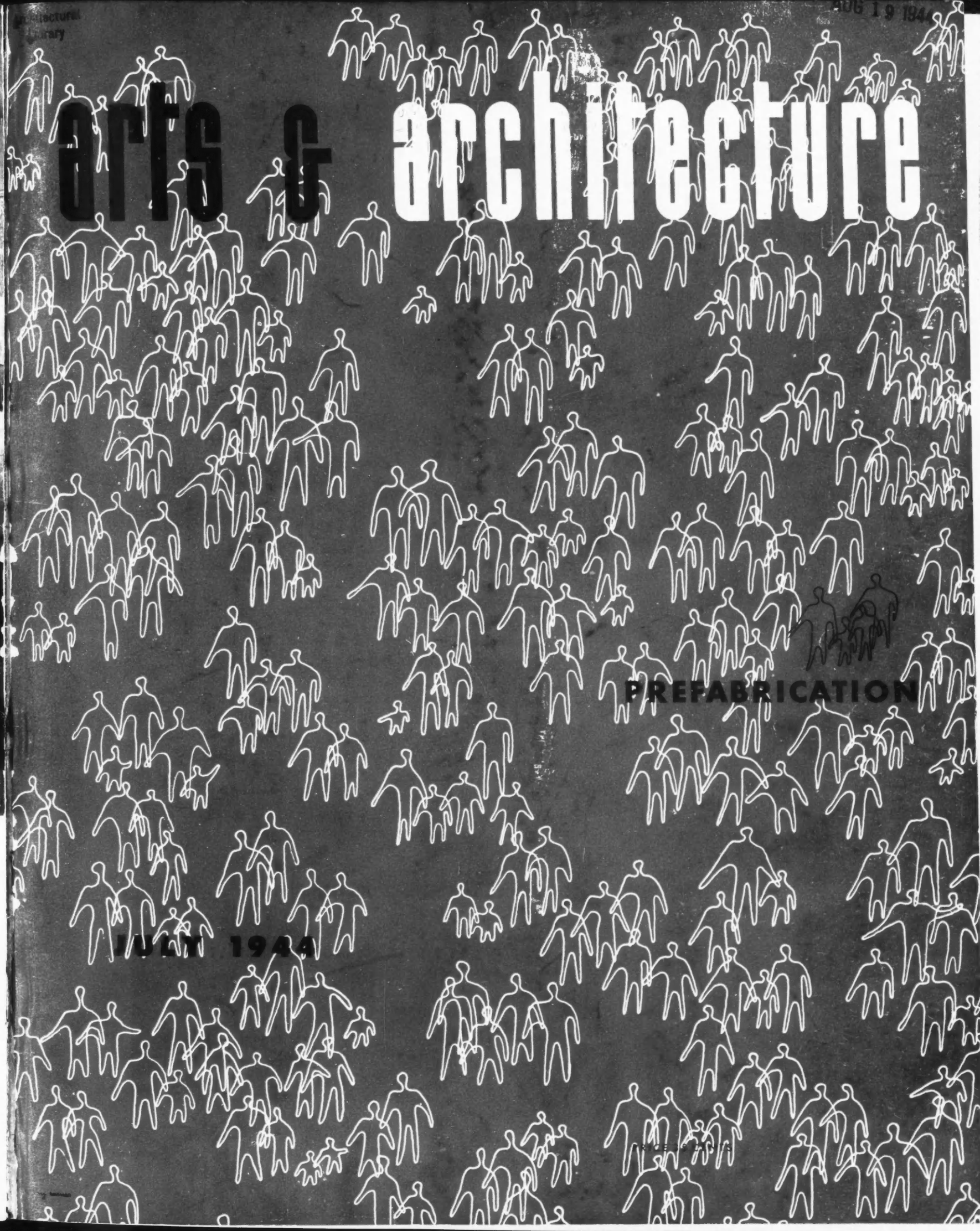


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arts & architecture

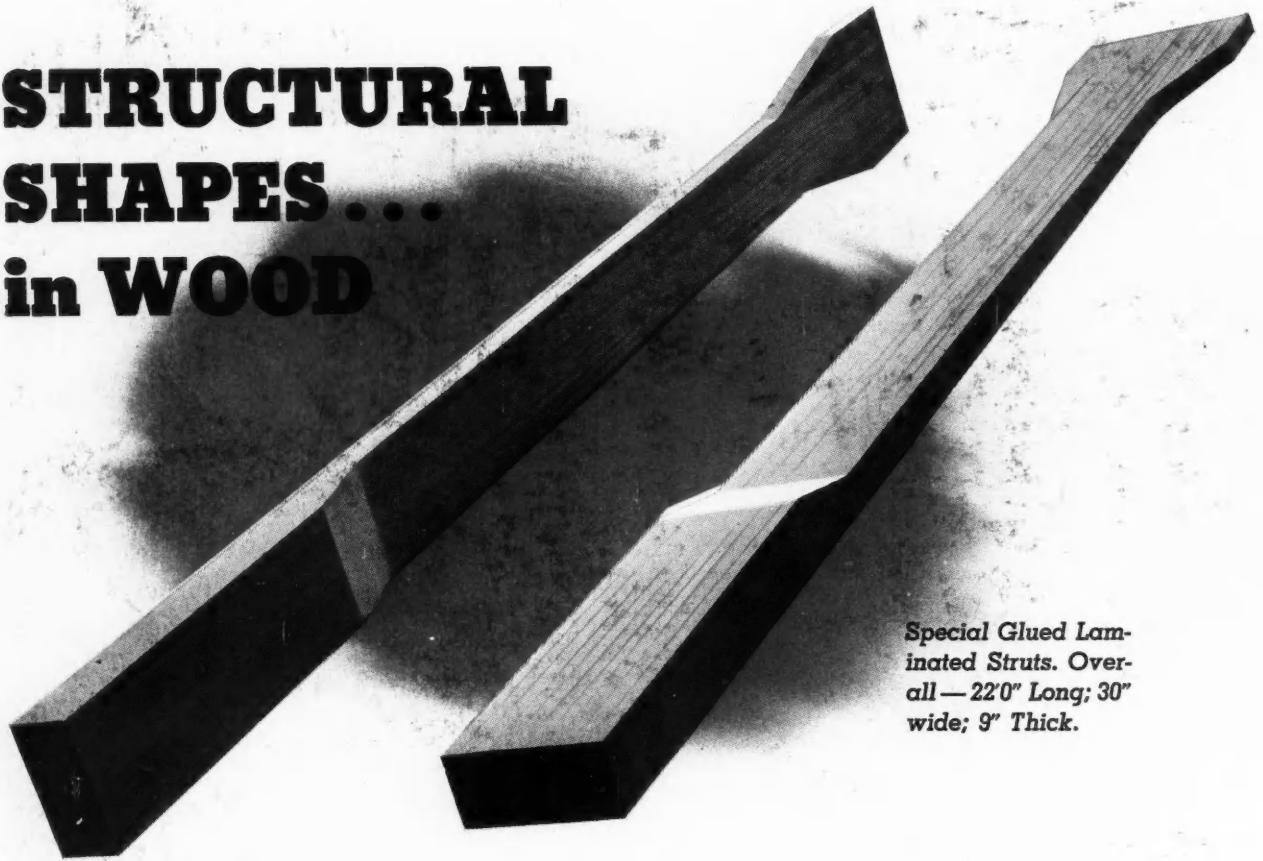


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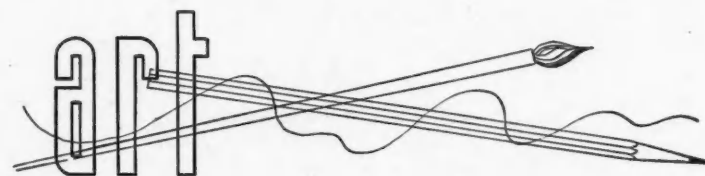
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LOS ANGELES

Art is as complex and contradictory, or as simple and unified, as the culture which produces it. If much of that which today passes for art is shallow, degraded, confused, and without purpose, we can readily find its counterpart in the whole fabric of contemporary life. Nor may we expect the ills of the former to be rectified before the conflicts which produced them are resolved. Art is not an isolated phenomenon, however much it may now seem to be. We have only to look at the art of pre-historic and primitive cultures to convince ourselves that "progress" is a very relative idea—and yet most of our philosophy is based on the conception that evolution means progress—development to a higher stage. Every artist, every art student or critic, and every person who frames so much as a calendar to hang on his wall should look, in all humility, at the paintings of Altamira, which date back 75 Centuries B. C.; at the unbelievable wealth of architecture, sculpture and painting of Egypt produced from the 33rd to the 1st Century B. C. Though we have long given lip service to the idea that Egypt was "The Cradle of Civilization," we have yet to learn its lesson, as we have yet to learn the lesson of any culture not directly descended from 5th Century Greek via Rome. Almost entirely, save for a few specialists, we have overlooked the art of the Americas, or Africa, and New Zealand—in the same blindness which has caused the Gothic of the Middle Ages to be regarded as "romantic" while we reserve praise for the "classicism" of Raphael and Michael Angelo.

So today, that portion of the world which bothers itself at all about art, is still asking the question "What is Modern Art?" One cannot help but know something of the nature of modern art by looking at art which has been produced throughout history, excepting that art which came into being with the Italian Renaissance and is still to be found in watered versions in the salons of Europe and America. But the course of modern art is full of paradoxes. Cezanne went to Poussin and the museums, yet the Post-Impressionism of Cezanne gave rise to Cubism; which in turn went to the African Primitives, while the Fauves (Matisse and company) sought to recapture that primitive quality found in the work of children.

Though these are historic facts—the conscious plan of the early leaders of the modern movement, none of this explains the deep-seated causes for the appearance of what we call modern art, nor why it has followed so many diverse directions. It is time that we begin to distinguish the component parts of modern art and stop lumping everything which is not strictly representational under one such anomalous heading. Now the one thing which is presumed to be found in common in all phases of modern art is that which is termed ABSTRACT—"That which comprises or concentrates in itself the essential qualities of a larger thing or of several things." This implies *conscious direction*, inasmuch as "essential qualities" are known primarily through analysis, even when first grasped through intuition. To paint as one feels, drawing upon subconscious impulses alone, may result in something which looks "abstract," but often what we really mean is that it looks incomprehensible. Such a painting may be highly gratifying to the one who painted it, or even to others who may share a similar "inner outlook." Actually it rarely surpasses some form of self-portraiture of an individual ego.

Unquestionably, the vast majority of work in the modern idiom belongs in this category. The contemporary artist, finding himself a fifth wheel to our materialistic culture, either conforms to the dead traditions expected of him which reflect this materialism (representation of things) or in a burst of destructive hate toward that which does not need him, he becomes exhibitionistic in a perverted hope to thus draw attention to his neglected ego. Of the remaining handful we find artists historically aware of their function, cognizant of the forces which exclude his normal participation, yet who still are able to see the beginnings of a cultural structure which WILL include him, and he works with the idea of helping to formulate that culture. Since even among artists only this latter minority are able to distinguish these facets of "modern art," it would be too much to expect any appreciable

(continued on page 17)

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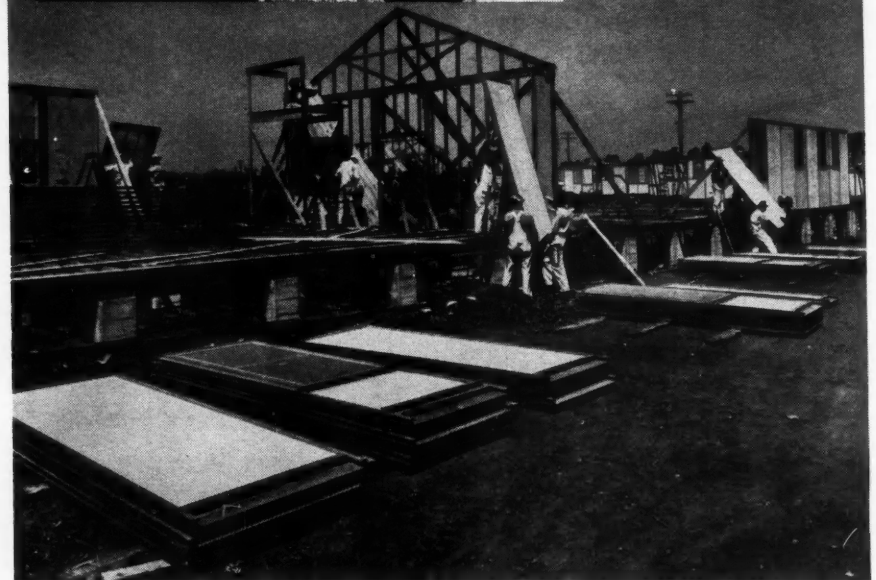
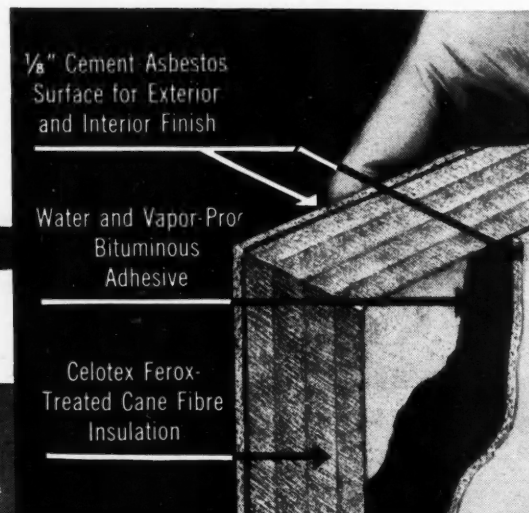
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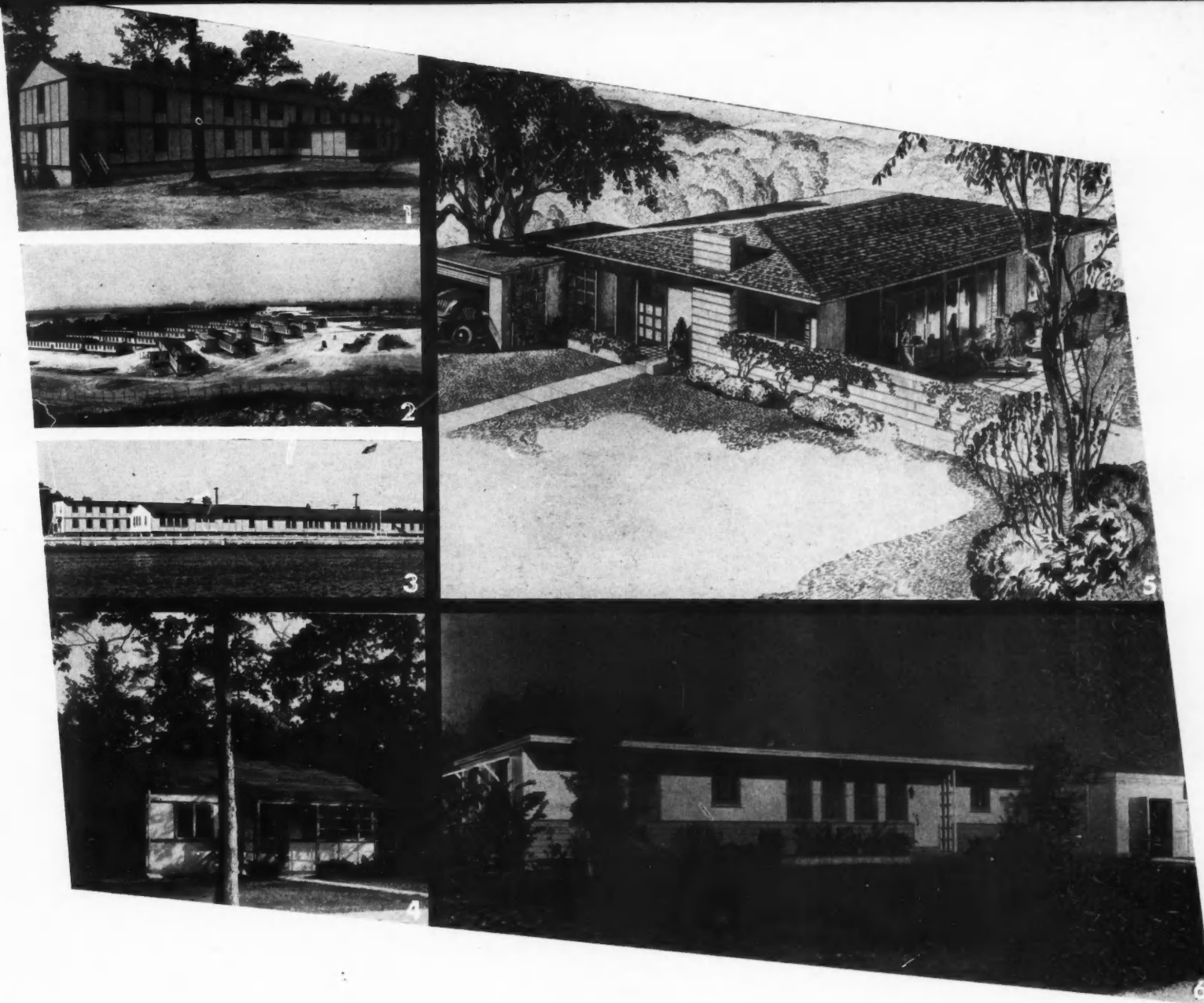
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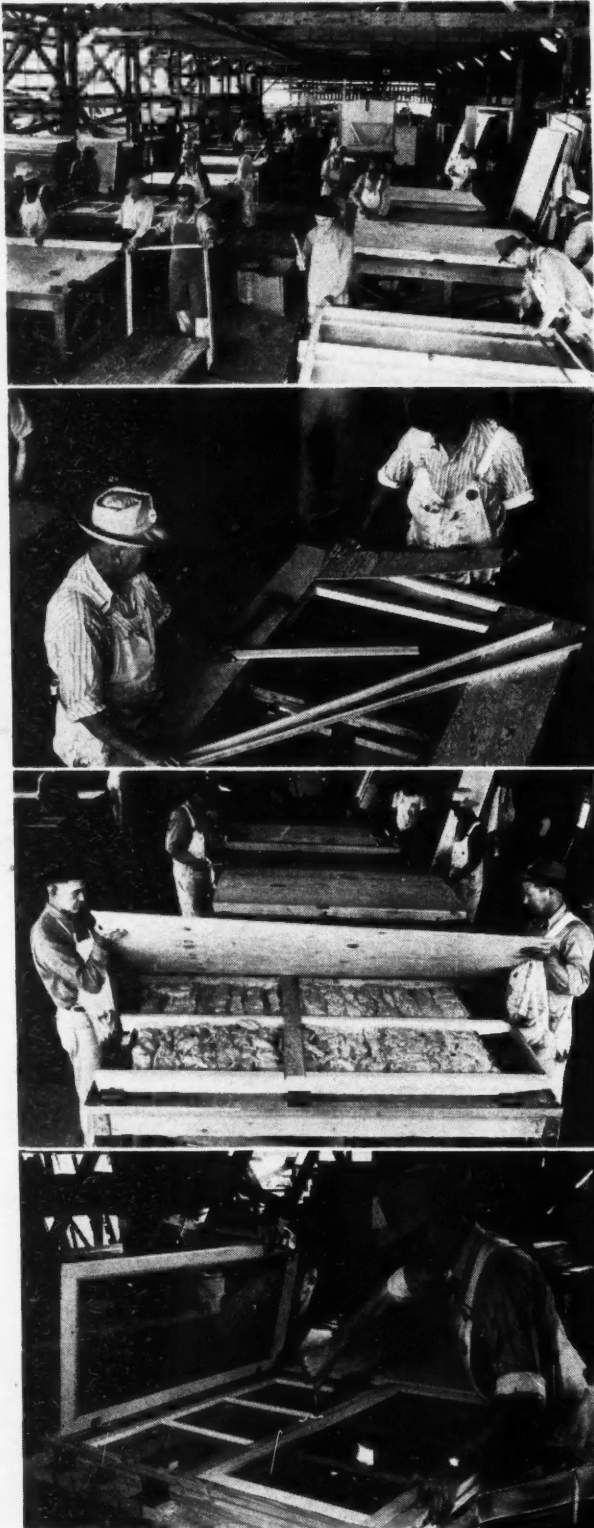
Montage, Herbert Matter	22, 23
What is a House?	24, 25
Mountains of Material	26, 27
What Prefabrication is Not	28, 29
Materials and Miracles	30, 31
Chart, Charles Eames	32
The Architects of Prefabrication	33
The Matter of Choice	34, 35
Space and Motion	36, 37
Emergency Prefabrication	38
Comment on a Survey	39

This issue was prepared with the assistance of Herbert Matter, Charles and Ray Eames, Eero Saarinen, Buckminster Fuller. To all of the above, our grateful acknowledgment. THE EDITOR.

special features

Art	4
Books	12
Cinema	14
Music	15
Music in the Cinema	16
Notes in Passing	21
Statement from the PHMI	41
New Developments	50
State Association of California Architects	53
Official Building Industry Directory	54

ARTS AND ARCHITECTURE is published by John D. Entenza, 3305 Wilshire Boulevard, Los Angeles 5, California. Price mailed to any address in United States, Mexico, or Cuba, \$3.50 a year; to Canada and foreign countries, \$5.00 a year; single copies, 35 cents. Editorial material and subscriptions should be addressed to the Los Angeles office. Return postage should be sent with unsolicited manuscripts. One month's notice is required for a change of address or for a new subscription. In ordering a change, give both new and old address.



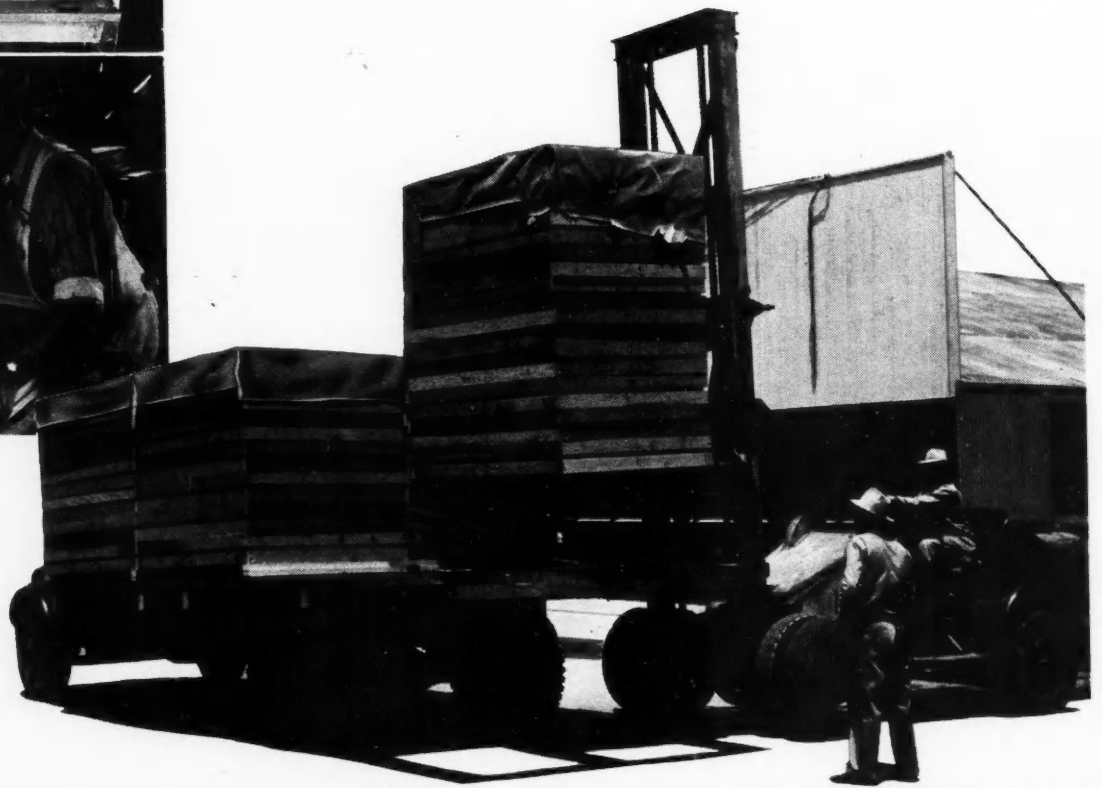
These views show some of the pre-fabrication facilities of the Barr Company engaged in producing standard wall and roof sections for a current FPHA project. Buildings were designed by FPHA. The contractor is Shumaker & Evans Construction Co.

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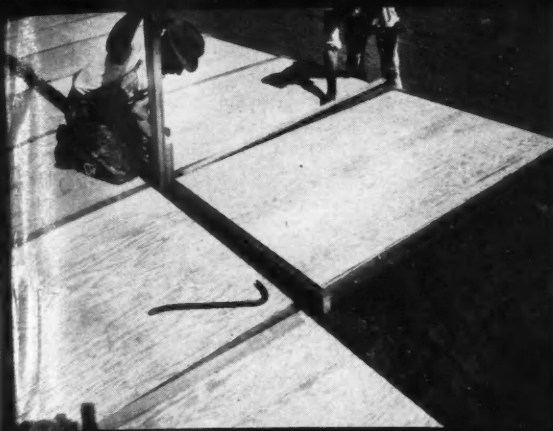
Progress in methods of construction, as well as in the development of building materials, has kept pace with the times all through the centuries. It has gone forward as new materials have become available and as skills and practices have been advanced to permit more complete utilization of those materials.

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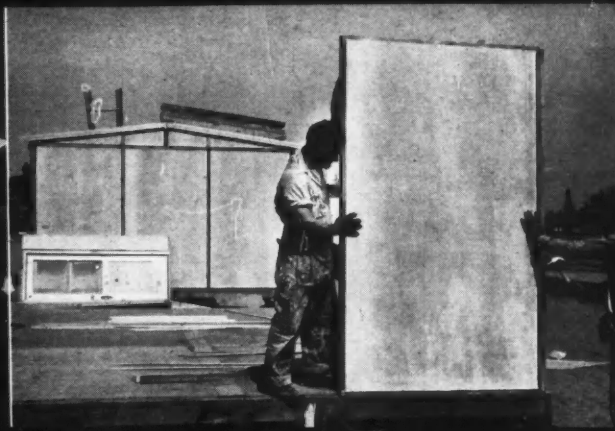


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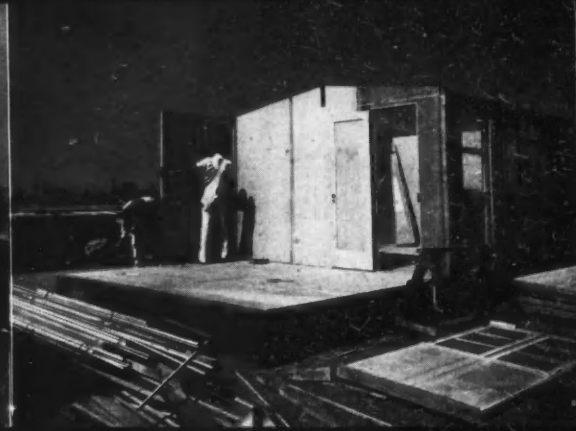
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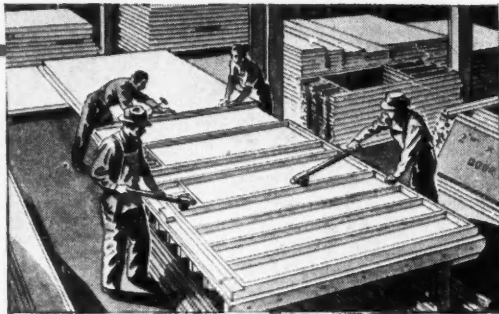
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books

STRANGE FRUIT, Lillian Smith (Reynal and Hitchcock; \$2.75)—Customers who bought *Strange Fruit* because it was banned in Boston are likely to want their money back. To be sure, one page of the book includes a word seen often in printing but seldom in print; but why pay two and a half for it when the most causal observation will let you see the same word twenty times a day for free? Boston may have done a good turn, at that. Among the many who buy the book under a misapprehension, a few will read it through—and a good book and a Whizz Bang mind will find themselves in startled proximity.

Strange Fruit is one of the most sorrowful of books. So much drivel has won laudation (perhaps throughout the history of criticism, and certainly throughout the past twenty years) that the whole vocabulary of praise has come under suspicion. For that reason I feel impelled to explain that when I say *Strange Fruit* is sorrowful, I do not mean it is a tear jerker. Its sadness is no warm bath of sentimentality. It is rather like electric current; it permeates, it is not easily forgotten, it may even work changes. Lillian Smith tells a hopeless story, in the manner of one who accepts an unjust sentence with reason, with dignity, with submissiveness—but not with resignation. If you shed any tears, you shed them like Plato at the death of Socrates: "In spite of myself, my own tears were flowing fast; so that I covered my face and wept over myself, for certainly I was not weeping over him." You weep, perhaps, at the ineptitude of mankind that has created a muddle; such a muddle that thousands suffer from it, and hundreds die; a muddle which our country (ready at the drop of the hat, so we hear, to step forth and enlighten the rest of the world) has only recently found worthy of study; a muddle that even now can rarely be discussed without sentimentalism, recrimination, name-calling, hog-calling, violence, bigotry.

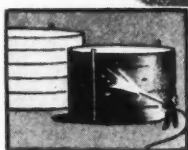
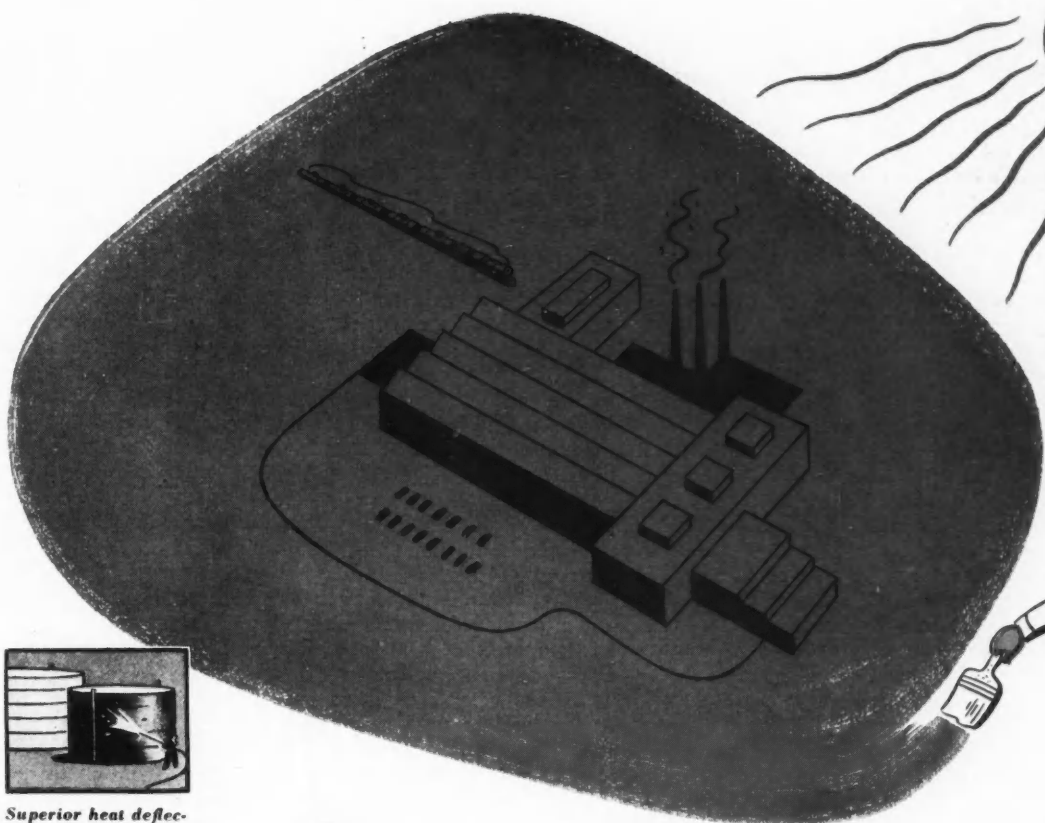
A Caucasian boy and a Negro girl fall in love. Their love is foredoomed; not by family or political schisms, not by any overt and therefore negotiable brawlings between modern Montagues and Capulets—but by the intangible, sinister, undeclared war between Caucasians and those who have Negro blood in their veins, be it little or much.

This is our great anomaly: we brought the Negro here (by force); he became an intimate part of our lives, he fought in our wars, he reared millions of our children, he vitalized our speech, he gave us much of our humor, our dancing, our music. In many households in the South, individual Negroes have had a deep affection from Caucasians such as they have rarely known in the North. But there has been the barrier: black and white must not marry.

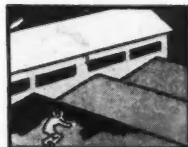
All right, what of it? Can't two races live together amicably, even if intermarriage is barred? The answer (in part) is: not if one side cheats. This is one of the many elements in our muddle—and in "Strange Fruit." Interbreeding of Caucasian men with Negro girls has been tolerated—even approved, as a gentlemanly peccadillo. But the approach of a Negro man to a Caucasian girl has meant, more often than not, the death penalty; execution without trial; lynching. If, at the outset, the blacks had been in a position to retaliate—if they had been able to bring punishment upon a few offending whites, and maintain a barrier that worked both ways—perhaps things might be simpler now. But it wasn't like that. "Negro rapes white girl"—that news set the Klan to riding. "White man rapes Negro girls"—hell, that was just an anecdote to get a giggle from the boys in the pool room. This was the most obvious symptom. It led the Negro to recognize others. Presently he came to suspect that in spite of Amendment Number 13, Amendments 1 to 10 didn't apply to him.

All this is in the background of "Strange Fruit." This is no one-sided document. Sympathy goes out to the white boy quite as much as to the Negro girl. Tracy Deen is likable, but he is no hero. He takes no stand against circumstances—he is pushed about by them, just as you and I would be. His sole distinction is his capacity for an idealistic love that resists even his own attempts to degrade it. Nor is Nonnie Anderson a very positive character. She is a sort of Georgia Melisande. Or perhaps she is

(continued on page 18)



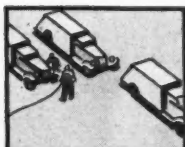
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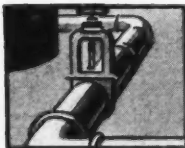
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CINEMA

comment and criticism

The question of how seriously a motion picture reviewer or critic should concern himself with social issues is one which frequently arises. If it is the function of the critic to pass nothing but æsthetic judgment on what he sees on the screen then, of course, comment about ideological points of view and economic interest and social content are not only out of order, they are uncalled for. However, the critic must decide for himself, conditioned by (1) his type of readership; (2) the publication for which he is writing; and (3) his own limitations, whether he ought to be a reviewer or synopsis or a real honest-to-goodness, flesh-and-blood critic with reactions to things which he sees as right, or which he sees as wrong.

This lengthy introduction is presented as a reason for discussing the newly formed Motion Picture Alliance for the Preservation of American Ideals, which has as its purpose purging Hollywood and the Hollywood ranks of what is called communism and communist influences. A consideration of the Alliance and what it stands for and aims to do may not be within the province of a reviewer, but a movement of this kind can and may have an indirect influence on pictures and the motion picture scene. In general it is the opinion of the writer that it is impossible to divorce social content from a consideration of pictures, no matter how remote that connection may be. There are trade publications in the motion picture industry, the Quigley Publications in particular, edited by Terry Ramsaye, which make a weekly attempt to divorce motion pictures and anything cerebral. Their cry is "motion pictures are and should be entertainment," and any further suggestion that pictures might be something else, too, is hooted down.

Spokesmen for the Alliance have suggested on repeated occasions that Hollywood is controlled by the communists; yet, on no occasion have any of these spokesmen recited a single instance of such influence: no communist is named; no pictures which show communist influence are named. The Alliance hopes to assure the world that Hollywood is not run by crackpots and dissidents, and that there are some coherent-thinking people in the film capital who are not among these so-called communists.

During the past several years I have seen a lot of pictures, and I should like to review a few of these for traces of communist

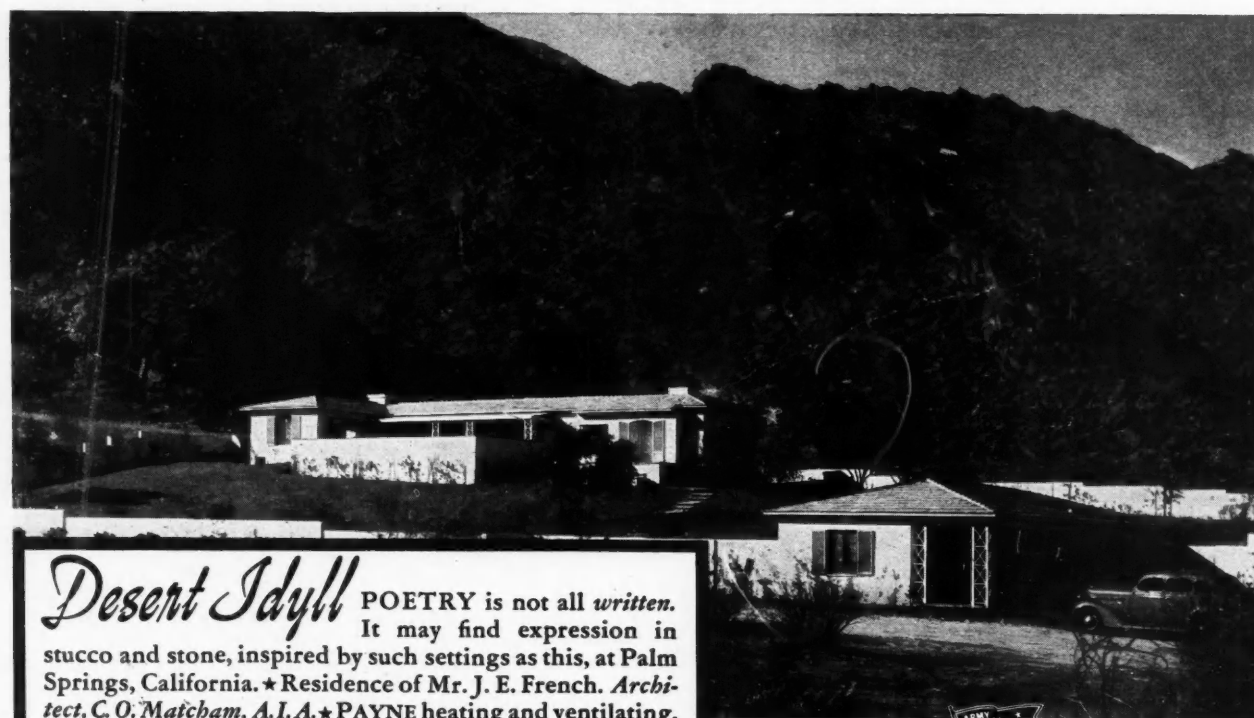
influence: there was "Sahara," for example, which showed that in desert battle the brotherhood of man is very much in evidence; and there was a scene at the bottom of a Sahara well in which Bruce Bennett and Rex Ingram, a Negro, found, as fighting men that they had much in common. There was "Mission to Moscow" which was the screen version of a State Department approved autobiography. The picture was attacked by the "right" as being an idealization of the Soviet Union; Muscovites who saw the film reportedly laughed at it because of its glaring inaccuracies. Then there was "Action in the North Atlantic" which mirrored, rather dramatically, of course, the activities of the National Maritime Union, C.I.O., and gave a rather favorable picture of the operations of a hiring hall, an institution of anathema to all "right"-minded people. There was also "None Shall Escape," which stressed the need for the postwar punishment of guilty Nazi war leaders, and the impossibility of compromise or "a deal" with Hitler Germany, both points of view which some Americans find intolerable. Yet, there were principles clearly enunciated by President Roosevelt and Churchill on many occasions, by Roosevelt as far back as the "stab-in-the-back" speech about Mussolini years ago. The Alliance might have pointed to "North Star" as being a picture made under communist influence for its favorable portrayal of Soviet village life and an heroic portrait of fighting Russian guerrillas. Competent critics have called "North Star" a "western with shashlik on the side," and the heroism of the guerillas is no Hollywood communist improvisation, but a matter of record, even unto American weekly newsreels. It could be that spokesmen for the Alliance mean pictures which attack the Nazis which are under communist influence.

Of course, the list of pictures which might conceivably have traces of those influences to which the Alliance objects is by no means complete. There are undoubtedly others, others, which on analysis, would emerge as harmless, and in some instances as dull. The significant thing to remember is that the Alliance at no time has suggested or hinted what these pictures be which suffer because of the infiltration of a communist idea.

This obdurate silence can mean only one thing: Alliance spokesmen have no intention of stating which pictures are "bad." This intention can mean only one thing: obscurantism and not clarity is the policy of the Alliance.

Obscurantism, confusion, silence were never the outward expressions of any American Ideal of which I have any knowledge.

—ROBERT JOSEPH.



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MUSIC

Several performances of important contemporary non-symphonic compositions brightened the 1943-44 winter season of music in Los Angeles. For the record I summarize a few of them.

In my opinion the most important was the *Suite* for piano by Lou Harrison, written for Frances Mullen, who gave the work its first performance at an Evenings on the Roof concert and later repeated it for the Modern Music Festival at the Congregational Church. The *Suite* is in the twelve-tone idiom originated by Arnold Schoenberg and was composed while Harrison was studying with Schoenberg in Los Angeles. Apart from Schoenberg's great *Dance Suite* it is the most important work and possibly the largest that has been written for piano in this idiom. It consists of five movements, the second, an *Aria*, being the most approachable at a first hearing and the third, a *Conductus* (a medieval form of variations complexly resembling a passacaglia) the most difficult. The finale is a magnificent *Rondo* in repeated tones set off by arpeggio interludes. The whole grows with every hearing and in spite of its many problems for the listener was very favorably received at each performance. In part this favorable reception was a result of the superb playing of Frances Mullen, whose ability to present the most troublesome contemporary music clearly, intelligibly, and with beauty is becoming recognized in Los Angeles. Performances in recent years by Frances Mullen have included the *Concord Sonata* by Charles Ives, the *Dance Suite* by Schoenberg, the Bartok piano *Sonata*, selections from *Mikrokosmos*, and second violin *Sonata, Evocations* by Carl Ruggles, the first *Sonatina* and *Fantasy* by Busoni, *Preludes* by Carlos Chavez, and many others.

A still unpublished *Sonata* for violin and piano by Roy Harris was played on a Roof concert by Rowland Leach and Paul Pisk of the faculty of the University of Redlands, whose sonata recitals, always featuring an American composition, have been winning them deserved attention during recent years. The *Sonata* shows Harris moving away from counterpoint into a new idiom of related movement with many phrases reminiscent of Ives. In scope it ranks with the Harris symphonies and stands beside the *Soliloquy and Dance*, twice heard on Roof programs, among the most important duo compositions of recent years.

The new *Sonata* for violin and piano by Aaron Copland, played by Louis Kaufman and Ingolf Dahl on the Modern Music Festival, is a lesser piece, rather lacking vitality and surprisingly simple in comparison with Copland's previous work. Grateful for the two instruments and easy on the audience it was given a full and effective performance and might have seemed more substantial, if it had not immediately followed the playing of the Harrison *Suite*. The popular success it should have had was dimmed by the succeeding work, also played by Louis Kaufman to whom it is dedicated, a *Suite* by William Grant Still directly aimed at winning audience applause.

Earlier in the season Kurt Reher and Emil Danenberg played an exciting *Tone-Drama* for cello and piano by Charles Wakefield Cadman, based on the life of the Empress Carlotta of Mexico, the best work Cadman has composed to date. It is an effective and moving display piece for the two instruments and a worthwhile addition to the limited repertoire of cello recitalists. Recommended for Piatigorski. A *Sonata* for violin and piano by Harold Shapero, heard on the Roof concerts, though well put together, was less successful with the audience.

The *Sonata* for two pianos by Hindemith which Volya Cossack and Shibley Boyes played for Evenings on the Roof is a lucid, well constructed, and beautiful composition, one of the best Hindemith has written in recent years, deeper, larger, and in every way richer than the previous *Sonata* for one piano four hands. Hindemith's recent work has been distinguished by its practicality (the avoidance of difficult and recondite combinations of instruments), by its growing academicism (*Ludus Tonalis*), and its unevenness. Inspiration in him is distressingly mixed with mere perseverance. *Contrasts* for clarinet, violin, and piano by Bela Bartok has become well known through the recording made by the composer with Benny Goodman and Joseph Szigeti, to whom the work is

(continued on page 19)

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music in the cinema

A recent announcement to the effect that M.G.M. plans to film *Huckleberry Finn* as an operetta is exciting in its implications, for Mark Twain's classic will demand music of a more notable stamp than that usually served up in a Broadway musical comedy. Is this, the first American operetta intended originally for the screen, to be Hollywood's long-awaited initial step in the direction of the 'serious musical'? Unrealized thus far has been the hope that the cinema would one day be the medium for a new and unique version of the lyric drama, a modern synthesis of serious music and engrossing action. The prevailing opinion in film circles is that opera is a dead duck because it is insufficiently realistic, that its screen equivalent would appeal little, if at all, to an American audience which has been reared on other fare. He who has seen the European screenings of 19th century Italian operas, in the best La Scala tradition, cannot help but agree. It must be remembered, however that five fingers would suffice to count the traditional operas that are both dramatically and musically interesting. To judge opera decrepit on the basis of libretti that were never much more than convenient threads upon which to hang rows of beautiful melodies is to ignore the existence of such masterpieces as *Don Giovanni*, *Carmen* and *Boris Godunov*. In these, vocal music interprets and heightens the emotional impact of the action, without detracting from its realism; a balance has been struck, an equivalence of the lyric and the dramatic upon which the modern composer must build if opera is to live. Hollywood can no longer dismiss the thought of a serious film musical with the contention that it is ridiculous for a character to sing his lines, when it is exactly this 'unrealistic' breaking out into song that characterizes the contemporary cine-musical comedy. Audiences have learned to accept a shift from the spoken word to popular song, even when there is no motivation, and would no doubt give assent to another, more serious form of musical speech if this were made credible by the surrounding mood. Love, mystery, the supernatural, the surging of patriotic or religious emotions—these provide the necessary atmosphere, the cloak of fantasy which paradoxically legitimates the use of music, itself the antithesis of realism.

Perhaps the day will come when musical dialogue that exalts and inspires, as well as that which tickles the ear and feet will

be deemed worthy of cinema representation. Such will be the case if *Carmen Jones* is brought to the screen. What an opportunity "Huckleberry Finn" would be for one of the several composers (Douglas Moore, Virgil Thomson, Marc Blitzstein and others) who have made distinguished contributions to the American musical theater during the past decade. After long deliberation, Sally Benson (*Junior Miss*) was chosen to write Huck's story for the screen. If the powers that be exercise equal care in their choice of a composer, and do not mistake the Mississippi for the Danube or the East River, a folk opera of profound significance to American music can result.

Notable among recent dramatic pictures is *Address Unknown* (Columbia), a tale of persecution and violence in Nazi Germany, in which Ernst Toch's romantically conceived music emerges from the background to become a protagonist. The composer cites an old German folk-song to symbolize the life-long friendship between two Germans who run an art store in San Francisco. One of the men (Paul Lukas) returns to Germany with his Jewish partner's daughter, a budding actress. There is a riot on the occasion of her stage debut in Berlin, when she insists upon reciting some of the Beautitudes that had been ordered stricken from the text by the Nazi censor. Denounced as a Jewess, she is forced to flee and is hunted by the Gestapo. In an extended sequence characterized by action without dialogue, she wanders through the night, seeking a place of refuge. Toch's music, despairing in a gentle sort of way, depicts her anguished frame of mind, then, in soaring major, her hope and relief as she reaches Lukas' house. Turned Nazi, he refuses to admit her, and she is shot outside the door by the *Schutzstaffel*. Composed to the mood and landscape, the music also contains motives identifying the girl, the Gestapo and the partners' friendship. Lukas, having notified the girl's family, begins to receive purposely mysterious code messages from San Francisco, which undermine his reputation with the Nazis. The musical background here is restless, harried, a reflection of his tormented state of mind. Now dull and despairing, now excited, it serves as an indispensable commentary upon the man's psychic processes. He is gradually driven mad with fear; nameless things haunt him, things invisible to the audience that are nevertheless made visual by means of suddenly shrieking music, or by strange, eerie orchestral effects. The interpretative power of music is particularly in evidence during this last scene, to which the composer, Mario Castelnuovo-Tedesco, also contributed.—WALTER H. RUBSAMEN.

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ART

continued from page 4

body of laymen to differentiate one from the other. Consequently we may continue to expect confusion and distrust of most modern art for a long while to come.

Full acceptance of the principles of abstract art will come only when these principles are integrated into a way of life. There are basic laws which govern these things, and the true abstract artist need not feel too discouraged. The tenets of his beliefs are already making appearances in subtle and sundry ways quite apart from his solemn investigations, and yet fundamentally related thereto. If the designs of the abstractionists still have no real "market" (as no art actually has these days, regardless of how stupendous gallery sales may be) he may be pretty sure that he holds the key to a future existence—even though it is pie in the sky. The exhibitionists, the Tories, the copy-naturists won't even have that. Because juried shows rarely pass abstract art, abstract artists have learned not to bother themselves with these shows. Consequently we in Los Angeles have come to believe that local abstractionists don't exist. The month of July will see proof to the contrary. Nineteen artists of this region, calling themselves "The Open Circle Group" will put on the first known group show of this sort at *The Circle Gallery*, 7623 Sunset Blvd. Banding together with the sole purpose of making their existence felt, it is possible that from among their numbers will be found the stimulus of ideas which will in turn influence the multiple forms of our yet to be realized world of tomorrow. Without questioning the individual purpose of these artists at this point, or the degree to which each has met the problem of abstraction, their appearance now may well prove to be the oasis in a desert. As a matter of historical record their names are Harry Bertolia, Hans Burkhardt, Grace Clements, Anita Delano, Ray Eames, Antonin Heythum, Dorothy Hewes, Hilaire Hiler, Frederick I. Kann, Gina Knee, David Lober, Herbert Matter, Knud Merrill, Joy Pride, Man Ray, Julio Sammarcelli, Vincent Ulery, Jean Varda, and Jack Wilboltt.—GRACE CLEMENTS.

SAN FRANCISCO

A sure sign of mastery in any art is the apparent ease with which the performer dispatches his work. In this particular respect there is no contemporary watercolorist—and here is meant the watercolorist who works in the pure transparent medium—who can surpass George Post, one of San Francisco's outstanding artists, a one-man show of whose recent works has been current at the San Francisco Museum of Art. His seemingly effortless brush strokes which start and stop with the precise control of a master draughtsman, the restrained and perfectly integrated use of white paper in his compositions, the simple, direct, fresh and lovely color relations which mark his work must be the envy of all craftsmen who seek to master this art of pure watercolor. Yet George Post goes beyond the mere perfection of a craftsman. He is an artist who has something to say. His paintings, based on realism, use realism simply as a base from which to compound color harmonies of quiet beauty and from which to relate shapes and masses in simple, effective patterns. There is nothing that he does that is not pleasing, nothing that leaves a feeling of inadequacy or failure. An examination of his work reveals that it varies only in degree of success—from very good to superb. Such pictures of his as Napa Valley, Pedro Point, Topanga Canyon, Point Richmond and Bay—South from San Rafael are in close competition for highest merit. It is not too much to say of George Post that he is a watercolorist's watercolorist—a sincere artist as well as a master craftsman.

Another small one-man show of especial interest at the San Francisco Museum is the Jennie Lewis Memorial Exhibition. This quiet, retiring San Francisco artist came to fame late in life when, in 1940, the Museum of Modern Art in New York City gave her a one-man show. She was then past fifty. Early this year she met a dramatic end in a snow storm. This regrettable termination of a career hardly begun has left little of her work but that little is most entrancing. In contrast to the usual case of the artist who seeks abstraction but fails of achievement because he is at heart a realist, Jennie Lewis strove for realism but produced works that come very close to pure abstraction. Her pictures have the character of a true primitive (although she studied art in San Francisco and across the bay many years ago). Most of her work is in graphic mediums: pen and ink drawings, in an individual style all her own, and lithographs. The latter were done under the Federal Works Project program and includes

(continued on page 18)

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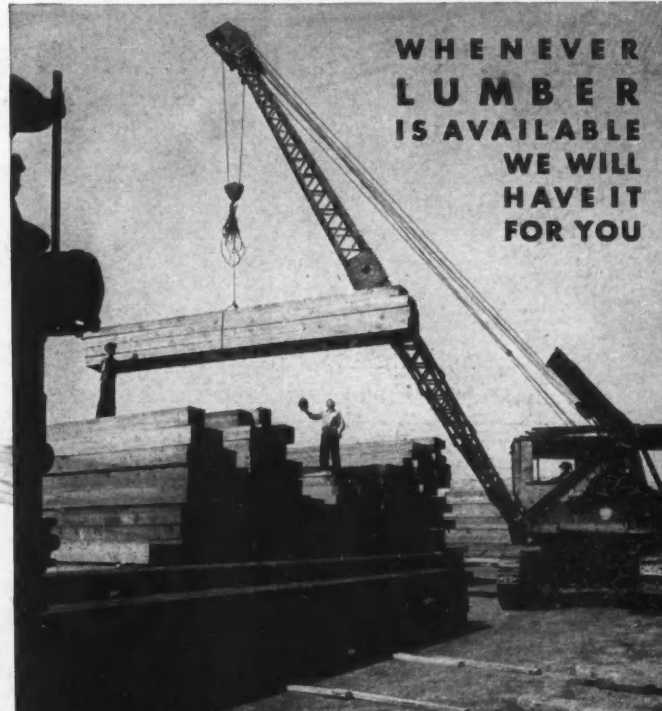
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ART

continued from page 17

one very delightful color lithograph. There are also a number of miniatures—tiny jewel-like decorative paintings reminiscent of Persian paintings and medieval manuscript illuminations. It is not difficult to foresee that Jennie Lewis will become, one day, one of America's art immortals.

At the Young Muesum there is another one-man show by a San Francisco artist—this one a show of sculpture by Raymond Puccinelli. The exhibit is a large one covering a period of some twelve years and reveals that the sculptor has used an unusual variety of materials: marble, bronze, terra cotta, mahogany, pewter, aluminum, onyx and porcelain, some with considerable success. He seems to have a fine understanding of the feminine form in dancing postures and in related poses. Kneeling Dancer and Seated Dancer of the first category and Introversion, Sueno and Inovation, all bronzes, of the second group, are outstanding. There are a number of delightful figurines and a terra cotta fish with a fine feeling of movement and a subtle indication of a sense of humor. His other works, in metal, wood and stone are usually well conceived and unfailingly have the mark of a good craftsman upon them. In his larger pieces he is most successful where he has contained his figures in compact poses.

Without doubt, one of the most powerful and well conceived photographic documentations of recent years is that appearing at the Legion of Honor: The Wind That Swept Mexico. The exhibit contains 184 photographs originally assembled by George Leighton for a book of the same title, a history of the Mexican Revolution 1910-1942, by him and Anita Brenner. Many of the photographs, taken by news cameramen over a period of thirty years, have been enlarged. Arranged in sequence with terse captions well placed with the pictures the story of the Mexican Revolution is told from the outbreak of the rebellion against Porfirio Diaz, in 1910, down to the declaration of war by Mexico against the Axis in June 1942. The Legion also devotes many galleries to an exhibit of the works of prolific Jean de Botton, French painter now living in San Francisco. de Botton's work is sometimes pleasingly decorative, more often reminiscent of the facility of Vogue illustrations. He is at his best as a designer of ballets (his *The Triumph of Hope* was presented in San Francisco during June) and certainly at his worst in the large mural painting America at War which is the most insipid and amateurishly conceived extravaganza that has been seen here in many a moon.—SQUIRES KNOWLES.

BOOKS

continued from page 12

like that other woman of African blood who saw that her love was no match for destiny: Dido of Carthage. Major and minor characters of the book are distinct and individual, but they all have the status of human figures in a landscape painting. The story is not of them, but of the muddle. A ready remedy for the muddle can be supplied, just like that, by any bar-fly or by any gossip columnist. But not by Lillian Smith. She knows her subject too well to prescribe glibly. She has no kinship with the exhibitionist who proclaims, "I love the Negro." There is, of course, no such thing as "the Negro." There are individuals of Negro blood, ranging from the magnificent to the worthless. To speak of "the Negro," in terms of either love or hate, is to classify him as an object, not as a human being, and this is the greatest indignity of all. Miss Smith is guilty of

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no such breach. She tells a story that is the product of an unhappy situation, potentially ominous, but at present more complicated than threatening. She is sorry it exists, she finds responsibility for it on both sides, though the side with the greater strength is naturally open to the greater blame. Her recommendations never go beyond the implicit. This implication is that the "race problem" is a matter of human relations, and that human relations cannot be successfully conducted by the stake, the whip, the rope, or—worse than any of these—the tacit insult. Whether or not *Strange Fruit* belongs in the category of great literature or not is irrelevant. Certainly it is not a flawless book; but just as certainly it is a jolt to the thinking apparatus of any person who has one.—PATTERSON GREENE.

MUSIC

continued from page 15

jointly dedicated. Kalman Bloch, Manuel Compinsky, and Frances Mullen gave it a memorable performance at a pre-Festival concert of the *Musicians Congress*. This is one of the most original and satisfactory of recent chamber music compositions and makes one hunger the more to hear performances of the later Bartok string quartets.

Two fine performances of new works by Los Angeles composers added importance to the Modern Music Festival. The first was a *Concerto* for bassoon and string quartet by Adolph Weiss, himself a bassoonist, who played the solo part. It is probably not too much to say that this is the best work for bassoon that has been written since the *Sonata* for bassoon and cello by Mozart. The composer has eschewed the comical aspects of his instrument, producing instead many subtle and exciting combinations of tone and maintaining from beginning to end a delicacy of part writing which should make this composition a favorite with audience as well as with bassoonists.

Music for Five Instruments by Ingolf Dahl underlined the success made by this composer with his *Quintet* for woodwinds, the most interesting new work of last year's Festival. It is scored for two trumpets, horn, and two trombones. The outstanding quality of the first movement may have resulted partly from better preparation by the performers. The whole, however, was very well played

(continued on page 52)

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I N P A S S I N G

IN THE MIDST OF WAR we are about to be precipitated into the crisis of peace. We can no longer look at the end of military destruction as a time of quiet recuperation and the licking of wounds. This time, the wounds are too wide and too deep to be healed by the gradual processes of nature. This time, the best efforts and the greatest struggles will be necessary to make peace itself bearable.

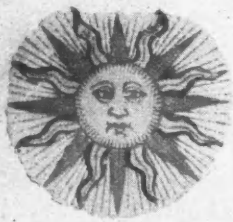
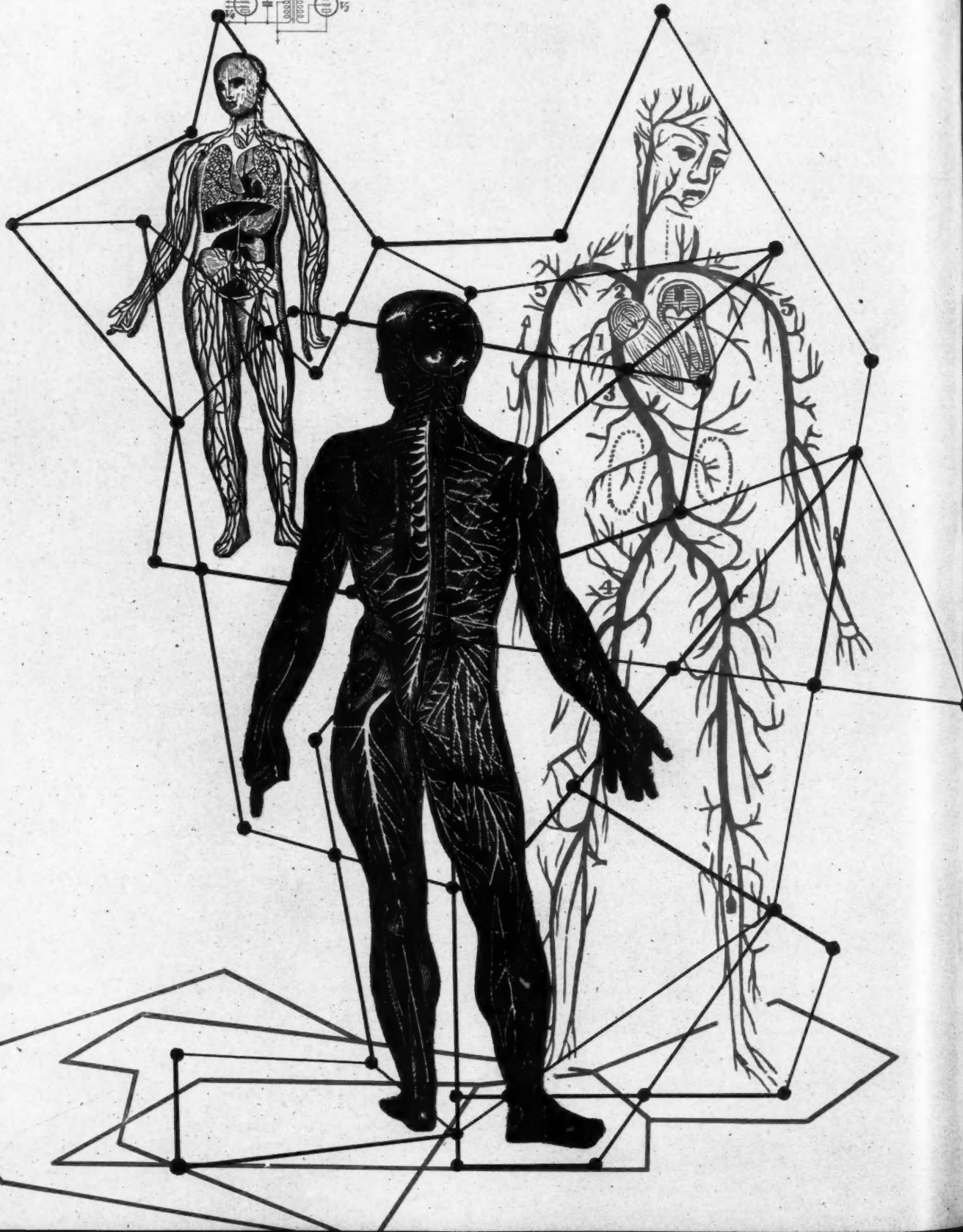
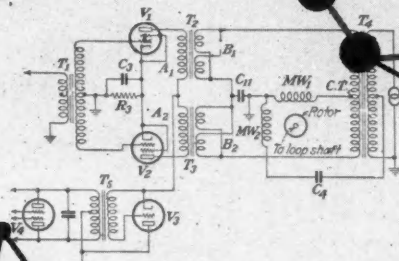
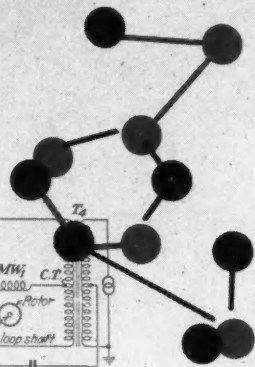
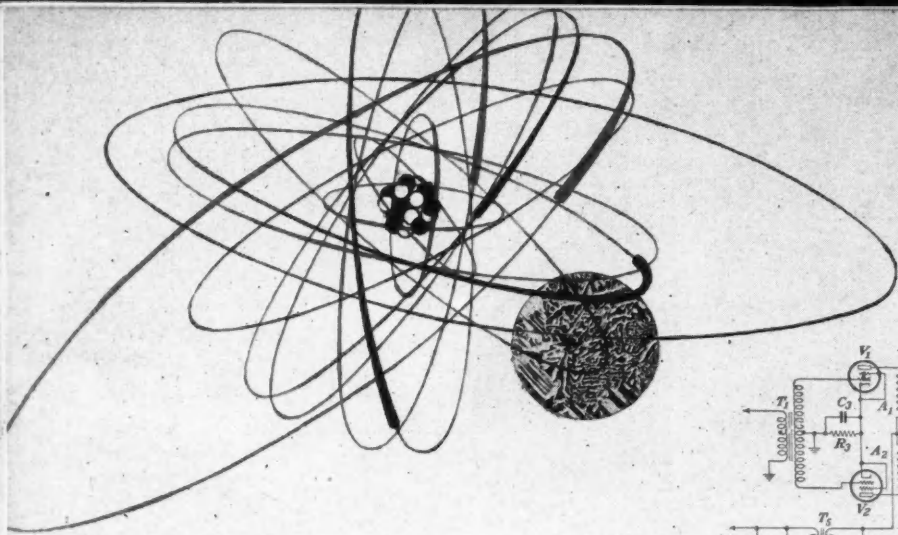
In the phrase, "humanity is on the move" we sum up the vast, restless, urgent need of all men for life without poverty and suffering; the crushing demand of the human spirit to grasp what has always been the hope to *live* without suffering. Through long tortuous years men have slowly become aware that in creating civilization they created a means by which that hope could be recognized. No doubt all of the misery and injustice of the past has been a necessary part of that state of awareness that finally results in the realization that all people must recognize their membership in the world community.

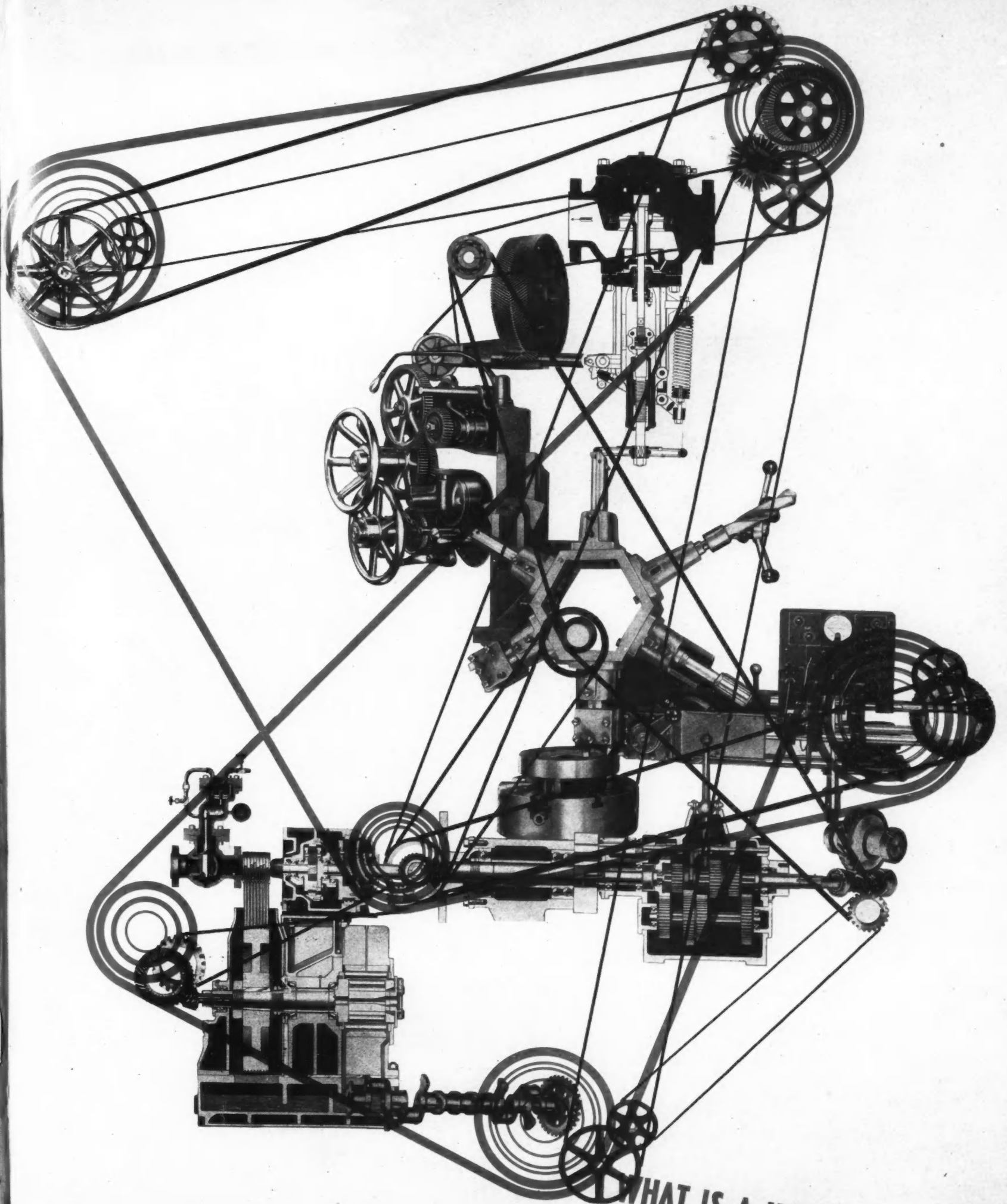
Now at last we know that any standard we have established for ourselves can only be maintained if we associate ourselves in the creation of world standards as they relate to living. And, first, we must concern ourselves with the material *facts* of living. Among those facts, perhaps the most important, because it is the principal and most intimately connected with environmental conditioning of human beings, is everything we mean when we say the word "HOUSE." It is here that we come closest to the heart of man's existence; it is here that he hopes for the satisfaction of his most human needs; it is here that he strikes the firmest roots into the ground; it is here that he achieves his strongest sense of reality not only in terms of things but also in terms of fellow human beings. It is first then to "the house of man" that we must bring the abundant gifts of this age of science-in-the-service-of-mankind, realizing that in the word "HOUSE" we encompass the full range of those activities and aspirations that make one man know all men as himself. And from this basis we can hope to achieve the true meaning of the word which we have so long misused—the word PEACE.

In devoting this issue to one means by which we can achieve the material facts of good over-all housing standards we have not attempted either an exhaustive survey nor have we attempted to reach dogmatic conclusions. We hope merely to help clarify the direction of a great deal of the confused thinking that is being done in terms of prefabrication as a method. Therefore, we have presented the material in terms of ideas, most of which in one way or another, will be quite familiar to everyone. It is only that we have felt that most of us need to be reminded of the undeniable facts of our times, facts relating to industry in terms of the human scale, facts that prove beyond controversy the accomplishments possible to us, given the tools which, at this moment, are available in abundance. There is no longer any need to quibble about our ability to recreate the modern world in the image of modern man. And that has been our purpose here, to point out again, with the facilities available to us, the undeniable realities of man's accomplishments and his abilities to create in order to fulfill his needs.

We are grateful for the excellent work done by the John B. Pierce Foundation, the Bemis Foundation, and others in making preliminary studies which will be enormously useful to those who will be concerned with the actual manufacturing and design of the modern prefabricated house. Also, for the many excellent articles and studies published in the various architectural journals—among them, *The Architectural Forum*, *Pencil Points*, and *The Architectural Record*.

It is also important that we note here and suggest everyone's support for the Kilgore Bill which will shortly go before Congress. Among other things, this excellent piece of legislation will give us a real research organization in this field. Known as the Housing Research Bill, it will provide a Research Institute under the technical direction of an advisory committee and a staff administratively responsible to the National Housing Agency. This act is broad in scope and very clearly set forth. It proposes "To employ and utilize by contract or otherwise the services of private organizations—" Thus, the great technical universities and other outside agencies and individuals will be called upon to continuously revitalize a federal program with new and fresh ideas. It is the obvious intention of the bill to make all technological studies in the field available to the American people so they might know what can be done if they insist upon seeing that it will be done.





WHAT IS A HOUSE?



HOUSE

(house), *n.*; *pl.* HOUSES (houzes; -iz; 151). [ME. *hous*, *hus*, AS. *hus*; akin to OS. & OFries. *hus*, D. *huis*, OHG. *hus*, G. *haus*, Icel. *hus*, Sw. *hus*, Dan. *huus*, Goth. *gud-hus*, house of God, temple; and perh. to E. *hide* to conceal. See HIDE; cf. HOARD, HUSBAND, HUSSY, HUSTINGS.] 1. A structure intended or used for human habitation; esp., a human habitation which is fixed in place and is intended for the private occupation of a family or families.—Webster.

We are concerned with the house as a basic instrument for living within our own time; the house as a solution of human need for shelter that is structurally contemporary; the house that above all takes advantage of the best engineering techniques of our highly industrialized civilization. While other attitudes present various possibilities, this approach would seem to be one that can be defended without prejudice as the modern, lucid, realistic solution of living needs.

The history of the house is too obvious to restate. The point we make, at the moment, however, is that NOW is the time in the world when all necessary circumstances and conditions exist in such relationship to one another that we can attack, on an inclusive, over-all scale, the problem of mass housing with a better than good chance for success.

It has been estimated that one million five hundred thousand houses each year for a period of ten years will be needed to relieve the urgent housing problem of this country alone. In the world at large, fifty million families as a minimum will be in need of shelter as the result of war.

The enormity of such a need cannot be even partially satisfied by building techniques as we have known and used them in the past. Large scale industry would seem to be the only logical means by which we can achieve an enterprise of such proportion.

This is a task that will not wait to be done until we decide whether or not we care to do it. It is a job that must be done if we are to achieve order out of the chaos of war; if we are to maintain and expand any of the standards by which we measure our civilization.

Because of the enormous acceleration of world industry for military purposes we now know that insofar as the design, engineering, and production of the house on an industrialized basis is concerned that reality only awaits the desire. That is, desire accompanied by our willingness to restudy, to redefine, and to readjust some of our obsolete attitudes toward living standards and means of distribution. The choice then, between things as they can be and things as they have been, is the only area of controversy. We can only hope that realistic clear-headed thinking will cut sharply through the obstacles that we now know have no reality or validity when the problem of good mass produced industrialized housing is to be considered.

"It has always been obvious that the dynamic life going on within a structure is more important than the static structure, but, like so much else that is apparent, this has been generally disregarded, with the result that shelter has been looked upon as an end in itself, not as a means of life."—BUCKMINSTER FULLER.



We have very willingly accepted the products of the machine when those products have added to our ability to get a job done efficiently but we have deliberately avoided the over-all industrial solution when it could be applied to the house itself.

Heretofore we have considered the house a shell into which we have packed selected gadgets—many of them good, too many of them bad. We have yet to find a valid reason for building our houses out of the past and ignoring the techniques of the present or the promise of the future. We have insisted that the house conform to conventional patterns. We have restricted and limited its use as an instrument for living by forcing it into "styles." We have demanded, unreasonably, that it conform to echoes of past elegance which we, as individuals, admire or to which we aspire. We have asked that it be the crutch of our sentimentality, a boon to our vanity, a means by which we prove to our neighbors that we are better or richer or more knowing than they. We have actually submitted the house to the kind of thoughtless faddism with which we accept the season's fashion in hats.

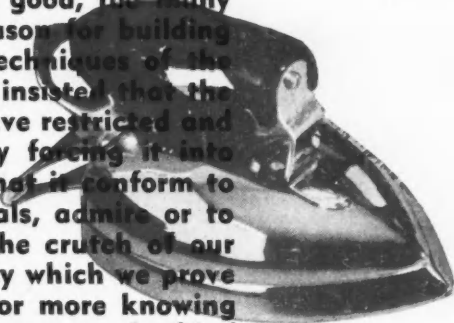
This, the basis for the environment that conditions us; the envelope which encases the most important of our life's functions, we think of in terms of indulgence rather than good sense, and we pay for it by living in the midst of obsolescence, burdened by a lifetime of financing (in money, in time, in health, and environment) what is inevitably a bad bargain.

Perhaps it is because, among other things, we have allowed ourselves to be conditioned to look upon what is known as the machine age with suspicion—the fear of the mechanical—the fear of the logic of precision—the fear of Frankenstein. Man dominated by the machine has for years been a philosophical bogey despite the fact that modern man, if he is great, is great only in relation to what he has accomplished through his creation of the machine. Only now, in this present world, are we forced to realize that the machine, the industrial, the scientific age is the insistent, inevitable manifestation of the physical facts of existence that makes it possible for us to break through into the future.

We now know that we only lose control of what we create if we refuse to take responsibility for the direction and the discipline of the USE of our creations.

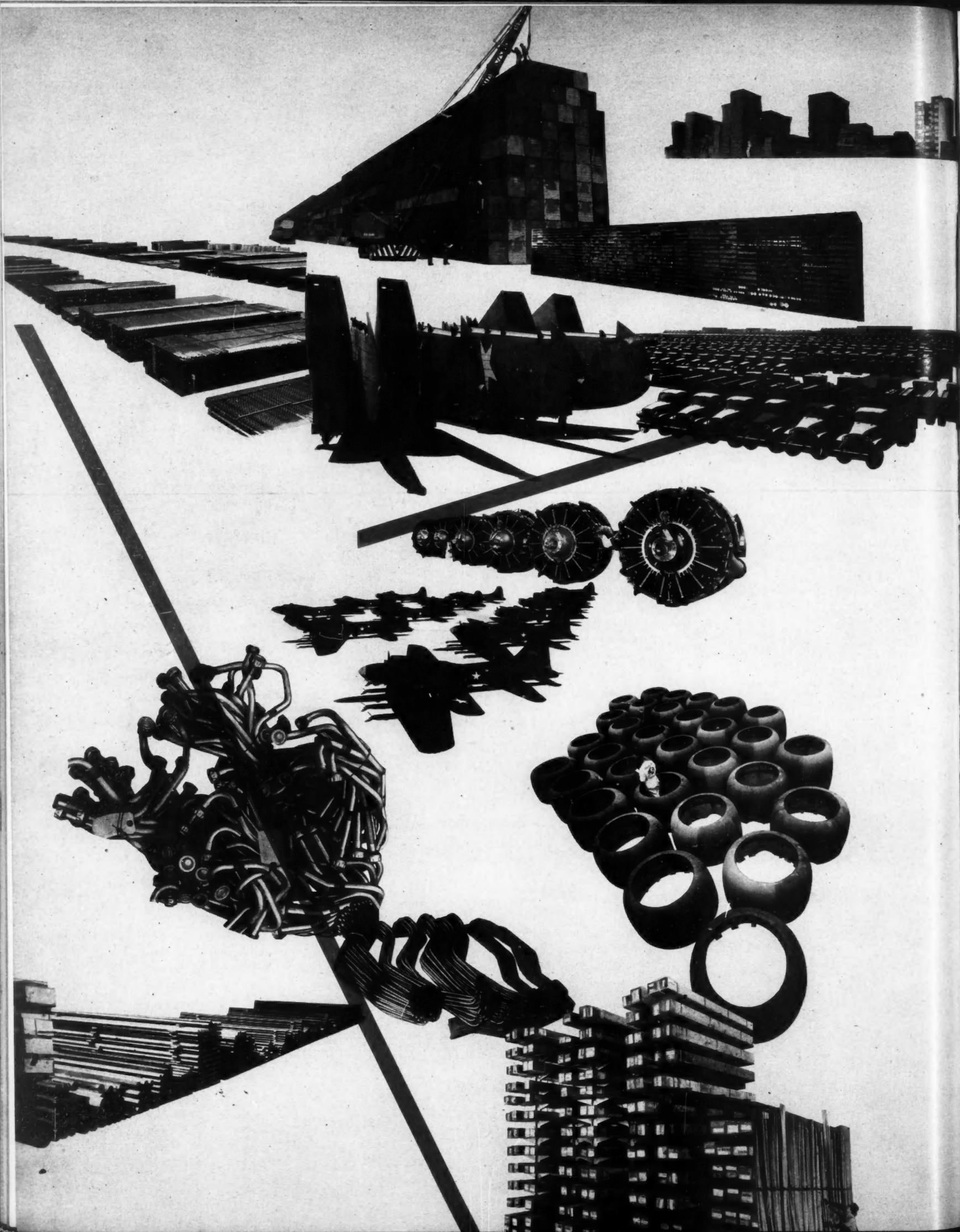
We now know that the miracle of industry in war can and must be a part of the peacetime world, a reality no longer possible to deny—an insistent power so much a part of the very existence of modern life that we can no longer have the privilege of choosing whether or not we care to live with it because, by the very nature of progress, it has become a part of ourselves and the MEANS by which we live with one another.

We must, then, accept the machine in the coming age of science as something to be lived by and no longer to be lived for.



"Declarations of rights no longer assure us. We all know that those rights should be,—what we all want to know is just one way by which those rights may be specifically arrived at. And we know that specific way transcends a formula of There must be evidenced a formula of advantage gained over environment, comprised of no unknowns but of the leverage principles of universal physical laws. That means a total industry pattern."—B. F.

"That good engineering could be directly causal and IS and ALWAYS HAS BEEN realized. The mechanics of the invention which is all economics is. It is well to remind ourselves from time to time that the word "economics" derives from "ecology." the science out of the house. In such a science, the design and production of the house are causal."—B. F.



Literally mountains of material have been created by

industry under the pressures of war conditions. Not only American industry but also world industry has fully demonstrated its ability to create an abundance of goods for man's needs. But more important than this important fact is man's growing awareness of his real power through the machine. His absolute knowledge of not only an industrial potential but also the accomplished fact of an industrial reality so vast, so overpowering that it becomes the one great common denominator of the life of all mankind.

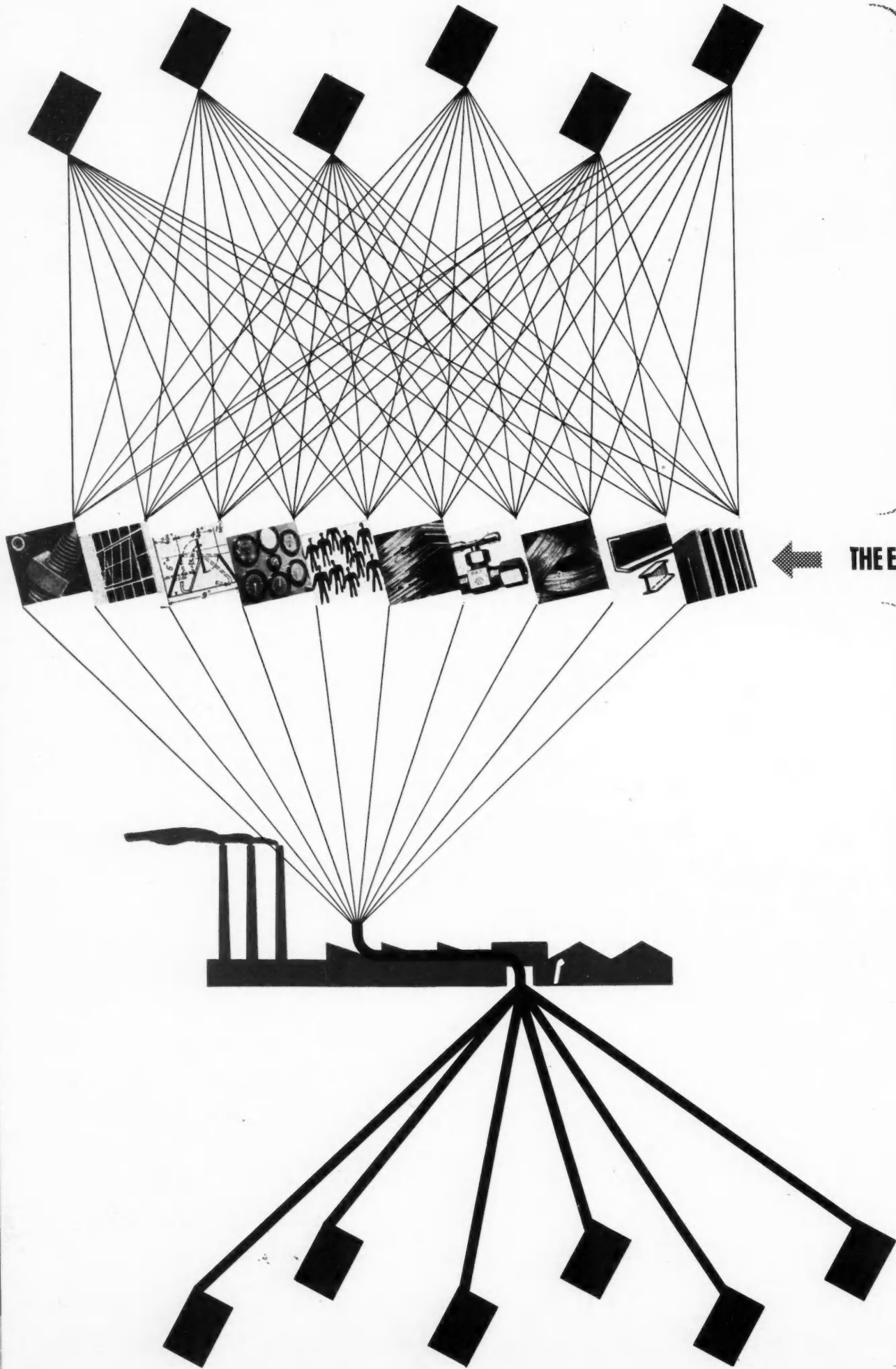
True mass production has won the respect of all people because it has been able to put into their hands the weapons by which their lives have been saved in war. Man now knows that mass production properly directed and properly disciplined will not only save lives but also set them free. The one outstanding fact of our time is that this can be done. We no longer lack the means. It is now only a matter of directing our wills and our intelligence to the proper use of the mountains of materials and technologies at our disposal in order to solve the most pressing problems which concern the material welfare of mankind.

Science in industry cannot be expected to function if it must make compromises in terms of political minorities, commitments-to-the-past or prejudices concerning the future.

"Very probably American prefabricators will be called upon to aid in the unprecedented housing emergency which will arise with the liberation of European countries. That emergency relates to 30 million families completely bombed out, who are now doubled up or existing in conditions that will provoke a sanitation crisis. The people themselves will go to work salvaging the rubble and salvaging the industrial materials no longer required for war, improvising many of their own emergency solutions. So enormous is the need, however, that if only one per cent of its requirement were to be referred to the U. S., that would mean more single family houses than the U. S. economy built for itself in its all-time peak year."
—BUCKMINSTER FULLER.

Amongst the heavy industry categories of the industrial economies, construction has always been by far the largest individual consumer of the over-all resources, both volumetrically and tonnage-wise. And within the narrower category of construction itself, the family dwelling bulks as the largest tonnage consumer throughout the last half-century.—B. F.

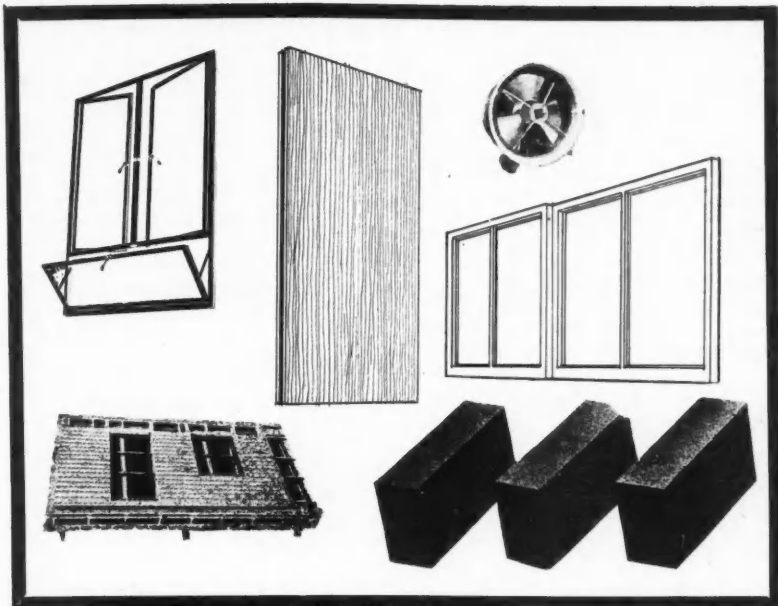
This time man is going to convert those intellectual war-instrumented controls to his comprehensive living advantage, right down to where the baby comes in. Worldwide man is learning about the multitudes of physical advantages inherent in mechanics, technology, cooperative action —of armies that swim and fly and walk through hell. Nothing can divert him from focusing that ability to magnificent realization in his world housing abilities and to the exquisite problem of equilibrium maintained in the living estate.—B. F.



FLOW TO INDIVIDUALLY BUILT UNITS

THE ELEMENTS THAT MAKE UP A HOUSE

FLOW TO UNITS THROUGH INDUSTRIALIZED PREFABRICATION



Any unit or combination of units manufactured or cut to size before being brought to the building site can, in a literal sense, be called

PREFABRICATION

BUT Prefabrication in the truly industrialized sense is a very special approach to the problem of the "house"—an approach made possible NOW, for the first time, when industry, research and material exist in the right relationship to one another, making possible an intelligent application of these resources to the needs of housing.



- PREFABRICATION IS NOT** Just a trick to save labor in the building of a house
- IS NOT** a super-industrialized method to be used for the reproduction of the architecture of the past
- IS NOT** merely an ingenious mechano-set of parts which, when put together, form walls, roofs, shells of buildings
- IS NOT** the use of the factory as a catch all for obsolete building crafts
- IS NOT** a new sales promotion package for the purpose of marketing streamlined versions of old products

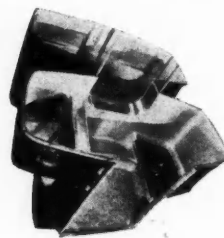
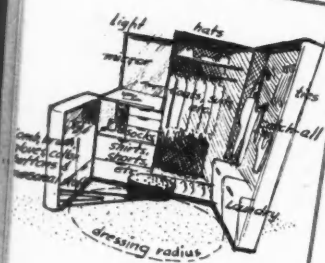
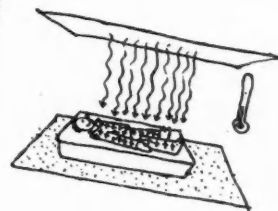
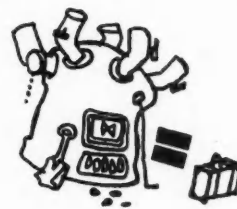
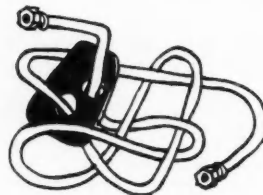
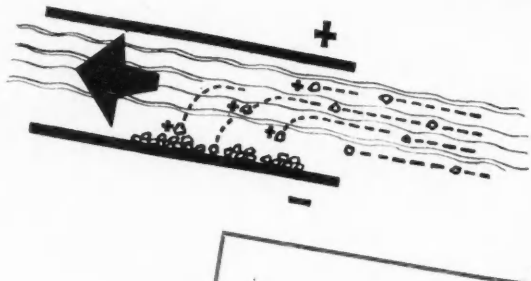
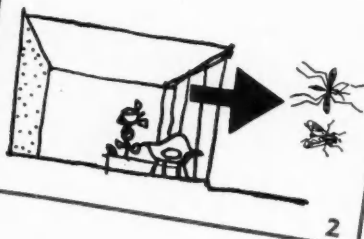
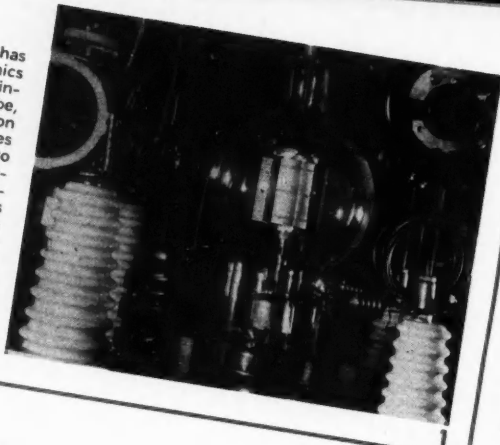
BUT modern industrialized prefabrication, by its very nature, cannot be disassociated from any of the functions of living related to the house. It is, then, the complete use of all the facilities of mass production aided by the best research, the best techniques and the best materials available, to the end that every living activity will receive the benefits of our enormous industrial energies. It is through the complete integration of all these forces that we will arrive at the form of the product. Form, then, will be the by-product of the end result of our best intellectual and industrial energies rather than a point of departure.

BUILT UNITS

P A HOUSE

OUGH
PREFABRICATION

Although the public has knowledge of electronics through the operating principles of the radio tube, it is the war-time expansion of the industry that indicates a vast new application to peacetime uses. House construction of strong lightweight metals or plywoods will be welded by the use of electronics devices. Innumerable low cost additions to home conveniences will change present methods of eating, cooking, and lighting.—Norman E. Bruns, Electronics Engineer.



1 Under the war pressure of an immediate life and death need for electronic equipment for use in radar communication controls and industrial techniques, an enterprise, rivaling the size of the prewar automobile industry, has been developed. Only on such a scale of production is it now possible to anticipate that things like television will become a reality to the small house, but the development of electronics can and will be expanded far beyond its extensive service in battle and in war industry. It will mean in the immediate future precision control for hot-cold—light-dark—moist-dry—fast-slow—start-stop, plus health and service miracles of which we are just becoming aware.

2 There is in use a chemical when sprayed upon the walls of a room that will keep it totally free of insects for periods as long as six months. It has no effect upon human occupants and there is no unpleasant odor.

3 Acoustical engineers have accomplished wonders in the broadcasting studios, but these wonders have yet to reach the home. The radio, the dish clatter, the telephone, the baby, and the bathroom should not be too difficult for science to treat acoustically.

4 The precipitron is another electronic device first used to clean the air in critical buildings such as those devoted to the polishing of lenses. The air passes through an electronic field where all particles receive a positive charge and are attracted to a negative plate. This device traps particles so small that even some bacteria is included.

5 No longer a novelty, but a very usable material in plumbing, is vinylidene chloride which when extruded forms a flexible tubing very superior in combating corrosion and chemical action.

6 A heating unit no larger than a suitcase, and consuming a now secret fuel, can heat a space comparable to the average house. This device is now used for, among other purposes, the heating of interiors of high altitude bombers under conditions much more severe than will ever be encountered in any problem of home heating.

7 We can be sure that no home-owner will be satisfied with a house that is any less fireproof than has been made possible by the development and appliance of wartime science.

8 Such wall-horror need no longer be a household worry if we consider and take advantage of the properties of plastic surfacing and coating materials that now exist in the plastic catalogs of 1944.

9 In the refrigerator, the bacteria destroying lamp will prevent mold and spoilage and thus enable all such units to be operated at ideal moisture conditions, otherwise impossible because high relative humidity encourages bacterial growths.

10 The use of large surface areas (such as floor or ceiling) for heat radiation, produces more uniform and more healthful heat with comparatively low tempera-

ture at the source. This principle of heating allows windows to be left open with less consequent loss of heat and reduces the smudging of walls that occurs over most conventional radiators and register grills. An application has been shown that enables one to sleep in cool air in perfect comfort with no bed clothes.

11 Workers in war plants have found that there is a logical approach to the engineering of packaging and filing, and an orderly approach to storage problems. These obviously intelligent solutions can be directed and applied by the same kind of engineering to problems of use and storage of personal possessions, clothing, and accessories. Such convenience has been well thought out in Eero Saarinen's "radius-reach."

12 We know that plywood is now much more than the plywood we have always known. We know now that it can be faced with metal, with plastic, curved, corrugated, formed in strong structural shapes, channels, angles, tubes, cylinders. It can be impregnated and compressed to many times its density and strength. It can have low density cores for light-weight rigid panels.

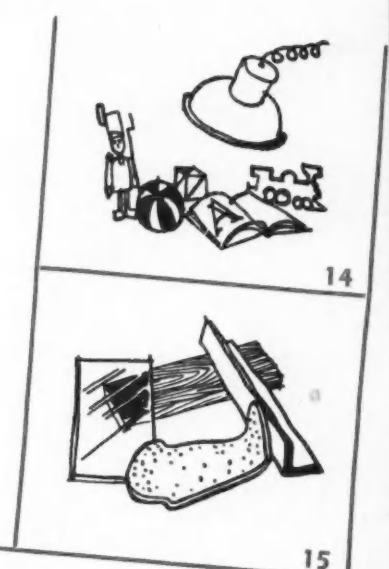
13 This has become almost a symbol of an approach to prefabrication. It was the first actual evidence of the inferences implied by the application of machine techniques to something directly relating to the scale of human living. It is not this actual prefabrication bathroom but the attitude for which it stands that has had the greatest effect upon modern conception and

Prewar materials and techniques heretofore regarded as hardly out of the laboratory and later restricted to highly specialized purposes have now become commonplace to anyone remotely connected with the industrial machine geared to production for war.

The terrific acceleration in the practical use of science and the almost immediate application of its development to the most urgent military need is no longer regarded as a hit or miss miracle of chance. The laboratory has been put on the production line. The distance between experiment and real use has been compressed into a matter of months. The application of this new and ready vocabulary to a truly industrialized mass production of good family living machines is the logical, practical, and realistic approach to our housing problem.

These things exist no longer in a dream world of gadgets that we will or will not buy depending upon how well they are presented over the air or in the newspapers. They form a part of that mass of material that will inevitably be brought together in order to create the most efficient, economical, and healthful instruments for living.

These things, on the basis of mass production and wide distribution, can no longer be thought of as luxuries when it can be demonstrated that savings in actual time, life, and the conservation of materials and services will vastly outweigh the cost of production. On a very practical economic basis these things are not luxuries because by their functions they save definitely calculable man hours and foot pounds of energy.



acceptance of the engineered house. People will not only expect but demand results from Buckminster Fuller's germinal ideas.

14 Sterilizations lamps, the rays of which destroy bacteria, can arrest the spreading of infectious diseases. They can be used in purifying water supplies and to kill germs in storage units.

15 That wood can be bonded to metal or metal to glass or glass to wood or plastic or any combination of these is now no secret, nor is it a secret that this bonding done by radio frequency can be accomplished in a matter of seconds. With this knowledge the entire field of structural connections in architecture presents unlimited possibilities.

The development of new steel and aluminum alloys has produced much stronger metals than have heretofore been commonly used in building. These more costly alloys can be used economically only by revising the usual conception of structural framing. By resolving a maximum of stress into pure tension, which can be resisted by slender rods and cables.

The development and increasing use of metal alloys such as beryllium alloys, which have amazingly high weight strength ratios, will do much to lighten the structure of the house.

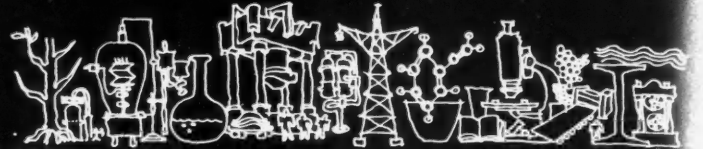


AN UNDERSTANDING OF FAMILY BEHAVIOR

free from any preconceived ideas and based on the most complete study of every facet of family life



interpreted in terms of needs
social, chemical, psychological
social and environmental



A VOCABULARY OF MATERIALS & TECHNIQUE

drawn from all our experience as a nation organized for war production and from all related scientific developments



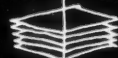
combined and applied in a way to best fill needs without compromise

CORRELATED THROUGH
A LOGICAL
APPROACH
TO

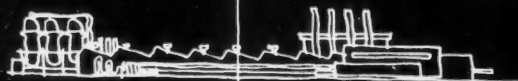


ECONOMICS

AND
ADAPTED TO



AN INDUSTRIALIZED SYSTEM OF MASS PRODUCTION

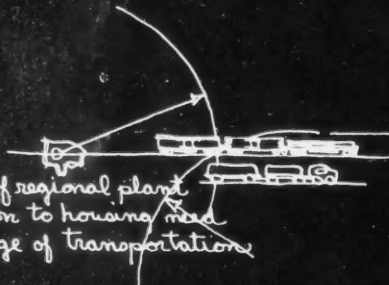


SUPPORTED BY
AN INTELLIGENT
PROGRAM FOR

DISTRIBUTION

TO

location of regional plant
in relation to housing, road
and range of transportation



considered in
relation to the
plan of the
community

THE FAMILY



WHOSE
BURDEN
WILL BE FURTHER
LIGHTENED
BY



FINANCING

to be restudied
to include all services, (and provision for
obsolescence) in its application to mass housing
and land use

SERVICING



a definite part of the program
which would place maintenance
in the hands of specialists



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THE ARCHITECTS OF THE PREFABRICATED HOUSE MUST BE

1 THE STUDENT OF HUMAN BEHAVIOR



Determining the true need, which is the first step to solving any design problem, becomes many times more complex when the solution is to be arrived at in terms of mass production. Not because the needs of family groups vary in any great degree but because these needs must be basic and cannot legitimately spring from individual fancies. The information to be gathered must be exhaustive. Conclusions must be the result of extensive and complete study of circulation, all phases of space, environment, health, storage problems, and psychological likes and dislikes. All these studies then to be brought down to the most simple common denominator.

2 THE SCIENTIST



With thousands of the final design to be produced, the materials and equipment, designed to meet this common denominator of needs, must be as precisely appropriate as the modern scientist can develop. They must, at the same time, be appropriate to the system of industrialized mass production. There can be no compromise with the demands set up by this basic need. If materials and equipment cannot arrive at the solution of family need with the minimum cost in energy and labor, then the gathering of such data and research will be nothing more than a neat but fruitless trick.

3 THE ECONOMIST



The economist will be called upon to integrate and to redesign the use of capital (either private or government or a combination of both) so that it will function with logic and respond readily to the needs of enterprise without restricting the scientific use of man hours, foot pounds, materials on the one hand and consumer-distribution problems on the other.

4 THE INDUSTRIAL ENGINEER



The product as it comes together on the assembly line is not just the result of the correlation of all these phases by the industrial engineer inasmuch as the engineering of production itself will contribute to the final form of the conception.

The value of the house that results from such a combination will be measured by the degree to which it serves for the amount of energy it costs. The relation of service to price is so important that nothing can justifiably be added to the house that does not increase its value in service.

The degrees of service are real and can be measured. They are not dependent on taste. If this is true, then this is a house which will not assert itself by its architectural design. In fact the better integrated the services of the house become, the less one is apt to be conscious of the physical way in which it has been done.

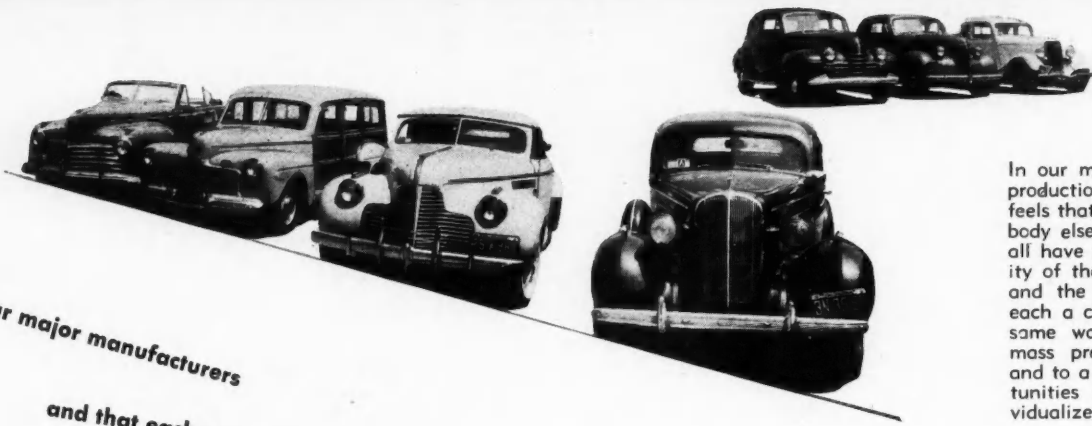
A house "SERVES" by giving shelter from the elements—
assuring privacy and providing for the functions of

- eating
- sleeping
- bathing
- dressing

Obviously these houses if they are to be industrialized in the sense of the production line cannot be complete within the conception of any one mind but must be the product of specialists in these several fields, each doing his portion of the work without compromise and in direct relation and in coordination with the others.

Do I have to live in a box? Do we all have to live in the same kind of a house?



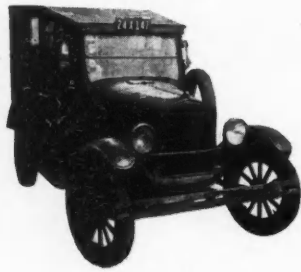


In our most classic example of mass production, the automobile, no one feels that his car is exactly like everybody else's. Cars parked at the curb all have something of the individuality of their owners, the many models and the wide variety in color gives each a character of its own. In the same way the various "models" in mass produced houses would offer, and to a much greater degree, opportunities for the occupants to individualize their environment.

Suppose there are four major manufacturers

and that each manufacturer produces four makes.

$$4 \times 4 = 16$$



and that each make comes in an average of seventeen models

$$16 \times 17 = 272$$

and that each model may be had in six different colors.

$$272 \times 6 = 1632$$

Then in four years there will have been produced and made available

$$1632 \times 4 = 6528$$

cars each different from the other.

Is this not conclusive evidence of the ability of industry to offer from the production line a wide choice?

The right to choose when it exceeds the limits of practical good sense can be a prerogative of very dubious value. In fact very often houses are built or bought for everything but the right reasons, sometimes for neighborhood prestige, sometimes for the social consequences of owning something bigger or more expensive or novel or attention-getting. Too many preferences concerning the inside of a house are dictated not by true value, utility, or beauty but by uninformed, high-pressured ambitions to achieve standards that are meaningless in terms of function.

To deliberately insist upon one's personal preferences in, for instance, the kitchen would not make sense if, within the limited budget of the average house owner, a prefabricated kitchen unit, designed and manufactured as the result of the most careful studies in function, space, and motion, resulted in a kitchen more efficient, engineered for every convenience, possessing all good known labor-saving devices, could be made available for a third of the cost of the personal-preference kitchen. It isn't a matter of having a kitchen like everybody else's; it's a matter of being able to have a kitchen that is enormously superior to any that could be conceived by the home-builder within any reasonable budget. So, if one insists upon the right to choose intelligently the only reasonable choice can be a kitchen ten times as good at one-third the price.

It is the kitchen, the bathroom, the bedroom, the utility and storage units that will profit most by the industrialized system of prefabrication. Here the activities of all men are much the same in the use of these basic household utilities, which properly designed and engineered will accommodate the over-all family function, and offer facilities and conveniences impossible to the individual's most ambitious preferences.

It is in the living-recreational areas that variation becomes a matter of valid personal preference where the family desires in terms of differences in activities must be considered. The accommodation of this difference in family activity is perfectly feasible and will be a natural part of the study of the industrialized house.

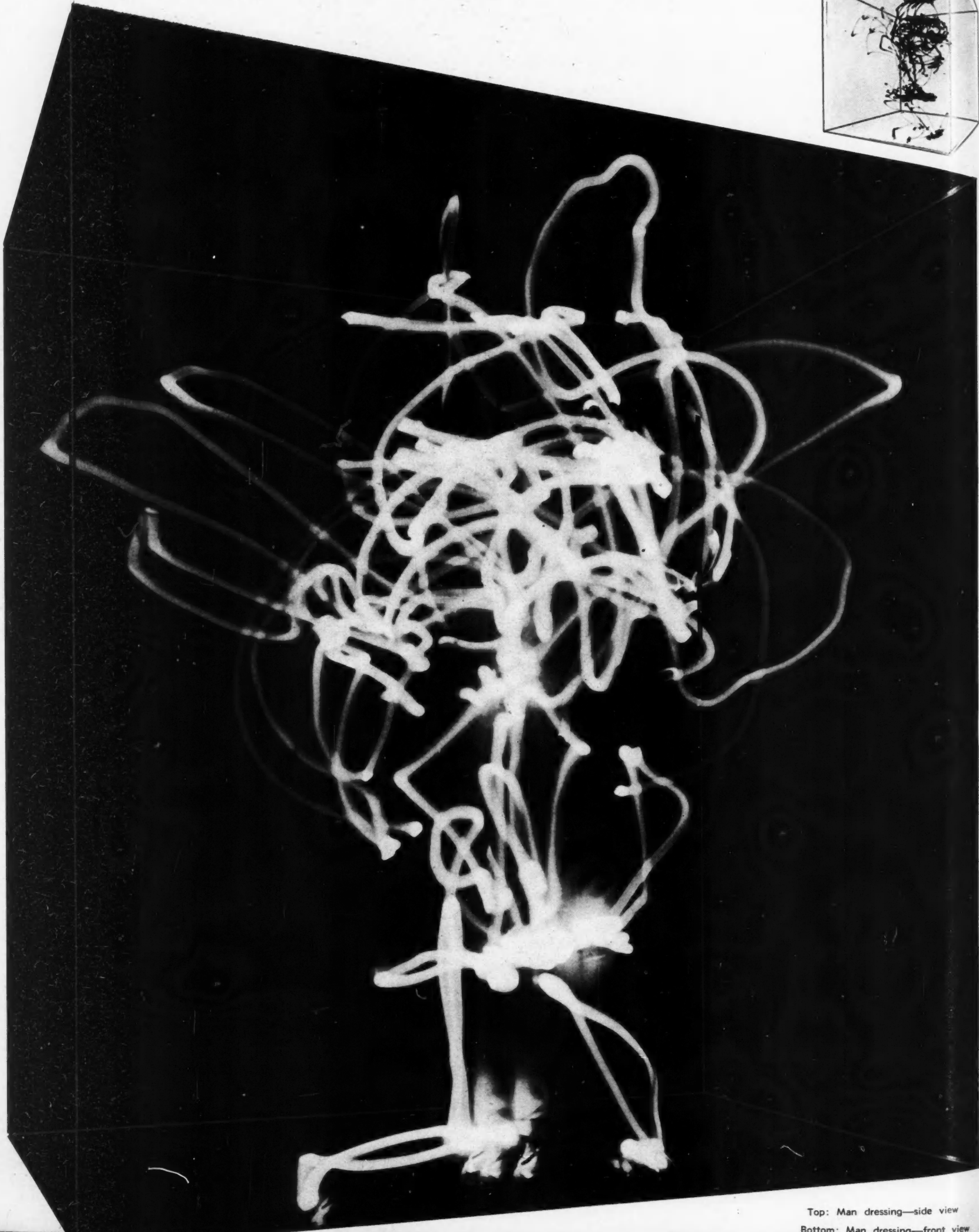
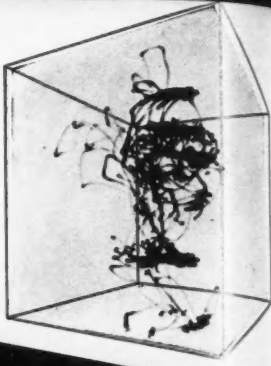
We choose our automobiles within the limitations of makes and models for the best kind of transportation adapted to our needs but in order to put the stamp of our individuality upon our automobile we do not demand that it have six wheels or two motors.

Unfortunately, personal taste has been considered all out of proportion to personal need and until these war years when more and more people have developed a greater respect for the right machine for the right job the sales promotion techniques which have persuaded a hundred and thirty million people to spend their money has been based upon the slogan, "Let them eat gingerbread."

As the sense of value increases and the demand for better, cheaper, and more efficient instruments for living becomes the criteria of spending, it will be found that the public will be less persuaded by blandishment and appeals to personal vanity than by real value determined by proper use of the machines and labor and materials. When honest use becomes the basis of promotional and sales techniques it will be found that no one really wanted gingerbread anyway, people were lulled into acceptance of the gingerbread diet, aerated whipped cream and all because so little else has been made available.

"Intelligence says, 'conscious inefficiency and non-adaptability to purpose, or change, are SUICIDAL.'"—B. F.

"The function of the architect-engineer will be the irrevocable integration into society of an universally accredited primary survival. This will be done through the adequate disposition of a constantly improving, available 'best' shelter, clothing and sustenance, in a world which can already—through the effort of one man out of every five working but one day a month—produce and distribute the goods and services necessary to all."—B. F.



Top: Man dressing—side view
Bottom: Man dressing—front view

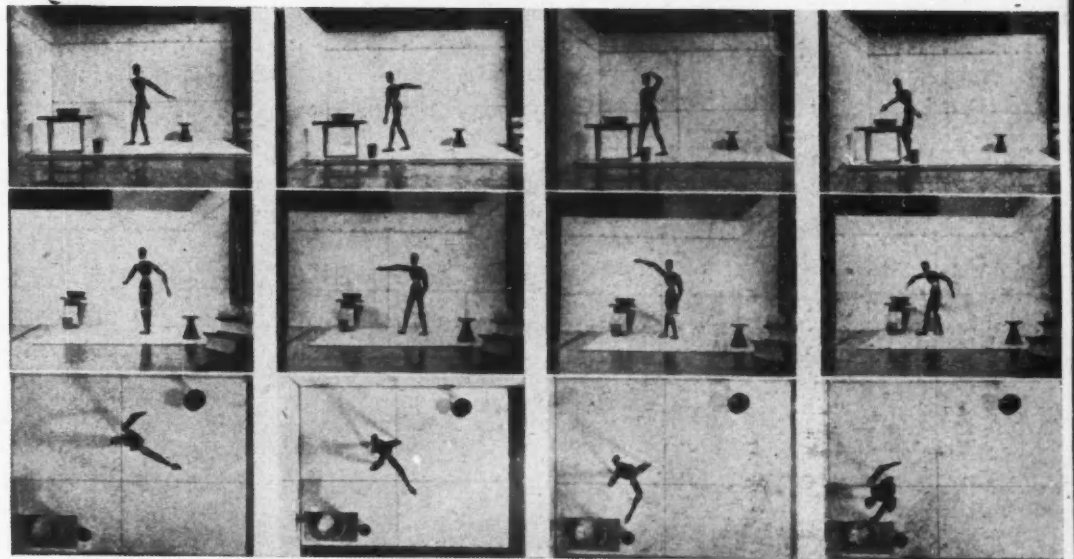
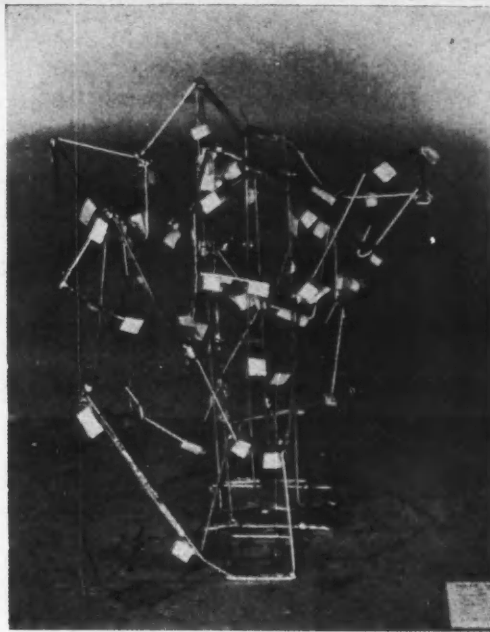
"The objective of a better, as well as a cheaper, house immediately raises the question: better for what? Obviously the correct answer is: better suited for the activities of family life that will take place in the house. Before the dwelling can be made better for family life, it is necessary to know what family life is—specifically and in detail. It becomes increasingly evident that supplying this need is prerequisite to improving the dwelling. No real progress can be made in housing design until there is in existence a mass of factual data on how families live.

"Before the scientific housing designer can begin his work he must know exactly what families do in their homes, where they do it, and why they do it there. Since families live in time as well as space, he must also know when they do things, in order to have the complete space-time use pattern. The families' possessions must be known, the quantity, type and frequency of use. But it is not sufficient for the designer's purpose to have merely a record of activities and an inventory of possessions; he must also know how much and exactly what shape of space is required to enclose them. He must know the families' habits, customs, and prejudices; what they do and do not like about their present dwellings and why, and what they would like to have instead. Information should be obtained on the families' basic feeling in regard to both space and time in the home; also something should be known of the fundamental dynamics of family life, the chief motivating forces, and the directions in which family life is moving. Finally the designer must know what the house must supply to meet the physiological and psychological needs of the individual members of the family. A handbook for housing designers should present all of the above data in the most usable form that can be devised, with variations for differences in age, family income, family future, ethnic background, occupation, and education, for rural and urban conditions in the different regions of the country.

"Present methods of housing design are a combination of tradition, rule-of-thumb, fashion, personal experience, and the codified experience referred to above. The basic conception is cellular, a cluster of rooms for more or less specialized use. Designing consists simply in establishing the number, size, and arrangement of the rooms. The family moving into the house must adapt itself as best it can to the fixed conditions of the design."

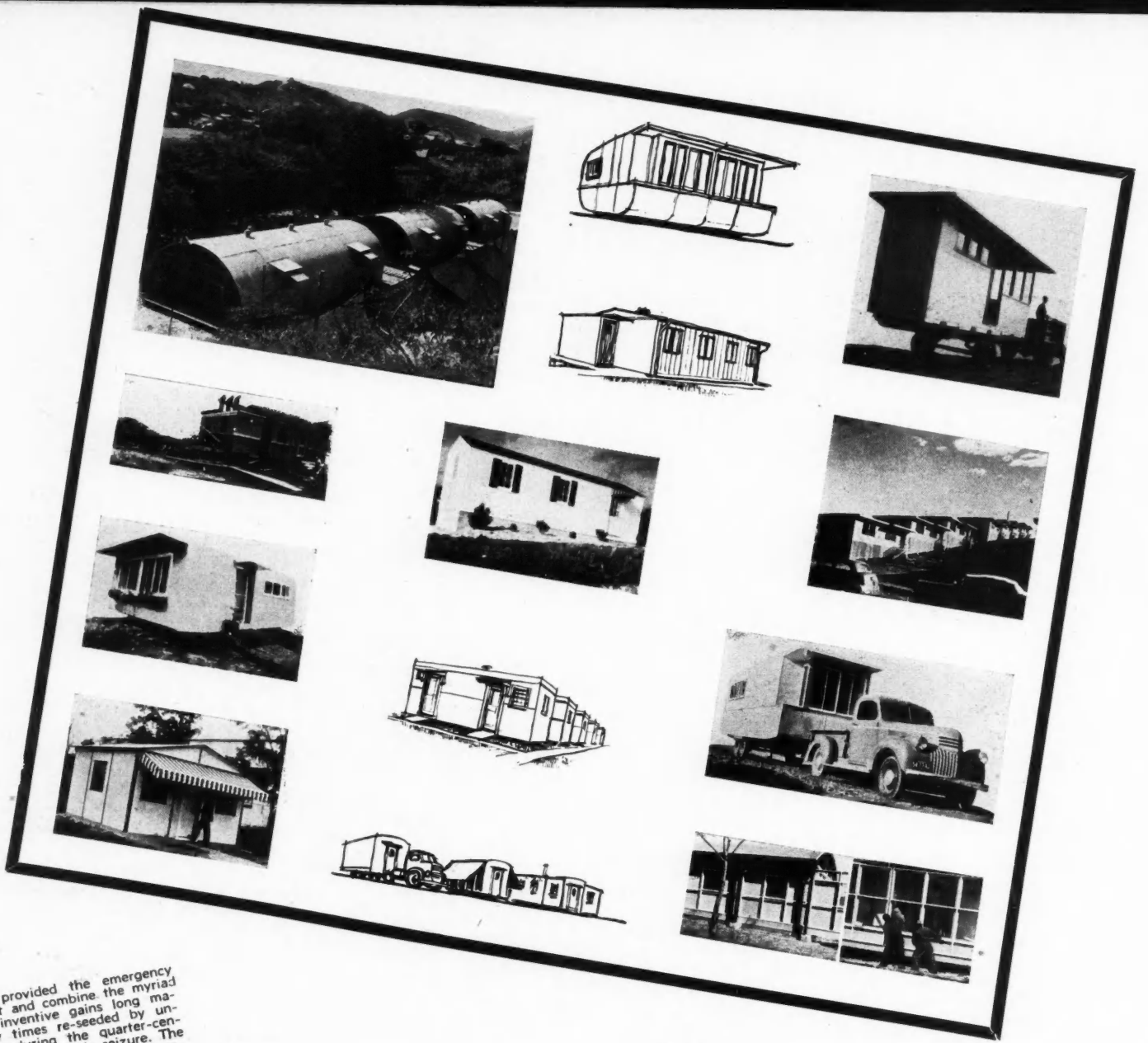
"Time and motion studies, a well known technic used in speeding up factory production, record and measure the motions themselves with the idea of changing them for efficiency in performance. This technic will be useful in studying the work functions, such as house-cleaning, food preparation, etc. But here the aim was to measure space needed, as a first step in designing a dwelling that would free the family of all space limitations to healthful and comfortable living. It is recognized that changes in family living itself will inevitably follow design based on family living, and, in fact, that the quality of these changes will be the measure of the success of the design. Our primary purpose, however, is to measure space requirements of family functions in order to redesign the dwelling and not to redesign family living."

In case such minute fact gathering of family behavior seems cold, it must be remembered that any real attempt to make a comprehensive study of the family must include all of those little personal habits that most householders feel apply only to themselves. It is in the full knowledge of all these small and intimate details that the architect-engineer and his associates can design the kind of a prefabricated house that will consider and meet all human needs.



THIS MATERIAL FROM MEASURING SPACE AND MOTION AND FAMILY LIVING AS THE BASIS FOR DWELLING DESIGN, RESEARCH STUDIES 6 AND 4, COURTESY THE JOHN B. PIERCE FOUNDATION.

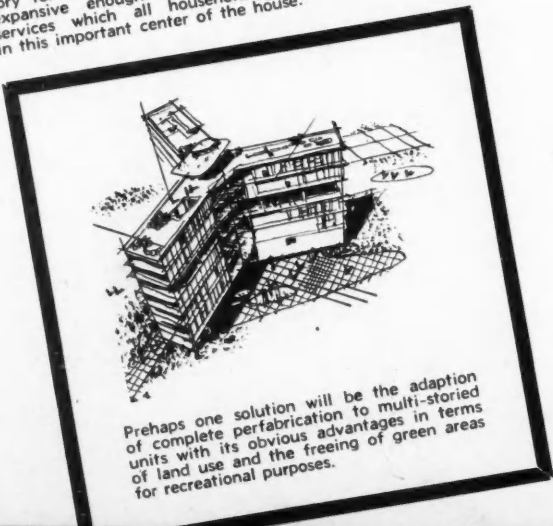




"Popular credit provided the emergency dollars to harvest and combine the myriad of technology's inventive gains long matured and many times re-seeded by untended cycles during the quarter-century of risk capital's paralytic seizure. The cultivated cycles during the mass production of ship building was that only thing wonderful about the mass production speed of ship building, and other it had been so long suppressed. And this high-frequency ship building, and other war productions are but a side show to the peacetime industry that may now be practically realized by a courageously composed technical future." — Buckminster Fuller.

The mass produced prefabricated house must be made easy to buy and above all easy to carry for the average family, with adequate protection from the usual "burden" characteristics of home ownership. Adequate "servicing" should be a part of the original contract and carried at a nominal fee for the life of the house.

It is obvious for instance that the galley-like pullman kitchen will not be satisfactory for all round family use and is not expansive enough to accommodate the services which all householders demand in this important center of the house.



Perhaps one solution will be the adaption of complete prefabrication to multi-storied units with its obvious advantages in terms of land use and the freeing of green areas for recreational purposes.

EMERGENCY

Many attempts were made to solve the urgent need of temporary housing during war. Some of the solutions are shown here. From each of these attempts, some good lesson was learned that will be applied to the peacetime prefabrication of houses. Faced with the necessity of speed and volume, most of them left much to be desired. This experience in fabrication and the reactions of those who have used the results, will become an important part of the material for study in arriving at the application of industrial techniques to housing for the more normal times of peace. The house will have a more generous provision for living activities. It will certainly lose its emergency character. It will have the full benefit of unrestricted materials, and unlimited considerations given to the needs of a fuller family life.

There has been a tendency to think of any mass produced house as being designed to fulfill nothing more than minimum requirements. To get a fair idea of what housing will offer we must realize that virtually every experiment has been in the nature of an emergency effort to solve a critical condition—housing pared down to its bare essentials. The recent crisis was one which we were totally unprepared to meet but it is important to remember that any solution would have been impossible without applying some of the surface principles of the approach to prefabrication that engineering prophets have been advocating for years.

The big concept of industrialized housing is not to be considered in any way as a stop-gap or tide-over. It is a way of life, a way in which all of the genius and accomplishment of the past can come together for the purpose of expanding and enriching the life of each individual and each family.

THE ANSWER . . . YES

In a survey conducted for the purpose of finding out just what people are likely to expect of the postwar house, the following figures were so startling and disturbing to the group that got the answers that they immediately embarked upon a campaign to destroy what they considered the "illusion of the miracle home" that has "grown up in the minds of the American public." If the figures prove anything, they definitely prove what we have thought all along: that the public is not committed to the living standards of the past and they only await the opportunity to accept the benefits of industrial progress when it is expressed in carefully considered use of materials designed to fulfill honest needs.

We quote directly from the survey:

"Prospective home buyers were asked this question about six projected developments in low-cost homes:

"At the price you intend to pay, do you believe that any of the following 'revolutionary' changes will be available?"

- "Complete air conditioning with cooling in the summer as in the movies" 72%**
- "Electronic controls which will make housekeeping far more simple than today" 81%**
- "Extensive use of plastics for plumbing, pipes, bathroom fixtures, wall surfaces, etc." 81%**
- "Movable partitions which permit the making of one room out of two or vice versa" 60%**
- "Outside walls which can be opened up on a garden or terrace in warm weather" 54%**
- "Rooms built as complete units which can be added or removed, depending on family requirements" 56%**

In other words, the overwhelming majority, planning to pay an average of only \$52 per month, expect construction features or products which either did not exist in the prewar period, or which were available only to a minority of home buyers in the high income brackets."

In answer to the question "Would you build or buy a new home if you could not get any or all of the above changes in home construction?" well over 50% said, "NO."

The report continues:

"A further breakdown of the replies disclosed that families willing to pay more than \$60 in monthly installments for their home expected the most for their money; those in the \$40 to \$60 bracket expected only slightly less; but even among families willing to pay less than \$40 per month, from one-fifth to two-fifths said they would stay out of the market unless they could get the six typical changes they had been led to believe would be available in the immediate postwar years.

"In other words, the survey clearly indicates that families in the broad, middle income group—the bulk of the postwar market—say they will postpone buying a home until the 'magic house' can be purchased at the price they are willing and able to pay."

The above becomes particularly interesting when the report states its purpose and intention, "Because of these alarming implications the Association has inaugurated a nation-wide missionary campaign to destroy the illusion of the 'miracle house'." What do they offer in support of their "missionary campaign?" Conventional types of homes with reasonable modifications such as wider acceptance of the low sweeping roof-lines of the California and Florida styles." Concluding with, "Once the 'magic home' bubble has been pricked, and the public correctly informed on what it can reasonably expect, the industry will be in the happy position of dealing with enlightened customers."

This, we give to you without further comment.

It is possible that we have been too modest in our conceptions of what the mass produced house will be like. Perhaps we have been thinking that through mass production we can get something like the old line house only slightly cheaper. The word house itself seems to have almost stopped our minds from thinking of anything other than "conventional house." But we must point out to ourselves that it was not long after the introduction of the automobile that our whole conception of transportation changed from the pace of the horse and buggy. Edison's electric light was not thought of as a new standard for the kerosene lamp but as a new standard of light, convenience, and utility. We must think of the mass produced house as not merely a cheap substitute; it must be thought of as something that can and will give us a new standard of living convenience with almost no foreseeable limitations. We can only attempt to state the directions already in sight but we know that the new conception of "house" will have to include such basic needs as improved space and livability to a degree never before experienced. Today a housewife can only divorce herself from the interminable drudgery of housework by having at least one maid-servant, but only 2% of the nation's homes can afford any such luxury. The mass produced house will be so planned and equipped, as a matter of course, that housewife labor hours will be cut to a minimum through the use of enough built-in mechanical maid-servants to eliminate as much as 50% of the drudgery. Such a dwelling unit will deliver service of a kind which heretofore was to be expected only from the \$20,000 house and the kind of income necessary to maintain it.—CERO SAARINEN.

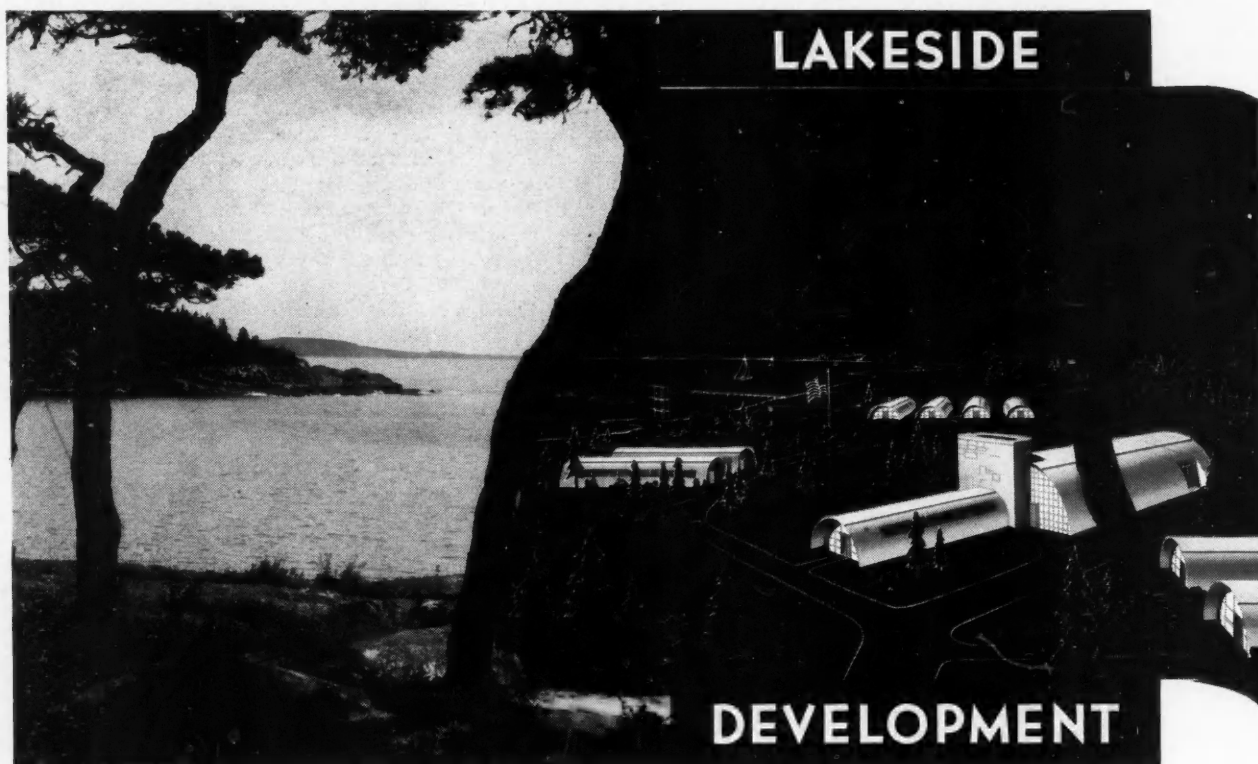
"If we will acknowledge that man's TRUE CAPITAL is his TIME and that his true collarability is an objectivized hour of that time and not a chip of metal in somebody else's pocket, then a true hour accounting of average intelligent effort, farm, factory, or fireside, would adequately balance costs as now determined by our abstracted fear-longing-and-credit poised dollars which total up to \$4710 minimum annual family output."—B. F.

National and regional building codes should be standardized and adjusted to the direct needs of the home owner and the "best" interests of community living.

"This conversion program should not be thought of as a panacea. It is true that it satisfies many obvious requirements. This in itself should not make us skeptical. Rather, it should be thought of as one plan which not only we but anyone can see will work." It is not what new materials will substitute in obsolete mechanics; it is what comprises the whole family of new mechanics which will make array of the old troubles; not a further array of unrelated plastic gadgets, but a new comprehensive industry, vast yet intimately exciting."—B. F.

The beauty of scientific dwelling machines is as certain as the beauty of an airplane, a square-rigged vessel; this aesthetic point needs no consideration provided best science and technology are employed.—BUCKMINSTER FULLER.

"The proper activity of the architect-engineer is purposeful. It is not to devise a better society so as to arrive at a finer architecture; it is to provide a better architecture in order to arrive at a more desirable society."—(Theodore Larson.)—B. F.



The range of usefulness of Stran-Steel framing systems by no means ends with industrial and municipal buildings, multiple dwellings, group housing projects and other large units . . . but extends into the field of smaller structures—cottages, boat houses, cabins, summer houses and the like.

This light-gauge steel has certain characteristics which serve equally well in all types of construction. It forms a rigid framework which will not sag—resists termites and dry-rot—and is light-weight enough to handle easily in transporting and erecting. A special patented nailing groove for applying collateral materials, plus other unique advantages, makes possible economies of time, labor and materials. As a structural medium, it is flexible and adaptable—affording the architect wide latitude in design.

Current production of large and small military buildings combines with this company's broad peacetime activities to provide a fund of specialized experience on which the construction industry may draw in developing its postwar plans.

Manufacturer of the U. S. Navy's
Famous Quonset Hut



STRAN-STEEL

DIVISION OF GREAT LAKES STEEL CORPORATION, 1130 PENOBSCOT BUILDING, DETROIT 26, MICH.

UNIT OF NATIONAL STEEL CORPORATION

a statement from the prefabricated home manufacturers association

BY HARRY H. STEIDLE
Executive Secretary

Automobiles, vacuum cleaners, mechanical refrigerators, radios, and other labor saving, job creating mass produced conveniences of the postwar interlude will be followed by domestic adaptation of airplanes, electronic devices, television, and equally phenomenal developments in other lines now beyond the horizon of our imagination.

And the sentimental attitude, the local prejudices and the selfish opposition to mass produced homes will be finally overcome, because experience has proven that mass production is the means toward better value. Of vastly greater importance is the dual job of first magnitude—providing productive employment and comfortable homes for our millions of returning service men and women.

This is the reason for the Prefabricated Home Manufacturers' Institute. Complete weatherstripped windows, modern heating units, refrigerators, finished kitchen cabinets, and many other modern contributions to greater livability of our present homes are available only because they were improved in quality and reduced in price through the benefits of mass production and other factory built sections to replace the medieval joinery and masonry employed in residential construction today.

Homes are basically and necessarily of the soil, and home building has always been highly localized, most frequently by individuals or small organizations that have lacked the funds required for the physical production of factory-made building sections. They have, furthermore, lacked the time and energy necessary to overcome the inertia, selfish opposition, and consumer skepticism that might surround the factory built home, although they recognize by acceptance, the value of factory built components which have added so materially to the comfort and convenience of homes of the past thirty years.

New materials in the form of plywood, plastic faced panels, resin impregnated fibre boards, asbestos cement boards, light metals and ingeniously devised metal shapes, coupled with advanced engineering principles in their use, have contributed toward the elimination of the problem of weight and have opened up many possibilities for producing better houses. The unprecedented war demands for sturdy, light, quickly erectable shops, class rooms, hospitals, hutments, dormitories, and war workers' homes have proven beyond any doubt the efficiency and the economy of factory production. More than 200,000 war workers' homes and untold thousands of barracks, hutments, shops, and other buildings have been prefabricated for the war effort. They have been engineered for quick erection, and the record of the producers of the buildings is no less outstanding, even if less spectacular, than records in the production of planes, ships, and armament. While the war has advanced industrialized home building by at least ten years, by the same token, this speedy development has left in its wake some examples of construction and design that have spawned many misconceptions regarding prefabrication.

These—and other problems besetting this lusty new industry—might have disappeared under the momentum already developed, except that a small group of pioneers perceived the necessity of directing this force under the combined strength of the entire group, and in August, 1943, organized the Prefabricated Home Manufacturers' Institute which is not an aggregation of professional planners—nor dreamers of a housing millenium—but real, practical, solid business men with their feet on the ground, and their eyes on the future. They learned the answers to our housing problems the hard way—by personal and costly experience.

The Prefabricated Home Manufacturers' Institute is dedicated to the advancement of health, happiness and security for increasing numbers of families by making available Homes of greater quality, comfort and economy through the application of modern mass production methods. This worthy objective is deserving of sympathetic understanding, support and endorsement of everyone, for it is the American way, not only for the future owners of these homes and their children, but for those thousands who will find gainful employment in the industry.

Although prefabricated houses are by no means limited to the lowest price range, prefabrication is the one means by which the circle of home owners will be constantly expanded to those in the lower wage brackets, as the economies of mass production become reflected in lower prices. This will immeasurably extend opportunities for gainful occupation in the construction of these homes as well as in the production of material and equipment which they require, rather than diminish these opportunities, as feared in some quarters.

While economy comes last in the trinity of housing benefits championed by PHMI, it is unquestionably of first importance to the buyer. No matter how superior the quality or how great the comfort, houses are meaningless if not provided within the pocketbook range of the prospective buyer. Economies are inevitable, and competition will stimulate manufacturers to new developments, and bring these economies to the home buyer in the form of reduced home prices.

Improved quality that has accompanied every other mass produced article will likewise be evident in mass produced homes. This will come about through more complete mechanization, through the greater efficiency resulting from controlled working conditions, and by the fact that such

production methods can effectively employ only the better grades of raw materials.

Other measures of quality equally important are the structural soundness of the home and its architectural merit.

On the first count, the Institute stands for the application of sound engineering to residential construction, instead of rule of thumb methods and similar time honored practices. Standards of performance are now being developed which will become a guide to the prospective buyer, a criteria for the lending agency and a basis of guarantee and certification by the home manufacturer.

From the standpoint of design, the war effort has left much to be overcome. Emphasis was on speed and economy for minimal living accommodations for war workers, and unfortunately, the publicity accompanying the phenomenal erection records has too generally left the impression that prefabricated homes are necessarily ugly in appearance, and, worse still, exact duplicates of each other. This is far from the truth, as evidenced by pre-war examples, and will be still farther from the truth in postwar prefabricated homes. Good design and wide variety will be other planks in the platform of the Prefabricated Home Manufacturers' Institute.

Seldom indeed does the conventionally built home costing \$8000 or less have the benefit of architectural service—yet with prefabrication this is possible and the architect or designer will find an interesting and lucrative field.

Comfort, the third point to which PHMI is dedicated, is a rather broad term which describes the home that is cool in summer, warm in winter, draft free yet well ventilated, devoid of annoying cracks and opening, convenient and generally highly livable. This comfort will be supplied in greatest measure by the home prefabricator who will lean heavily on the counsel of top notch engineer-architects and of home economists, and on heating, lighting, sanitary and ventilating engineers whose services can be retained because the cost is spread over many hundreds of such homes.

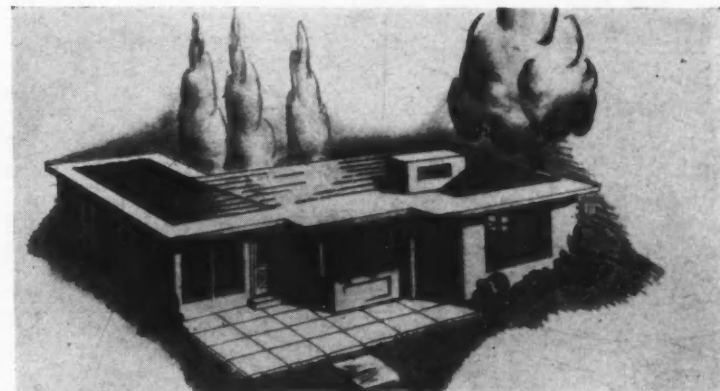
Economy, quality and comfort are practical considerations, and the members of PHMI are practical men. They deal not in dreams of things to come nor in reminiscences of a roseate past, but in the intelligent application of today's materials to practical livable homes by the use of modern line production methods.

Progress in this field, as it has been in every other field, will be slackened to some extent by those with their own interests to protect, but in contemplating the staggering industrial developments which were made possible by application of standardization and mass production methods in the past short span of twenty-five years, it takes no particularly elastic imagination to forecast what is in store in the industrialization of home building.

With an aircraft industry that grew almost from scratch to the production of thousands of sleek efficient machines capable of speeds over 400 miles per hour, and carrying tremendous loads over thousands of miles—and the phenomenal development of home refrigeration of food—automatic heating plants the size of a hat box—pocket radio communication systems—and the entirely new and limitless field of electronics—it is inconceivable that the lessons learned and the products devised will not also be adapted to the field of housing. No group is better able to capture these benefits for the future home owner than the members of the Prefabricated Home Manufacturers' Institute.

HOUSTON READY-CUT HOUSE COMPANY

The Houston Ready-Cut House Company was organized in 1917 as the Crain Ready-Cut House Company. It operated under that name until 1926 when the name was changed to the Houston Ready-Cut House Company. Immediately after its organization in 1917 the corporation purchased the



T. J. Williams House Manufacturing Company that had been operating successfully since 1912 in Port Arthur and Houston.

During the first world war, this company erected barracks and did other war work. In 1919, the present plant location was acquired and a new plant built. From 1919 to 1926, the company engaged in real estate development work, and building of prefabricated portable houses as well

AS SOON AS VICTORY IS WON . . .

. . . the Klinger Dri-Bilt Manufacturing Company is prepared to meet the large demand for housing which is certain to develop here and abroad . . . our multi-unit system will meet the need for any type of housing. For comfort and economy use Klinger Dri-Bilt homes and be assured of lasting quality . . .

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FORD FACTORY BUILT HOMES

Cottages, Poultry Houses, etc. One of the few practical and economical methods of prefabrication publicly accepted and FHA approved. State franchise and license now available to responsible concerns familiar with the building industry who are in a position to manufacture and distribute Ford Homes in their area. The savings in materials alone will more than pay the small royalty paid out. A minimum of capital, factory floor space and machinery required. Start right away manufacturing buildings essential to the war effort and you will be established ready to supply modern, attractive postwar homes immediately after restrictions are lifted. Write for circular and factory requirements giving us a brief outline of your past building history in first letter. Ivon R. Ford Lumber Co., McDonough, N. Y.



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as ready-cut and conventional houses—a number of the latter were very fine homes.

In 1926, the plant burned and the present well planned modern factory was built in its place. From 1926 until 1940, the company built prefabricated low cost houses almost exclusively. In 1935, the company manufactured a number of camps for the Civilian Conservation Corps.

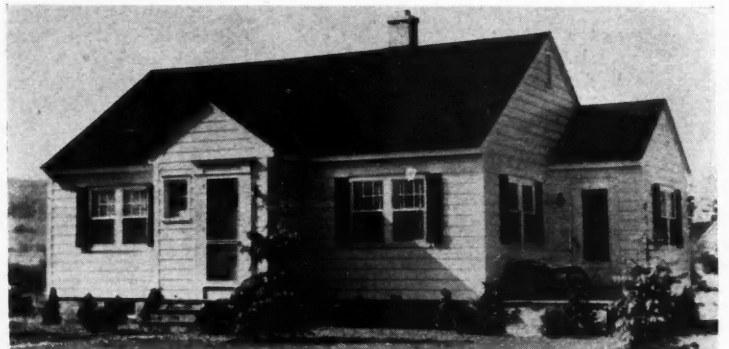
In 1940, a firm of management engineers employed to make recommendations concerning certain phases of the business made a check and found that the company had built well over ten thousand houses in addition to hundreds of warehouses, office buildings, etc.

Since 1940, the company has engaged extensively first in defense work and later in war work. Early in 1941, it manufactured nearly 5,000 cantonment buildings for the Army. Since then, it has built some 1,500 houses for war workers, hundreds of hutment type houses for construction workers and migratory farm workers, hundreds of portable barracks and hospitals for the Army; and in addition it has built ammunition crates, grain bins, etc. totaling some six million dollars' worth of work since January 1, 1941. In doing this work over these many years, the company has acquired a considerable lot of "know-how" in the very specialized business of manufacturing prefabricated houses. Probably no other company, certainly not more than two or three, in the country has prefabricated as many houses over as many years. It now appears that the postwar market for prefabricated homes will run to 250,000 houses a year and upwards. This market should enable the company to do a very substantial business.

FORD FACTORY-BUILT SYSTEM

The Ford Factory-Built System of home building originated in 1935 and patented by Ivon R. Ford of McDonough, N. Y., has been used continually since that time to produce practical and economical year around homes. The piece by piece method is wasteful of time, labor, and materials. In brief contrast, the factory production of structural section permits uninterrupted production flow regardless of weather. Mechanics work with utmost efficiency and safety because they have the benefits of optimum light and the best mechanical facilities.

Another important contrast to the piece by piece method is the economy of delivery. The completed sections are assembled in one or two loads



direct from the assembly line, loaded onto trucks in a few minutes time and delivered to the foundation without extra cost of warehousing and handling.

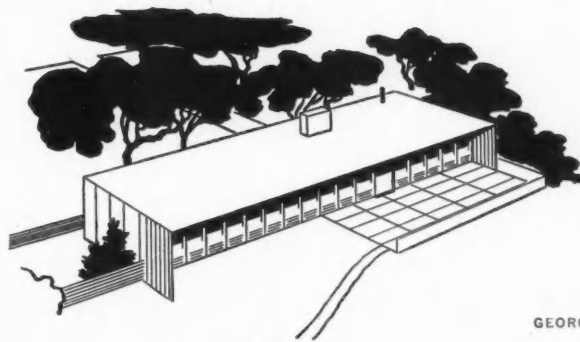
Recognizing the above facts together with the advantages of cooperative buying power, research work and architectural services, associate plants are being licensed to manufacture the Ford Homes and other structures both nationally and abroad. A progressive local home builder, a highly respected influential citizen in any community, cooperating with a nearby Ford Factory will be in a position to supply modern homes complete with field work, financing and service in the most efficient and practical manner. Ford Factory-Built Home Manufacturers and Dealers do not claim to be miracle men. It is still not possible to build a \$10,000 home for \$5,000. Mass production assembly line methods, together with efficient distribution will provide, however, attractive comfortable homes that anyone can afford to own.

TEXAS PRE-FABRICATED HOUSE

To match the success of the automobile industry in producing a low-priced car considerably better than the most expensive vehicle of two decades ago, the Texas Pre-Fabricated Company will, through factory fabrication, make available to the large mass of U. S. low income families new, livable, low-cost homes they can buy at once, without having to await the uncertain day of a substantial increase in income. From jig tables and conveyor lines in much the same manner as automobiles are assembled will come, at war's end, Texas Pre-Fabricated Company's apartment home, the peace-time version of the "Victory" hut the company is now supplying to American troops around the world.

The basic unit, measuring 16 ft. by 16 ft. and providing 256 square feet of floor space, is completely prefabricated and will serve as a complete home within itself. It can be partitioned to provide a living room and kitchenette, bath and one bedroom. Any number of the units may be connected in a variety of combinations for a large variety of uses. Making use of the advantages of modern plywood construction, the company has designed the basic unit in ten sections: Two floor units, four wall units and four roof units, together with a metal roof ventilator and collar,

the future
began nearly 10 years ago for Green's

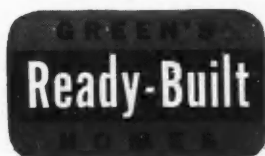


GEORGE FRED KECK, ARCHITECT

pioneers in prefabrication

Look for the name Green's among the illustrious labels on Tomorrow's "packaged" homes! One of the largest concerns of its kind in the Middle West, Green's is a famous pioneer in ready-built structures. Its outstanding success with prefabrication dates back to 1933, when it collaborated with the Forest Products Laboratories of the United States

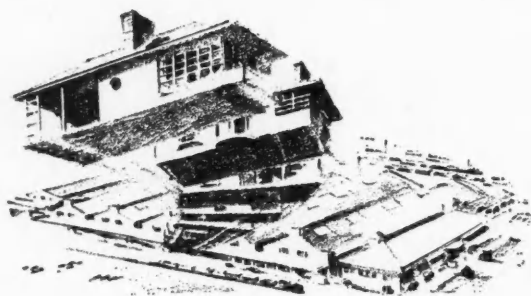
Department of Agriculture at the University of Wisconsin. Since then it has steadily developed and improved prefabrication methods. . . . Its experience, techniques, and facilities will provide exciting postwar potentials—both for the individual and for the developer of large-scale residential projects. . . . Your inquiries are cordially invited.



Green's Ready-Built Homes

1221 Eighteenth Avenue

Rockford, Illinois



The Answer to Low-Cost Homes in 194X **THE PREFABRICATED HOUSE**

THE prefabricated house is the logical answer to the public demand for a livable, low-cost home to fit the wage earner's pocketbook. It will bring the economies of mass production to the housing field, and will open up new sales possibilities and profits for the retail lumber and other established retail dealers.

Our planning department is still at work seeking an ideal house plan for adaptation to the economies of prefabrication. Just when the unknown X can be replaced by a definite year, no one knows, but when that time arrives, we will have a sound, livable prefabricated house available that can be merchandised with profit, whether in 1944, 1945 or later.

At present, as for the past two years or more, our entire manufacturing facilities are engaged in producing war materials for our Government, applying the "know-how" gained since 1917 to the prefabrication of war materials. If your name isn't on file to receive our portfolio and package plan for dealers as soon as it is released, write us now, so you'll have these facts when they are available.

*Bring Victory More Quickly with Your
Purchases of United States War Bonds*



HOUSTON Ready-Cut HOUSE CO.

Prefabricators Since 1917

2612 AVENUE

HOUSTON, TEXAS

four metal ridges which cover the joints where the roof sections meet, foundation blocks, interior partitions, bolts and screws and all hardware necessary for its erection. Wood battens and a metal hip cover the joints between the plywood to protect against rain and wind.

The Texas Pre-Fabricated Housing Company will sell the single bedroom unit after the war at a total cost of \$910, figured at pre-war dollar value. This is exclusive of the cost of the building site. A three-bedroom apartment home will cost \$1,487 exclusive of the cost of the lot. Two men can erect the standard unit, ready for occupancy, in approximately two hours. It can be demounted within the same length of time, without loss of material and damage. The standard unit weighs 2,802 pounds.

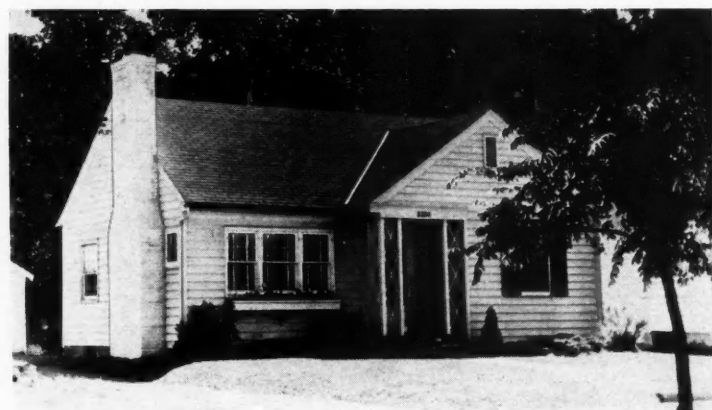
The Texas Pre-Fabricated House and Tent Company of Dallas was organized in July, 1941, as the manufacturing division, and currently has an organization of 497 superintendents, foremen and skilled craftsmen producing "Victory" huts, "Victory" homes and "Victory" adapter units at the two Dallas plants, aggregating 205,000 square feet of floor space and located on sites totaling sixty acres for factories and storage yards. Payrolls totaled \$1,000,000 in 1942 and \$1,800,000 in 1943. Partners in the business are Winfield Morten and H. F. Pettigrew, executive manager and executive engineer respectively of the manufacturing division, and Bert J. Mitchell, executive director of the Texas Pre-Fabricated Housing Company, which is the distribution division for commercial housing at the present time and will be the continuing concern for all postwar operations.

The company's commercial sales are currently restricted to the filling of orders for which the purchasers have acceptable priority ratings, but it is estimated that sales will jump to more than 20,000 units per year when existing priority restrictions are lifted.

GREEN'S READY-BUILT HOMES

Green's Ready-Built Homes, 1221 Eighteenth Avenue, Rockford, Illinois, was organized in 1941 as an outgrowth of the housing division of the Goodwillie-Green Box Company, which developed the glued-plywood wall-sized panels used in the system. Green's interest in prefabrication dates back to 1933, when it closely followed experiments being made by the Forest Products Laboratories of the United States Department of Agriculture at the University of Wisconsin. Several experimental homes were built by Green's for Forest Products.

Basis of pre-war operation was assembly-line fabrication of wood frame plywood panels, made in long lengths, and covered on the outside with



beveled siding. In an attractive brochure issued several years ago, the company featured eight homes designed along conservative lines, in which effective use was made of details such as window boxes and wooden blinds. These homes sold for as little as \$2500 for a two-bedroom, \$3000 for a three-bedroom unit. The postwar production potential of the plant is estimated at 1000 units a month.

Early in 1942, Green's produced more than 200 Government housing units before converting its entire output to wooden ammunition boxes and crates for shells for 75mm. guns, 60mm. mortars and 105mm. howitzers. It is said to be turning out the largest volume of crates and boxes for military use of any concern in the country. The present staff of over 200 employees will form the basis of the company's house-building crew in the postwar period.

Arlin E. Thro, general works manager, is a partner in the organization with Edward W. Green. Sam Tracy is personnel director and buyer, and Perry B. Moore is in charge of plant engineering and time studies. Territories covered by Green's served most of the Middle-west. According to Mr. Green, the organization plans extensive changes in its construction methods, house designs and distribution set-up to meet the needs of a peace-time market. Plans for the production of a prefabricated "solar" type house are being developed in collaboration with George Fred Keck, creator of the glass "Home of Tomorrow" at the Chicago Century of Progress.

PLEASE WOODWORK COMPANY

The Pease Woodwork Company is an outgrowth of the original concern founded in 1893 by Charles H. Pease and present officers are James L. Pease, President, Harvey P. Pease, Vice-President, David H. Pease, Secretary, John W. Pease, Treasurer. This concern has been engaged in selling

Proved Quality
PREFABRICATED HOMES



THE experiences gained in twenty-five years of building prefabricated houses go into the construction of STURDYBILT prefabricated, demountable buildings. The dependability of STURDYBILT houses has been proved in actual use, under all kinds of conditions, in many parts of the world. For the past three years

Southern Mill has built thousands of STURDYBILT houses for industrial areas where better types of war-time housing was needed. The knowledge acquired during this period of increased production will help keep Southern Mill a leader in the field of manufacturing prefabricated buildings in the post-war era.

**Manufacturers of Special Millwork,
 Distributors of Johns-Manville Insulation and Siding Shingles,
 and Curtis Woodwork**



STURDYBILT

LEASE HOUSES • BUNK HOUSES • PIPELINE CAMPS and STATIONS
 WAREHOUSES • GARAGES • RECREATION HALLS • TOOL HOUSES

Prefabricated • Demountable Houses

SOUTHERN MILL AND MANUFACTURING COMPANY

Wichita, Kansas

Tulsa, Oklahoma

Longview, Texas

PREFABRICATORS for WAR and POSTWAR

Behind the prefabricated homes and other structures manufactured by The Green Lumber Company are many years of success—many years of experience—many years of customer satisfaction.

Over a quarter of a century ago our organization first engaged in the prefabrication of buildings for war use; later we developed and constructed countless structures for peace-time pursuits. With this background we were in excellent position to expand and speed up our manufacturing process—and direct them along lines fitting into the war program. This we have done unreservedly for the past three years.

With the coming of peace we are prepared to quickly convert our manufacturing facilities from war to peace-time prefabrication, and to deliver to the home owner that satisfaction which comes from the possession of a properly designed and constructed building, something that can only be the product of a competent and experienced organization.

The
**GREEN LUMBER
COMPANY**
LAUREL, MISSISSIPPI

building materials by mail and over an area approximately 22 states, principally East of the Mississippi River. An intimate knowledge of the home builders' problems and hazards came through years of contact with them, was primarily instrumental in the conception and actual manufacture of PEASEWAY Houses.

These Prefabricated Homes were first offered on the market and erected in April, 1940. Distribution has been entirely through builders and local real estate dealers on a franchise basis. These distributors provide the lot, foundation and various other trades, such as plumbing, heating, wiring, etc. They erect the houses and sell them as a complete home ready to occupy. PEASEWAY Houses have been accepted by F.H.A. for up to 90 per cent 25 year loans and all financing is done through private institutions, but is primarily F.H.A. insured and hence, on a low monthly payment basis. PEASEWAY Houses can be made in any type of one or two story construction. There are now over 1500 houses erected in the field and occupied by private owners. These have been built individually on scattered lots, as well as in groups. Production is carried on entirely at our plant in Hamilton, Ohio, where modern moving production lines are utilized in the manufacture of floor, wall and ceiling panels. Postwar planning is now being done and while all improvements in the way of efficient new materials and mechanical conveniences where possible will be included, no radical departures from present construction are expected in the immediate future.

NATIONAL HOMES CORPORATION

National Homes Corporation, Lafayette, Indiana, now approximately four years old, has had much more experience in the actual fabrication of panel homes than many older fabricators have had in ten years. A total of 6,101 National Homes have already been built, 440 of which were sold through dealers to private customers and 5,661 of which were built on fifteen war housing projects for war workers and army personnel. National Homes have been built in seven states ranging from Maryland to the state of Washington and thus have been exposed to the widest range of weather and climatic conditions.

"We will continue for the duration of the war to devote most of our production facilities to the war effort," according to company officials. "By



doing this, we feel that we are doing our bit toward hastening Victory. Also, we have acquired valuable experience in mass production made possible only by Government purchase of large quantities of houses. We have produced as many as 24 houses per day and sold them to the Government first for approximately \$3,000.00 and later as low as \$2,000.00 in spite of continued increases in cost of labor and material. We have also gained a vast knowledge as to the flexibility of prefabricated houses.

"Upon the lifting of private building restrictions, it is our intention to have ready for sale an even better home, one in which we will incorporate all the advantages that we have learned from our past experience. They will be produced with the latest mass production methods and erected by highly skilled dealers in from one to two weeks, depending on size. Buying a National Home will be easy because our dealers offer a complete service including procuring lot, financing home and landscaping. "Our constant objective is to produce a better home for less money."

KLINGER DRI-BILT MANUFACTURING

The Klinger Dri-Bilt Manufacturing company of San Antonio, Texas, after six years of experimenting with and developing prefabrication techniques, is of the opinion that many people are hoping for more from the prefabricated house manufacturer that he can give them. The company, which has developed



a highly successful multi-unit system, believes, however, that given time and material, the so-called mass-production super home will be achieved. The company, which began its prefabrication work by building conventional homes in its plant, feels that acceptance of prefabricated buildings will depend



The West's PIONEERS in Prefabrication

*Tomorrow
is here Today!*

Because . . . as early as 1932 . . . PRECISION HOMES COMPANY of Stockton, California, made practical studies and experiments in prefabrication . . . began the actual sale and construction of prefabricated houses in 1937 . . . and sold more than 200 custom designed F.H.A. financed units in Sacramento-San Joaquin valley areas before "defense housing."

TODAY . . . after designing and constructing hundreds of War Housing dwelling units . . . PRECISION HOMES COMPANY have that practical experience that gives them the "know how of prefabrication." They know TODAY . . . what you'll need TOMORROW.

We invite your inquiries . . . and we are ready to confer with you on your POST-WAR planning.

PRECISION HOMES COMPANY *Manufacturers*

Sales Agents CENTRAL LUMBER COMPANY, STOCKTON, CALIF.

on a well developed flexible system—one using units which can be incorporated into many different kinds of structures. The Klinger Dri-Bilt multi-unit system consists of prefabricated units of the component parts of a structure, so designed to function as structural units of a given design that constitute the multi-unit system for both flat and pitched roofs. It employs the use of a varied number of materials. A great deal of steel

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is used in the structure, particularly in the structural assembly, as steel connectors and steel framing, thereby producing a strong substantial and demountable building.

The Klinger Dri-Bilt single wall unit permits any size structure based on 4' module and up to 24' wide, and any length, with or without floors.

GBH-WAY HOMES, INC.

GBH-WAY HOMES, Inc., of Walnut, Illinois, organized in 1940 as the outgrowth of 18 years of experience in the retail lumber and contracting business believes that the buying public wants to purchase farm structures, as well as homes, across the counter as a complete package just as it buys automobiles and tractors. In order to supply this demand the company has a thorough industrial organization providing better planning, modern production methods, and broad experience as prefabricators.

During the last 20 years GBH-WAY HOMES, Inc., has built up a backlog of financial integrity and a capital structure which enables it to buy quality materials in volume, thus making possible substantial savings for its customers. The company always has stood for volume purchases and volume sales. When war time restrictions curtailed the building of homes, GBH-WAY promptly entered the prefabricated farm field, and this, together with several army ordnance contracts for war materials, has served to keep its plant operating at capacity.

To meet the demand of the "Food for Victory Program" a very livable farm tenant house was designed using the same Glu-Trus laminated arched rafter



that was developed for use in other farm buildings. This building is termed a "Garden House" and has met with a wide acceptance in the middle west area. GBH-WAY Farm Structures are skillfully fabricated from quality materials, the durability of which has been proven by actual field use. Although the war effort has restricted the use of critical materials, GBH-WAY has, without sacrificing quality or design, fit into the pattern of American Industry at war.

GBH-WAY has found that its customers demand a home similar in design to standard conventional construction, but complete in every detail even to complete price. In the field, the principal difference between building a GBH-WAY home and a conventional building is the time involved. This is an important difference, however, for it is the time required to build a conventional house which makes this old-fashioned method costly.

Controlled production achieves higher standards and proves that the problem of low cost housing is basically industrial. Building a home most economically is a job for management, supported on the one hand by sound engineering principles and on the other by experience, capital and adequate plant facilities. In GBH-WAY's modern plant at Walnut, Illinois, controlled production will achieve a new and higher standard for an economical postwar prefabricated home.

NAVY USES STRAN-STEEL ARCH RIB HUTS

Heart of the U. S. Navy Advance Base Building program is the archrib, packaged, site-assembled hut. Modeled after the Nissen hut developed in England, the U. S. Navy started out with a "T" rib, 16'x35' structure similar to the British. Following this, the Stran-Steel Division, Great Lakes Steel Corporation, Detroit, offered a 20'x48' Stran-Steel Arch Rib hut.

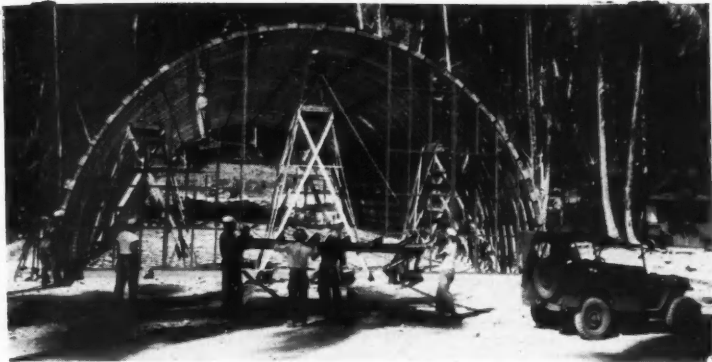


Picture by U. S. Naval Construction Battalion on Florida Island showing examples of primitive and modern construction. Men of the CB's are painting and camouflaging steel warehouse. Hut alongside warehouse is former home of native chief of the island. Official U. S. Navy Photograph.

The shipping cube of this building is approximately 450 cubic feet—about 1/3 the volume occupied by a 2½ ton cargo truck, and amazingly small for a building providing this much floor space. A later design hut, now in volume production, is the 20'x56' Quonset all-steel arch rib hut, referred to as Navy Design 1. It is similar to the 20'x48' building but contains several important features and adaptations to make it even more useful, especially in the Tropics.

The erection sequence of a Stran-Steel Quonset Hut is simple. The building

can be set on a concrete slab of about 3 or 4" thickness and anchored down with anchor bolts or anchored down by nailing the steel channels down to wooden blocks set in the concrete. A flooring of 1/2" plywood in 4'x8' sections is nailed down to the Stran-Steel joists with hook nails and matched together longitudinally with sheet metal splines. The next step in the erection is to set up the arch rib which can be spliced on the ground and raised by hand and then joined to those already up by steel trimmers which are 1/2 the typical Stran-Steel cross-section. The



Picture by U. N. Naval Construction Battalion showing work on a 40'x100' Stran Steel warehouse on Florida Island, B. S. I. Official U. S. Navy Photograph.

six flush type windows now furnished with the building are installed with clips to the curved ribs at any place to suit the convenience of the future use of the building.

Two different types of bulkheads are furnished; one for tropical, and one for northern climates. They are fastened to the curved ribs by nailing to wood inserts in the end ribs and by using small steel rafter clips. The tropical bulkhead is mainly screened to provide ventilation and the northern bulkhead is plywood with windows with plexiglas panes and screen. The inside lining of the semi-circular sides and top is now made of 1/8" thick Masonite which is nailed to the Stran-Steel curved ribs. Outside of this and in the space between the ribs, Kimsul insulation is stretched out for both tropical and northern huts. The outside covering is corrugated, galvanized steel sheeting which is nailed to the Stran-Steel curved ribs with 8 Penny double-headed nails using a combination fiber and steel washer to make the nail hole water tight.

A little larger building used for warehouses, storage and shops is also furnished—a 40'x100' Stran-Steel Arch Rib building very similar to the



Stran Steel arches ready for use for warehouses in the South Pacific. Note building ready for covering. Official U. S. Navy Photograph.

20'x48' hut. A 40'x100' building can be shipped in 400 cubic feet, which is very little by comparison with other items. This building is normally placed on a concrete floor. The Stran-Steel ribs form the shell of the building and are 6" deep and curved to a 20' radius. The end bulkheads have a frame-work of Stran-Steel members about 3 1/2" deep. Corrugated sheet metal is nailed to these members.

Heavy corrugated steel magazines of about 12 gauge sheet metal are furnished for storing of ammunition at advance bases. They come in various sizes from 10'x10' to 25'x50'. The general shape of these buildings is semi-circular, similar to the huts. They can be covered over with about 6 ft. of dirt to make them more bombproof. Most of the ones supplied are of bolted construction, and can be taken down and moved to another location as the war front advances.

All the above buildings can be dismantled, repacked, and reshipped to another location for re-erection. The huts and 40x100 buildings can be used for a wide variety of things. Under housing they can be used for living quarters, bakeries, galleys, laundries, and refrigerated and dry storage. The standard basic 20x48 hut is used to accommodate about 20 enlisted men and a 20x48 hut with a partitioned off toilet and shower section in one corner is used to accommodate about 10 officers. Also, under housing, comes a wide variety of use as hospital housing; such as, wards, operating rooms, laboratories, pharmacy, and general utility and storage.

Stran-Steel buildings are used for a long list of things in aviation repair to house a wide variety of shops.

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One of Hundreds of Crawford Company's Prewar Houses

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new developments

"We Will Work With and Support the Builders of the West"—U. S. Senator Pat McCarran, Chairman of the Joint Congressional Committee on Decentralization of Industry

The West has been a stepchild of our nation and it will continue to be unless those of us who live in the West get busy and try to bring this section new developments and new industries of permanent value. We have been left to develop ourselves as best we could. We have been penalized in that we have to pay heavy freight charges to ship our raw materials to the East for fabrication and then penalized in that we have to pay to have them returned to us where we can utilize the finished products. Why should we do this when we could very easily have these industries right here in the West?

Every great interest in the country is in the East. They have all the influence east of the Mississippi and hold all the industrial interests and all the power in that congested area. They have no sympathy with us in the West. In fact, they know very little about us. Therefore, we must join together for one cause if we are to accomplish our purpose.

Some months ago, being chairman of the Committee on Public Lands of the Senate, I thought of the proposition of how we could bring industry into the West, where there is three-quarters of a billion acres of open public domain with its natural resources and undeveloped assets. With this thought in mind I addressed letters to 55 of my colleagues in the Senate, asking if they would be interested in investigating the situation confronting the West.

Looking to the decentralization of industry in this country so that there might be a development of the West, I deemed it necessary to have the South join up in this movement. We had to bring the South into it because standing alone we did not have sufficient power on the floor of the Senate. They have their resources down there that they want developed. By bringing the South in with us we made a combination to fight for the development of the West which will go a long way.

We held meetings—the House represented by 100 members and 35 members of the Senate, which is unusual for that body. We discussed in every detail the problems of reconversion and the decentralization of industry. In one phase of the discussion we found that the War Production Board has set up key-men throughout the country, nearly all of them representing big industries in the East.

They are interested in one place, their own section of the country, the section they have built up, namely, the East. They are opposed to anything that might tear down the industries that they have built up. These men are a credit to the nation but they are not going to do anything for the undeveloped West. So we find the industries that we would like to bring West looked upon with disfavor.

But why should we send to the East all of our materials and have them fabricated and then passed back to us? Why not have these plants here where we are going to make use of them now and in the future? The greatest market this nation has ever known is going to be in the West. Asia must be reconstructed—yes, Asia, Australia, China and all the Orient. They are our markets of the future. Why bring from the East our commodities and fabricated materials that we can very easily manufacture here in the West? Why not construct here for the things that will be wanted by these countries?

Three-fifths of the area of this country lying west of the Mississippi accounts for only one-fifth of the national population. This area accounts for at least half of the minerals mined in this country. It has by far the largest reserves of untapped mineral resources. It has enormous reserves of the strategic minerals of which we found ourselves short at the beginning of the war and which are so vital to all the new processes.

It possesses three-quarters of the potential water power of this country. Its timber and mineral resources are fantastically large. Yet this area, this empire with its enormous wealth and potentialities, larger than India, as large as Europe excluding Russia, accounts for only one-fifth of our population—only one-fifth. Everything argues for the intelligent development of this area, including reasons of national security. Our security in the Pacific demands a larger population in the Western states, demands more industry, more agriculture.

Here is a statement by U. S. Senator Pat McCarran of Nevada which is must reading for those who believe that western heavy industry should be preserved and expanded now and in the postwar period. In it he pledges the support of his powerful committee to The Builders of the West, a non-profit organization dedicated to the development of the West.

No other single prospect has so much to offer for the solution to the total postwar economic problem. The West offers new prospects and new opportunities to millions of people who have reached the zenith of their hopes and possibilities in the overcrowded and overdeveloped East. A pronounced Westward movement of population would set the industries of the East humming by creating a maximum demand for durable goods, producers' goods and consumers' goods.

The development of the West is a real opportunity. New industries, new businesses, new enterprises, new opportunities for professional people, would provide a salutary blood-bank for our system of free enterprise. But to realize this opportunity the states themselves will have to go into action. The western states must individually and collectively take over the task of preparing the ground, preparing the plan, and mobilizing for the job. To further our efforts in the development of the West, we thought it best to set up a committee of seven members of the House and seven members of the Senate to make a study of how we could bring industries out here to the West to develop our natural resources. This special committee has been working with the sanction of the Senate and is financed by the Senate. It had not been established long when I discovered an organization had been set up under the title of BUILDERS OF THE WEST and I wondered what it intended to do.

I next heard that the organization was to be headed by Rex Nicholson and I became very much interested because I had known Rex Nicholson over a period of years while he held important places with the Federal Government in the eleven western states. I sought contact with him and he outlined the objectives of the BUILDERS OF THE WEST. Then I asked him to come to Washington and meet my committee. He did, and a very satisfactory tentative working relationship was developed between the joint committee, the executive branches of the government and the Builders of the West.

The purpose of my meeting with you today is to culminate this tentative working agreement as a permanent relationship. While in Washington, Mr. Nicholson also met with Donald Nelson, head of the War Production Board, and we went round after round on this thing of developing the undeveloped regions of our great western area, thereby making it possible for humanity to live on its own efforts rather than to be staked by the Federal Government—to bring in industries of lasting value that will sustain life and sustain civilization in the years to come.

This cannot be dealt with from a statewide basis. We must join together as a group. Here in the eleven western states we have but twenty-two senators in the United States Senate. They are individual. They come from individual states. They are different in party affiliations. Up to now there has not been a strong bloc. If we go twenty-two different directions we will never get anywhere. We can best attract attention and interest by developing a common objective for all of us to work and fight for, and that is the development of the great western area.

Now with your organization working in close harmony with the legislative and executive branches of the Federal government, you can help to bring about this realization. If I can effect a similar organization in the deep South and these two groups work in close cooperation with the organization that I have established in the Senate and House, I think we can decentralize heavy industry in this country and build for the future. Working in close cooperation we can get for you Federal assistance in some instances where you want Federal help and we can also get for you the sympathy of the Federal Government.

This is not a state matter. It is a regional matter affecting the eleven western states. You must organize on a regional basis. If you do that I believe you will win out in this fight for western development.

You gentlemen are builders—you know the construction industry. You know as well as I do that we will have to build something that has a future to it—something of permanent value to the community. Not the mere building of a four-story courthouse, or a school house, or a playground. We will have to build that which will bring the population to the West and enable them to stay here. Build something that will sustain human life and human activity.

Now we are being confronted with the problem that is discussed in every state—postwar planning, planning for the period when these war industries will be turned back to peacetime production, planning for a time when there will be a great army of unemployed in this country and we must find a way to assist them. If we go through what we went through before, we will lose billions of dollars. In other words, we will spend billions of dollars to give employment but there's something more than giving employment.

We should give employment but the project or object worked upon should be something that will assist the community in which it exists in the way of tax-paying facilities. It should sustain human activity not for a day but for a lifetime. In other words, we must look to the development

of the West in a permanent way and in doing that we will afford employment, afford new homes, afford new industries, and new opportunities for the population that ultimately will be attracted here.

There is not a single question before the people today in itself of sufficient importance to justify any delay by the governments of the states and the governments of the cities in setting themselves to the task of preparing the necessary plans and effecting the necessary organization so that the peace we shall build will be a peace, economically, and politically achieved with the full participation of the people.

Throughout the world Democratic Government has been weakened by an historic process which the Democratic peoples have often, only too often, failed to grasp. As the problems of Government under the impact of social, industrial, and technical developments became more complex, instead of decentralizing so that the people would through direct participation keep abreast of the developments, the method that was adopted was one of centralization.

This battle cannot be fought effectively from Washington. My colleagues in the Senate and I have never hesitated to do all in our power to check the trend to centralization and to government by wilful men instead of government by law. But ultimately the issue must be decided by the states. The problems cannot be evaded. Either you will solve them, thus avoiding the necessity for excessive centralization of power in a body that is furthest removed from the life of the people and from popular control, or the Federal Government will have to solve them.

The BUILDERS OF THE WEST can provide the organized support from the eleven western states to sustain our Congressional group in its legislative fight in Washington. We in turn will work with and support the BUILDERS OF THE WEST in the states. With such a working relationship, we can win the fight both in Washington, D. C. and in the eleven western states.

This should be a perfect example of industry joining with Congress in the solution of a major problem that will have a very salutary effect on the whole economy of the West.

HOMASOTE CUSTOMIZED HOMES

Individual, customized homes, constructed with all the advantages of mass production, will be ready through some 50 Homasote Precision-Built* "factories" as soon as building restrictions are released, from vital war production. A huge quarter-scale model of a Homasote Home is now on display at Barker Bros., Los Angeles, which is merchandising Homasote houses in Southern California.

Using "Not houses—but HOMES" as its creed, the Precision-Built System of Construction combines the advantages of the custom-built house with the economies and engineering perfection of the factory assembly line. The basic difference in Homasote Precision-Built Homes and the typical prefabricated building is on the jig tables. Prefabricated construction is based on sectionalized, factory-built standardized panels. This means that the design must always be modified to fit the standard panel size. In Homasote Precision-Built Construction, employing the modular principle, the sectionalized panels are adapted to fit the design . . . any design . . . through the use of patented "Precision Tables."

A prospect may choose his home from any one of 40 models perfected by Homasote architects, or he can retain his own architect to develop his own design and floor plans. His Homasote Home will then be tailored to his exact specifications, assuring him a structure that is completely insulated, free from dampness, seven times quieter than the average house, two-and-one-half times stronger structurally, warmer and cooler in summer, economical to heat, and with the minimum upkeep and maintenance costs.

After years of research in the field and in its laboratories, Homasote Company, Trenton, New Jersey, decided on fabricating plants in the building area, owned and operated by local business interests. In these plants, equipped with special jig tables, every unit of the home construction is assembled with machine-like precision.

Just as Homasote pioneered in decentralizing its fabricating plants, so Homasote pioneers in merchandising by taking advantage of the mass merchandising markets of the department stores. Huge quarter-scale models of Homasote Homes are in many of the country's leading department stores right now, with a public response to the Homasote exhibits that has been amazing. More than 70% of the people visiting these exhibits expressed their desire for a permanent postwar home.

*Reg. U. S. Pat. Off.

PRECISION HOME WESTERN PIONEER

Precision Home Company of Stockton, California, has the distinction of being the pioneer of the West in prefabricated home building. As far back as 1932 this organization began practical study and experimentation in prefabrication. The use of insulation board, plywood, plastic board and concrete in the many applications with construction principle were tried.

Five years later in 1937, actual construction and sale of prefabricated houses was begun. The methods and designs which Precision Home Company developed were readily accepted by the public and more than 200 custom-designed F.H.A. financed homes were sold in the Sacramento-San Joaquin Valley before "defense building."

Since then Precision Homes Company has been engaged in designing and constructing hundreds of war housing dwelling units, one of the most noteworthy being the 200 dwelling unit, Francesca Terrace at Benecia.

Martel Wilson, vice-president of the Central Lumber Company of Stockton

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CASE CONSTRUCTION COMPANY
SAN PEDRO CALIFORNIA

MUSIC

continued from page 19

and its effectiveness was enhanced by the acoustical peculiarities of the large stone-walled church. The acoustics of this building are not very suitable for smaller toned combinations, but with woodwinds and brass produce a better than average timbre and resonance. *Newsreel in Five Shots* for school band by William Schuman, which opened the Festival, revealed the possibilities of this new practical medium, limited by the conditions of preparation and performance. One might therefore excuse the composition by remarking that after all it is written for high school band. I do not however so excuse it: it is cheap, unimaginative, banal music condescending from no elevation to young talents for whom better and no more difficult music could easily have been written by any composer with even a ghost of honest genius.

Arthur Leslie Jacobs and the Cathedral Choir of the First Congregational Church of Los Angeles are again to be congratulated on the success of the Modern Music Festival. This was the sixth and in general opinion the best of these Festivals. We shall look forward with renewed anticipation to many annual repetitions. We should do so more happily, however, if some other and more simple means of encouraging the audience to drop bills in the collection baskets could be devised without hurting clergymanical feelings. Surely long-winded exhortations, tepid jokes, and tedious petitions are no longer needed to bring out the needed cash. We know when we have been given good music; we know it costs money to give good music to us: Pass the baskets.—PETER YATES.



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LOS ANGELES, CALIFORNIA

and Sales Agents for the Precision Home Company, is one of the best known authorities in the west on prefabricated homes. As head of the Precision firm, he is inviting consultations on Post-War Planning.

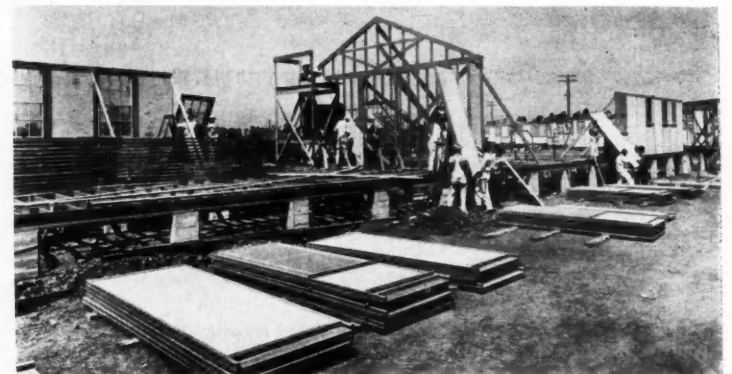
CELOTEX "PANELIZED CONSTRUCTION"

What has The Celotex Corporation contributed to the cause of modern home prefabrication? The answer can probably be summed up in two words: "panelized construction." To fully understand what is behind those two words, it is necessary to go back some ten years or more into Celotex history.

Celotex engineers wanted to develop a building material that was light in weight, structurally strong, easy to handle and work. They wanted it to be durable, fire resistant, moisture and weather-proof, with a low rate of expansion. And equally important, it must provide ample insulation against heat, cold and sound and be inexpensive to produce in large quantities.

After years of intensive research, improvement and practical experimentation, they found their answer in a product consisting of a cane fibre insulation board core, sealed with a special bitustatic compound between two layers of a combination of asbestos fibre and cement.

They called this product "Cemesto." Here was a material that fitted perfectly the requirements of panel assembly. Instead of having to build up, piece by piece, a wall which conformed basically to the old ideas of conventional construction with its studs, exterior and interior surfaces, and



hand-applied insulation, here was a single thickness wall material that combined the effect of all these various layers, and came to the job cut to size, ready to use.

Small wonder, then, that already upwards of 8300 low-cost Cemesto houses are now housing war workers from coast to coast. Construction of more than 80 dormitories for the housing of service personnel and other war workers has been completed. Hospitals, schools and a wide variety of other types of building built of Cemesto are also now in service.

Cemesto board permits pre-engineered design for mass production, with precision-cut wall and roof materials factory-made and delivered to the building site. This method results in low fabrication costs and quick assembly. A field shop operated at the job site is provided for rough carpentry work, and the assembly of the necessary units. Regular building trades craftsmen are employed.

Principal exponent of the Cemesto house on the West Coast is Drycemble Houses, Inc., of Los Angeles. The firm's present activity is devoted to housing, both temporary and permanent, for government war workers, and to some privately financed projects in the critical labor areas. In addition the firm's engineers have taken plans used by government agencies and converted them to designs utilizing Cemesto board. This includes nursery schools, hospitals, clinics, health centers and so forth. They are furnishing pre-cut Cemesto panels for 31 nursery schools in California, New Mexico and Arizona. The firm is also in a position to design and fabricate large hospitals and dormitories.

Three types of design are used by Drycemble Houses in pre-fabricating these structures from Cemesto board: (1) the pre-engineered, horizontal panel construction, (2) Modulok prefabricated vertical panel construction, and (3) a simple pre-engineered T-stud panelized construction. The design used is the one which best fits the circumstances.

In the first method of construction a skeleton wood frame, similar to a structural steel building, is assembled at the job. A horizontal rail between posts forms the sill for windows and the built-up girder carrying the roof load also forms the head member of the windows. Prefitted window frames and sash are fastened immediately into the opening. The space between openings is fitted with large sheets of Cemesto board. The accompanying picture shows the detail of this type of construction.

The Modulok vertical panel construction method was devised by the Modulok Company, which has found this a practical method for many types of prefabricated buildings. In this method, the factory-cut panels of Cemesto board are set into a wood frame. There are three types of fabricated frames—solid frames, window frames and door frames. The frames are bolted securely together and the interlocking stud forms a permanent joint.

The third method utilizes a T-stud and pre-manufactured girder that is a still further simplification and is used principally in low-cost temporary construction.

STATE ASSOCIATION OF CALIFORNIA ARCHITECTS

YOU DESIGN YOUR HOME

by Cassatt D. Griffin, A.I.A., Architect

The Official Bulletin presents with this issue the second of a series of lectures used in the Home Planning Institute. This series will continue each month.

The design of a home is one of the most important events in the life of the average family. In suggesting the manner in which to approach this problem, several preliminary assumptions will be made. The site has already been selected or the points to consider in choosing one have been learned. Inasmuch as the home will not be built until after the war, it may be assumed that materials of all types will be available. Most persons will not be designing more than one, or at most two, homes during their lifetime, and it is therefore necessary to think of this matter as a long-term investment. Finally, it is important to understand that a successful design means a proper balance between needs, desires, cost of the project, governmental regulations, and other factors.

There are certain fixed elements to design which must be considered ahead of the element that can be chosen. These include the specific requirement of the home owner as he knows them: What is the present size of the family and what is the future size likely to be? Will there be more children? Will the children be grown up and gone? Will it be necessary to care for the parents and "in-laws" in their old age?

The second "need as he knows it," is a careful consideration of the homeowner's standard of living. Will the same standard of living be maintained in the new home, or will it be stepped up? This will affect the size of the rooms, whether one has a separate study or a combined study and guest room, or a combined study-sewing-room-guest-room, or a small breakfast space with a dining alcove off the living room, instead of a conventional dining room, having in mind that today the dining room is probably the least used room in the house. Is an extensive space for books desired in the study or on one side of the living room or will there be only a few books scattered in niches throughout the house or possibly none at all?

The third "need as he knows it," is the cost of the project which is generally pretty well fixed and is a definite limitation on the design.

The second group of fixed elements to design for is a person's desires. If one has wished all his life for a view of the mountains and has purchased a site with this end in view, then the design of the home will pivot around the views from certain rooms. If one has always desired outdoor living adjacent to the home, he must determine whether it will be in the front or at the rear; if at the rear he must keep in mind that it costs time, and money to maintain the garden. There may be pieces of really fine furniture which will set the size and style of certain of the rooms. A further desire may be for a second or third bathroom or half-bath. Such a second bath or half-bath in the small home should probably be conveniently located to the service porch for purposes of cleaning up after gardening or allowing the children to clean up without getting the entire house dirty.

The third group of fixed elements are the minimum standards established by ordinance, in the building code or by the lending agency. Most lending agencies today are very "re-sale" conscious and in general provide a good minimum guide for the average home. They help prevent freakish extremes and quaint, unworkable ideas. This leads to a further fixed point, namely, to design for permanent value. Most homes must be lived in over a period of years, with the possibility of an emergency requiring a quick sale. The home which will sell most readily is the one that is well planned and not too extreme.

The elements which can be chosen include orientation, or the direction the rooms face, room arrangement, character, materials and equipment. It does not seriously matter whether the lot faces north, south, east or west. An equally attractive home can be designed on any of these sites, but a well worked out plan for one site may not be at all satisfactory at another location. The location should be considered in terms of the prevailing wind, exceptional heat from reflection or other causes and unusual moisture. Will the prevailing wind in the late afternoon cool off the living room, the bedroom or the kitchen? With the prevailing wind from the southwest in most parts of southern California, is it worth placing

a kitchen on the west to take advantage of the breeze or is it better to place it on one of the other exposures where there would be both less heat and possibly less breeze? If the lot has a good view, one must decide which rooms benefit from it.

On the typical small lot, one usually has the advantage of keeping houses away from each other with his own driveway on one side and the neighbor's driveway on the other. For this reason, one must recognize the fact that a garage attached to a house at the front may result in spacing the house too close to the neighbor with accompanying disadvantages. On the other hand, there is more justification for attaching the garage to the house today than there was in the horse and buggy days when we wanted the stable as far away as possible. There is relatively little fire hazard from a garage attached to the house with the plastered wall providing fire protection.

In room arrangement, waste space should be reduced to a minimum. This means balancing a U-shaped design, which may require more halls, against a more compact shape. Either the U or the L-shaped house is particularly well adapted to southern California and can be easily justified by greater exposure to the outdoors with outdoor living, even though more difficult to heat. Some successful homes are designed with circulation through parallel rooms rather than requiring hallways. For instance, behind the living room might be the sun room, study, or dining room allowing circulation through that group of rooms when the living room is being used and vice versa. It is questionable whether the small house is justified in allowing space for an entry hall, although this may be considered one of the fixed elements that is absolutely essential.

It is most difficult to talk in generalities on the size of rooms, but for a house of \$5000 to \$7000 (prewar prices): an average for the living room might be 15x21, for the dining room 12x14, for one bedroom 12x16 and the other 11x13. A small den, study or maid's room (for a prewar maid) might be 10x12. The average kitchen, if of the pullman type, should be at least 8x12 or if more nearly square, 11x13 with the service porch 7x9 and breakfast room 8x9.

The use to which these rooms will be put and the furniture on hand, may alter these figures considerably. Doors and windows in a room may render the wall space comparatively useless and require a larger room or change in arrangement. The so-called "modern" type of design with corner windows or with windows located functionally with the interior, may provide better space for furniture.

A little color discreetly used on the exterior will often soften an otherwise deadly all-white house. Fortunately, in many instances such softening is also achieved by shadows and good planting of shrubs. Materials should be carefully selected. Those on the outside should be waterproof, provide insulation and may an interesting texture. Interior finishes are customarily plaster, either plain or textured, with the use of paper in certain rooms, painted canvas with wainscots in others, wood surfaces, and variation by means of cornice molding and even flooring.

OFFICIAL BULLETIN

In actually studying your floor plan, keep in mind that walls have a definite thickness. If the thickness is neglected by using a single line drawing in the preliminary stages, there may be trouble in developing a good plan later. Studies should be made to scale, usually $\frac{1}{4}''=1'$, allowing 6" for the thickness of each wall. Cardboard furniture should be cut out to scale and placed on the plans. Other homes should be visited and magazines studied. A few cautions should be given in conclusion: One must have an open mind, must discount the most effusive advertisements and must avoid all possible changes which will cause extra charges after the contract is let by doing the planning first. Radical departures from the proven should be avoided, the house should not be "dated" by tricky features, and, finally, a good architect and contractor should be engaged, as they are essential in "tying together" all the various elements involved in the planning and construction of the home.

OFFICIAL BUILDING INDUSTRY DIRECTORY

COMPILED WITH THE COOPERATION OF THE STATE ASSOCIATION OF CALIFORNIA ARCHITECTS

The following is an official classified directory of architectural products and building materials of recognized quality available in the California market, and of manufacturers and service organizations serving the California market. It has been compiled by Arts and Architecture with the cooperation of the State Association of California Architects as a service to the building industry and the building public. For further information about any product or company listed, write now to the Official Directory Department, Arts and Architecture, 3305 Wilshire Boulevard, Los Angeles 5.

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Kraftile Co., Niles, telephone 3931—Western headquarters for NUKEM Basolit Acid-Proof Cements, Nu-Mastic, Resinous Cements, Nu-Tite Jointing Compound, Enamels, Acid Brick. Los Angeles—Mutual 7115. San Francisco—Douglas 5648.

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English & Lauer, Inc., 1976 S. Los Angeles St., Los Angeles, Richmond 6316—Acoustical contractor.

Harold E. Shugart Co., 911 N. Sycamore, Los Angeles, Hollywood 2265—Sound conditioning with Acousti-Celotex; Celotex products.

ACOUSTICAL TREATMENT

Harold E. Shugart Co., 911 N. Sycamore, Los Angeles, Hollywood 2265—Sound conditioning with Acousti-Celotex; Celotex products.

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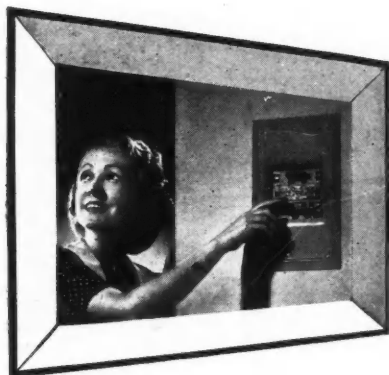
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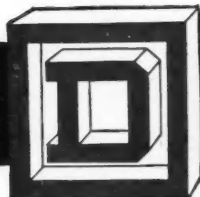
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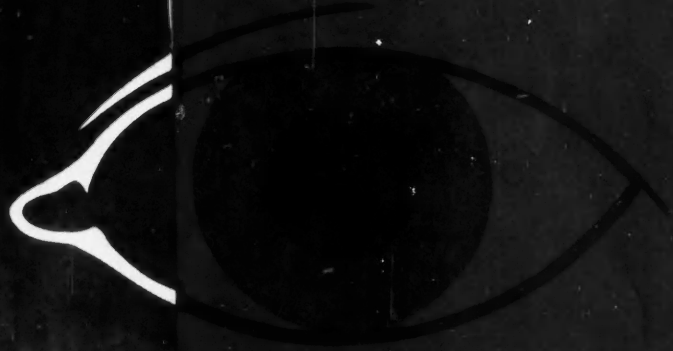
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