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rebuilding our communities

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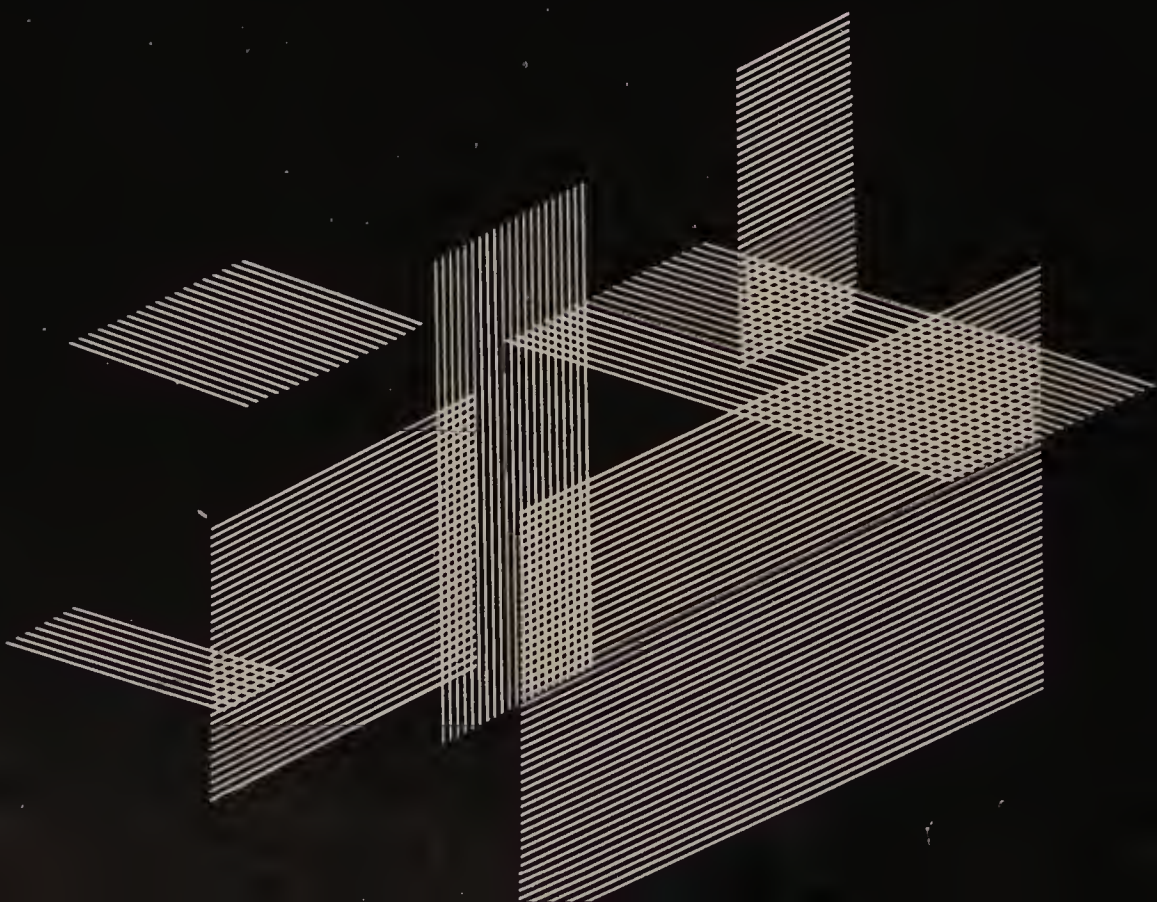
*The first of a series of monographs written by  
eminent authorities in their field, under the editorship of  
L. Moholy-Nagy, expounding the basic  
philosophy and creative approach of the  
Institute of Design, Chicago.*

*In preparation:*  
painting, sculpture  
interior design  
furniture  
exposition and display  
industrial design  
community centers  
motion pictures  
photography  
ceramics  
color  
typography  
child art

## **gropius: rebuilding our communities**

*A lecture held in Chicago February 23rd 1945 under the  
joint auspices of the Institute of Design, the Chicago  
Association of Commerce and the Chicago Plan Commission.*

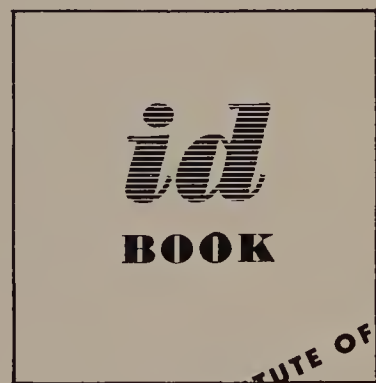
rebuilding





**walter gropius:**

# **Our communities**



**INSTITUTE OF DESIGN**

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## **biographical note**

Born 1883 in Berlin, Germany.

1903-07: Studied architecture at the University of Charlottenburg, Berlin, at the University of Munich.

1907-10: Head assistant to Peter Behrens, Berlin, Germany. Own architectural practice since 1910.

1918: Appointed Director of the Grand Ducal Saxon School of Applied Arts and the Grand Ducal Saxon Institute for Education in Art. Merged these two schools under the name "Staatliches Bauhaus", Weimar, Germany.

1926: Director of the same Institution removed to Dessau under the name "Bauhaus Dessau." Title of Professor conferred by the Government of Anhalt.

1928: Resumed private practice in Berlin.

1929: Awarded degree of Dr. Ing. by the Hannover Institute of Technology. Member of the Board of Experts, Reichs Research Institute for Economy in Building. Vice President of the International Congresses of Modern Building.

1934-37: Private practice in London, England, in partnership with Maxwell Fry, architect.

1937: Appointed Professor of Architecture in the Graduate School of Design, Harvard University, Cambridge, Massachusetts, U.S.A.

1937-40: In partnership with Marcel Breuer in Cambridge, Mass.

1937: Honorary member of the Royal Institute of British Architects, London and Vice President of the Institute of Sociology, London.

1938: Appointed Chairman of the Department of Architecture, Graduate School of Design, Harvard University. Member of American Institute of Architects.

1942: Master of Arts (honorary) conferred by Harvard University. Honorary member of Phi Beta Kappa (Harvard Chapter).

1944: Fellow of the American Academy of Arts and Sciences.

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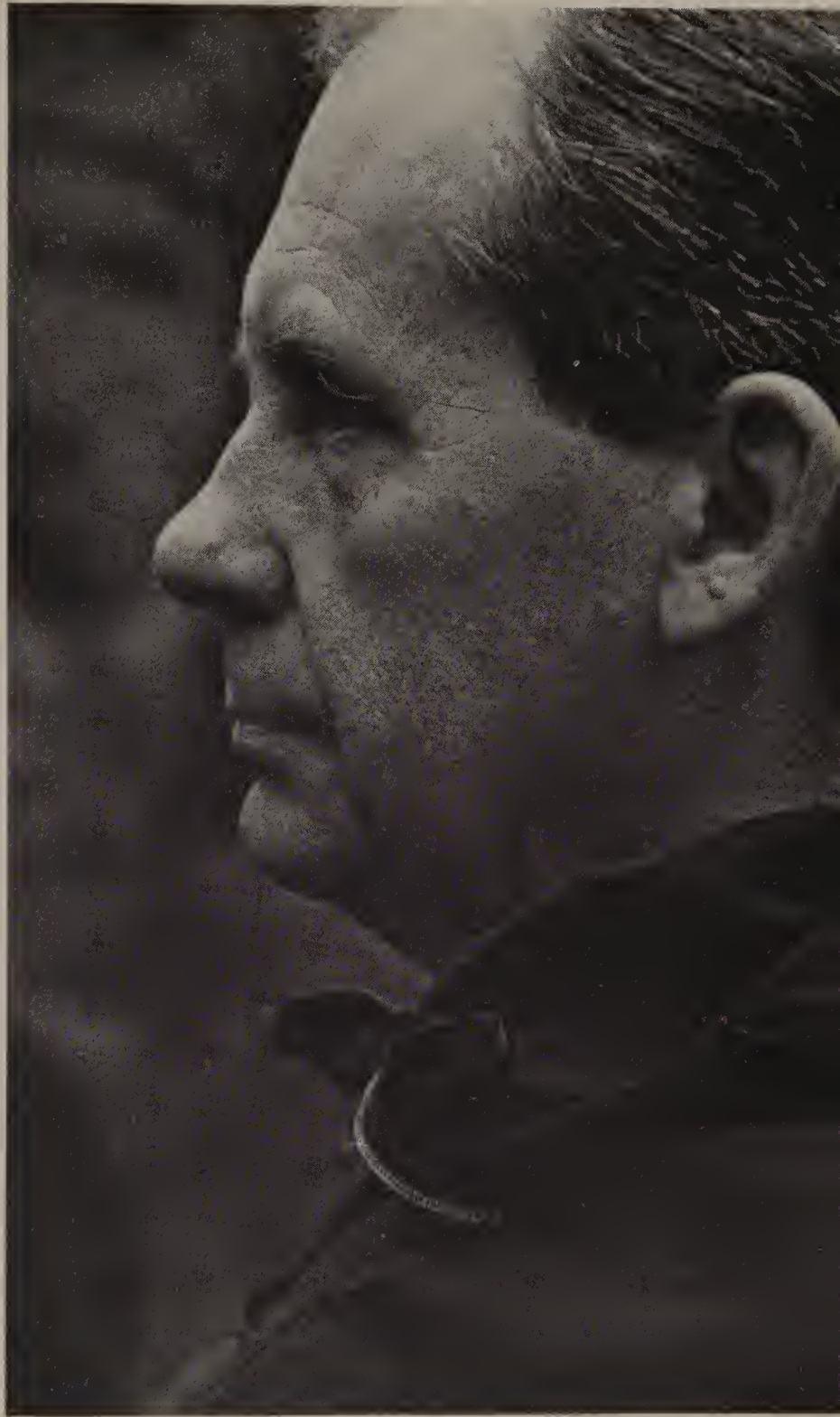
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*Walker Gregory*



## introduction

Even forty years ago no self-respecting architect would have endangered his reputation by designing low-cost housing projects or factories. The art of architecture was exclusive, a privilege jealously guarded by those who could afford it.

But what seemed the "art" of architecture was actually a tragic nihilism, representing the compromise and business expediency of an architect's office instead of urgent human needs. It demanded heroism—the fearless determination of self-sacrifice—to break this spell. There were brave forerunners at the turn of the century—but they mainly confined their efforts to reformation of the private mansion, preaching not in the desert but in the well-furnished living room of the residential section.

It has been the significant contribution of Walter Gropius to have demonstrated the indivisibility of social responsibility and structural soundness where needed most: in settlement housing projects, factory construction, and—above all—in education. Fearlessly and uncompromisingly he defended the thesis on which the Bauhaus was built: that art and architecture which fail to serve for the betterment of our environment are socially destructive by aggravating instead of healing the ills of an inequitable social system. From kitchenware to housing projects for the worker and his family, from chairs and tables to automobiles, schools and theaters, the rediscovery of a common scale of human needs and values gave Gropius' work dynamics and potency. It was a bloodless and almost silent, nevertheless a great revolution.

Gropius' life proves that a man through the continuous perfection of his craft

may come—in spite of his original background—to revolutionary concepts. An architect of humanistic departure, a master in the aesthetics of expression, a builder of houses of isolated beauty for a rich clientele, he changed to a planner of happy and organic cities of which inhabitants have the experience of being amidst gardens and vegetation daily, not on their weekend trips only.

Such a metamorphosis of a great architect is of deep significance in showing the direction our lives must take. It is no longer possible to praise the classics and let the people live in slums, or at best in a city where isolation is the fate of everyone who does not consciously tear himself out of his solitude and try to build up a feeling of coherence with the group through social activities of different kinds.

Gropius teaches us that it is impossible to speak about a new architecture as long as people are deceived by sentimental appeals to an appreciation of stylish facades, obsolete dwellings, "monumentality," and cold pomp.

Gropius started with "architecture beautiful," and through a development of "architecture structural" he arrived at the architecture of the "planned"—planned with the inclusion of the manifold elements of a healthy and satisfactorily human living in a friendly neighborhood of parks, good schools, shopping centers, recreational facilities, working districts, community centers, and good transportation. Even though an architect of the genius of Gropius meets such demands, he alone can not change the world without the enthusiastic help of all of us. His lecture, which the Institute of Design takes pride in printing, shows many ways of working and fighting with him.

Chicago, 1945

L. Moholy-Nagy



## **rebuilding our communities**

When I, as an architect, endeavor to discuss so ambitious a theme as "Rebuilding our Communities" I must offer as my credentials the lifelong conviction that the future of architecture and building stands upon a sound reorientation of the entire community set-up, planning for the future in its broadest sense. Without doubt the individualistic, art-for-art's sake view of the aesthete has been successfully challenged by a generation of architects who are developing a set of standards focused on contemporary social conceptions, and who have therefore joined hands with the professional planners. I have always taken an active part in this movement, and now we have before us the unique opportunity of putting these new standards to their practical tests.

### ***Building Boom Expected***

What are the material chances of "Post-War Community Building?" There are plenty of indications that we will soon experience a building boom such as this country has never before witnessed in its history. Since building is the second largest industry, next to agriculture, it has the greatest potentialities of absorbing masses of job-seeking workers coming home from war. The total migration of war workers between July, 1940 and July, 1943, including their

families who moved with them, was close to 7 million people. A great part of these people are housed at present in emergency structures which are to be pulled down after the war.

All in all, realistic estimates, based on careful scrutiny of the determining post-war factors, place the demand for new residential units in the United States as about 12 million from now to 1955, or, an average of 1.2 million new family units yearly for a full decade. These will cost from four to four and a half billion dollars per year. We know by experience that for each dollar spent in residential building about \$1.20 is spent in the field of non-residential building, thus we may expect a total expenditure of over 10 billion dollars per year for new building, employing 5 to 6 million men.

In addition to this demand for new buildings there will be a stupendous replacement, improvement and repair market. For example, of 37 million houses now being occupied in these United States, 16 million have no baths!\*

These figures of a potential yearly turnover in building are so astronomical that they must startle even the Secretary of Commerce. Fortunately we know that a very large back log of savings accumulated during the war are in the hands of the people and in the banks. Considering the amazing evidence of our capability to gear the country's industry for war production in a very short time, there can be hardly any doubt that we are technically fit to reorganize the huge war machinery at hand for an equally tremendous volume of peace production—the material chances are very bright indeed.

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\*Figures quoted from "Architectural Forum"

### *State of Preparedness*

Are we mentally and spiritually prepared to seize this unique opportunity to reconstruct our physical surroundings and also enjoy a cultural and social success? Don't we think too much in technical and economic terms, propping up our post-war business hopes with huge figures of so many units needed before we have designed a constructive and flexible over-all blueprint?

How are we going to organize such a vast building volume into a well-balanced pattern of interrelated community units, better fitted for the democratic way of life than our present chaotic cities are?

The social component of our topic has greater weight than all the subordinated technical, economic and aesthetic problems involved, therefore I am starting with a discussion of this intricate social aspect.

### *Social Aspect*

For whom are we going to plan and build? For the people, of course, and that includes **all** income groups. The body called "society" is an indivisible entity which cannot function when some of its parts are not integrated or are being neglected, and when it does not function properly it will sicken. The sickness of our present communities is the pitiful result of our failure to put basic human needs above economical and industrial requirements.

Overwhelmed by the miraculous potentialities of the machine, our human greed has interfered with the biological cycle of human companionship which keeps the life of a community healthy. At the lower level of society, the human being has been degraded by being used as an industrial tool; this is the real cause for the grim fight between capital and labor, and for the deterioration of community relations. We now face the difficult task of rebalancing the life of the community and humanizing the impact of the machine. The key for a suc-



1. *Common of a New England village showing a well-balanced self-imposed order and unity which obviously resulted from a highly integrated team-spirit of its community.*

Successful rebuilding of our post-war communities, I believe, is our determination **to let the human element become the dominant factor.** When the pattern and scale of future communities become human again we cannot fail.

May I illustrate this statement with a striking pictorial comparison of opposites?

The features of an old New England town (illustration 1) show a well-balanced self-imposed order and unity which obviously resulted from the highly integrated team-spirit of its community. However a typical street scene in New York (illustration 2)—it could be anywhere—shows a bewildering chaos of competing individual stunts, a disorderly riot of styles, materials and color. It is a true symbol of disunity—in the figurative sense—of a disrupted and decayed community life.

A citizen living here has no personal contact with his elected officials, for the size of our mammoth administrations has gone far beyond any human scale. The dangerous "what do I care, it's up to them"—attitude of social indifference has slackened mutual community relations. Irresponsibility and social lone-

2. *A typical New York street scene showing a bewildering chaos of competing individual stunts; a disorderly riot of styles, materials and color.*



3. *Peter Breughel's painting of a Dutch village. Here streets and squares still serve as fitting receptacles for social intercourse of the whole community.*

liness are spreading, something which could not have happened in the town depicted by Peter Breughel (illustration 3). There streets and squares served as fitting channels for the social intercourse of the whole community: **everyone** took part as a member of a **group**. But **our** streets have been degraded to mere traffic channels for lonely strangers.



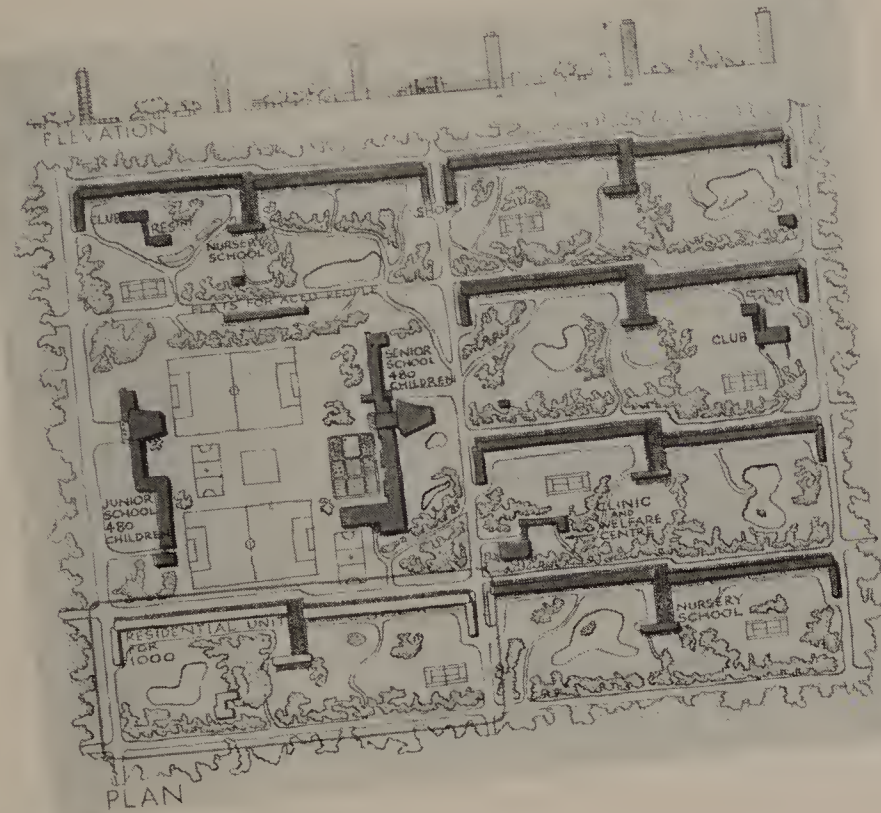
4. *A plan of London, England, broken up in administrative neighborhood units according to a "social and functional analysis."*

Architecture is said to be a true mirror of the life and social behavior of a period. Too bad for us!

Community rehabilitation seems to call first for drastic steps to stimulate the community interest of every citizen by letting him participate actively. To attain this, our administrative framework must be humanized. It should be based on self-contained neighborhood units, small enough to serve as organisms for reactivating normal social intercourse.

American examples from the past can give us a helpful hint. The New England Town-Meeting, inviting everyone publicly to voice his criticism and to make suggestions for possible improvements, offers a good example of sound democratic community set-up. Could we have similar meetings today in Chicago? Not unless we broke up the city's administration into properly scaled neighborhood units within the city itself (illustration 4).

Such a self-contained neighborhood unit would have from 5 to 6 thousand inhabitants, the minimum number needed for an efficient elementary school (illustration 5). The next larger administrative unit would be a precinct in the city, or a county in the country, each comprising a cluster of from 6 to 10 neighborhood units—say 30 to 50 thousand people (illustrations 6, 7 and 8). Finally, the largest unit is the entire city or metropolis itself.



5. A diagram of a neighborhood unit. Reconstruction study of London by the "Mars Group."

6. Organic group life in nature; conglommerations of tightly or loosely knit units. (Ernst Haeckel's "Forms in Nature".)



7. Diagram of a cluster of neighborhood units in the country alongside a townless highway. (Clarence Stein.)



8. Diagram of a city precinct. Reconstruction study of London by the "Mars Group."



### ***The Human Scale***

The human scale of such an organic social structure must fit the cycle of the 24-hour day. For instance, the amount of time needed daily for commuting should not total more than 30 or 40 minutes in all. When we read that many Chicagoans spend 9 years of their life on the way to and from their work, we ask "Is that the triumph of the technical age?"

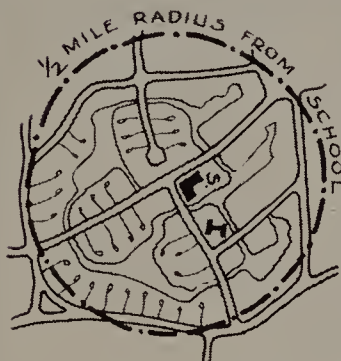
It would be wise to confine the size of our neighborhood units in the city and in the country to pedestrian distances **in spite** of automobiles and planes, for our human stride should determine our space and time conception in our local living space (illustration 9).

All points of activity and interest in the neighborhood unit—either in town or in the country—should be within 10 to 15 minutes walking distance at the most. This would confine its size to an area with a radius of about one half mile or less. To be well balanced in themselves, such units require not only the business or industrial segments but also a local administration and shopping center, together with facilities for education, recreation and worship. Not one of these can be forgotten. Provided with these facilities, the unit would have a good chance to improve social contact, the prospect which originally made urban life desirable. The social initiative of the people would then originate at a local level and gradually reach out into a wider region.

The next larger administrative area, the county or the city precinct, performing other functions, will offer high schools, hospitals and other public institutions which cannot be economically supported by a single neighborhood unit. Then the governmental scene widens into state and federal realms, with corresponding administrative, cultural and commercial facilities in the shape of capitol buildings, museums, theatres and business fairs. Such new civic and cultural centers will inevitably become the natural seed beds of our future American civilization.



9. Diagram of a neighborhood unit with  $\frac{1}{2}$  mile radius around an elementary school and diagram of three neighborhood units around a high school. (Clarence Stein.)



THE NEIGHBORHOOD is the natural basic planning unit which permits the greatest economy and freedom in the layout of blocks, streets, shopping centers, schools, recreation spaces, houses. It centers around communal interests, whose focal point is the elementary school. Ultimate size of each neighborhood may be measured by the number of families whose children will fill an efficiently-run school. Each neighborhood requires well-defined borders to preserve and protect its unity and special character. Topographical limits or planted areas may determine these.

THE COMMUNITY is composed of one or more neighborhoods separated by open green spaces, but bound together by secondary roads. The development of a community requires common interests vital to residents. Size depends primarily on predominating interest or need—usually high school community center—and on the most workable and economical organization for that function.



### ***Defective Developments***

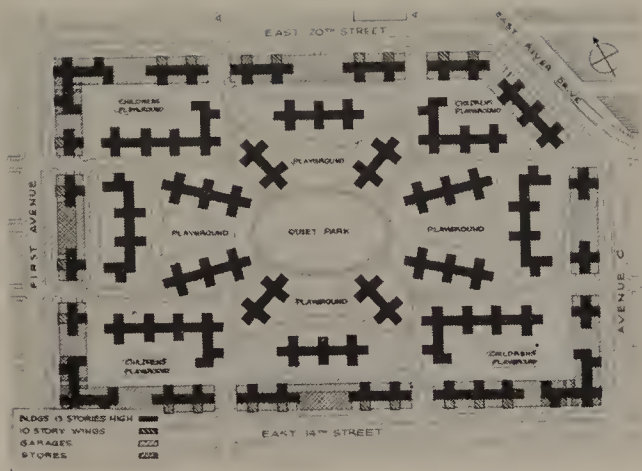
The development is discouragingly slow. Individual interests still interfere with the welfare of the community as a whole. Stuyvesant Town is to be built in Manhattan by the Metropolitan Life Insurance Company right after the war (illustration 10). With a conglomeration of 24 thousand people—mind you that means 600 persons per net acre, more than double the density for Manhattan Island as a whole—it has been planned almost entirely without community facilities of its own, without a meeting place, or schools, or nurseries (illustration 11). Such a development is already crippled right from the start it is a potential slum area where no healthy community life can ever develop. Any spontaneous initiative on the part of the inhabitants to organize life for themselves as a progressive link in future democratic living will be frustrated at once by the deliberate elimination of all vital communal facilities. The germs of decay lie waiting in this structure, even before it has left the architect's drawing board.

Here are other examples of planning offenses committed in the past:

The English so called "by-law streets" were at one time praised as progressive. I found this dreary picture (illustration 12) marked with the legend "my home is my castle." In such a housing project of semi-detached homes the familiar British slogan becomes a travesty.

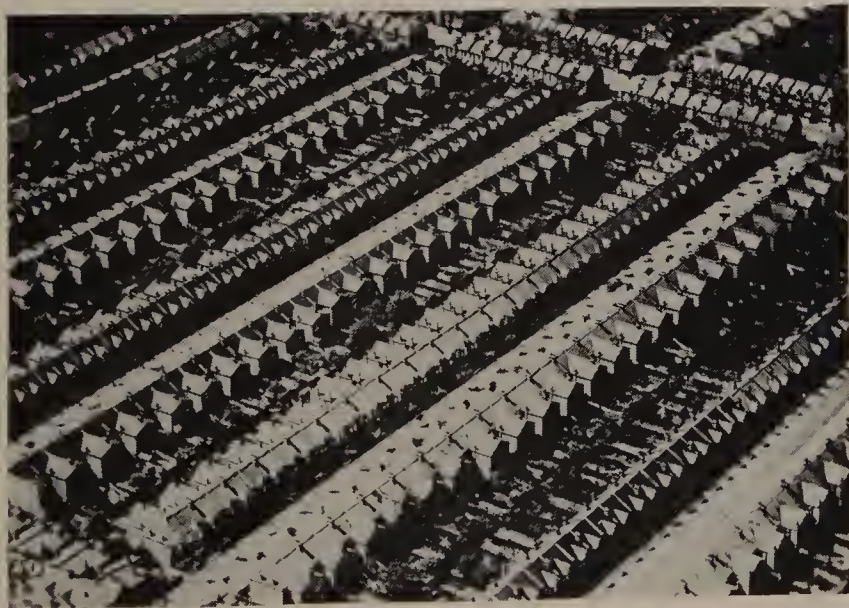
Or look at a shapeless jerry-built area in New Jersey! Telephone poles substitute for trees, and there has been no attempt to make the development a living communal organism. The imagination of the planner and designer did not reach beyond the provision of bare housekeeping facilities for the individual family.

In such developments, not rare examples even today, no social consideration is visible, there is no separation of living quarters from the smoky factories;



10. "Stuyvesant Town" to be built in Manhattan by the Metropolitan Life Insurance Company after the war. About 24,000 people will have to live almost without any communal facilities. The germs of decay will lie in wait in a brand new structure.

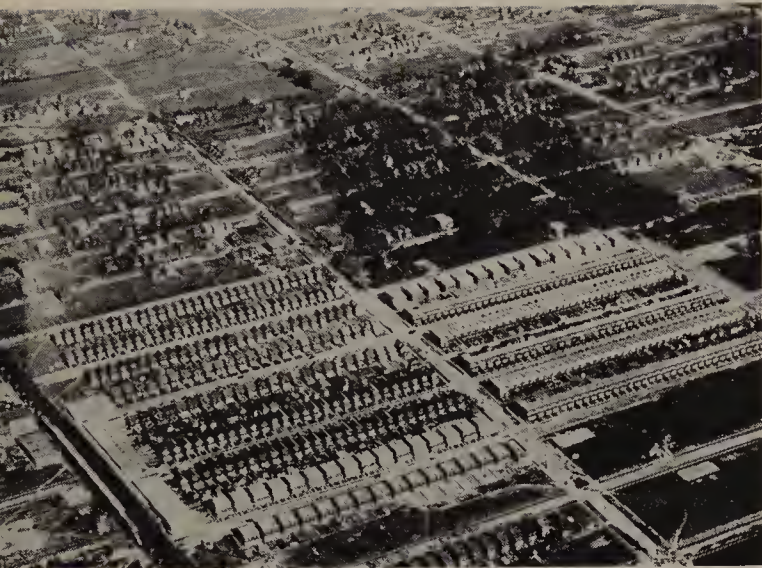
11. "Knickerbocker Village," Manhattan, showing about a similar density as "Stuyvesant Town."



12. So-called "by-law" streets in England. Do they fit the British slogan "my home is my castle"?



13. *Good town planning in the past. A row of residential family units in Bath, South England, built for speculation in the 18th century.*



14. *Long Island real estate sub-division showing its amorphous growth. The dreaded downward process of "home ownership" to tax liability often occurs in similar sub-divisions within as little as ten years.*

nor are there any trees or gardens! Industrial requirements having been put above human needs, a community must pay dearly for such shortsightedness.

It is good to look back here and there and check up on conditions in the pre-industrial past when society was still balanced. Bath, in Southern England, is my favorite example of good town planning in the past (illustration 13). Isn't it surprising that these rows of family houses, surrounded by lovely open spaces were built as a speculation by an 18th century real estate operator, and his architect? Both had a vision of a dignified pattern for human living, yet they both made a lot of money.

A typical Long Island real estate development (illustration 14) exhibits with a striking clarity the uncontrolled growth of speculative suburban building which has followed the "flight from the city." Streets, lots, houses are added on and on without apparent limitation. Nothing indicates any conception of an organic community which might permanently control and maintain the suburban dis-

trict. The dreaded downward process from "home ownership" to tax liability has often occurred in similar suburban subdivisions within the small space of ten years, and such rapid deterioration has swept many a municipal budget into bankruptcy.

### ***Remedies Suggested***

Zoning laws have not been safe-guard enough against the spreading blight, and we must show intelligent foresight to stop it. We badly lack legal instruments to channel any development—privately or publicly undertaken—into a controlled and well-balanced communal organism. We cannot blame the real estate man who simply follows his business; it is up to the community to keep him from running wild. He was not stopped because we failed to foresee the complex consequences which would arise. The scientific age has obviously prevented us from seeing our complicated life as an entity, for we have become too occupied by over-specialization. The professional man bores a hole ever deeper into his limited field of knowledge until he can no longer see his neighbor or know what he is doing. His head finally disappears, and he has become a blind mole.

The end of this war will offer a challenge to replan society, to coordinate the achievements of the specialists, and embrace all phases of life. But life is a floating process and the essence of it is change. We need to fix upon a flexible method of **approach** before we can physically plan for the future. The great discovery of our period is that there is no such thing as finality, and that specialized knowledge is meaningless if we are not aware of its relation to other knowledge. Since art, science, and religion today are still disconnected islands, we grow impatient for a synthesis which will make whole what is now, unhappily, separate. Only then will the individual be integrated into his community, carried by a new faith.

The elements of science, art and philosophy for the composition of a new world

lie ready, and food, leisure and freedom are within reach of all of us, but we still have to find the moral unity to take possession of them. We still have to develop a workable method of collaboration which, in the first place, is an art of controlling the ego.

We have to go the whole hog: it is obvious that piecemeal plans, partial reforms, and appeasing concessions are but retarding factors on the way to a tightly-coordinated, over-all pattern of planning which would promote a healthy 20th-century community life. The remedy is to be found only in a deeper understanding of the planning problems on the part of the people themselves. They will then judiciously put pressure upon their governments to come to proper terms. In this respect every one of us can be instrumental in the formation of his own environment.

### ***The Proper Size of Shelter***

Before I become more specific as to the practical steps in planning post-war communities, I will try to ascertain the proper size of shelter for today's average family and to investigate the economic, technical and cultural reasons for the present short-comings in the building field.

The proper size of shelter depends on the present family functions. Compared to the patriarchal, pre-industrial family, the present family has undergone great changes. Before the machine had broken up the old social and economical structure, the family was still a self-contained unit. It took upon itself the education of children and apprentices, cared for the sick and aged, and produced nearly all that was needed, even to clothing and food.

Today, almost all the family responsibilities of the past have been taken over by the community, or by commercial organizations—factories, farms, hospitals, old-age homes, schools and universities. Women have begun to participate in wage-earning away from home, and a steadily declining birth rate has de-

creased the number of children per family. These evolutionary changes have occurred more or less in all nations independent of any political structure, and have, of course, had considerable bearing on the form of human shelter. Today's family, reduced in size and in range of functions, needs a home mainly to raise children, to rest and to relax. It could be much smaller than the pre-industrial type, but it will require more and more mechanical "wife-saving" devices to fulfill its purpose of providing recreation.

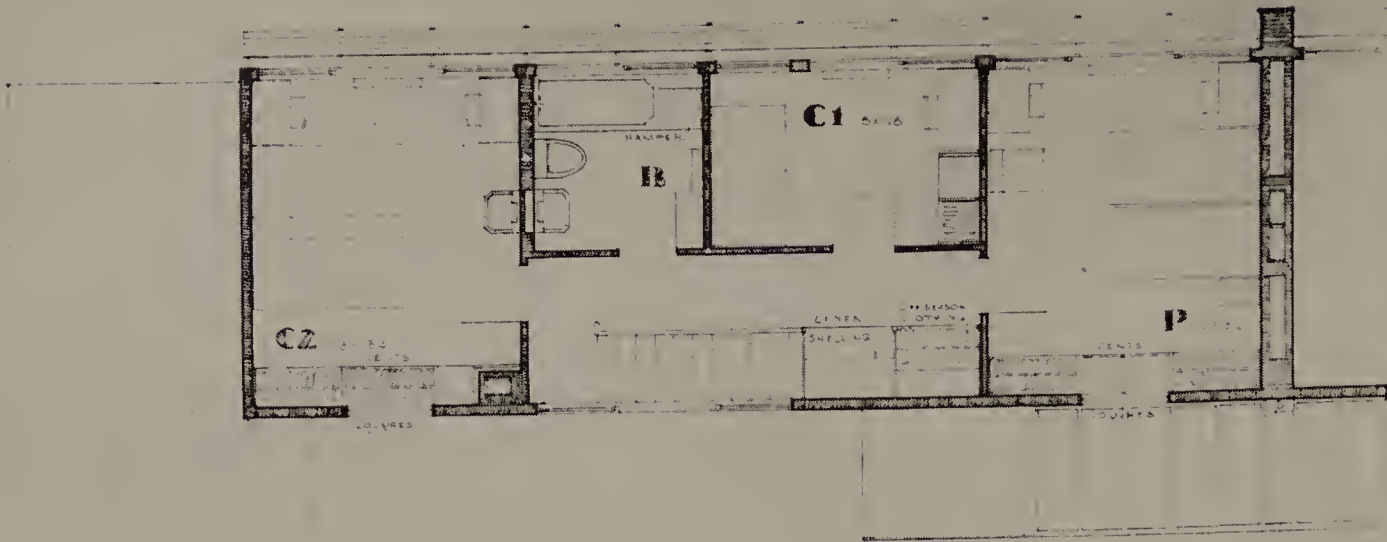
### ***"Wife-Saving" Devices***

If we look into the future we shall discover in the average man's house such blessings as better heating, summer and winter air-conditioning, precipitrons to free the house of dust, automatic dish washers, garbage disposals, and deep-freezers. Particularly this last invention will revolutionize the household. The food industry has already offered the post-war individual a series of complete meals which have been pre-cooked, quick-frozen and packed in plastic containers ready to put in the oven! And we may expect house-work services from commercial organizations with expert cleaning done by professionals using up-to-date tools.

### ***Hobby Room***

For the future average house I recommend **one** extra room in which the family, adults as well as children, may practice their hobbies (illustration 15). I believe that people who work in industry, incessantly performing the dullest type of repetitive work, need **active** recreation to revitalize their inventive facilities. Passive recreations, in the form of motion pictures and bars, have no productive effect, but an incentive for exercising one's own creative ability might become a factor of importance for all communities, particularly when working hours are again shortened in the future.

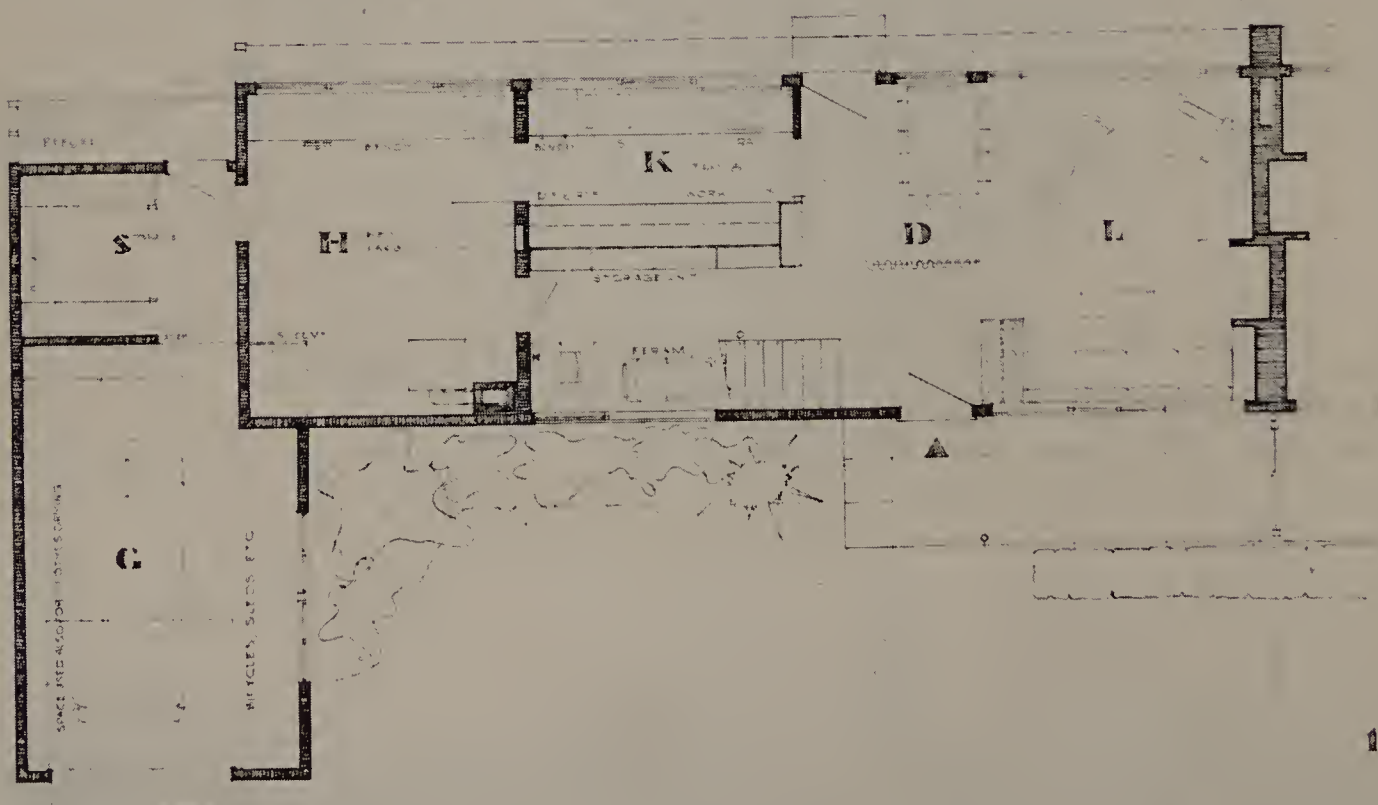
The shelter should reflect the family's biological and social needs, it must be



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 FLOOR AREA 7-10-11  
 SLOOPE FLOOR 7-10-11

CUBAGE  
 MAIN ROOMS 125600.00  
 CUBAGE 2470.00  
 TOTAL 128070.00

SERVICE AREA





adapted to the family pocketbook, be technically up-to-date, and it must be what we call "beautiful."

### ***Discrepancy in Supply and Demand***

Does our highly-praised age of scientific production deliver these goods? Certainly not! It is a fact that the average man today cannot afford a decent dwelling in the free market. He buys food, clothing and other daily goods at prices adapted to his income without any public subsidy, but the dwelling he may obtain is only an obsolete structure built for wealthy people and now out of date (illustration 16). Inevitably the Government had to step in to help. Experience prior to the war shows that an average subsidy in the neighborhood of \$100 per year was necessary to house a family fairly decently in a public housing development (illustration 17). Something must be wrong in the whole building trade if the public has to pay so high a penalty for each low-income class dwelling.

16. *Obsolete residence, formerly built for wealthy people, now sub-divided as a multi-family low-income apartment house.*



17. *"Red Hook" New York. Typical government subsidized development.*




15. *First and second floor plan of a post-war dwelling (Louis Fry, Master course, Harvard School of Architecture). Note hobby room for active recreation of adults and children to exercise the creative ability of the family.*

It becomes evident why the free market has not been interested in building dwellings for the average man despite the very wide demand, when one realizes that rents which will give the landlord and the builder a good profit are far out of proportion to the prices of all other necessary articles in daily use which are adapted to the average pocketbook. What has caused these deficiencies? In 1938 I found a diagram in New York which offers some explanations: in the period from 1913 to 1926 the cost of building had doubled, but the cost of a Ford car had been cut in half (illustration 18).

### ***Necessary Changes in our Economy***

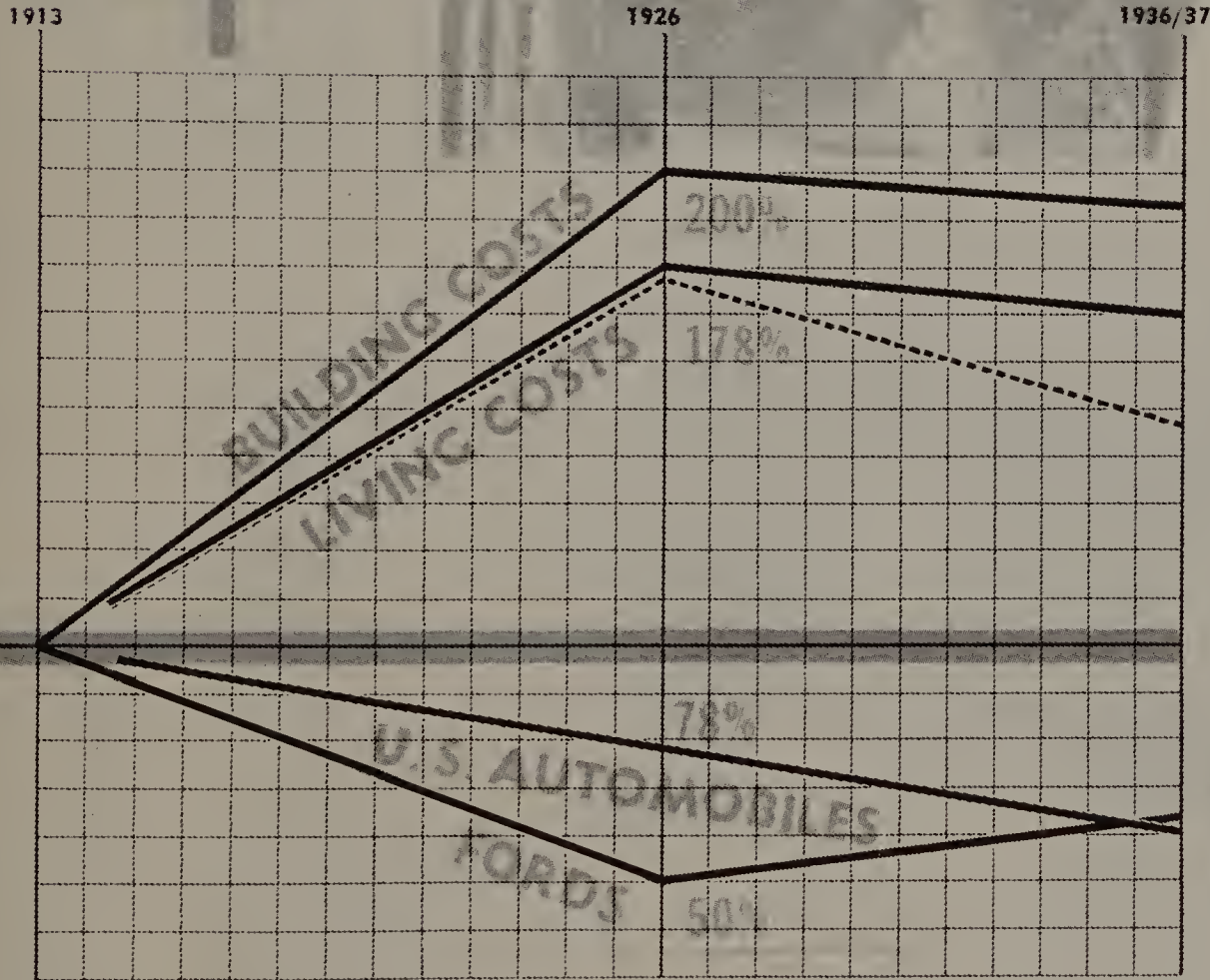
What might have to be changed in our economy in order to adapt the market price of a dwelling to the average income? We know that this will involve changes in real estate marketing, financing and tax procedures, and changes in building technique and organization.

18. *Diagram showing that from 1913 to 1926 building costs have doubled while the price for Ford cars was halved. Diagrammatic chart by Herbert Matter. Courtesy of Architectural Record.* 

+ 193%

+ 170%

+ 147%



193% Average Cost per Family Dwelling from Bureau of Labor Statistics.

170% Wholesale Building Material Prices from Real Estate Analysis, Inc., St. Louis.

147% Living Cost Serial No. R605, Table 7, PP12, U. S. Department of Labor.

100% BASIC INDEX

60% Automobile Costs from "Automobile Facts and Figures," Automobile Manufacturers Association, New York.

63%

— 63%

— 60%

### ***Ownership and Use of Land***

Regarding the first intricate point, we should realize that without undermining the basic conceptions of property, the ownership and use of land must be regulated by legislation so that the right of the community gradually rises above that of the individual when vital public problems are concerned.

Urban communities are critically in need of an extension of their powers to zone and to regulate subdivisions beyond their presently urbanized areas in order that there may be an orderly development of the outlying land where the prospective post-war boom will hit first. This is the pivot upon which any future success in planning is hinged. Attempts in this direction have been made with the establishment of county zoning laws in Wisconsin.

In this respect it may be of interest to check up on other democracies: A high officer of the National Housing Agency, recently returned from a mission to England, said in a speech summarizing his experiences over there, that some tendencies in the direction of the collective conscience in England are notably advanced, in comparison with the corresponding prevalent conditions in the States.

He said that the House of Commons, and also the House of Lords, are convinced that nationalization of the land is nearing, though heavy fights may lie ahead between talk and final action. He further remarked that housing developments can no longer be promoted anywhere in England without a simultaneous offering of adequate communal facilities.

### ***Financing of Dwellings***

The financing of dwellings—with increasing penetration of industry into the building field—might be developed in a manner similar to the financing of automobiles even including a second-hand market for dwellings produced by prefabrication (illustration 19).

COMPARATIVE TABLE OF MONTHLY PAYMENTS OVER  
 TWENTY-YEAR PERIOD FOR A PRESENT-DAY \$5,000  
 HOUSE AND ITS POSSIBLE POSTWAR EQUIVALENT,  
 EACH BASED ON A \$500 DOWN PAYMENT  
 ON PURCHASE

	<i>Under Present FHA System</i>	<i>Under Proposed Finite System</i>
Monthly payment covering in- terest and amortization of mortgage . . . . .	\$28.46	\$22.18
Mortgage insurance (averaged over twenty-year period) . .	1.08	None
Real Estate Taxes (based on average tax rate of 3 per cent of cost of land and building) . . . . .	12.50	10.40
Home Replacement Reserve Account . . . . .	<u>None</u>	<u>10.28</u>
Total monthly payments for equivalent houses . . . . .	\$42.04	\$42.86

19. Accumulation of 20 years replacement payments endowing the owner of a dwelling with a bond sufficient to replace the old home by a new one. (Bernard Smith, New York Building Council.)

Bernard Smith of the New York Building Council, suggests that the life-span of dwellings be reduced to 20 years, with an accumulation of replacement payments during this period endowing the owner with a bond sufficient to replace his old home with a new one at the end of that period. This would automatically remove obsolete buildings and help to stop blight.

### ***Changes in Building-Techniques and Organization***

With the **third** step toward better and cheaper dwellings I want to deal in more detail. This is the simplification of building technique and organization. One glance at our diagram—illustration 18—will show you that the increasing cost of labor involved doubled the cost of building in the same period the price of the Ford car was halved. Building is not yet fully industrialized, which is further evidence that our building methods are behind the times. Too much hand labor still necessary in building, and inefficiency in management have failed to keep the price for dwellings on a level with the average income.

I have no doubt that the quantity production methods which made the low-cost automobile possible can be applied to produce houses at a minimum cost; but this cannot be done until we have reorganized the building machinery. The whole post-war construction problem hangs upon our ability to coordinate. Our building standards can be raised to higher potentials only by increasing cooperative efforts without at the same time frustrating individual initiative.

The English writer, Herbert Read, in his foreword to *Creative Demobilization* says that "Cooperation is the only 'technique' of intellectual and moral progress, and it is a technique which implies collaboration and not direction, freedom of initiative, not the impress of authority."

We need a synchronized effort on the part of all those involved in building operations—administrators, industrialists, financiers, realtors, architects, contractors, engineers and workers. Years ago I have suggested the creation of

an Institute for Building Integration which would have the task of promoting a realistic plan of cooperation, of sharing building research in its broadest sense, and of giving improved information. Such an Institute could become an adjustable link between private enterprise and governmental control.\*

All the building professions, united in one guiding organization, should initiate a truly realistic, comprehensive post-war construction plan to be offered to the Government. Most certainly such a plan would have to secure good prospects for business and employment, and follow definite progressive social standards for the physical pattern of new communities. Only such a plan could, without infringing upon individual freedom, eliminate the bugaboo of excessive governmental control. The plan would need to offer also a realistic program for gradually superceding old methods of subsidizing new housing projects, which were costly remedies, as we know, and even rather questionable as to the results attained.

We need incentives to increase private enterprise; because perennial subsidies do not lead to a real solution of the housing problem. Subsidies are to be considered only as a measure of transition until means and ways are found for solving the housing problem economically. One of the means of gradually reducing the cost is prefabrication.

### ***Prefabrication***

People look upon prefabrication as an entirely revolutionary idea, but from my extensive experience with prefabrication—I began my experiments in 1910—I have come to see it as a slow, evolutionary movement not intended to cause a sudden revolutionary break, despite all the misleading advertisements promising John Doe a Sunday-magazine-miracle-home when he comes back from the war.

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*\*On June 23, 1944, the Kilgore bill S-2046 was presented to Congress "to provide for technical research and studies in housing."*

Very gradually, the process of building splits up into shop production of building parts on the one hand, and site assembly of such parts on the other. More and more the tendency will develop, I believe, to prefabricate the component parts of buildings, rather than whole houses. Here is where the emphasis belongs, for man will always rebel against an over-mechanization which is contrary to life.

Because of an extremely ramified integration, the competing building industries should agree **first** upon a reduced number of standard sizes for component parts of buildings.\* The designer and builder will then have at their disposal, something like a box of bricks to play with, an infinite variety of interchangeable component parts for building, which could be assembled into individual dwellings of quite different appearance and size.

Prefabrication, as a logical progressive process, aimed at raising the standards of building, will finally lead to the combination of both, which means higher quality for lower prices. There are many analogous cases of industry successfully offering improved commodities at lesser prices to serve as evidence for such a statement. Thus prefabrication at last becomes a vital instrument to solve the housing problem economically. It will help to free us from the hamstrings of perennial subsidies in housing, and from much of the governmental control and red-tape it necessarily implies (illustrations 20 to 28).

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*\*The American Standards Association's Committee A62 works already for the simplification of dimensions in the building industry.*

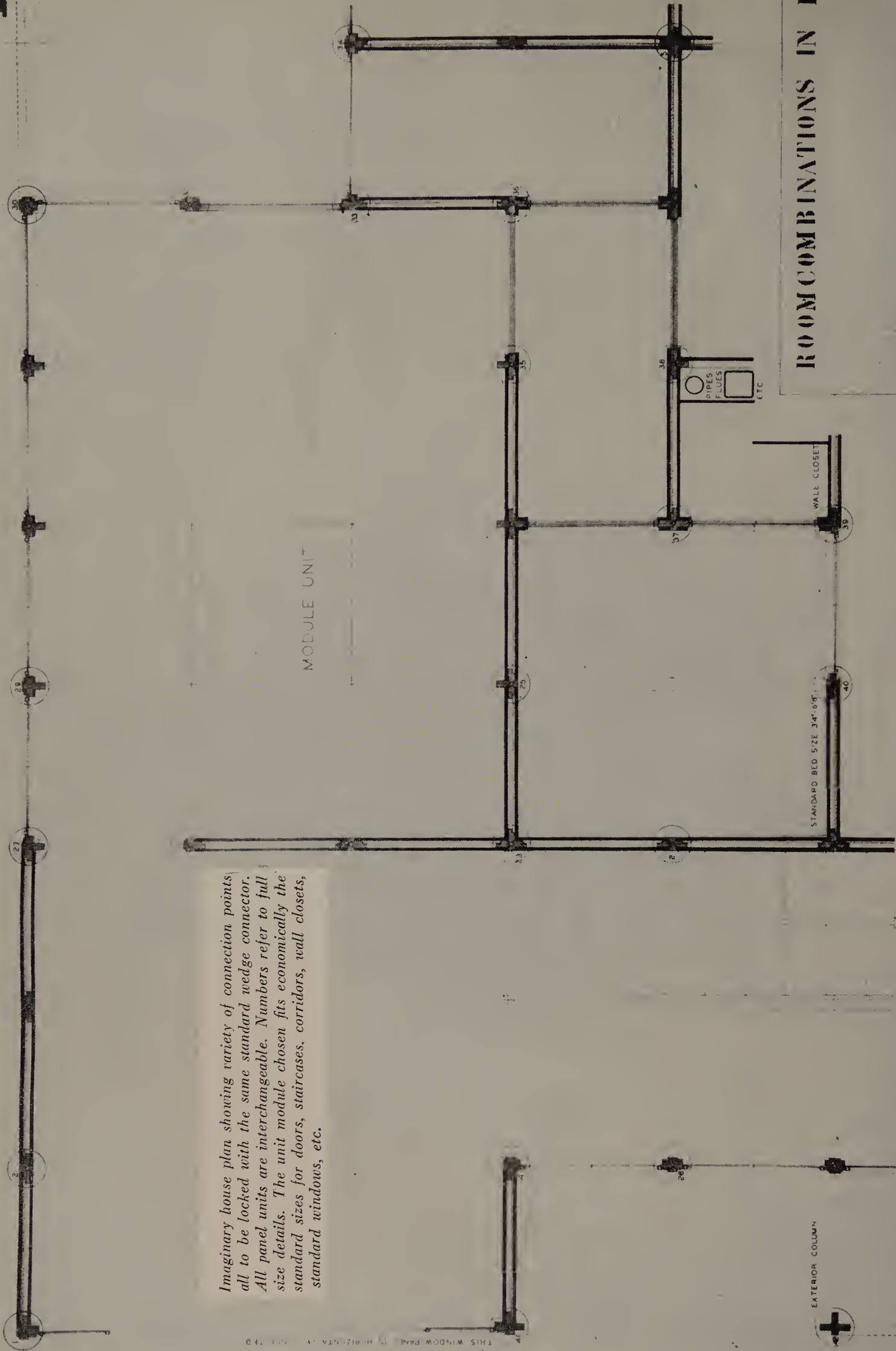




20. "Churchill House." Model of an English steel constructed dwelling to be manufactured after the war in numbers of 300,000. Such a procedure in prefabrication, repeating in great numbers the same type of house, is too rigid and too dull.



21. Prefabricated house with corrugated copper finishing (Walter Gropius, 1931). Still lacking sufficient flexibility to fulfill individual requirements.

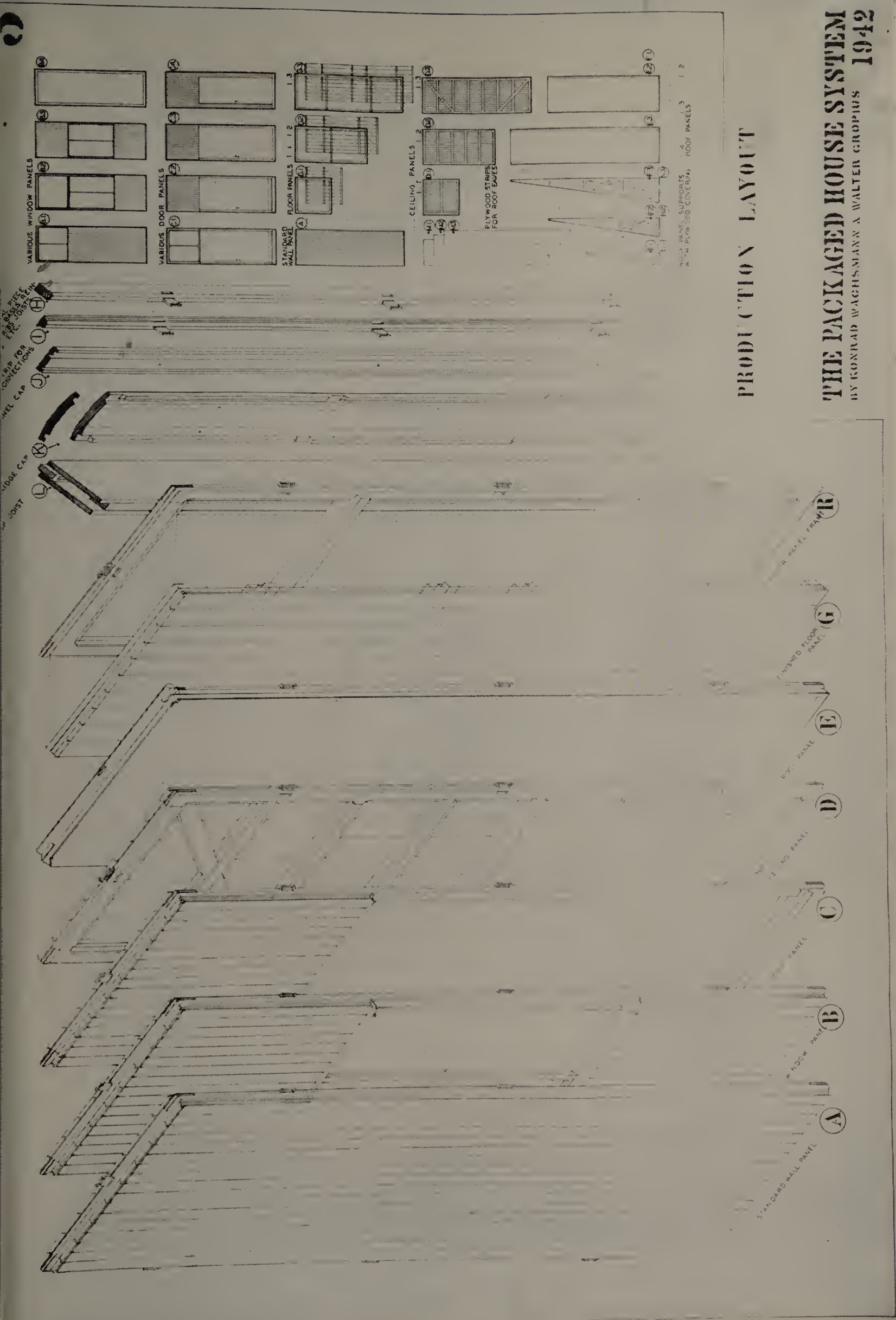


Imaginary house plan showing variety of connection points all to be locked with the same standard wedge connector. All panel units are interchangeable. Numbers refer to full size details. The unit module chosen fits economically the standard sizes for doors, staircases, corridors, wall closets, standard windows, etc.

ROOM COMBINATIONS IN PLAN

THE PACKAGED HOUSE SYSTEM  
BY KONRAD WACHSMANN & WALTER GROPIUS 1942

22. "The Packaged House System" by Konrad Wachsmann and Walter Gropius, General Panel Corporation, New York. Development of a three-dimensional module system derived from the human size. A module unit of 7'-0" fits doors, windows, staircases, corridors and wall closets. Its double fits a bed and a bathroom.

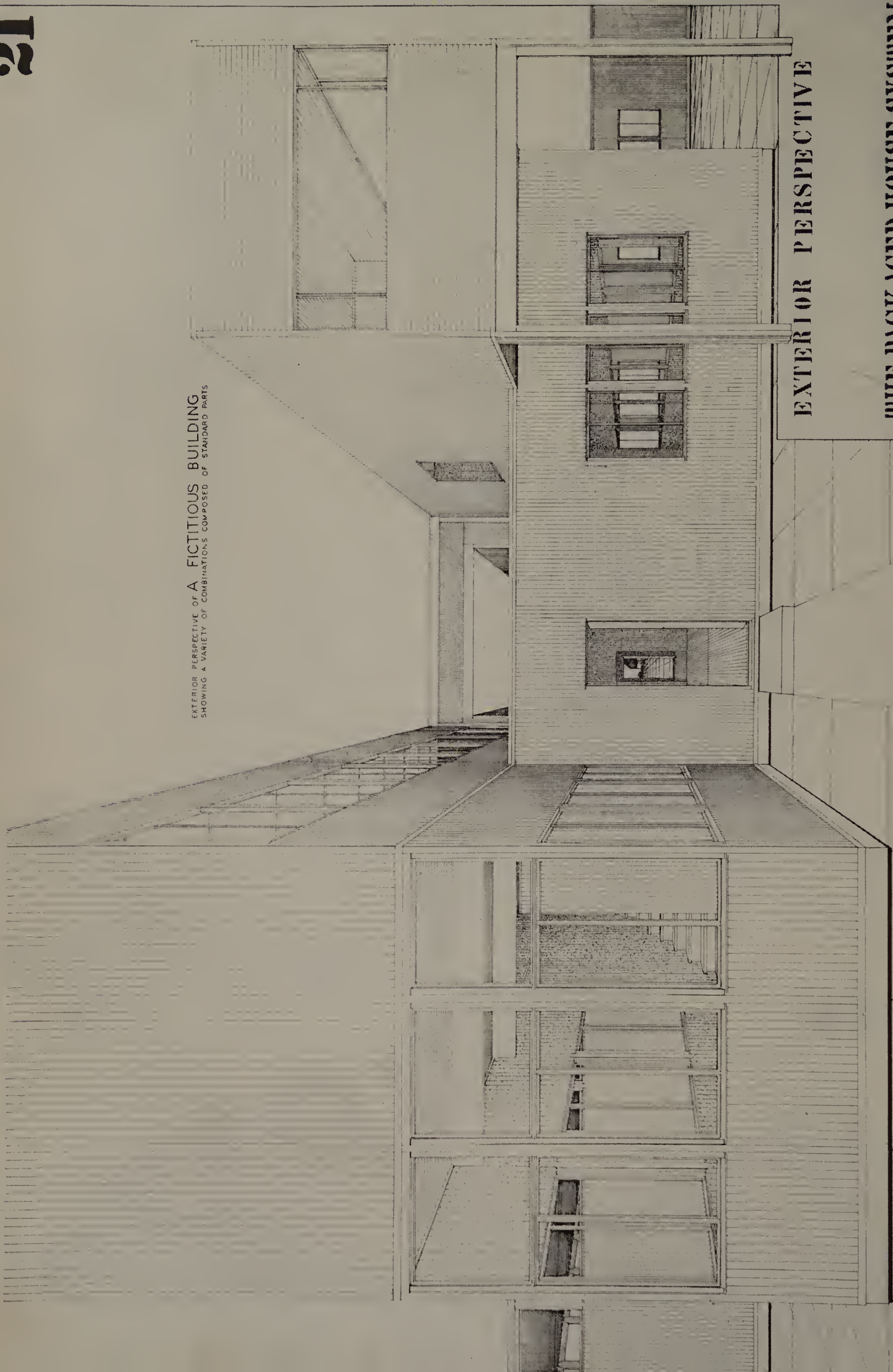


**PRODUCTION LAYOUT**

**THE PACKAGED HOUSE SYSTEM**  
 BY KONRAD WACHSMANN & WALTER GROPIUS 1942

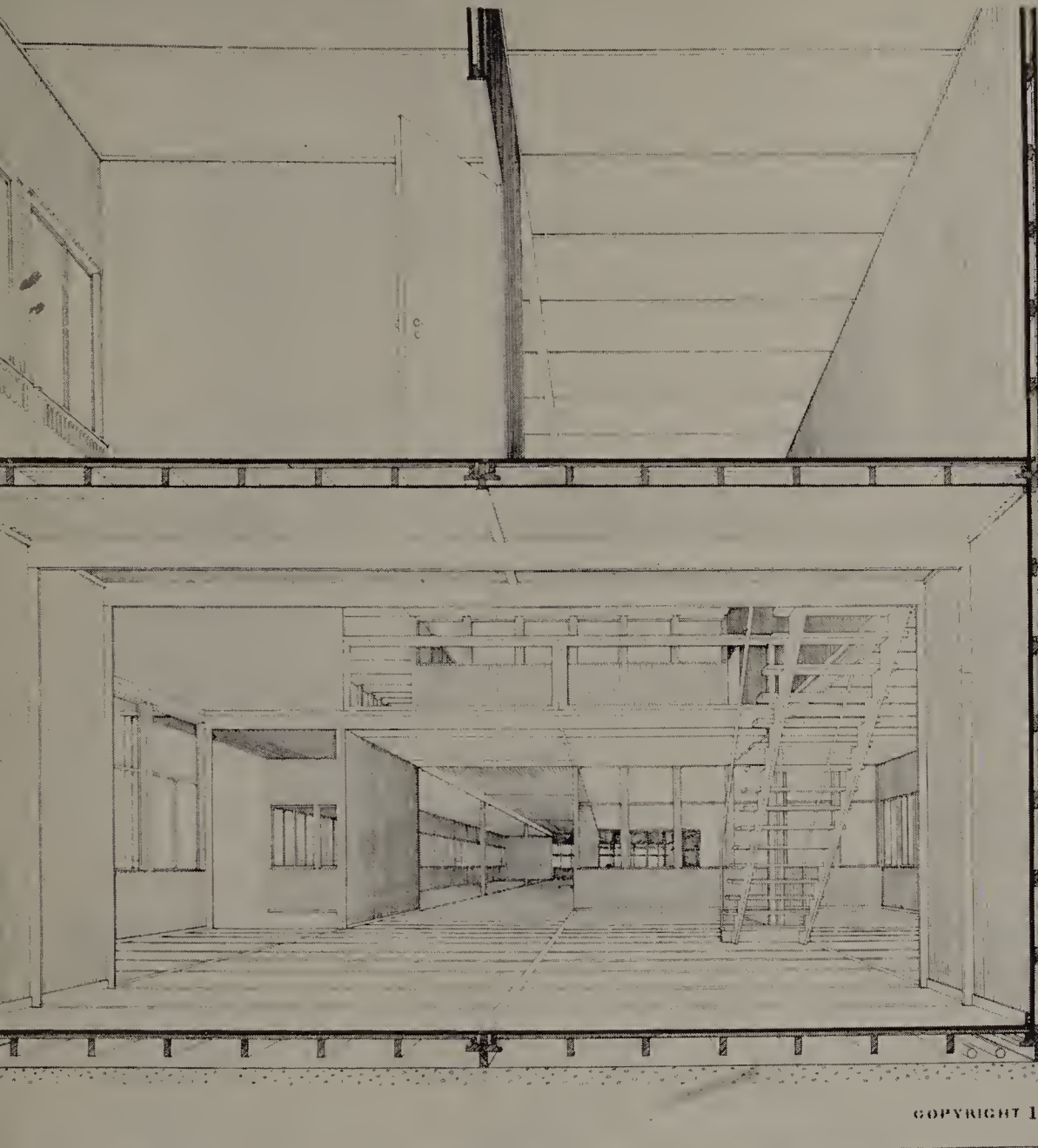
23. "The Packaged House System" by Konrad Wachsmann and Walter Gropius, General Panel Corporation, New York. Production layout of the panels. As the length of the panel is a multiple of its width it can be used vertically, horizontally and laterally. Interchangeable component parts can be assembled into individual buildings of different appearance and size.

EXTERIOR PERSPECTIVE OF A FICTITIOUS BUILDING  
SHOWING A VARIETY OF COMBINATIONS COMPOSED OF STANDARD PARTS



EXTERIOR PERSPECTIVE

THE PACKAGED HOUSE SYSTEM  
COPYRIGHT 1942 BY KONRAD WACHSMANN & WALTER GROPIUS 1942



EXTERIOR AND INTERIOR PERSPECTIVE OF A FICTITIOUS BUILDING SHOWING A VARIETY OF COMBINATIONS COMPOSED OF STANDARD PARTS

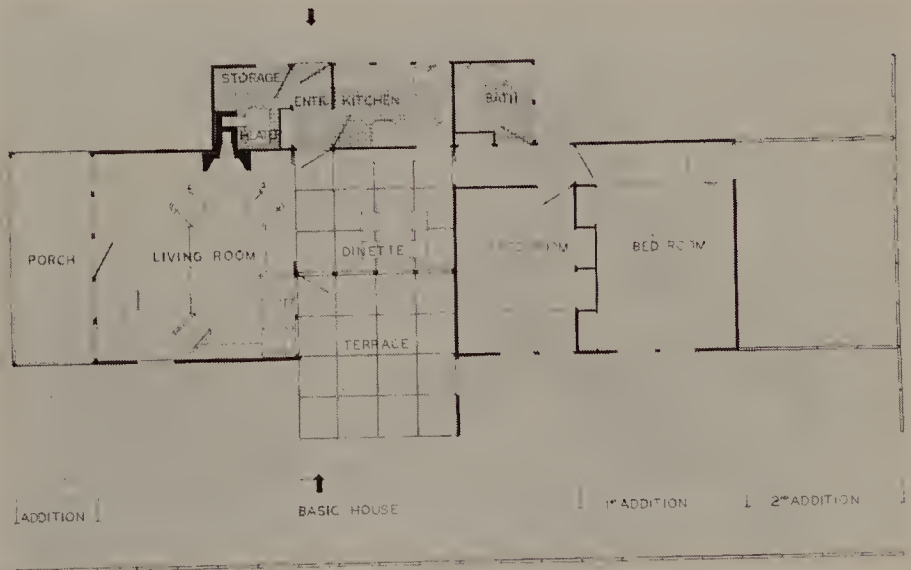
INTERIOR PERSPECTIVE

THE PACKAGED HOUSE SYSTEM

COPYRIGHT 1942 BY KONRAD WACHSMANN & WALTER GROPIUS 1942

25. "The Packaged House System" by Konrad Wachsmann and Walter Gropius, General Panel Corporation, New York. The interior of a fictitious building construction showing a variety of combinations composed of standard panels.

26. "The Packaged House System" by Konrad Wachsmann and Walter Gropius, General Panel Corporation, New York. Post-war "growing and shrinking" prefabricated family dwelling. The house may be started as a nucleus with one bedroom. Several bedrooms may be added later and resold when grown up children have left the house. (Walter Gropius.)





27. "The Packaged House System" by Konrad Wachsmann and Walter Gropius, General Panel Corporation, New York. A post-war "growing and shrinking" prefabricated family dwelling. Exterior (see illustration 26) (Walter Gropius).

28. "The Packaged House System" by Konrad Wachsmann and Walter Gropius, General Panel Corporation, New York. Complete parts of exterior shell; partitions, floors, ceilings and roof of a four-room family dwelling. (19' x 8' x 7½').



### *Standards in the Past*

We need not fear that our future residences will be regimented because of standardization. Natural competition in a free market will take care of that. Men did not hesitate to accept widely-repeated, standard forms in the pre-machine periods of civilization. Such standards resulted from their means of production and from their way of living. Mere machine repetition of a design certainly does not create a standard, because standards represent rather a combination of the very best many individuals have contributed to the solution of a problem. The standard forms of towns of the past express a happy blend of technique and imagination, or rather a complete coincidence of both (illustrations 29 and 30).



29. *Old street in Hamburg, Germany. In pre-machine periods of civilization men would not hesitate to accept widely repeated standard forms.*

30. *Town of Damascus. Its ever repeated form elements are plain cubes, cylinders and spheres.*





31. Residential quarters in Detroit, Michigan. "Standardization can be murder or beneficial factor as the life in the thing standardized is kept by imagination or destroyed by the lack of it." (Frank Lloyd Wright.)



However, many of today's shapeless developments remind us of Frank Lloyd Wright's fitting remark: "Standardization can be murder or beneficial factor, as the life in the thing standardized is kept by imagination or destroyed by the lack of it" (illustration 31).

Because architecture lost touch with community life, it became an aesthetic end in itself during the industrial age. The external embellishments of a building were designed to rival those of the neighboring building instead of being developed as a type to be used repeatedly as a unit in an organic neighborhood pattern. The emphasis on being different instead of searching for a common denominator characterized the last generation of architects who dreaded the anti-human influence of the machine. The new philosophy in architecture recognizes the predominance of human and social requirements and it accepts the machine as a modern vehicle of form to fulfill these very requirements. We have convinced ourselves that the repetition of simple, prefabricated building elements can make for both utility and beauty. But when we talk about beauty we stand on slippery ground. One definition is that "beauty is what pleases me," which does not help us much. I shall try a more objective approach.

### ***Trend of Modern Architecture***

We are experiencing today a "dematerialization" of architecture. The last great and genuine expression in architecture, the Gothic, with heaven-aimed



32. *Cathedral of Chartres, France. The last great and genuine expression in architecture, the Gothic, with heaven-aimed verticalism emphasized the earthbound law of gravity by use of its heavy buttresses.*

verticalism, emphasized the earthbound law of gravity by the use of heavy buttresses (illustration 32). Creative contemporary architecture triumphantly makes use of new structural techniques that create lightness and buoyancy of appearance; cantilevered building parts and hovering slabs seem to deny the law of gravity, and by transmitting a feeling of openness towards the world at large, they offer generous window areas which may be thrown open or closed according to our varying needs. A unity of inner with outer living space has thus been created as a new achievement (illustration 33).

It is nonsense to label modern architecture as merely a functional or scientific movement. On the contrary, its initiators have directed all their endeavors toward the fusion of emotion and technique through creative short-cuts rather than by computation. Today, we can say that the prototypes of a new architecture have been created. This architecture, beyond a doubt, is here to stay, and the generation of architects practicing after this war will secure its general acceptance by making it bountiful and comprehensible to all (illustration 34).



*Hedrich-Blessing Studio*

33. *Bear Run. Summer residence near Pittsburgh, Pa. (Frank Lloyd Wright, Architect). Creative contemporary architecture triumphantly makes use of new structural techniques to create lightness and buoyancy of appearance.*



34. Gropius house, Lincoln, Mass. (Walter Gropius and Marcel Breuer, Architects). Horizontally cantilevered building parts and hovering slabs seem to deny the law of gravity. Continuity of outer and inner living space.

And let us no longer be deceived by that misleading designation, "the international style." It is true that the achievements of science and technique employed in modern architecture are international in character, but the tendency of the present architectural spirit is to derive expression from regional conditions, from indigenous elements. Slowly but surely, we shall depart from what I like to call "the international style", those classical colonnades borrowed from the Greeks which adorn the town halls, bank buildings, museums, and ministries of the world from Moscow to Chicago.

The design of the National Gallery in Washington is not architecture in the true sense; it is applied archaeology. As fine a specimen as it may be in its class, it is not indigenous (illustration 35).

### ***Procedure and Sequence in Community Planning***

After this short survey of cultural, technical and economic factor I turn again to our problem of integrated post-war communities. What sequence of procedure should we employ to break the vicious circle choking our cities?\* As they need relief from congestion, from "high blood pressure", we should first

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*\*The following suggestions are the result of a research made by Martin Wagner, Professor of Regional Planning, Harvard Graduate School of Design, with the author.*

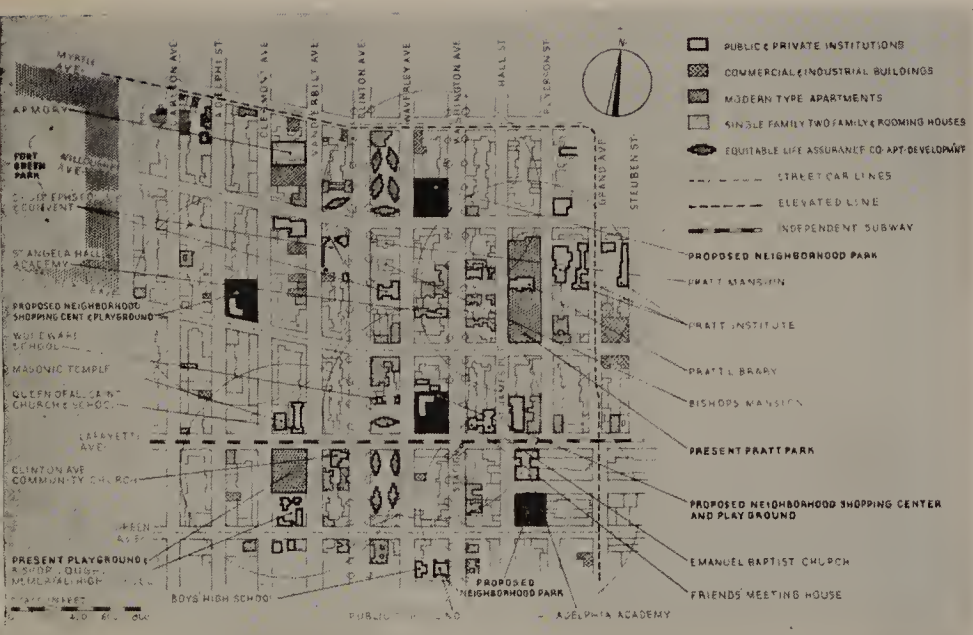


*35. National Gallery, Washington, D. C. Slowly but surely we shall depart from what should properly be called the "International Style"; those classical colonades borrowed from the Greeks which adorn the town halls, museums, bank building and ministries of all the nations from Moscow to Washington.*

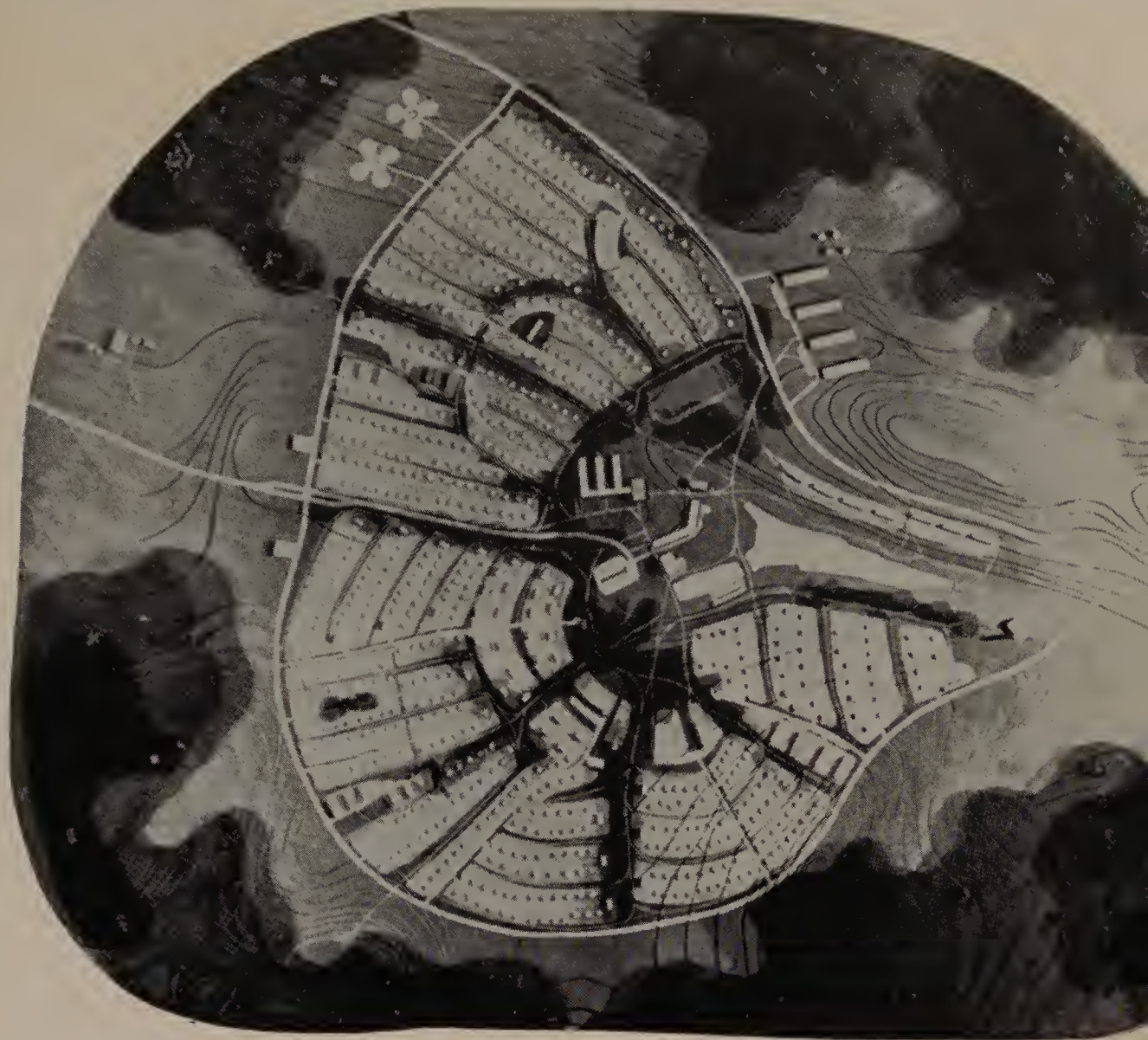
siphon out those people who can not be permanently employed in the city, and offer to resettle them, together with some smaller industries, in neighborhood units to be built in the country. I want to emphasize that such a policy requires the transfer of endangered production as well as purchasing power from sore spots in the city to a sound new area. There stranded workers can be reclaimed for production at a much lower cost per capita than the old city would need to pay for slum clearance on expensive land, and for unproductive relief. Such a transfer of idle labor would relieve the sick body of the old city, improve its circulation, and open up the recreation space for its rejuvenation.

The open spaces thus regained in the city could be used for the erection of necessary communal facilities and park areas, and for a basic net of traffic arteries connecting the neighborhood districts with each other and with the civic centers. Freed of dead weight, the reopened areas of the dying cities could then be returned to their proper functions as integral parts of an organic social structure for the whole region (illustration 36). Of course, such a development would take time.

From the planning of neighborhood units in the open country—the initial step in the process of reconstruction—we should be able to gather enough experience to manage the much more difficult second step of developing new community structures within the old cities.



36. Part of Brooklyn, New York, around Lafayette Avenue. Attempt to coordinate neighborhood units in the existing city and to make space for community facilities in each of them. (Architectural Forum.)



37. *A neighborhood unit in the country, Weston-Wayland, near Boston, Mass. (Master students at the Harvard School of Architecture under the guidance of Martin Wagner and Walter Gropius). Planned for from 5 to 6 thousand people living within walking distance of industry, shops, schools and community buildings. Foot paths do not cross traffic lanes. Surrounded by farm belts of truck gardens as "space of nourishment." Dwelling lots to be rented though houses may be owned.*

As a tentative example of how the initial step in reconstruction may be started I offer the development of a neighborhood unit which my students in the Master class of the Harvard School of Architecture designed under the guidance of Martin Wagner, Professor of the Harvard Regional Planning Department, and myself (illustration 37). This unit is located 25 miles inland from Boston, close

to one of the new north-south super-highways, planned by the Federal government. As the railways were an incentive in the past for founding new towns alongside the tracks, so will super-highways take over that function in the future. Fast feeder roads branching from the super-highways, will connect the big cities and bring them into close range with the small settlements along the way.

This research unit was planned for a community of about 5 to 6 thousand people, living within walking distance of their working places, their shops, schools, community buildings and churches. The radius would be about one-half mile, and pedestrians would have a right-of-way in a well-planned network of foot paths which never cross a traffic lane.

The unit should be surrounded by a farm belt of truck gardens as a "space of nourishment" capable of absorbing at least a small part of unemployed labor in periods of industrial crisis. As speculation often promotes blight and obsolescence, the community itself should own the land. The size of the individual unit should be permanently limited, and the dwelling lots should be rented, though the house might be owned.

A neighborhood unit should have an independent local government. Public officers within immediate reach of the voters would be able to provide a more direct influence of the will of the people upon their administrations. The sense of community spirit lost in the chaos of the fast-growing metropolis can here be developed to favorably influence the growth of distinct characteristics of the community. "The ideal state is not chicken à la King with Federal sauce for everybody, but regional cuisine available everywhere."\*

Relations between families, friends and cooperative teams would have a better chance as creative factors in ordinary living than they now know in the chaotic

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\*Paul Schrecker, *Harper's Magazine*, August, 1944.



towns which isolate the citizen. Disregarding some few secluded hermits, man is a gregarious animal whose growth is always accelerated and improved by life in a healthy community. The reciprocity of influence from individual to individual is as essential for mental development as food is for the body. Isn't it ironical that the social life of people—where they live closest together—is thoroughly disintegrating? Left alone in the city desert without neighborly contact, their minds are dulled and their growth stunted.

### ***Cultivation of the "Social Soil"***

Such a statement has sound scientific background. Two English biologists, Dr. Williamson and Dr. Pearse, have done unique research in London's Peckham Health Center. These men studied the structure of society in its smallest unit, which, according to them, is not the individual but the family. They found that nowhere could biologists study health as such, for everything was directed only towards the investigation of the sick. Consequently, they created a platform upon which the possibilities of a rich, diversified social life might be offered to average families, affording the biologists an undistorted view of the factors supporting **normal growth**. In a specially-designed, club-like building with swimming pool, cafeteria, nursery, gym and playrooms, hundreds of average London families found release from their previous social isolation. No experts were admitted and all the initiative for communal activities came from social intercourse among these families. No activities were forced on them, but plenty of opportunities were provided by the right type of building. The only requirement for membership was a periodic health overhaul.

The record of their experiment shows that "health grows and spreads not by treatment of sickness, not by prevention of disease, nor primarily by any form of correction of physical or social ills, but through cultivation of the social soil."

According to them health, if given a chance to spread, is just as "infectious" as disease. And they find that a community is not formed merely by an accumu-

lation of persons for the convenience of sustaining some ulterior purpose, as in a housing project connected with a large industrial plant. Rather it is the result of a natural, functional organization in society. As it grows, it determines its own anatomy and physiology according to biological law. Thus a community is a specific "organ" of the body of society, formed of living and growing cells—the homes which compose it.\*

### ***Starting Neighborhood Community Centers First, a Vital Issue!***

Reassured by these scientific observations I am deeply convinced that the building of neighborhood community **centers** is of even greater urgency than housing itself, for these centers represent a cultural breeding-ground which enables the individual to attain his full stature within the community. The second step of reconstruction—namely the development of new community organizations within the old cities—should therefore be started with the erection of such centers on ground which has been freed by the "siphoning out" process of the first step of reconstruction suggested.

### ***Good Prospects for Improvement***

What are the prospects for such a trend of development and how could it be speeded up?

Even though most housing developments of the last 10 years represent half-way or piecemeal improvements only,—because they have not been coordinated with a long-term plan for the community as a whole—public conscience is awakening.

In order to protect out communities against further blight the National Resources Planning Board proposed "Square-mile rehabilitation" with a feasible

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*"A case for action: A survey of every-day life under modern industrial conditions" by I. Pearse and G. S. Williamson, Faber and Faber, London, 1938.*

plan for consolidation of the scattered ownership of land by voluntary pooling, or by consistent public purchase. Unfortunately this Board was dissolved by Congress.

The Chamber of Commerce of the United States published a bulletin in 1937 containing the following sentences: "It is now evident that blighted districts—are not only socially and economically detrimental but even threaten the stability of the city's economic structure."

"The residential areas of the city should be divided into well defined neighborhood units.

"Neighborhood units should be built or rebuilt as completely planned communities and be maintained and operated under a single ownership either through limited dividend companies or through other soundly organized corporations."

In spite of these wise warnings by public agencies only about 2% of those persons who need to be rehoused could thus far be served by public housing. There is a crying need everywhere. In Chicago there still seems to be a wide gap between the farsighted work of the City Planning Commission on the one hand, and the status quo on the other. To narrow this gap will take a lot of long-range political vision, with new legislation, administration and taxation plans translated into a workable procedure. Because experience shows that it will take a long time to rehouse the people, I have come to believe that the rehabilitation procedure should be speeded up by first creating the administrative set-up for new city neighborhood units, and by actually building for each of these units a small community center, even before any new housing has been started.

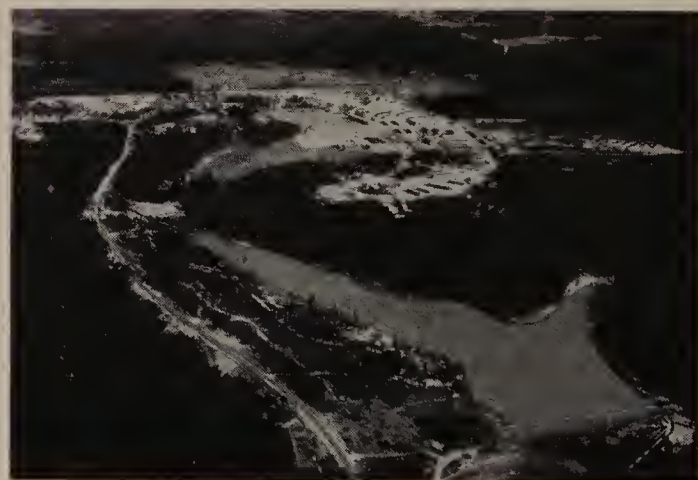
These centers could best be developed in connection with the schools, and would enable the people to control their own fate more efficiently. The cost of

these administrative units would soon be repaid, for the usual unproductive expenditures for relief, delinquency and crime decline as rapidly as the initiative of the people grows. This procedure seems to me to be a good beginning for practical rehabilitation.

### ***Present Examples of Improved Community Planning***

Various attempts at improved community planning have been made in this country within the last 25 years. Developments in the T.V.A. and the "Green Belt" towns represent the first stepping stones to a new planning era. Greenbelt, in Maryland, and two other similar developments have stood up to their tests as striking examples of one possible better way of life. Their deficiencies are that no local industry was included, a neglect which has resulted in excessive commuting and that the population was drawn from one narrow income level only in contrast to the richer variety of population in slowly grown communities (illustrations 38 to 42).

*38. Green Belt, Maryland. An attempt at improved community planning. Good example of a possible better way of life though its population is made up too much of one stratum of society. The lack of industry of its own has resulted in excessive commuting.*





39. *Development for Yuba City, California. U.S. Farm Security Administration (Vernon DeMars). It has proved its usefulness for communal living in spite of its very low cost and its small size.*



40. *Aluminum City Terrace, New Kensington near Pittsburgh, Pa. Defense Housing Development of 250 units (Walter Gropius and Marcel Breuer, Architects). Layout on hilly and sloping land. Community building at left, center. Family dwellings grouped in short rows of from six to eight units.*

41. *Aluminum City Terrace, New Kensington near Pittsburgh, Pa. Defense Housing Development of 250 units (Walter Gropius and Marcel Breuer, Architects). In the back ground semi-detached two-family dwelling on stilts making use of sloping ground.*







This concludes the evidence that the conditions of our present communities are indeed a challenge for every citizen to start action. If our combined efforts after this war will have improved the living conditions of the whole population by the reconstruction of our communities, everybody will benefit from the increase of purchasing power and higher welfare. May I suggest that the idea of creating organic communities be placed at the heart of our plans for war memorials? Instead of the usual icy symbols in stone or marble, each state should build—with the help of the returning G. I.'s—at least one model neighborhood community to honor our war dead.

Nothing could better express our desire for peace and the pursuit of happiness.

← 42. *Aluminum City Terrace, New Kensington near Pittsburgh, Pa. Defense Housing Development of 250 units (Walter Gropius and Marcel Breuer, Architects). Showing typical row of 6-family dwellings.*





Date 2/10



### Date Due

O 15 '46	OCT 10 '52	MAR 1 '59	FE 25 '74
OCT 9 '48	OCT 24 '52	NOV 9 '59	AP 7 '75
D 15 '46	NOV 12 '52		NO 5 '75
MAR 6 - '47	DEC 1 - '52	JAN 25 '60	AP 23 '84
MAR 24 '47	APR 8 '53	MAR 8 '54	
MAR 18 '47	APR 23 '53	MAR 22 '54	
MAR 30 '48	OCT 7 '53	NOV 15 '53	
MAY 4 '48	MAY 10 '54	DEC 1 '53	
FEB 28 '49	NOV 16 '54		
MAR 24 '49	NOV 14 '54		
MAY 18 '49	DEC 3 '54		
MAY 25 '49	JAN 3 '57	APR 26 '54	
MAR 6 '50	FEB 28 '57	AUG 15 '61	
MAY 10 '50	APR 1 - '57	OCT 22 '61	
MAY 10 '50		NOV 21 '61	
JUL 6 - '50	APR 29 '58	FEB 13 '67	
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