position at all times; two, the supporting of the column footings under which the Kress Company excavated ten feet below the basement floor line; three, the placing of moving equipment under the footings and the construction of reinforced concrete mat sub-footings of such dimensions as to insure perfect floor alignment of the portion of the building not moved with that of the portion moved, keeping in mind the fact that the portion moved would be placed on these newly constructed sub-footings, which must support the immediate load to which it would be subjected, and maintain the same without risking a possibility of the slightest degree of settlement.

This problem caused much concern, even to the consulting engineers, until it was explained by Mr. Kress that columns of the building would be concentrated on patented adjustable jacks, steel plates, steel rollers and tracks, which would be so placed that, as the



Commercial Exchange Building, Los Angeles, as it appeared after an 8½ ft. slice had been cut out of the structure.

(Courtesy Southwest Builder and Contractor)

building moved, it would compress the soil under the new mats as the load was gradually transferred thereon, the patented method of adjustable jacks, above described, making it possible instantaneously to raise the building, should the weight of same cause even the slightest degree of settlement in the newly constructed footings when subjected to the load.

On July 29 the physical work was actually started; on October 16, the moving equipment having been placed and the section removed, the much questioned and seemingly impossible engineering feat was accomplished.

It is a tribute to modern engineering that with the aid of mechanical devices a reinforced concrete structure approximately 55x50 feet and 160 feet high, weighing approximately 5000 tons was pushed and pulled a distance of five feet by 21 men exercising only their hand power. These mechanical devices consisted of machine-cut screw jacks specially designed for the purpose. Thirty jacks installed in the basement to push the structure were used at the start, but this number was reduced to 20 as soon as it began to



move. Eight men operated two each and two men operated the other jacks. Eleven men operated the pulling devices, one man to each. These devices were also machine-cut screws.

The jacks were two feet six inches in length and worked out of punt log shores, which made it unnecessary to reset them as the moving progressed. Each jack had a computed lifting power of 40 tons and a pushing force of 200 tons. The pulling and bracing devices, two of which were installed at every other floor, held the structure in perfect vertical alignment as it moved. Operation of the jacks and the pulling devices was controlled by electric lights so that the moving force was applied uniformly the full height of the building at all times.

The actual elapsed time required to move the structure five feet was nine hours. A two-story masonry garage abuts the building on the south. When the moving was started it was found clearance between the walls was lacking and operations were halted while the entire side wall of the garage was torn down as the only feasible solution of the difficulty.

Altogether about 75 men were employed on the job during the actual moving period, twenty-five of these giving their attention to the utility lines, pipes and wires, which had to be taken care of as the moving progressed, and others being required for incidental duties.

The new concrete footings on which the structure rests, are continuous and heavily reinforced. They extend to a depth of about ten feet below the footings under which the moving tracks were placed. When the building was in position underpinning was placed between the columns of the structural frame and the space between the old and new footings was filled with concrete.

The section cut out of the middle of the building was three and a half feet wider than the set-back. This allowed for cutting off and overlapping the reinforcing steel in the beams and floor slabs. Under the city ordinance the overlap must be forty times the diameter of the steel. Ordinarily steel ties are used on the overlap, but in this instance the overlapping bars were welded together so that the two sections of the building are firmly tied together. A tier of windows slightly wider than existing ones has been placed in the panel where the structures are joined. One point of great significance which should be borne in mind is that during the entire operation, with the exception of the eight-foot six-inch section removed, and the deep excavations in the basement, no portion of the building was disturbed, not even the

glass enclosing the storerooms on the first floor, and although the entire building was filled to capacity with tenants, none of these tenants were in the least inconvenienced; in fact, many of them were not aware that the building had been severed into two units and that in passing through the corridor tunnels they were walking through space, the top floor being 160 feet above the point of excavation in the basement.

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## THE MONTANA EARTHQUAKES

(Concluded from Page 55)

cantile buildings being of masonry, bearing-wall type; some were four or five stories high.

"An impartial appraisal of many of these old structures before the shocks would have condemned them so far as assured safety is concerned," Mr. Engle reports.

He continues: "Damage to bearing-wall buildings was the typical result of quakes on such structures: parapets came first, then front walls over show windows and gable walls parallel to interior framing fell out. Some walls collapsed in whole or in part, leaned and bulged out or were badly loosened up with the typical X-cracks in the wall panels.

"The people of Helena face a serious situation in the rehabilitation of their city. It is no disgrace to admit the inadequacy of past practice in design and construction, but it will be a disgrace if engineers, architects and residents of the district generally fail to profit from their lesson. Rehabilitation to be intelligent must be more than repair: it must include strengthening and additional safeguarding against future shocks."

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## SAN JOSE LIBRARY

In the event that the present library building in the State College grounds, San Jose, is sold to the State of California, the old post office building at Market and San Fernando Streets will be remodeled and used as a central library. Ralph Wyckoff, of San Jose, has been commissioned to work out the proposed alterations.

## TWO RESIDENCES

W. W. Wurster, 260 California Street, San Francisco, has completed plans for two residences, one at Paso Tiempo, Santa Cruz, for O. M. Lombardi, and the other at Visalia for J. F. Cutler.



# With the Architects

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## COURT HOUSE

Federal funds and a bond issue will finance the \$450,000 court house and jail at Salinas, Monterey County, plans for which have been prepared by Charles E. Butner and Robert Stanton. Construction is expected to get under way the first of the year.

## C. O. CLAUSEN BUSY

One of the busiest architects in San Francisco is C. O. Clausen, whose studio is at 746 46th Avenue. New work includes a Spanish style house in Santa Rosa for C. A. Kopli; dwelling on 15th Avenue, San Francisco for Harry Daniels; house on 10th Avenue, San Francisco, for Grace Ringressy; house in the Marina, San Francisco for T. J. Webb and a French style dwelling at Sea Cliff, San Francisco.

## EARLY CALIFORNIA RESIDENCE

Roland I. Stringham, 525 Market Street, San Francisco, has prepared plans for a \$25,000 brick veneer dwelling for Hebert C. Cheek to be built on the latter's property in Bowling Drive, Claremont Pines, Oakland. Emil Person is the contractor.

## PLEASANTON SCHOOL AUDITORIUM

Bids have been taken for the construction of a steel and concrete auditorium at Pleasanton from plans by Henry C. Smith, architect of San Francisco. The building will cost \$50,000.

## SCHOOL AND RESIDENCE WORK

New work in the office of Masten & Hurd, San Francisco, includes a \$70,000 grammar school building in Redding, Shasta County, and a \$30,000 district school at Truckee; also two dwellings costing \$10,000 each to be built on Sloat Boulevard, San Francisco for Matt A. Little.

## CALIFORNIA COLONIAL RESIDENCE

Plans have been completed by Messrs Hertzka & Knowles, 369 Pine Street, San Francisco for the first of a group of California Colonial dwellings to be built in Redwood City for George Becker. The house will have five rooms, two baths, 2-car garage, steel sash, shingle roof and stucco and rustic exterior.

## KINGS DAUGHTERS HOME

Plans have been completed by Julia Morgan, architect, Merchants Exchange Building, San Francisco, for a two-

story, 10-room brick and concrete addition to the King's Daughters Home at 3900 Broadway, Oakland. Construction is in charge of F. C. Stolte, 3455 Laguna Avenue, Oakland.

## ALAMEDA LIBRARY

Bids have been taken for the construction of a one-story frame and stucco branch library building in Alameda from plans by Carl Werner.

## SAN FRANCISCO SCHOOL

Construction will go forward at once on a reinforced concrete addition to Aptos High School, 30th Avenue near Lawton Street, San Francisco, at an approximate cost of \$100,000. Dodge A. Riedy, is the architect.

## QUAKE PROOF BUILDINGS

H. J. Brunner, structural engineer, Sharon Building, San Francisco, has been commissioned to prepare plans for restoring a number of public buildings at Helena, Montana, damaged by the recent earthquake. Lateral bracing will be used on some of the smaller buildings which were damaged slightly. The structure most damaged was the high school which was only recently completed. The auditorium and science wing will have to be completely replaced. Hugenin & Dekey of Helena, Montana, are the architects.

## CHICO HOSPITAL

Plans are being completed by Chester Cole for a reinforced concrete hospital at Chico estimated to cost \$75,000. W. Adrian is the structural engineer.

## REDWOOD CITY DWELLING

Plans have been completed and bids taken for a two-story brick veneer residence in Redwood City for Mr. and Mrs. W. O. Tyson. Gardner A. Daily, 210 Post Street, San Francisco, is the architect.

## TEN STORY APARTMENT BUILDING

The first large apartment building to be constructed in San Francisco since the depression is expected to be under way this month from plans by H. C. Baumann, architect. The ten-story structure will occupy the northeast corner of Broadway and Buchanan Street, San Francisco, and will represent an investment of \$250,000.

### SMALL HOUSE COMPETITION

The eighth Small House Competition conducted by House Beautiful closed on October 15 with 152 entries and with such a high percentage of fine houses that the prize winners are really distinctive examples of what has been done in the way of small house planning during the past year.

Plans and photographs were submitted in three classes, the first embracing houses of eight rooms or fewer; the second, houses of nine to twelve rooms, and the third, remodeled houses.

In Class 1, H. Roy Kelley of Los Angeles was awarded the first prize of \$500 and Harrison Gill of New York the second prize of \$300. First prize in Class 2 went to Richard Frederick King of Los Angeles, and second prize of \$300 to Robert Charles Dean of Newton, Mass. Evans, Moore and Woodbridge of New York received the special prize of \$300 for remodeled houses.

Honorable mention in the three classes were awarded as follows:

Class 1: First honorable mention to William Wilson Wurster, San Francisco. Others to receive honorable mention were Donald D. McMurray, Pasadena; David J. Witmer and Loyall F. Watson, Los Angeles; Royal Barry Wills, Boston; Palmer Sabin, Pasadena; Perry M. Duncan, New York; Edward Stuart Phillips, Meadville, Pa.; William Wilson Wurster, San Francisco; C. Roderick Spencer and John James Landon, Los Angeles.

Class 2: First honorable mention to William Wilson Wurster, San Francisco. Honorable mention to Eldredge Snyder, New York; Royal Barry Wills, Boston; Palmer Sabin, Pasadena.

Class 3: Honorable mention to John F. Staub, Houston; James Mackenzie, New York.

The awards were made by a jury of five, composed of Cameron Clark and Arthur C. Holden of New York and Russel C. Walcott of Chicago (all members of the American Institute of Architects), Arthur Samuels and Ethel B. Power of House Beautiful.

### F. M. THEBO

Fenwick M. Thebo, who supervised the construction of the Southern California Edison Company's hydroelectric projects at Huntington Lake on Big Creek in Fresno County, died at his home in Alameda, aged 60 years. He was senior member of the construction firm of Thebo, Starr & Anderton, Inc., of San Francisco.

### TILE COMPANY CHANGES PERSONNEL

Paul G. Larkin has acquired the interest of F. P. Schemmel in the firm of Solon & Schemmel, tile and pottery manufacturers of San Jose, and the firm name hereafter will be Solon & Larkin.

### ARCHITECT DIES OF INJURIES

**Fred M. Schadler**, architect, of Reno, Nevada, died November 6 of injuries caused when he was struck by an automobile while crossing a street a week previous.

### PERSONALS

**Perrine & Mackie**, **Herbert E. Mackie**, architect, have moved their office from 506 to 908 Western Pacific Building, 1031 South Broadway, Los Angeles.

**G. Albert Lansburgh**, architect, has moved his office from 140 Montgomery street, San Francisco, to the Bond Building at 321 Bush street.

**Henry H. Meyers** and **Miss Mildred Meyers** announce the removal of their office in San Francisco to the new studio building which Mr. Meyers has just completed at 2024 Central Avenue, Alameda.

**Martin C. Parker**, architect, has moved his office from Long Beach, California, to suite 528 Aztec Building, San Antonio, Texas, for the general practice of architecture.

### BUILDING SITUATION CONTINUES UP

More than twice as many family dwelling units were built during the first 10 months of 1935 as in the entire year of 1934, according to estimates of building permit records from all cities of 10,000 population or upward.

The 9,313 units constructed in October exceeded the October 1934 record by 158 percent. From January 1 to October 31, dwelling units provided numbered 66,261, which is 150 percent more than during the same period of last year and 112 percent more than in the 12 months of 1934. The September to October gain of this year was 28 percent.

The estimates are based upon building permit records from 775 cities, available through the U. S. Department of Labor.

### EARL B. RUSSELL, C. E.

Earle B. Russell, junior member of the Engineering firm of Ellison and Russell, Pacific Building, San Francisco, died December 4 following one week's illness of internal hemorrhages. Mr. Russell was taken ill at his office, November 26. He was 47 years of age and a native of Santa Maria.

Mr. Russell took his degree with the class of 1911 at the University of California. Thereafter he was employed with several local contracting firms, including MacDonald and Kahn and Clinton Construction Company. For a period he was in the office of Charles Derleth and from there in 1923 joined W. H. Ellison in the firm of Ellison and Russell, consulting engineers. He was in charge of the Ellison and Russell office in Los Angeles for two years and then returned to San Francisco when that office was closed. He was the author of "Analysis of Continuous Frames," a volume which brought him international recognition.

Mr. Russell was a member of the Masonic order, Charter Oak Lodge, Berkeley, Islam Temple of the Shrine and Scottish Rite Bodies of San Francisco.

## SAN FRANCISCO CHAPTER

The regular monthly meeting of the American Institute of Architects, Northern California Chapter, was held at the San Francisco Museum of Art, Tuesday, November 26.

A general discussion followed the report of Henry H. Butterson, chairman of the committee on practice, relative to a proposed revision of minimum fees. These would correspond with the fees lately approved by Southern California Chapter.

It was moved by Mr. Allen and carried that copies of the proposed fee schedule be sent to the membership with request that criticism and suggestions be returned prior to January 1, 1936.

Upon motion of Mr. Evers, the sum of \$10 was authorized as a contribution to the Massachusetts Billboard Law Defense Fund.

At the close of business Mr. Corlett presented "The Possibilities of Color Photography in Architecture," illustrated by projection.

Recent developments in color photography were explained, while views covering a wide range of subjects were shown on the screen. These, prevalently, were of fine composition and portrayed the accurate degree in which color may be reproduced through the use of color films.

The exhibit was of amazing interest and pleasure to the members and prompted generous praise of the speaker's artistry in this field.—J. H. M.

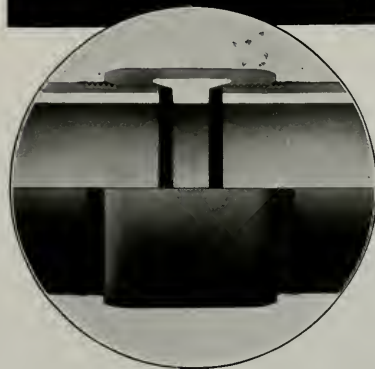
## CHAPTER ELECTS NEW OFFICERS

At the December meeting of Southern California Chapter, A.I.A., the following officers were elected for 1936: Ralph C. Flewelling, president; Eugene Weston, Jr., vice-president; George J. Adams, secretary, and Samuel E. Lunden, treasurer. S. M. Marston, director for the three-year term. Henry Carlton Newton and Reginald D. Johnson are the hold-over directors. The November meeting was held jointly with Southern California Chapter of the American Institute of Decorators. Bernard Callingham, president of the decorators organization, was one of the speakers. Major Roger Brunswig of Paris, France, a designer and manufacturer of textiles, was another speaker.

Lindley Bynum, field representative of the Henry E. Huntington Library in San Marino, described the material available in the library and art gallery. A number of the Chapter members visited the library during the afternoon of November 12.

## TOWN HALL AND FIREHOUSE

Mill Valley will have a \$50,000 town hall and firehouse, plans for which have been prepared by D. E. Jaekle and Walter C. Falch. Construction will be of reinforced concrete and brick. The proposed town hall at El Cerrito has been abandoned, the bond issue having failed to carry.



Section of National DUROLINE Pipe-coupling and joint. (Note special highly corrosion-resistant joint compound on end of pipe and on threads).

When Duroline Pipe is installed in hot- and cold-water supply lines, one thing is certain—even if the water is of a corrosive nature, its destructive influence is of no importance. Since the Duroline lining does not permit water to touch the pipe metal—no corrosion is possible. Therefore, you can have all the desirable features of steel pipe, such as uniform high strength, ductility, etc., with freedom from corrosion and tuberculation, at a cost only a trifle higher than that of galvanized pipe.

Architects, engineers and contractors will win appreciation for themselves and make a better investment for the owner by specifying and using this modern pipe in any type of structure, whether it be office or public building, hospital, school or residence. NATIONAL engineers will be glad to give further information. A bulletin on Duroline will be furnished on request.

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## THE FHA TAKES A STAND ON MODERN DESIGN.

IN ANTICIPATION of applications for insured loans on homes of so-called "Modern" design the Technical Division of the Federal Housing Administration has just issued a report setting forth a treatise on modernism and offering certain considerations where such designs are involved.

The report points out that the risk rating is affected by the relation of property to neighborhood and by the rate of obsolescence which the design on a house may suffer.

While obsolescence is nothing new in real estate, a stylistic change is an added factor, particularly while in its formative stage, the report continues.

In brief form some other suggestions contained in the report are as follows:

Modern design is characterized by functional planning to meet efficiently present-day modes of living, with economical use of materials, with exteriors frankly expressing the plan and relying solely on texture, color and arrangements of masses for esthetic effects. If achieved the result should be a high rating.

The relation of the house and its component parts to the lot is a noteworthy advance in most modern designs. The location of the garage near the street and the kitchen on the front allow the principal rooms to adjoin a garden at the rear. All of this depends upon the skill of the designer and the conformity to neighborhood patterns.

A house, modern in plan, is rarely adaptable to period treatment on the exterior.

"In any true stylistic development the movement is first dictated either by planning or structural considerations. Exterior treatments are in fact merely labels of what have taken place elsewhere and are, therefore, secondary features of a style. It is extremely important to keep this in mind. A style which is merely a new decorative system, a fashion in dressing an exterior, but which is divorced from planning or structural trend, is very apt to be short lived. Both tendencies are in evidence at the present time.

From the standpoint of real estate obsolescence it is desirable that designers be guided by skillful adaptation and gradual evolution to improve the elements of plan and structure. To produce beyond this calls for an investigation of the factors which impel the movement. The appeal of novelty is one such factor, and while its qualities may be fundamental, its effects are various.

With the improvement of taste the design factor has become more important and obsolescence on this score has been rapid.

"It is essential, therefore, to determine the fitness of Modern design, from the point of view of exterior

appearance and decorative detail, to existing or anticipated ways of living and to distinguish, if possible, between what may be a mere fad and what may have an indigenuous relation to the underlying factors."

There is no quarrel with Modern design. A flat roof is no more vital in Modern than in Georgian architecture. In some locations, because of added out-of-doors space, its rating might be positive; while in others, owing to climatic conditions and loss of heat, the rating might be negative.

"The corner window, frequently considered a Modern label, is at least as old as Gothic. If its use reflects the requirements of desirability for a window in that location, it is a rational adjunct of design. If it is used merely as a trade mark, it is only a fashionable imitation. In neither case does it have any essential relation to Modern architecture."

A more vital characteristic is the use of large glass areas, reflecting the vogue of sunlight and intimacy with the out-of-doors. This, like flat roofs, is subject to rational use determined by climatic conditions.

Modern architecture is no longer a perforated box or a series of grotesque shapes, rather is it a rationalized plan and elevation with a structural vocabulary suited to it, and it needs only the justification of breaking away from the traditional to strengthen its chances of permanence.

"While there are occasional demonstrations of a tendency to 'play with materials,' it would not appear that such is in any way characteristic of the movement."

The rating of such houses, after all, like other houses, depends largely upon how well the designer has solved his problem, and upon the public's reception or anticipated reception.

The above briefed excerpts from the report exhibit the fact that the Technical Division of the F.H.A. is cognizant of and sensitive to the present experimental tendencies exhibited by present-day modernism in residential design and construction.

### ENGINEERS SEEK FEDERAL JOBS

At the recent annual meeting of the American Association of Engineers in Chicago the manager of the A.A.E. employment department reported that the engineer's own attitude of mind is the big hurdle now in the path of his rehabilitation in industry.

There is a perceptible reluctance on the part of professional engineers to re-enter private industry, the report says. This condition is attributed to a conviction among technical men that the turnover in industry is more rapid than in government projects. Whether it be true or not, this widespread belief among engineers is creating an actual shortage. The intermittent opera-



tion of plants has made engineering employment a matter of tenure for the duration of the job. Large engineering firms have maintained a skeleton organization, employing skilled technical men as they were needed for specific operations. This policy, entirely in harmony with other economies, is responsible for the marked preference that some of the better engineers show for government jobs.

Many applicants, when interviewed, frankly avow a preference for private industry; admit that the industrial job in question offers greater salary inducement; but reluctantly cling to a government job as affording a better chance of long-time employment. Directors, connected with both public and private enterprise in the east, the west, and the middle west, confirm the findings of the employment department. Engineers are still afraid of the intermittency of industry and of the brief tenure of such jobs.

Social security legislation is casting its shadow before it, A.A.E. employment department says; the 40-year deadline which has claimed the solicitous attention of the Association for many years is no longer the 40-year deadline—it has dropped to 32 and is trying to reach 28. The larger firms in filling the new technical positions that are opening up demand men of 28 and refuse to consider applicants over 32. Anticipating old age and retirement pensions and other social provisions that are likely to be mandatory, industry plans to catch them young. The complicating condition is a demand for "experienced" men of 28. Ten years ago that might have been possible. Graduating from a technical school at 24, a man would normally have had four years of engineering experience at 28.

But the classes of 1930, 1931, 1932, 1933 and 1934 have for the most part learned a lot about selling hosiery or aluminum, or have had their closest contact with engineering in C.C.C. camps or surfacing roads with the P.W.A. or C.W.A. For four years a small portion of the technical graduates have been absorbed by the engineering profession. Experienced engineers of 28 are members of the class called "avis rara." With a staggering list of unemployed men in its file of applicants, good men, graduates of the best schools and experienced, A.A.E. employment department has found it impossible to fill demands from industry for men under 32 with adequate experience to be placed in responsible charge of engineering work.

Another serious situation confronting industry is unmistakably indicated in A.A.E.'s contact with workers and employers; skilled workers of all kinds will be hard to find when production becomes normal. The signs are unmistakable in the contacts which A.A.E. employment department has, both with industry and with workers. Unemployment, intermittent labor at unrelated jobs, and psychological factors growing out of these conditions have produced in the hordes of men wanting jobs only a small proportion of the disciplined and skilled workers that came from the ranks through routine training in every great plant into fitness for

skilled jobs. This factor, coupled with the scientific innovations that most industries are ready to inaugurate when full-time production opens up, will make it necessary for most plants to train men intensively for every kind of skilled labor.

## CURRENT ARTICLES ELSEWHERE

"**Fortune**" for October has an article on the modern house as the inevitable next development. Discussing it as the house which works, it bases this prediction on functional rather than psychological reasons. A clever summing up of the movement as a whole, but devoid of the passions which infuse it. Recommended for lighter reading.

**The role of materials** in modern housing has been the subject of long experimental research by Bemis Industries of Boston. The American Society for Testing Materials is publishing a report on its findings, presented by John Ely Burchard at the 38th annual meeting of the Society at Detroit.

He critically discusses as a part of this research, the metals, concretes, synthetic materials, the vegetable group, and their possibilities for prefabricated use. The standards for evaluation are based upon:

1. relative permanence of dimension
2. lightness
3. adequate strength
4. durability
5. reasonable resistance to breakage from impact shock
6. good resistance to passage of heat
7. good resistance to passage of sound
8. fire resistance
9. weather resistance
10. beauty

Of first importance, and preceding these as a consideration, he places the question of cost. Housing must in general, he posits, be at reduced cost, and the use of materials governed accordingly.

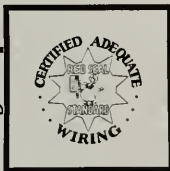
**A gentleman in a hurry**, Mr. Charles Lay, writes in the November **Architectural Record** on the matter of new towns for high speed roads. His major idea is that speed must be the determining factor in planning the highways of the future, "with no more luxury in landscape treatment than enough to hide the dullness of factories or slums". Is not this evasion of the slum itself perhaps a part of the speed neurosis?

**Basic considerations in making the house plan** are, in the same issue of the **Record**, reduced in a condensed and summarizing outline which could well serve, so valuable is it, as a criterion of reference, a check-chart, to the student or the architect in making his plan. Except for its omission of the question of orientation to the sun as a first consideration in the preparation of a plan (an omission which can easily be corrected) its study of the functional, social, human, and practical details of closet arrangement, of the choice and placing of mirrors and fittings, is altogether complete.

# Is Every Day Christmas Day . . .



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You play Santa Claus to yourself too when you specify Red Seal Wiring installations. The good will of your clients and an increased number of satisfied owners will bring you more profits and added prestige.

As the year closes we want to thank you for your cooperation and extend to you our most cordial Holiday Greetings.

*Pacific Coast Electrical Bureau*

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## MODERN ARCHITECTURE AND COMMON SENSE BY IRVING F. MORROW, ARCHITECT

(Concluded from Page 53)

own justification. No less should a bad one be its own condemnation. But while critics reserve the privilege of attack, it is rather unreasonable to ask designers patiently and silently to invoke the ultimate verdict of time.

**Modernists Are Not Unanimous on Principles.**—Neither are classicists, gothicists, or any other considerable group of people. What is more, it is both unreasonable and unnecessary to expect that they should be .

**Modernism Is Only A Passing Fad.**—The demonstration of this contention runs as follows: The Art Nouveau was an innovation; it failed; therefore innovations are unsound. The assumption that the Art Nouveau failed because it was a departure from precedent is an excellent example of uncritical criticism. It failed because it was only a treatment of symptoms rather than of the underlying causal disorders. The conspicuous aspect of modernism—and the one which really arouses conservative resentment—is a drastic re-examination of the fundamentals of building requirements and technique.

What is overlooked is that the demonstration works equally well both ways. Every one of the consecrated styles is only an innovation which has succeeded. It is just as possible to argue, Egyptian architecture was an innovation; it succeeded; therefore innovations are sound. By the time you have repeated this with Greek, Roman, Early Christian, Byzantine, Romanesque, Gothic and Renaissance, not to mention the various regional varieties of each and the styles outside the European tradition, you have piled up a body of precedents in favor of innovation which quite overwhelms the lone negative testimony of the ill-fated Art Nouveau.

## ENGINEERS DISCUSS QUAKE SURVEY

At noon, December 4th, a meeting was held at the St. Francis Hotel, San Francisco, under the auspices of the Industrial Committee of the California State Chamber of Commerce, to discuss the conditions under which the earthquake investigational work of the Coast and Geodetic Survey can continue; also to outline the program of local co-operative work which must be undertaken if appropriations for the Coast and Geodetic Survey work are to be forthcoming from Congress in the future. Dr. R. S. Patton, National Director of the Coast and Geodetic Survey and Capt. H. N. Heck, Chief of the Seismological Division of the Survey were present from Washington, D. C. to give an authoritative explanation of the situation. The meeting was well attended by business men, engineers, public officials and similarly interested parties. A most encouraging beginning was given to the program for local research work.

# Estimator's Guide

## Giving Cost of Building Materials, Wage Scale, Etc.

In many instances NRA prices are still in force. Another month may find some material changes in price quotations. A 10% raise is being considered. Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

NOTE—Add 2½% Sale Tax on all materials but not labor.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Band—1½% amount of contract.

### Brickwork—

Common, \$35 to \$40 per 1000 laid, (according to class of work).

Face, \$75 to \$90 per 1000 laid, (according to class of work).

Brick Steps, using pressed brick, \$1.10 lin. ft.

Brick Walls, using pressed brick on edge, 60c sq. ft. (Foundations extra.)

Brick Veneer on frame buildings, \$ .75 sq. ft.

Common f.o.b. cars, \$14.00 job cartage. Face, f.o.b. cars, \$45.00 to \$50.00 per 1000, carload lots.

### HOLLOW TILE FIREPROOFING (f.o.b. job)

3x12x12 in. ....	\$ 84.00 per M
4x12x12 in. ....	94.50 per M
6x12x12 in. ....	126.00 per M
8x12x12 in. ....	225.00 per M

### HOLLOW BUILDING TILE (f.o.b. job)

carload lots.	
8x12x5½ .....	\$ 94.50
6x12x5½ .....	73.50

Discount 5%.

### Composition Floors—18c to 35c per sq. ft.

In large quantities, 16c per sq. ft. laid.

Mosaic Floors—80c per sq. ft.

Duraflex Floor—23c to 30c sq. ft.

Rubber Tile—50c per sq. ft.

Terazzo Floors—45c to 60c per sq. ft.

Terazzo Steps—\$1.60 lin. ft.

**Concrete Work** (material at San Francisco bunkers)—Quotations below 2000 lbs. to the ton, \$2.00 delivered.

No. 3 rock, at bunkers.....	\$1.65 per ton
No. 4 rock, at bunkers.....	1.65 per ton
Elliott top gravel, at bunkers.....	1.75 per ton
Washed gravel, at bunkers.....	1.75 per ton
Elliott top gravel, at bunkers.....	1.75 per ton
City gravel, at bunkers.....	1.40 per ton
River sand, at bunkers.....	1.50 per ton
Delivered bank sand.....	120 cu. yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

### SAND

Del Monte \$1.75 to \$3.00 per ton.

Fen Shell Beach (car lots, f.o.b. Lake Majella), \$2.75 to \$4.00 per ton.

Cement, \$2.25 per bbl. in paper sks.

Cement (f.o.b. Job. S. F.) \$2.90 per bbl.

Cement (f.o.b. Job. Oak.) \$2.90 per bbl.

Rebate of 10 cents bbl. cash in 15 days.

Calaveras White ..... \$6.00 per bbl.

Medusa White ..... \$8.00 per bbl.

Forms, Labors average 25.00 per M

Average cost of concrete in place, exclusive of forms, 30c per cu. ft.

4-inch concrete basement floor..... 12½c to 14c per sq. ft.

4½ inch Concrete Basement floor..... 14½c to 16c per sq. ft.

2-inch rat-proofing..... 6½c per sq. ft.

Concrete Steps ..... \$1.25 per lin. ft.

### Dampproofing and Waterproofing—

Two-coat work, 15c per yard.

Membrane waterproofing—4 layers of saturated felt \$4.00 per square.

Hot coating work, \$1.80 per square.

Medusa Waterproofing, 15c per lb., San Francisco Warehouse.

### Electric Wiring—\$12.00 to \$15.00 per outlet

for conduit work (including switches). Knob and tube average \$7.00 per outlet, including switches.

### Elevators—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, \$2800; direct automatic, about \$2700.

### Excavation—

Send, 50 cents; clay or shale 80c per yard.

Teams, \$10.00 per day.

Trucks, \$18 to \$25 per day.

Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock will run considerably more.

### Fire Escapes—

Ten-foot balcony, with stairs, \$75.00 per balcony, average.

### Glass (consult with manufacturers)—

Double strength window glass, 15c per square foot.

Quartz Lite, 50c per square foot.

Plate 75c per square foot.

Art. \$1.00 up per square foot.

Wire (for skylights), 35c per sq. foot

Obscure glass, 26c square foot.

Note—Add extra for setting

### Heating—

Average, \$1.90 per sq. ft. of radiation according to conditions.

**Iron**—Cost of ornamental iron, cast iron, etc., depends on designs.

### Lumber (prices delivered to bldg. site)

No. 1 common .....	\$30.00 per M
No. 2 common .....	24.00 per M
Selection O. P. common .....	35.00 per M
2x4 No. 3 form lumber .....	18.00 per M
1x4 No. 2 flooring VG .....	47.00 per M
1x4 No. 3 flooring VG .....	40.00 per M
1x6 No. 2 flooring VG .....	42.00 per M
1½x4 and 6, No. 2 flooring .....	50.00 per M

### Slash grain—

1x4 No. 2 flooring .....	\$37.00 per M
1x4 No. 3 flooring .....	33.00 per M
No. 1 common run T. & G. ....	28.00 per M
Lath .....	6.50 per M

### Shingles (add cartage to price quoted)—

Redwood, No. 1 .....	\$1.00 per bdle.
Redwood, No. 2 .....	80 per bdle.
Red Cedar .....	.95 per bdle.

### Hardwood Flooring (delivered to building)—

13-16x¾" T & G Maple.....	\$120.00 M ft.
1-1-16x2½" T & G Maple .....	132.00 M ft.
7/8x3½ sq. edge Maple .....	140.00 M ft.
13-16x2½" 3/8" x 5-16x2" T & G Sq. Ed. ....	
Clr. Qtd. Oak .....	\$200.00 M \$150.00 M \$180 M
Sel. Qtd. Oak .....	140.00 M 120.00 M 135 M
Clr. Pla. Oak .....	135.00 M 107.00 M 120 M
Sel. Pla. Oak .....	120.00 M 88.00 M 107 M
Clear Maple .....	140.00 M 100.00 M
Laying & Finishing 13c ft. 11 ft. 10 ft.	

Wage—Floor layers, \$7.50 per day.

### Building Paper—

1 ply per 1000 ft. roll .....	\$3.50
2 ply per 1000 ft. roll .....	5.00
3 ply per 1000 ft. roll .....	6.25
Brownkin, 500 ft. roll .....	4.20
Pro-act-o-mat, 1000 ft. roll .....	12.00
Sisalcraft, 500 ft. roll .....	5.00
Sash cord com. No. 7 .....	\$1.20 per 100 ft.
Sash cord com. No. 8 .....	1.50 per 100 ft.
Sash cord spot No. 7 .....	1.90 per 100 ft.
Sash cord spot No. 8 .....	2.25 per 100 ft.
Sash weights, cast iron, 550.00 ton.	
Nails, \$3.50 base.	
Sash weights, \$45 per ton.	

### Millwork—

O. P. \$100.00 per 1000. R. W., \$106.00 per 1000 (delivered).

Double hung box window frames, average, with trim, \$6.50 and up, each.

Doors, including trim (single panel, 1¾ in. Oregon pine) \$8.00 and up, each.

Doors, including trim (five panel 1¾ in. Oregon pine) \$6.50 each.

Screen doors, \$4.00 each.

Patent screen windows, 25c a sq. ft.

Cases for kitchen pantries seven ft. high, per lineal ft., \$6.50 each.

Dining room cases, \$7.00 per lineal foot.

Labor—Rough carpentry, warehouse heavy framing (average), \$12.00 per M.

For smaller work average, \$27.50 to \$35.00 per 1000.



Marble—(See Dealers)

**Painting—**

Two-coat work .....	29c per yard
Three-coat work .....	40c per yard
Cold Water Painting .....	10c per yard
Whitewashing .....	4c per yard
Turpentine, 80c per gal., in cans and 75c per gal. in drums.	
Raw Linseed Oil—80c gal. in bbls.	
Boiled Linseed Oil—85c gal. in bbls.	
Medusa Portland Cement Paint, 20c per lb.	

**Carter or Dutch Boy White Lead in Oil (in steel kegs).**

1 ton lots, 100 lbs. net weight.....	10 3/4c
500 lbs. and less than 1 ton lots.....	11c
Less than 500 lb. lots .....	11 1/2c

**Dutch Boy Dry Red Lead and Litharge (in steel kegs).**

1 ton lots, 100 lb. kegs, net wt.....	10 3/4c
500 lb. and less than 1 ton lots.....	11c
Less than 500 lb. lots.....	11 1/2c

**Red Lead in Oil (in steel kegs)**

1 ton lots, 100 lb. kegs, net. wt. 12 1/2c	
500 lb. and less than 1 ton lots 12 1/2c	
Less than 500 lb. lots .....	13c

Note—Accessibility and conditions cause wide variance of costs.

**Patent Chimneys—**

6-inch .....	\$1.00 lineal foot
8-inch .....	1.50 lineal foot
10-inch .....	1.75 lineal foot
12-inch .....	2.00 lineal foot

**Plastering—Interior—**

1 coat, brown mortar only, wood lath.....	Yard \$0.40
2 coats, lime mortar hard finish, wood lath ..	70

2 coats, hard wall plaster, wood lath.....	\$ 80
3 coats, metal lath and plaster .....	1 25
Keene cement on metal lath .....	1 30
Ceilings with 3/4 hot roll channels metal lath	75
Ceilings with 3/4 hot roll channels metal lath plastered .....	1 85
Single partition 3/4 channel lath 2 sides 2 inches thick .....	2 75
4-inch double partition 3/4 channel lath 2 sides .....	3 00
4-inch double partition 3/4 channel lath 2 sides plastered .....	1 30

**Plastering—Exterior—**

2 coats cement finish, brick or concrete wall .....	Yard \$1.10
2 coats Atlas cement, brick or concrete wall .....	1 35
3 coats cement finish, No. 18 gauge wire mesh .....	1 50
3 coats Medusa finish, No. 18 gauge wire mesh .....	2 00
Wood lath, \$5.50 per 1000 .....	17
2.5-lb. metal lath (dipped) .....	20
2.5-lb. metal lath (galvanized) .....	22
3.4-lb. metal lath (dipped) .....	28
3.4-lb. metal lath (galvanized) .....	22
3/4-inch hot roll channels, \$72 per ton.	
Finish plaster, \$18.90 ton; in paper sacks.	
Dealer's commission, \$1.00 off above quotations.	
\$3.85 (rebate 10c sack)	
Lime, 1 to b. warehouse, \$2.25 bbl.; cars, \$2.15	
Lime, bulk (ton 2000 lbs.), \$16.00 ton.	
Wall Board 5 ply, \$50.00 per M.	
Hydrate Lime, \$19.50 ton.	
Plastering Wage Scale .....	\$1.25 per hour
Lathers Wage Scale .....	1.25 per hour
Head Carriers Wage Scale .....	1.10 per hour

**Composition Stucco—**\$1.60 to \$2.00 sq. yard (applied).

**Plumbing—**

From \$65.00 per fixture up, according to grade, quantity and runs.

**Roofing—**

"Standard" tar and gravel, \$6.00 per sq. for 30 sqs. or over.  
 Less than 30 sqs. \$6.50 per sq.  
 Tile, \$20.00 to \$35.00 per square.

Redwood Shingles, \$11.00 per square in place.  
 Cedar Shingles, \$10 sq. in place.  
 Roecot, with Gravel, \$3.00 per sq.  
 Slate, from \$25.00 to \$60.00 per sq. laid according to color and thickness.

**Sheet Metal—**

Windows—Metal, \$2.00 a sq. foot.  
 Fire doors (average), including hardware, \$2.00 per sq. ft.

**Skylights—**

Copper, 90c sq. ft. (not glazed).  
 Galvanized iron, 25c sq. ft. (not glazed).

**Steel—Structural**

\$100 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities \$80 to \$90 per ton cost of steel, average building, \$89.00.

**Steel Reinforcing—**

\$85.00 per ton, set, (average).

**Stone—**

Granite, average, \$6.50 cu. foot in place.  
 Sandstone, average Blue, \$4.00, Boise, \$3.00 sq. ft. in place.  
 Indiana Limestone, \$2.80 per sq. ft. in place.

**Store Fronts—**

Copper sash bars for store fronts, corner center and around sides, will average 75c per lineal foot.

Note—Consult with agents.

Tile—Floor, Wainscot, Etc.—(See Dealers).

**SAN FRANCISCO BUILDING TRADES WAGE SCALE**

Established by The Impartial Wage Board November 9, 1932. Effective on all work January 1, 1933, to remain in effect until June 30, 1933, and for so long thereafter as economic conditions remain substantially unchanged.

This scale is based on an eight-hour day and is to be considered as a minimum and employees of superior skill and craft knowledge may be paid in excess of the amounts set forth herein.

CRAFT	Journeyman Mechanics	CRAFT	Journeyman Mechanics	CRAFT	Journeyman Mechanics
Asbestos Workers .....	\$6.40	Iron Workers (Bridge and Structural) .....	\$9.60	Stair Builders .....	\$7.20*
Bricklayers .....	9.00	Iron Workers (Hoisting Engineers) .....	10.00	Stone Cutters, Soft and Granite .....	6.80
Bricklayers' Hodcarriers .....	5.60	Laborers (6-day week) .....	5.00	Stone Setters, Soft and Granite .....	8.00
Cabinet Workers (Outside) .....	7.20*	Lathing and Lathing Iron .....	8.00	Stone Derrickmen .....	7.20
Catissn Workers (Open) Water Work .....	8.00	Lathers, All Other .....	6.80	Tile Setters .....	8.00
Carpenters .....	7.20*	Marble Setters .....	8.00	Tile Setters' Helpers .....	5.00
Cement Finishers .....	7.20	Marble Setters' Helpers .....	5.00	Tile, Cork and Rubber .....	7.20
Cork Insulation Workers .....	7.20	Millwrights .....	7.20*	Welders, Structural Steel Frame on Buildings ..	9.60
Electrical Workers .....	8.00	Mosaic and Terrazzo Workers (Outside) .....	7.20	Welders, All Others on Buildings .....	8.00
Electrical Fixture Hangers .....	7.00	Mosaic and Terrazzo Helpers .....	5.00	Auto Truck Drivers—Less than 2,500 lbs. ....	5.50
Elevator Constructors .....	8.68	Painters .....	7.00	Auto Truck Drivers—2,500 lbs. to 4,500 lbs. ....	6.00
Elevator Constructors' Helpers .....	6.08	Painters, Varnishers and Polishers (Outside) ..	7.00	Auto Truck Drivers—4,500 lbs. to 6,500 lbs. ....	6.50
Engineers, Portable and Hoisting .....	8.00	Pile Drivers and Wharf Builders .....	8.00	Auto Truck Drivers—6,500 lbs. and over .....	7.00
Glass Workers (All Classifications) .....	6.80	Pile Drivers Engineers .....	9.00	General Teamsters, 1 Horse .....	5.50
Hardwood Floormen .....	7.20*	Plasters and Hodcarriers (See wage scale under Plastering).		General Teamsters, 2 Horses .....	6.00
Housemovers .....	6.40	Plumbers .....	8.00	General Teamsters, 4 Horses .....	6.50
Housemiths, Architectural Iron (Outside) .....	7.20	Roofers (All classifications) .....	6.40	Plow Teamsters, 4 Horses .....	6.50
Housemiths, Reinforced Concrete, or Rodmen ..	7.20	Sheet Metal Workers .....	7.20	Scraper Teamsters, 2 Horses .....	6.00
		Spring Fitters .....	9.00	Scrapers Teamsters, 4 Horses .....	6.00
		Steam Fitters .....	8.00		

\*Established by Special Board

**GENERAL WORKING CONDITIONS**

- Eight hours shall constitute a day's work for all crafts, except as otherwise noted.
- Where less than eight hours are worked pro rata rates for such shorter period shall be paid.
- Plasterers' Hodcarriers, Bricklayers' Hodcarriers, Roofers' Laborers and Engineers, Portable and Hoisting, shall start 15 minutes before other workmen, both at morning and at noon.
- Five days, consisting of not more than eight hours a day, on Monday to Friday inclusive, shall constitute a week's work.
- The wages set forth herein shall be considered as net wages.
- Except as noted the above rates of pay apply only to work performed at the job site.
- Transportation costs in excess of twenty-five cents each way shall be paid by the contractor.
- Traveling time in excess of one and one-half hours each way shall be paid for at straight time rates.
- Overtime shall be paid as follows: For the

- first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturday (except Laborers), Sundays and Holidays from 12 midnight of the preceding day, shall be paid double time. Irrespective of starting time, overtime for Cement Finishers shall not commence until after eight hours of work.
- On Saturday Laborers shall be paid straight time for an eight-hour day.
- Where two shifts are worked in any twenty-four hours, shift-time shall be straight time. Where three shifts are worked, eight hours' pay shall be paid for seven hours on the second and third shifts.
- All work, except as noted in paragraph 13, shall be performed between the hours of 8 A. M. and 5 P. M.
- In emergencies, or where premises cannot be worked until the close of business, men reporting for work shall work at straight time.

- Any work performed on such jobs after midnight shall be paid time and one-half up to four hours of overtime and double time thereafter (provided that if a new crew is employed on Saturdays, Sundays or Holidays which has not worked during the five preceding working days, such crew shall be paid time and one-half. No job can be considered as an emergency job until it has been registered with the Industrial Association and a determination has been made that the job falls within the terms of this section).
- Recognized holidays to be: New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day, Christmas Day.
- Men ordered to report for work, for whom no employment is provided shall be entitled to two hours' pay.
- This award shall be effective in the City and County of San Francisco.



Dr. Patton explained that the appropriations which were recommended to Congress for the continuance of the Survey's seismological investigations were stricken out entirely, and that for a time it appeared the work would be completely halted.

Earnest efforts were made to have the committee reconsider their decision, and appropriations to the extent of two-thirds of the original amount were restored to the budget appropriation bill. However, the committee made it plain that they regarded this work as peculiarly beneficial to California, and it was stated that California would have to co-operate fully in local supplementary work if the Coast and Geodetic Survey program was to continue after the ensuing year.

It was explained to the meeting that the local work which had tentatively been agreed upon at meetings previously held by representatives of the University of California, Stanford University, and California Institute of Technology, contemplate a division of labors. The University of California will thoroughly investigate past records and will make a thorough study of earthquakes which have occurred in different portions of the state during historical times. Stanford will carry on the measurement of the vibrations of buildings, and California Institute of Technology will study vibrations from their theoretical aspect in the light of investigations with models.

H. M. Engle, Engineer of the Board of Fire Underwriters of the Pacific, and Dr. Bailey Willis, Emeritus Professor of Geology, Stanford University, both made brief addresses emphasizing the importance of this work.

Chairman Will Corlett, to whom the conduct of the meeting was turned over by R. M. Alvord, Vice-Chairman of the Industrial Committee of the State Chamber of Commerce, correlated the remarks of the various speakers and further emphasized the importance of the program.

Captain Le Barre, the well known foundation expert of the firm of Converse & Le Barre, Los Angeles, who has worked earnestly to have this program adopted, was present from the south. Efforts to raise the annual \$15,000 which the proposed work will cost will now be actively undertaken.

#### GRANTED CERTIFICATES

At the meeting of the California State Board of Architectural Examiners November 26, a Provisional Certificate to practice architecture in California was issued to Elliot J. Adams, 918 26th Street, Sacramento.

The Southern Board has issued provisional certificates to the following: James Walter Bertenshaw, 6815 Lexington Ave., Los Angeles; Merrill W. Baird, 220 S. Jackson St., Glendale; John Curtis Chambers, 445 N. Raymond Ave., Pasadena; Frederick N. Clark, 425 Bentley Ave., Los Angeles; Stanley Milton Falkenstein, 450 N. Hayworth Ave., Los Angeles.



Pressure treated lumber for home of Dr. John L. Pomeroy at Brentwood being placed.

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# A NOTE ON EDUCATION IN ARCHITECTURE.

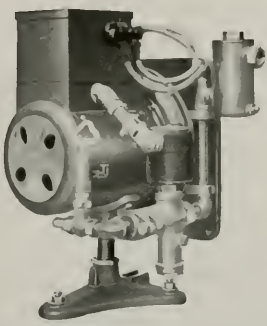
by A. C. Weatherhead  
Dean of the School  
of Architecture,  
University of  
Southern California.

The advent about a decade ago of the modern at first created very little change in architectural education in this country. The schools merely adopted the shell of so-called modernism; and the resulting architecture was often very superficial. The criticism which followed forced educators to take stock of their methods, and a thorough readjustment has been taking place. It is too early to be able to predict just what the new education will be although certain broad tendencies are apparent from the significant experiments which are being carried on in most of the leading schools. There is everywhere evident a return to a fundamental principle which formed the basis in every great period of the past; it is that architecture must grow out of the conditions existing in the civilization which it serves and that training for the practice of this architecture must be governed by the same approach. Every design program from the freshman to the senior year now embodies some research in the needs of our present social order.

It is quite impossible to train architecture students also to be engineers; but they may be taught from the first to think structurally in their designs and to begin to appreciate the character of contemporary materials. School designs were never so brilliant and creative as they are today. The natural qualities and limitations of modern materials and the varied and complex functions of modern buildings when carried even to details are proving to be no hindrance to the student. On the contrary.

The word, modern, is now seldom mentioned. When designs develop logically out of living situations they lead automatically to a sound modern expression. The students are intensely conscious of a new American architecture; and the importance of building up the right approach toward this architecture can not be over-estimated.


The readjustment in architectural education is a large order. Many elements of traditional methods have long proven their excellence; and educators are reluctant to discard them until better ones are discovered. This must be considered still a transitional period. The main objectives, however, are very clear, and the results already obtained in many schools are full of promise for the future of modern American architecture.



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## BUILDING INDUSTRY ON RADIO

A radio broadcast to start the building industry on its way to a record year—1936—is announced in the following telegram addressed to the editor of this magazine and dated New York, December 9:

Nationwide radio forum of complete building industry over fifty NBC stations, January 13, 11 A.M. EST. will present most ambitious effort ever made to crystallize entire building industry to militant action and grasp unprecedented opportunities immediately ahead. Leaders of every factor in building industry will address greatest mass meeting ever held in any industry. Problems will be thrashed out and solutions discussed. Johns-Manville Co. recognizing immediate need for strongest action has arranged this radio mass meeting of entire industry in order that leaders may point out

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responsibility each factor must assume. Meeting will be addressed by George LaPointe, President of National Lumber Dealers; Stewart McDonald, head of the Federal Housing Administration; Robert V. Fleming, President, American Bankers Association; Stephen F. Voorhees, President American Institute of Architects and Lewis H. Brown, President Johns-Manville. Each will outline responsibility of his field and entire forum will openly discuss and frankly consider new plans, new objectives and new hopes to stimulate and unify the entire industry. This great forum will be of real interest to the public at large. In order to hold home owner interest the program will feature such radio headliners as Edwin C. Hill, Kate Smith, Goldman's Band, Tom Howard, George Shelton and others.

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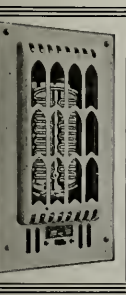


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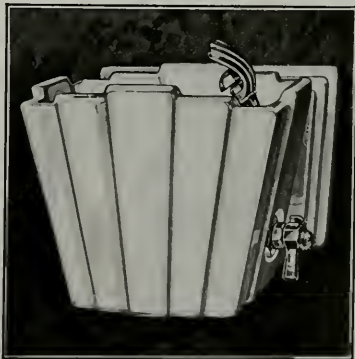
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## **Comparative Studies on the Construction and Cost of the Activity**

### **Classroom**

By Richard J. Neutra

The raising of the question whether the old type of school classroom costs more or less than the activity type, as shown in the Corona Avenue Public School in this issue, has resulted in the following comparison of costs of the two types of building.

A classroom dedicated to activity study with its desirable free grouping of seating and working furniture, with light influx from two sides, and with liberal opening into an attached outdoor classroom was made the basis for research of suitable and economical constructions.

The classroom, twenty-three by thirty-eight feet, 12 feet high is entered by two 3 foot doors from the open air corridor on the east wall and is equipped with a sliding glass partition given broad access to the westerly patio, which forms an integral part of each classroom, doubling its instructional area. All glazing in steel sash and frames.

### ALTERNATE "A"

Reinforced concrete skeleton, hollow walls executed with sliding metal forms and rib floors poured on metal pans, acoustic Celotex ceiling. Optimum post distance 12 feet 8 inches. Glass 56% of floor area.

Ventable glass area 17½% of floor area, not including doors.

Cost per classroom 110 per cent of wood construction.

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### ALTERNATE "B"

Concrete construction executed with air compression gun, without forms and with collapsible channel grill work as furring. (System Ruppel). Floor of reinforced concrete poured over hollow Terra Cotta tile. Thermax (Horalith) roof sheathing by light steel trusses. Acousti Celotex ceiling.

Optimum post distance, 12 feet, 8 inches.

Glass area, 56% of floor area.

Ventable glass area, 16% of floor area not including doors.

Cost per classroom 107 per cent of wood construction.

### ALTERNATE "C"

Galvanized sheet steel skeleton floor and trussed roof construction. Acoustical ceiling of Pumicite plaster, wood roof sheathing and sub-floor.

Optimum post distance, 4 foot 9 inches.

Glass area, 51% of floor area.

Ventable glass area, 15-2/3% of floor area not including doors.

Cost per classroom, 106 per cent of wood construction.

### ALTERNATE "D"

Walls, posts, roof, of Robertson corrugated sheet-steel elements, floor construction of prefabricated, vibrated reinforced concrete joists bearing subflooring. Acoustical ceiling of Absorbox C.

Optimum post distance 12-13 feet.

Glass area, 56 per cent of floor area.

Ventable glass area, 17½ per cent of floor area not including doors.

Cost per classroom, 106 per cent of wood construction.

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rugated sheet-steel sections on rolled steel beams. Exterior and interior surfaces: expanded metal and cement. Acousti—Celotex ceiling. Optimum post distance, 7 foot 6 inches.

Glass area, 56 per cent of floor area. Ventable glass area, 17 per cent of floor area not including doors. Cost per classroom, 111 per cent of wood construction.

ALTERNATE "F"

Standardized wood chassis with surfaced timber posts, floors borne by pressure infiltrated wood joists. Roof joists supported by continuous frontal trusses. Exterior and interior cement on metal lath. Continuous ventilation louvers for aeration of attic space.

Optimum post distance, 4 foot 9 inches.

Glass area, 51 per cent of floor area. Ventable glass area, 16 per cent of floor area not including doors. Cost per classroom, 100 per cent of wood construction.

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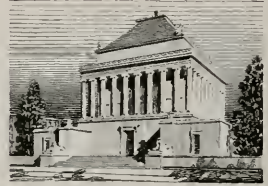
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The main body of the text describing the illustrations is in French. Le Corbusier's chapter "A New Classification of Town Building, a New Dwelling Unity" and the introduction, are given in French, German, and English. \$8.00.

"The Modern House", by F. R. S. Yorke. Plans, designs, methods of construction, materials, equipment. Experimental and prefabricated houses. 500 photographs and details, drawn from modern dwellings in England and the United States, France, Germany, and Holland. \$6.00.

"A Housing Program for the United States". A report prepared by the National Association of Housing Officials. Publication number 48. Public Administration Service, 850 East 58th Street, Chicago. 48 pp. Fifty cents.

"Flower Arrangement", by Rudolph Schaeffer. A series of photographic studies of the decorative table use of flowers. Published by Rudolph Schaeffer, San Francisco.

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Structural Steel  
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UNRETURNED PLANS

What to do with the builder who, when invited to bid upon plans and specifications, submits his bid without returning the plans is a problem. Perhaps that is unintentional, a mere slip of good intentions, but there are times when it appears to be pernicious and deliberate. Several methods are used to deal with such a situation; a deposit to cover the cost of printing; but who wants to be ever asking the builder for a deposit. Sometimes the cost of the plans are trifling but the loss of time becomes very annoying.

A well known architect said: "If plans and specifications are not returned with the bid I do not consider myself bound to consider the bid, and if plans are not returned after a mailed request is made for their return, then that contractor's name is stricken from the list of those eligible to figure in my office." However, the fact remains that architects are put to this inconvenience. Perhaps someone has found a good solution?—Ex.

GENERAL CONTRACT SYSTEM

At the convention of the State Association of California Architects held in Santa Barbara in October, the following resolution was adopted:

**Whereas**, It is often to the best interest of the owner and the architect to achieve centralized responsibility in the conduct of construction work, and

**Whereas**, The general contract system has much to recommend it in this regard; therefore be it.

**Resolved**, That the State Association of California Architects in annual convention assembled at Santa Barbara on the 5th day of October, 1935, recommends to its members that they give due consideration at all times to the advantages to be gained by utilizing the general contract method.

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